



Staff Report

Operations – Capital Projects Division

Report To: COW-Operations_Planning_and_Development_Services
Meeting Date: April 9, 2024
Report Number: CSOPS.24.002
Title: Lakewood Drive Reconstruction PIC Follow-up
Prepared by: Michael Campbell, Senior Infrastructure Capital Project Coordinator

A. Recommendations

THAT Council receive Staff Report CSOPS.24.002, entitled “Lakewood Drive Reconstruction PIC Follow-up”;

AND THAT Council direct staff to advance the Lakewood Drive Reconstruction project design to the 90% stage with adjustments to the storm water routing to direct water to the beach as possible and shelve the project until an opportunity to advance the construction is available.

B. Overview

A PIC was conducted on November 9, 2023, to present the Lakewood Drive Reconstruction Project. This report provides the comments received at the PIC. The Notice of the PIC can be found as Attachment #1

C. Background

The design and project management for the Lakewood Drive Reconstruction Project was awarded to Tatham Engineering on June 17, 2022. The project was driven by the existing sanitary sewer’s issues with inflow and infiltration and the deficient size of the watermain.

The subdivision was serviced in 1970 by a long trunk watermain extending from the existing water system at the Peaks Ski Hill area owned by the Great Lakes Water Company Limited and a communal septic field on lands south of Woodland Park Road. The long trunk watermain between Camperdown Road and Lakewood Drive has been updated and the sanitary force main from Lakewood Drive now discharges to the trunk sanitary sewer on Highway 26.

D. Analysis

The subdivision was developed with a rural road cross-section, without street illumination, storm sewer, curbs, sidewalks, etc. The Town sent a letter on February 11, 2022, to residents to ask if they wanted any additions to their current level of service. If there were any lingering

dissatisfaction with the current level of service, this would give the residents an opportunity to let the Town know that they want an increased level of service. Any increase in the current level of service could be undertaken as a local improvement which would require a petition from the residents.

Michael Campbell met with cu-de-sac residents on February 22, 2022, as they requested, to discuss the project. One of the residents took on the role of Resident Spokesperson for the Lakewood residents which would prove helpful. She circulated notes from the meeting to the other residents which highlighted the 2 issues that seemed to be of greatest concern. These were ditch reconstruction and drainage.

The ditches have overgrown with trees since the road was first constructed in 1970. Ditches serve to drain the road structure and convey storm water to outlets to the Bay. The Town's current minimum road structure will require a deeper road structure and consequently deeper ditches. Many of the trees in the ditches will have to be cleared to make them fully functional.

The second issue is drainage. Residents have complained about flooding, particularly in the cul-de-sac area. There has been another complaint about flooding east of the communal beach. This was related to high lake levels and driving north-west winds and sump-pump failure. The residents were concerned about conveyance of storm water from Lakewood Drive to the Bay. Following the meeting the Resident Spokesperson sent a note to the residents stating that "the community could request a drainage study be done as part of the project at the residents' expense". Later in the year staff walked the subdivision following heavy rains and found another area of flooding on Lakewood west of the communal beach. There is no ditch on the north side of the road in this section and water flows off the road overland through 165 and 163 Lakewood to the Bay.

The Town received a letter on February 28, 2022, from the Secretary of the Shore Acres Property Owners Association (SAPOA) on behalf of the residents on Lakewood Drive. The letter can be found as Attachment #2. This letter confirms that the residents do not want changes to the general nature of the subdivision, they do not want a storm sewer system, curbs, sidewalks, street illumination, etc. They wanted some clarification on the ditch reconstruction as well as a storm water drainage study.

Reconstruction of Lakewood Drive

The bulk of the reconstruction will be straight forward with the municipal systems and services replaced and upgraded.

The sanitary sewer will be reconstructed, and new laterals will be installed to the property lines. The existing sanitary lateral seem to be of the Y-type where one lateral connects 2 houses. These are dangerous as a failure of the lateral under the road can mean sewage from one house flowing into a neighbouring house. The other issue with the services is that property lines have changed over the years and the sanitary laterals may not be in the frontage of the serviced lot. Property owners may have work to do to connect their houses to the new sanitary

lateral. Some of the service record sheets show odd arrangements for the private plumbing, it is not clear what we will run into during construction.

The watermain will be replaced with a larger pipe and new laterals will be installed to the property lines. The Town will oversize the watermain along Lakewood to improve the system. The existing water lateral curb stop boxes are installed as pairs at common property lines, it is not known whether the laterals are a single pipe with a Y that splits the lateral to the 2 properties or there are 2 laterals. Individual laterals will be installed to the current lot frontage. As with the sanitary laterals, changes to the lot lines may mean the property owners will have to do some work on their property to connect to the new lateral locations.

The storm system for this subdivision is roadside ditches. In these rural road cross-sections, the entire right-of-way is occupied by the road, shoulders, and ditches. Over the years trees have populated the ditches and to reconstruct the road the ditches will need to be cleared of trees to regrade them. The cul-de-sac area will be a challenge because the ditches have either been filled in or were never constructed. There is also inadequate drainage across private property in this area to convey water to the Bay. Trees in the right-of-way will also be lost to the sewer and watermain installations.

The road will be reconstructed to the Town's Local Rural Road Reconstruction Standard, see Attachment #3a & 3b without 1.5m paved shoulders to match as closely as possible the existing road cross-section.

Storm Water Report

As mentioned above, drainage and flooding were the first concerns raised by residents when the Town interacted with them regarding the scope of work that would be included in the reconstruction. In February 2022, three Lakewood residents reported flooding, it being noted that one flooded basement was related to a power failure that prevented the sump pump from operating.

The biggest problem with the subdivision drainage issue is the lack of documentation available. A subdivision grading plan cannot be found if it ever existed. Without the original design drawings, we must rely on stories, assumptions, and very few documents. The fundamental question with the drainage is how and where the storm water crosses the waterfront lots. Before the subdivision existed water from the highway and land to the south crossed the undeveloped land to the bay. When the subdivision was created, the designers would have to provide drainage routes to the Bay. As these would be typically maintained by the Town in the future, the developer would have created Blocks or provided Easements across private land for the drainage routes. The Agreement for the subdivision, Attachment 4, does state that easements for drainage would be provided by the developer. Unfortunately, there are no easements on the waterfront lots. This suggests there was no consideration for drainage to the Bay and conveyance may have been left to the purchasers of the lots. We note that the driveway entrance culverts were to be installed "at the expense of the Registered Lot Owner". It may be the case that the developer sold the lots as raw land and left the development and grading of the lots to the purchasers.

Since the residents asked for the Storm Water Report, Staff have spent a significant amount of time digging for information related to drainage in the area. Following the PIC one of the current residents introduced a former resident of the neighbourhood who was one of the first to build in the subdivision and seems to have been a resident for more than 30 years.

The former resident provided a wealth of background information on the development of the subdivision. The main focus of the drainage issues is in the north-west end of the development in the cul-de-sac area. A map of the area will be helpful for the following discussion. Please refer to Attachment 5.

The former resident reported that there was not an overall drainage plan for the subdivision that the residents were to follow as they developed their lots. The lots were sold as raw lots to be developed as the owners wished. For his build, he is not sure if he or his builder were required to provide a grading plan to obtain a permit, this was 50 years ago. To provide a snapshot of what construction was like at that time, he reports that his "builder" lived in a tent during the construction.

The Storm Water Report identifies storm outlets across the subdivision where storm water from the highway and the road cross private property to the Bay.

Outlet #1

The first lots that were developed in the cul-de-sac were 185, 186, 187, and 188. These would likely have been considered the more "waterfront" lots at the time. The cul-de-sac lots were typically low and wet, up to 4 feet of fill was required by the former resident to develop his lot.

Storm water coming off Highway 26 flowed along the rear of what would be 178 to 184 Lakewood. This water ponded behind 182 & 184; these lots were reported as being wet which makes sense as the ditch conveying the water to the Bay would be blocked by the typical beach ridge formed along the shoreline. When 184 Lakewood was developed, according to the former resident mentioned above, the owner got tired of a wet backyard, and he installed a culvert to convey the water through the beach ridge to the Bay. This culvert was installed north of 184 and 186 Lakewood on land outside of the subdivision, it also improved the drainage on the land to the north so the benefitting residents might have been happy to have the culvert installed. The culvert is shown on Reference Plan 16R-6499, dated May 1996, see Attachment #6.

The current owner of 184 Lakewood acquired a small piece of land from his neighbour to the north which the culvert shown on 16R-6499. The culvert is no longer visible, it may have been removed or buried. The sliver of land now serves as access to the Bay and provides the lot with water frontage. Without the culvert water now collects during heavy rain in the back yards of 182 & 184 Lakewood as well as the side yard of the property to the north. The water may drain through the sandy soil to the Bay when the rain events are finished. There is no way to correct this ponding without recreating the drainage outlet.

Outlet #2

Outlet #2 seems to have changed over the years. There are a couple of reports that there used to be a ditch between 185 and 187 Lakewood. The owner of 185 Lakewood reports that he was not aware of the swale when he bought the property in 1989.

169 Lakewood was apparently a very wet lot and likely undesirable for a cottage, it was not developed until 1990, some 20 years after it was created. It likely acted as a storm buffer taking water from the road that would pond and slowly released through the sand to the Bay following the rainfall event.

In 1990, 169 Lakewood was being developed by the Heritage Group, they approached 185 Lakewood on August 22, 1990, to ask permission to install a 300mm culvert on 185 Lakewood from the roadside ditch at the common property line for 169/185 to the beach. The proposed route ran on 185 behind 165 then crossed onto 163 and ended short of the beach. It is not clear whether the Heritage Group approached 163 Lakewood for permission to cross their property with the culvert. As it turned out the owner of 163 Lakewood met with Town field staff on December 26, 1991, and wrote the Town on January 8, 1991, to have the drainage pipe placed on their land, for the benefit of 169 Lakewood, removed. It is not clear why the Town was involved with this installation, but it should be clear that the Town was acting as a contractor for the Heritage Group to benefit the development of 169 Lakewood.

When 185 Lakewood demolished the original cottage in approximately 2010 and built the new house, the builder found the private culvert in poor condition. The builder contacted Jim McCannell when the excavation was underway reporting the condition of the culvert. The Town had 375mm culvert in stock and provided the material to the builder to replace the culvert while the excavation was underway. Not long after the new home was occupied in 2011 the owner experienced a flood. The owner extended the pipe with sub-drainpipe towards the lake that seems to have solved the problem. During heavy rain, I have witnessed the end of the pipe system where storm water boils up to the surface runs across the beach for a short distance then soaks back into the sand.

Currently, 187 Lakewood has been demolished and a new house is under construction. The owner will be shaping 1 or 2 swales along the property line to convey water from the road around the house to the Bay. This will reestablish the drainage pattern that was reported in the past.

Outlet #3

This is the communal beach. The bulk of the water flowing across the beach is from the south side of Highway 26 that is conveyed by 2 culverts under the highway as well as water from Lakewood in the beach area. A culvert under Lakewood and the roadside ditch send water to a depression just inside the fence. The depression acts like a small storm water pond. During heavy rain the depression fills and if the intensity is sufficient the water will spill out of the depression and flow across the beach for a short distance until it soaks into the beach sand. There have been some concerns about the wet depression and mosquitos, the only way to

eliminate the depression would be to cut a swale across the beach and line it with rip rap which would not likely be acceptable to the beach users.

Outlet #4

This is another private culvert that runs between 129 and 131 Lakewood. There is not much information on who constructed it. The culvert was shortened a few years ago when 2 lengths of culvert were washed away by a storm during the recent high-water levels in the Bay. The condition of the culvert is unknown. There is sufficient elevation between the road and the Bay that if the culvert failed the water would flow across the ground to the lake, however there could be some risk of flooding. The ground over there is heavily treed, so replacement of the culvert would cause the loss of many trees.

Outlet #5

This is the wooded area on the west side of Council Beach. This outlet works well, there are no concerns with it nor any reason to modify it.

Comments from Shore Acres Property Owners Association (SAPOA)

Comments from the owners of properties on Lakewood Drive, a subset of the full Shore Acres Property Owners Association members, were gathered and presented by Sarah Mills and Andrea Macecek. The comments and staff responses are included in the PIC Follow-Up Memo see Attachment #7.

SAPOA suggests that the residents did not ask for the Stormwater Study Report. They suggest that the Town was looking for the subdivision drainage plan or report and this prompted the Town to require the study. As mentioned above, drainage was a concern of the residents in the early stages of the project. The Town could not find a subdivision grading plan to confirm that the subdivision design included a method of conveyance for the storm water to cross private property to the Bay. The Town could also not find any easements across private property that would have been provided by the developer for drainage.

Without the drainage conveyance system as part of the original subdivision, any work required to create the system, be it studies, construction or obtaining easements, would be an increased level of service, with costs the responsibility of the residents.

It is staff's position that the existing drainage system has significant deficiencies. These deficiencies are a result of the drainage system that was constructed (or rather not constructed) by the developer of the subdivision. The resulting issues have now transferred to the collective residents through the purchase of the lots. The drainage issues with the subdivision are not so much the water that comes off the highway and the road, it is the lack of proper conveyance of this water to the Bay. The highway existed before the subdivision was developed and Lakewood Drive was constructed for the residents as access to their properties. When a subdivision is developed today the developer has several studies to complete including a storm study. The storm study informs the design so it can accommodate the exterior storm flows and the storm flows generated by the development of the raw land and ultimately convey

this water to a suitable outlet. The Town has tried to find this information from the development of the subdivision but have had no luck. The Town initially required that the residents would be required to pay for the storm study. The cost would be divided by the number of properties on Lakewood Drive. Some owners were reluctant to pay for the study because they had no drainage concerns, typically properties away from the low-lying cul-de-sac. Ultimately the Town included the cost of the study in the engineering contract.

There were a couple of items raised by SAPOA regarding access to and across Highway 26. The residents would like to see traffic lights at Highway 26 and Grey Road 40 and speed limits decreased. An EA was conducted a few years ago that suggested the west Highway 26 and Lakewood/Woodland intersection be closed. This would push traffic to the Highway 26 Lakewood/County Road 40 intersection. When traffic warrants met minimum thresholds traffic lights were recommended. Council, prompted by the residents on Lakewood and Woodland rejected the recommendation of the EA and will be keeping the west intersection open. When the minimum traffic warrants will be met by keeping both intersections is unknown.

Conclusion and Recommendations

The residents are seemingly unwilling to fund the works on private property that would convey the storm water to the Bay according to the preferred solutions proposed in the study. This work would provide an engineered solution to the concerns of flooding. Some of the solutions would change the current conditions such a rip rap channels crossing the beach and easements would be required that the residents have been reluctant to grant in the past.

Town staff have considered some less expensive options to controlling the storm water as it moves through the subdivision to the Bay. In simplest terms as much water as possible will be directed to the SAPOA beach to reduce water flowing into the cul-de-sac. The highway ditch west of Lakewood West will flow through a culvert towards the beach and the ditches/boulevards on Lakewood west of the beach will be regraded to take water to the beach rather than their current flow to the cul-de-sac. The ditches east of the beach will be regraded to bring as much water as possible to the beach. The water would be directed to 3 spots along the roadside frontage to spread out the increased storm water flow to the beach. With less water flowing to the cul-de-sac, the existing private culvert at 185 Lakewood and the new side yard swales at 187 Lakewood may be sufficient to handle the water from the short section of the road. The water that flows to and collects behind 182 and 185 Lakewood will be reduced by redirecting the highway swale to the beach. This will mean a greater amount of water directed to the beach, but typically the beach is not used during heavy rainfall. By spreading the outlets to the beach over three locations, the risk of erosion should be reduced. This might not be considered a local improvement as the storm water conveyance across private property is not being changed. The work could be considered part of the reconstruction of the road part of the overall reconstruction project. A few more culverts and regrading of the ditches would be consistent with a normal reconstruction project.

Ultimately the residents of the Lakewood Drive section of SAPOA will have to accept the modification of the drainage patterns. These modifications will not guarantee there will be no future flooding or downstream erosion from the outlets proposed by the final design. The

residents will have to absolve the Town of future responsibility for flood or erosion damage. Without acceptance by all the residents, the drainage pattern will not be changed as it has been organically developed by the property owners (past and present) and any change could transfer responsibility for the work to the Town.

With other priorities for capital projects, Finance has removed the Lakewood Drive Reconstruction project from the 5-year Capital Plan. With the consultant engaged, the design started, and with feedback from the property owners, it would be best to advance the design to the 90% stage then shelve the project until Finance identifies an opportunity to advance the work. With the project at the 90% design stage, it would be almost “shovel ready” should a stimulus program opportunity present itself. When the opportunity to advance the work happens, the budgets would be assessed and revised, then the consultants would conduct a 90% PIC. Following the PIC, the design would be finished, the approval of the storm routing changes accepted by the property owners and the construction advanced.

Staff recommend that Council direct staff to advance the design to the 90% stage with adjustments to the storm water routing to direct the flow to the beach as possible and shelve the project until an opportunity to advance the construction is available.

E. Strategic Priorities

1. Communication and Engagement

We will enhance communications and engagement between Town Staff, Town residents and stakeholders.

2. Organizational Excellence

We will continually seek out ways to improve the internal organization of Town Staff and the management of Town assets.

3. Community

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

4. Quality of Life

We will foster a high quality of life for full-time and part-time residents of all ages and stages, while welcoming visitors.

F. Environmental Impacts

Reconstruction of the sanitary sewer will reduce inflow and infiltration reducing transport and treatment costs and energy consumption.

G. Financial Impacts

Delays to the project will allow other Capital Project to advance. The delay to the engineering and construction will likely mean increases to the engineering and construction budgets.

H. In Consultation With

Jim McCannell, Manager of Roads & Drainage

Allison Kershaw, Manager of Water and Wastewater

Sam Dinsmore, Deputy Treasurer, Manager of Accounting & Budgets

I. Public Engagement

The topic of this Staff Report has been the subject of a Public Meeting and/or Public Information Centre which took place on November 9, 2023. Those who provided comments at the Public Meeting and/or Public Information Centre, including anyone who has asked to receive notice regarding this matter, has been provided notice of this Staff Report. Any comments regarding this report should be submitted to Michael Campbell, Senior Infrastructure Capital Project Coordinator cc@thebluemountains.ca.

J. Attached

1. Attachment 1 Notice of PIC
2. Attachment 2 Lakewood Drive Residents Response to Town Letter re Service Increase
3. Attachment 3a Local Rural Road Plan, 3b Local Rural Road X-Section
4. Attachment 4 C110 Shore Acres Agreement (MSGD) 1970
5. Attachment 5 Sketch of Drainage Outlet #1 and #2
6. Attachment 6 Plan 16R-6499
7. Attachment 7 PIC Follow-Up Memo

Respectfully submitted,

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Report Approval Details

Document Title:	CSOPS.24.002 Lakewood Drive Reconstruction PIC Follow-up.docx
Attachments:	<ul style="list-style-type: none">- Attachment 1 Notice of PIC.pdf- Attachment 2 Lakewood Drive Response to Town Letter re Service Increase.pdf- Attachment 3a Local Rural Road Plan.pdf- Attachment 3b Local Rural Road Section.pdf- Attachment 4 C110 Shore Acres (MAGD) 1970.pdf- Attachment 5 Drainage Outlet 1 and 2.pdf- Attachment 6 Plan 16R-6499.pdf- Attachment 7 PIC Follow Up Memo.pdf
Final Approval Date:	Mar 19, 2024

This report and all of its attachments were approved and signed as outlined below:

No Signature found

Pruthvi Desai - Mar 18, 2024 - 9:24 AM

Jeff Fletcher - Mar 19, 2024 - 10:58 AM