



REPORT
Council
November 20, 2023

FROM: Transportation and Engineering Department

DATE: November 14, 2023

SUBJECT: **Design of Westminster Drive and Woodhaven Park Drive Improvements**

LOCATION: North of Lakeshore Road – Coronation Park Area

WARD: Ward 2 Page 1

RECOMMENDATION:

1. That the report Design of Westminster Drive and Woodhaven Park Drive Improvements, from the Transportation and Engineering Department, dated November 14, 2023, be received.
2. That the implementation of a sidewalk on Westminster Drive and Woodhaven Park Drive be deferred to the Transportation Master Plan for further review.
3. That staff be directed to proceed with the implementation of the storm sewer and drainage works for Westminster Drive (Option 2) as outlined in this report.
4. That staff be directed to proceed with the implementation of the storm sewer and drainage works for Woodhaven Park Drive/Hixon Street/Willowdown Road (Option 2) as outlined in this report.
5. That the Director, Transportation and Engineering be authorized to make adjustments to the designs as they progress that are in general agreement with Council direction.

KEY FACTS:

The following are key points for consideration with respect to this report:

- A number of residences on Westminster Drive and Woodhaven Park Drive experience both nuisance and private property flooding.
- Town Council approved the Coronation Park Drainage Improvements Class Environmental Assessment (Coronation Park EA) on June 19, 2017, and a Notice of Study Completion was published on July 6, 2017. The Coronation Park EA recommendations included channel improvements through Coronation Park (complete); and storm sewers, driveway and culvert replacements, ditch regrading and the use of Low Impact Development (LID)/Best Management Practices (BMP) measures where feasible on Westminster Drive and on Woodhaven Park Drive.
- Council approved a resolution on July 11, 2023 that states “*That the Rainwater Management Strategy, under development, and associated fees and studies, ensure that green infrastructure be preferred, and grey infrastructure only where necessary, with a program of public consultation*”.
- Green infrastructure is preferred and the town has implemented green infrastructure for decades. However green infrastructure alone may not address all stormwater issues in all areas. Staff completed a green infrastructure assessment for Westminster Drive. The assessment for Woodhaven Park Drive is underway.
- Town Council approved the ATMP on July 10, 2017. The ATMP recommended that a sidewalk be constructed on Westminster Drive from Lakeshore Road to Hixon Street. The ATMP also recommended that a sidewalk be constructed on Woodhaven Park Drive from Lakeshore Road to Hixon Street.
- Detailed designs for both Westminster Drive and Woodhaven Park Drive (including portions of Hixon Street and Willowdown Road) are underway, with plans to complete those designs by the end of 2023 and the end of 2024, respectively. Construction is planned in the capital budget for Westminster Drive in 2024, and for Woodhaven Park Drive in 2025.
- A Public meeting was held with Westminster Drive residents on October 5, 2023 and concerns were raised, by many attendees, regarding losing the character of the street with the proposed curb and gutter road cross section and the inclusion of sidewalk. However, other residents have expressed support for the changes to better address flooding issues.
- It is not customary for staff to report to Council on detailed design projects. However, due to the concerns raised through the Westminster PIC and because staff are recommending a deferral of work, namely sidewalks, that was included in the Active Transportation Master Plan (ATMP) which is a

Council-approved plan, this report has been prepared to seek Council's direction on the detail design solutions for the Westminster Drive and Woodhaven Park Drive projects, including the deferral of the sidewalks.

- Two options to finalize the detail designs are included in this report, with staff's recommendation being to implement a cross-section that includes curb and gutter on Westminster Drive and Woodhaven Park Drive.

BACKGROUND

The Coronation Park community is a mature neighbourhood in Ward 2. The community predominantly consists of single detached residences and is actively redeveloping. The area drainage system consists of a mix of ditches, storm sewers, curbs/gutters, driveway culverts and overland drainage.

The purpose of this report is to seek Council's approval of the design and construction approaches for two storm drainage projects that are in progress on Westminster Drive and on Woodhaven Park Drive. These projects are to address both nuisance and home flooding issues.

As described in the Comments section, this report recommends deferral of the installation of sidewalks on Westminster Drive and on Woodhaven Park Drive. The sidewalks were recommended in the Active Transportation Master Plan (ATMP) which is a Council-approved plan. There were also a number of concerns raised regarding the planned design for Westminster Drive when they were presented to the public in October 2023. Therefore, this report has been prepared to seek Council's direction on the detail design solutions for the Westminster Drive and Woodhaven Park Drive projects, including the deferral of the sidewalks.

Coronation Park Drainage Improvements Class EA

The [Coronation Park Drainage Improvements Class EA](#) was initiated in 2014 to develop a comprehensive plan to address existing drainage concerns and to develop an implementation plan for the management of flooding and erosion within the study area. **Westminster Drive and Woodhaven Park Drive are both within the Coronation Park study area where stormwater improvements are required to address existing drainage deficiencies.** The final report was presented to the [Community Services Committee](#) (Item 2) on June 19, 2017.

The Coronation Park EA study was completed as a master plan. The study included consultation with regulatory agencies, stakeholders, and the public, including two Public Information Centres. Detailed designs are not completed as a part of master plans and some refinements are to be expected during detailed design process.

Among the recommendations of the Coronation Park EA were:

- Reconstruction of the eastern channel through Coronation Park (completed in 2019)
 - Construction of approximately 200 m of channel improvements using natural channel design (green infrastructure) principles.
 - Required to accept the storm flows from the new Westminster Drive storm sewer that was proposed in the Coronation Park EA
- Westminster Drive drainage improvements:
 - 487 m of new storm sewer
 - Driveway and roadside culvert replacements
 - Ditch regrading and landscaping; and
 - Low Impact Development (LID)/Best Management Practices (BMP) measures where feasible
- Woodhaven Park Drive drainage improvements:
 - Approximately 1,100 m of new storm sewer on Woodhaven Park Drive, Hixon Street and Willowdown Road
 - Driveway and roadside culvert replacements
 - Ditch regrading and landscaping; and
 - Low Impact Development (LID)/Best Management Practices (BMP) measures where feasible

These recommendations are illustrated graphically in Appendix A.

Green Infrastructure Evaluation

Council approved the report "[Rainwater Management Financial Plan, Stormwater Fee Development and Consideration of Green Infrastructure](#)" at its meeting of September 18, 2023. This report provided information on how the evaluation of green infrastructure would be included in studies and the Rainwater Management Strategy, following up on the [Council resolution \(Item 9.4\)](#) of July 11, 2023:

That the Rainwater Management Strategy, under development, and associated fees and studies, ensure that green infrastructure be preferred, and grey infrastructure only where necessary, with a program of public consultation.

As outlined in the September 2023 report, projects that are subject to the Environmental Assessment process will follow those required steps, including an evaluation of alternatives based on their environmental, physical, social, and economic considerations. Green infrastructure, and its ability to address risk and optimize flood protection, is included in those evaluations. Projects that are not

subject to the EA process will complete a green infrastructure assessment, followed by consultation and design before construction begins.

Active Transportation Master Plan

Town Council approved the 2017 [Active Transportation Master Plan](#) (ATMP) Update at the July 10, 2017 [Planning and Development Council meeting](#). Active transportation infrastructure – specifically sidewalks – was recommended for both Westminster Drive and Woodhaven Park Drive in the town's ATMP.

The ATMP map showing the proposed sidewalk is included in in Appendix A.

Staff report annually on the progress made to extend the active transportation network, through the Key Performance Indicators (KPIs) in the Budget Book.

COMMENTS:

The design of the Westminster Drive and Woodhaven Park Drive storm sewer and drainage works has advanced since the completion of both the Coronation Park Drainage Improvements Class EA and the Active Transportation Master Plan. The designs build on the drainage improvement recommendations, address existing drainage concerns and incorporate green infrastructure elements.

In the sections below, and in the appendices, the comparison of different scenarios and the ability to address flooding is based on the 100-year design storm level. The major system drainage analysis in the Coronation Park EA was completed based on the 100-year design storm and the analysis done as part of the detail design also used the same design storm to allow for the results of the different scenarios to be compared against each other.

There is no mandated requirement to retrofit existing neighbourhoods with a storm drainage system capable of conveying the 100-year storm. However, the Coronation Park EA identified issues with the current stormwater system in the area as well as opportunities to improve drainage in the area, and the Westminster Drive and Woodhaven Park Drive projects were proposed to address those drainage concerns, which include both nuisance and home flooding issues.

Westminster Drive

The existing drainage and stormwater issues on Westminster Drive include matters such as ditches that remain wet for extended periods after a small rainfall and clogged or poorly draining ditches and culverts, as well as ditches that fill up to, or beyond their capacity and water entering some dwellings in more intense storms.

Following the completion of the Coronation Park EA, the detail design of Westminster started in 2018. It was subsequently delayed, and then restarted in 2021/2022. The detailed history of Westminster detail design is outlined in Appendix B.

The original design was completed in 2019 following the **EA recommendation of regrading the ditch and adding new storm sewers**, with added scope of watermain work (new and lowered watermains, and new water service lines). The regraded ditches would be very similar in size, depth, grade and location to the existing ditches. Due to the existing topography of the area, the ditches could not be graded to achieve a 2% slope, and therefore wet ditches would still be expected.

In 2021/2022, staff re-initiated the detail design project and conducted a comprehensive review and:

- Determined any other works that had been identified for Westminster by applying the asset management principle of constructing an area “once” which resulted in an added objective to include AT infrastructure as identified by ATMP in the renewed detail design process.
- Conducted site visits and reviewed flood reports by residents to validate multiple drainage issues including soggy roadside ditches, damaged or deteriorating driveway culverts and restricted overland drainage system flow capacity and this occurs on a regular basis during small rainfall events. A review of ServiceOakville cases was also conducted and found calls from at least 14 different residents with complaints related to ditch drainage (clogged, flat, full of leaves, filled in with nowhere for water to go, West Nile Virus, too steep to cut grass), and/or driveway and culvert condition concerns (sinkholes, holes in driveway, culvert repairs required, culverts filled with debris) between 2017 and 2023.
- Performed technical evaluation of the original EA preferred alternative with additional drainage modeling and analysis of drainage patterns, which **confirmed that the EA recommendation to regrade the ditch with new storm sewers would continue to result in properties susceptible to flooding** (see Appendix C, Exhibit C-3).

As outlined below, staff are recommending that the implementation of the sidewalk be deferred to the Transportation Master Plan for further review and consideration of alternative active transportation options.

Green Infrastructure Evaluation

Staff have conducted a green infrastructure assessment as part of the Westminster design project. Three “ditch only” scenarios were reviewed to determine if the storm drainage issues could be managed without the addition of a storm sewer.

The three green infrastructure/ditch only scenarios reviewed in this assessment were:

1. Regrade the existing ditches and maintain their current characteristics (width, depth, etc.),
2. Minor ditch regrading, and
3. Major ditch regrading.

The major ditch regrading scenario contained the greatest volume of stormwater of the three options, however, **the analysis determined that major ditch regrading alone is not sufficient due to property impacts and the inability to contain flows for a 100-year storm.**

To store and convey enough stormwater to significantly reduce the flood potential in a 100-year storm, ditches would be over 8 meters wide with significant impact to trees and utilities. The ditch and culvert maintenance requirements for residents would increase and the ditch would extend close to, or up to, the front property line. The road cross-section with ditches only and the modelled limits of flooding in a 100-year storm are included in Appendix C (Exhibit C-4 to C-7).

The cross-section with curb and gutter and storm sewer significantly reduces the flow limits as compared to existing conditions and EA preferred solution (Appendix C – Light blue line on Exhibit C-8).

From a green infrastructure perspective, per the Coronation Park EA, **LIDs that mimic the natural water cycle and address the quality aspect of stormwater design will be included for Westminster Drive** including:

- **Stormwater Infiltration** in the form of one or more underground infiltration facilities to infiltrate stormwater back into the ground. This is more feasible near Hixon Street, as the ground is higher and there is more room between the ground surface and the groundwater level in which to locate stormwater infiltration devices. Ditches provide some infiltration naturally. Due to the shallow depth of the water table, adding supplementary underground infiltration facilities to enhance natural processes is more applicable with the curb and gutter option than it is with the existing ditches.
- **An Oil/Grit Separator** is used to cleanse stormwater before it is discharged through the east channel. Oil/grit separators have been used by the town for over 20 years and the town has a regular maintenance program to clean these devices. An oil/grit separator is proposed for installation closer to Lakeshore Road to maximize the treatment of stormwater. This LID tool can be used for both options.
- **Soil amendments** will be included, placing more pervious soils with more sand/loam and less silt/clay behind the curb to promote infiltration, particularly

in key locations such as where a swale is located between two properties and is directing flow towards the curb. This LID tool can be used for both options.

- **Tree preservation** is also a key component of the green infrastructure recommendations for Westminster Drive.

A cross-section with curb and gutter, storm sewer, removing the existing ditches and driveway culverts, including a number of green infrastructure/LID elements was also reviewed. This review concluded:

- An exclusive green infrastructure only option, i.e. major ditch regrading is not feasible due to property impacts and inability to contain flows for a 100-year storm.
- A storm sewer is required as part of the design to mitigate flooding impacts, as recommended by the Coronation Park EA.
- The design will incorporate additional green infrastructure, including infiltration facilities, tree preservation, soil amendments and an oil/grit separator.
- A cross-section with curb and gutter provides greater stormwater capacity and reduced flood risk. It is best suited to address resident concerns regarding saturated ditches; standing water in ditches due to continuous groundwater discharge and eliminating complaints related to West Nile Virus; maintenance concerns related to driveway culverts and roadside ditches; accommodate the increasing groundwater sump pump discharge from private properties as the private pipe will be connected directly to the storm sewer.

On October 5, 2023, a [Public Information Centre \(PIC\)](#) was held to provide an update to residents on the planned works for Westminster Drive with construction planned for 2024. There were overall concerns with changing the character of the road by removing the ditches and adding the sidewalk.

In addition to the comments and questions raised at the PIC before and after the staff presentation, residents had the opportunity to provide written comments using comment cards at the PIC or online via Oakville.ca.

The majority of the people who commented shared their views on the planned sidewalk, and most of those individuals (20 responses) were not in favour of adding a sidewalk to Westminster Drive. Comments included feeling comfortable walking on the road on their street, opportunities to take other routes if pedestrians wanted to use a sidewalk, impact on the character of the neighbourhood, increased winter maintenance (clearing snow from sidewalks) and impacts on drainage and increased runoff due to increase impervious surfaces. There were also some residents (3 responses) who were supportive of, or neutral regarding, the addition of a sidewalk. **Due to the concerns raised about the addition of a sidewalk, staff recommend deferring sidewalk implementation to the Transportation Master**

Plan to ensure further review and consideration of alternative options for active transportation.

Comments regarding the cross-section of the road and the design as presented on October 5, 2023 were also mixed. Some residents (6 responses) supported constructing the storm sewer with curb and gutter as planned and urged the town to proceed to construction as soon as possible, either citing their flooding of their own homes and properties or recognizing the flooding that their neighbours have experienced. Most of the comments received opposed to the curb and gutter design and cited the need for more analysis of green infrastructure options, identified the differences from the Coronation Park EA recommendations, concerns about loss of infiltration opportunities, and impacts to community character.

Woodhaven Park Drive

Woodhaven Park Drive is located immediately east of Westminster Drive and consists of single-family residences on a street serviced by ditches and driveway culverts, with recent addition of numerous custom homes to the neighbourhood that introduced additional sump pump flows to the ditches.

The existing drainage and stormwater issues on Woodhaven Park Drive include matters such as ditches that remain wet for extended periods after a rainfall, West Nile Virus concerns, deteriorating driveway culverts and ditches and swales that fill up to, or beyond their capacity and the resulting impacts on private property in more intense storms.

Similar to Westminster Drive, the **Coronation Park Drainage Improvements EA identified drainage deficiencies and recommended improvements on Woodhaven Park Drive, Willowdown Road and Hixon Street** (all part of the Woodhaven Park Drive project scope). Appendix D, Exhibit D-1 shows the EA results for the study area. The option of retaining ditches and adding a storm sewer (orange lines in Appendix D) will still result in water overflow in the backyard swales along Willowdown Road and towards the south end of Woodhaven Park Drive.

Following the completion of the Coronation Park EA, the detail design of Woodhaven Park Drive was planned to begin in 2018 but it was subsequently delayed and did not start until 2021/22. Additional history of the project is included in Appendix B.

Detailed design for Woodhaven Park Drive is underway, with plans to complete the design by the end of 2024, with a public information meeting to present the final design planned in 2024, and construction planned in 2025.

The design for the Woodhaven area commenced after the design for Westminster started, hence the design is not currently as advanced compared to Westminster.

Site visits and reviews of drainage concerns from residents along the project corridor (Woodhaven Park Drive, Willowdown and Hixon) were reviewed to validate multiple drainage issues including soggy roadside ditches, West Nile Virus concerns and need for larvicide programs, damaged or deteriorating driveway culverts and restricted overland drainage system flow capacity. Calls and emails to ServiceOakville between 2017 and 2023 were also reviewed and the issues reported included: standing water in ditches, blocked culverts, flooded driveways and front yards and erosion from sump pump discharges.

The design analysis for Woodhaven Park Drive follows the same process as Westminster Drive, and it is anticipated the same concerns will be raised by Woodhaven residents regarding the changing character of the street.

Status of the detail design is highlighted below:

- At the upper end, the new storm sewer will accept flow from an existing storm sewer which currently discharges to a rear yard ditch located on Willowdown Road properties. Routing this flow to a new storm sewer located on the public right-of-way reduces flooding along the rear yard ditch.
- Sump pump discharges can be routed to the new storm sewer.
- Council directed staff, when the Coronation Park EA was presented in 2017, to consider an option to extend the storm sewer north of Hixon Street. This option has been reviewed but staff do not recommend extending the storm sewer north of Hixon Street. Extending the storm sewer would provide an opportunity to pick up additional flows from a rear yard ditch located approximately 50 m north of Hixon, which would benefit properties further to the east by further reducing flows in the ditch. However, to extend the sewer north of Hixon Street, it would need to be constructed at a lower elevation, increasing the potential for Lake Ontario waters to enter the storm sewer, thereby reducing its effectiveness in draining the lands on Woodhaven Park Drive, Hixon Street and Willowdown Road.

While the ATMP identifies a future sidewalk on one side of Woodhaven Park Drive, staff recommend deferring sidewalk implementation to the Transportation Master Plan to allow for further review and consideration of alternative options for active transportation.

Green Infrastructure Evaluation

Staff are currently in the process of completing a capacity assessment of the same three ditch-only options for Woodhaven Park Drive as was completed for Westminster. It is anticipated that the analysis will have the same result with a very large ditch and significant property, tree, utility impacts.

Green infrastructure will be included for Woodhaven Park Drive. An oil/grit separator will be constructed near the intersection of Woodhaven Park Drive and Lakeshore Road West to improve water quality before it discharges to the lake. Stormwater infiltration facilities and areas suitable for soil amendments will be reviewed as the detailed design progresses.

Design Recommendations and Options for Council Direction

For both Westminster Drive and Woodhaven Park Drive, there are two primary design options:

- Option 1 – the limited regrading of the existing ditches, with new driveway culverts where required and the addition of a storm sewer, as recommended in the Coronation Park EA.
- Option 2 – reconstruct the road with a curb and gutter cross-section, including the installation of a storm sewer.

The implications are presented below for Council’s information:

<p style="text-align: center;">Option 1 Existing cross-section with storm sewer</p>	<p style="text-align: center;">Option 2 Curb & Gutter cross-section (Recommended Option)</p>
<ul style="list-style-type: none"> • Maintains the current look and feel of the street 	<ul style="list-style-type: none"> • Contributes to a change in the look and feel of the street
<ul style="list-style-type: none"> • Some properties will still have flood risks in a 100-year storm (see Appendix C, Exhibit C-3 for Westminster and Appendix D, Exhibit D-1 for Woodhaven) 	<ul style="list-style-type: none"> • Provides a greater level of flood protection in a 100-year storm, for both nuisance and home flooding
<ul style="list-style-type: none"> • Ditches cannot achieve 2% positive grading due to topography – wet ditches will still occur 	<ul style="list-style-type: none"> • No ditches as part of the design
<ul style="list-style-type: none"> • Groundwater discharge into relatively flat ditches will create standing water and increase West Nile Virus risk. Existing and future sump pumps from rebuilds/larger homes on existing lots will continue to discharge to the ditch 	<ul style="list-style-type: none"> • Eliminates standing water and West Nile Virus concerns by connecting private sump pumps (existing and future from rebuilds/larger homes on existing lots) to the storm sewer
<ul style="list-style-type: none"> • Continued maintenance concerns with ditches. Driveway culvert maintenance and replacement are the responsibility of the homeowner 	<ul style="list-style-type: none"> • Eliminates driveway culverts and future ditch maintenance concerns

<ul style="list-style-type: none"> Includes green infrastructure (ditches and oil/grit separator) 	<ul style="list-style-type: none"> Includes green infrastructure (LIDs and oil/grit separator)
<ul style="list-style-type: none"> Westminster Drive discharges to the east channel at Coronation Park (green infrastructure) 	<ul style="list-style-type: none"> Westminster Drive discharges to the east channel at Coronation Park (green infrastructure)
<ul style="list-style-type: none"> Westminster can proceed to construction in 2024 	<ul style="list-style-type: none"> Westminster can proceed to construction in 2024
<ul style="list-style-type: none"> Woodhaven Park Drive can proceed to construction in 2025 	<ul style="list-style-type: none"> Woodhaven Park Drive can proceed to construction in 2025

Several key implications to highlight if the staff recommendation is accepted are:

- Long-term solution that reduces flooding** – Exhibit C-3, and Exhibit D-2 show flooding risks under 100-year storm condition for some residents if ditches are to remain. Constructing curbs and gutters provides additional overland flow storage between the curbs.
- Eliminate health and safety concerns** – road with curb and gutter eliminates standing water issues due to continual pumping of groundwater from homeowners and lack of grade for continuous flow which, in turn, eliminates complaints related to standing water and West Nile Virus.
- Minimizes maintenance requirements of the homeowner** – the curb and gutter with storm sewer implementation provides a long-term sustainable solution where drainage issues resulting from unauthorized ditch regrading by residents, and the maintenance obligations for homeowners related to driveway deteriorating or collapsed driveway culverts are eliminated.

Cost Estimate Comparison

Cost estimates for the work on Westminster Drive and on Woodhaven Park Drive (including Willowdown Road and Hixon Street) were developed as part of the Coronation Park EA. The Coronation Park EA cost estimates - \$700,000, and \$1,520,000 in 2017 dollars for Westminster and Woodhaven (including Willowdown and Hixon improvements), respectively - were based only on the work recommended in that study. These costs were not inclusive of all other project costs such as:

- utility relocations,
- LID/BMP measures,
- water and wastewater infrastructure relocations,
- excess soils management, or
- construction management costs (traffic management, tree preservation, contract administration, inspection costs).

In addition, for Westminster, the detail design included changing some individual residential water services and inclusion of watermain lowering and replacement, as required.

Construction costs have escalated significantly in the last 3 years due to labour shortages, supply chain issues, and overall increase in material pricing coupled with high inflation. The cost estimates have been updated to reflect recent tender pricing and a recently completed similar storm drainage improvement project on Maplehurst Avenue.

The comparison of the construction cost estimates between the two options shown in Table 1 below:

Table 1 – Construction Cost Comparison

	Option 1 Ditches with Storm Sewer	Option 2 Curb & Gutter with Storm Sewer (Recommended Option)
Westminster	Approximately \$4M	Budgeted in 2024 for \$5.37M
Woodhaven / Willowdown and Hixon	Approximately \$7.5M	Forecast in 2025 for \$9.538M

Option 1 (existing ditch with storm sewer) is less costly compared to Option 2 (curb and gutter with storm sewer) mainly due to the overall reconstruction of the road that is required. However, the higher relative cost of Option 2 provides a long-term sustainable stormwater drainage solution.

Class EA Requirements

Staff’s recommendation is to proceed with the detail design based on Option 2 (curb and gutter, with a storm sewer). The construction of a storm sewer within an existing right-of-way is considered “pre-approved” under the Municipal Engineers Association Municipal Class Environmental Assessment (2023) process; therefore the proposed changes do not require an amendment to the existing Coronation Park Drainage Improvements Class EA study, or a new EA study.

Multiple Priorities

Many of the residents who provided comments following the October 5, 2023 PIC for Westminster Drive identified the impact of adding a curb and gutter to the road on the character of their neighbourhood. There are many elements that can shape and define the character of a street or neighbourhood, and we acknowledge and respect the views shared by the residents of Westminster Drive. It is also recognized that

many of the concerns were specific to the addition of a sidewalk. Deferring the decision on sidewalk implementation to the Transportation Master Plan will ensure further review and consideration of alternative options for active transportation.

The design of storm drainage improvements for Westminster Drive and Woodhaven Park Drive touches on many priority areas, including community character, but also green infrastructure, tree canopy protection, opportunities to reduce flooding potential – based both on existing conditions and for the future (more rebuilds with sump pumps, more extreme storm events). A balance is required to address the key elements of each of these priorities.

Conclusion

The design of the proposed works on both Westminster Drive and Woodhaven Park Drive (including works on Hixon Street and Willowdown Road) have advanced since the completion of both the 2017 Coronation Park Drainage Improvement Class Environmental Assessment, and the 2017 ATMP Update.

Two options to finalize the detail design are presented to Council in this report.

Staff's recommendation is based on the best technical solution, which is to proceed with the implementation of a curb and gutter with a storm sewer to address flooding and maintenance concerns. Green infrastructure in the form of soil amendments, oil/grit separators, infiltration areas and the protection of the tree canopy will be included in the design for Westminster Drive. The design for Woodhaven Park Drive is not as advanced as the Westminster Drive design but will include an oil/grit separator and opportunities for additional LIDs will be reviewed.

Recognizing some resident concerns with replacing existing ditches with curbs and gutters, staff have also presented additional details regarding the recommendation from the Coronation Park EA and how it addresses drainage and flooding concerns. Option 1 (ditches with storm sewer) will provide some drainage and flood protection improvements over current conditions. Option 2 (curb and gutter) provides a higher level of flood protection due to increased storage capacity on the road, between the curbs, in a major storm. Option 2 also addresses the standing water and ditch and culvert maintenance issues.

Following receipt of Council's direction on this report, staff will:

- Finalize the detailed design for Westminster Drive and proceed to tender the work for construction in 2024.
- Complete the detail design for Woodhaven Park Drive and inform the public of the final design in 2024, with construction planned for 2025.

CONSIDERATIONS:**(A) PUBLIC**

Public engagement was included in both the Coronation Park Drainage Improvements Class EA study, and the Active Transportation Master Plan Study.

A public meeting regarding originally proposed works on Westminster Drive was held in 2018. The public were informed of the changes to the design for Westminster Drive at a public meeting on October 5, 2023. Comments from the public were also invited through the Town's website from October 5 to October 27, 2023.

Staff will share the design with Woodhaven Park Drive in 2024, prior to finalizing the design.

Notices regarding this report were hand delivered to residences on both Westminster Drive and Woodhaven Park Drive in advance of tonight's meeting.

(B) FINANCIAL

Westminster Drive construction funding has been approved in previous capital budgets with construction planned for 2024.

Funding for the design of drainage infrastructure on Woodhaven Park Drive has been previously approved, and the construction budget was identified in the 2024-2033 Capital Forecast, where funds will be requested through the 2025 capital budget process such that construction can commence.

(C) IMPACT ON OTHER DEPARTMENTS & USERS

There are no impacts to other departments as a result of this report.

(D) CORPORATE STRATEGIC GOALS

This report addresses the corporate strategic goal(s) for:

- Climate Change Adaptation, through using a combination of green and grey infrastructure to reduce flood risk from severe extreme weather events.

(E) CLIMATE CHANGE/ACTION

The recommendations of the report will increase climate change resiliency in this area by providing drainage systems with higher flow conveyance. This provides a benefit to the community through protection or reducing risk to private and public lands during extreme flooding events using a combination of both green and grey infrastructure.

APPENDICES:

- Appendix A- Maps and Figures of the Recommendations from the Coronation Park Drainage Improvements Class EA and the Active Transportation Master Plan
- Appendix B- Design of Westminster Drive and Woodhaven Park Drive Improvements – History of Projects
- Appendix C- Westminster Drive Storm Drainage maps
- Appendix D- Woodhaven Park Drive Storm Drainage maps

Prepared by:
Philip Kelly, Manager Design and Construction

Recommended by:
Jill Stephen, Director Transportation and Engineering

Submitted by:
Phoebe Fu, Commissioner Community Infrastructure