

# Lot Grading and Drainage

Current State and Analysis

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# Executive Summary

This report has been prepared to summarize information collected related to the City of Regina council motion MN19-10. It addresses the objectives within the motion and is intended as an educational tool regarding lot grading. The report reflects on the existing state of lot grading in Regina, includes summaries from industry engagement and best practices from the Cities of Saskatoon, Edmonton, Calgary and Winnipeg.

The report was prepared with City staff, records, bylaws, standard operating procedures and other related archived reports. The sections on best practices were completed with information found readily available on the respective Cities and telephone interviews and supplementary information provided by respective staff.

Lot drainage is any aspect of grading, constructed elements, or landscaping that directs stormwater runoff on a lot (resulting from rain, hail, or snow) to flow overland from the property. Good lot drainage directs stormwater runoff away from and off permanent structures (homes and garages) to public roadways, landscaped areas, or drainage swales where runoff can ultimately find its way into the municipal stormwater drainage system. Before 1974, lot grade controls were not required by the City. Rather, owners and homebuilders were (and now are) responsible for setting their own lot grading controls on the front, side, and rear of the property. The City conducted enforcement of lot grading on lots constructed after 1974 until funding was removed in the 2007 Budget approval.

The regulations applicable to lot grading are currently written in *The Building Bylaw*. However, those provisions are not enforceable because the Province has declined to approve them, which is mandatory for enforcement. However, the City does apply and regulate these sections during the permitting process by reviewing the rear lot grade certificate. The builder/owner is responsible for obtaining a stamped certificate that demonstrates a property's compliance with the pre-determined grade elevations.

In Regina, individual lots are created through the subdivision process governed by *The Planning and Development Act, 2007* (P&D Act). During the greenfield development approval process, the City of Regina requires that rear lot elevation plans be designed and submitted to the City for review and approval. During the construction of a new home, approved rear lot elevations are assessed to ensure that positive grading is achieved when the development project is constructed. The City must review a rear lot elevation certificate to achieve the unit's final occupancy through the building permit process. There are current challenges with the process for new home construction on infill lots, as rear lot elevation plans may not exist. Property owners are responsible for providing the City with a rear lot elevation certificate. The City reviews this certificate for compliance. Where infill lot grades cannot be practically achieved, or a rear lot elevation plan does not exist, the City will derive grades and promote positive drainage. Challenges exist within this process when an established rear lot grade plan exists but has not been historically followed.

Regina's relatively flat topography and clay soil types cause existing neighbourhoods' established lot grades to deteriorate over time. Property owner modifications that do not require

a development permit and natural lot grade degradation eventually lead to issues. These issues are typically found along common property lines between neighbouring properties. While there can be any number of property specific factors causing a lot grading issue, most issues are caused by three typical scenarios:

1. The natural process of ground movement in Regina that results in a degradation of positive lot drainage.
2. Utility company maintenance work conducted in easements.
3. Property owner altering the existing lot grades with landscaping.

In general, the number of lot grading drainage issues brought to the City of Regina's attention, whether by direct contact with staff or by calls to Service Regina, is relatively small. Based on data received from Service Regina, an average of 26 per year.

When issues arise between property owners, the City provides technical information and advice concerning lot grading. Staff work with residents to determine and establish the original design grades to support the issue's resolution. In terms of enforcing *The Building Bylaw's* content, property owners are advised that the City does not have a program for the ongoing enforcement of existing lot grading. If one property owner has allegedly caused issues for another, the City does not involve itself with these matters. The program that addressed conflicts such as this was discontinued in 2007 due to a lack of funding for the supporting costs of legal and surveying. Property owners are advised that the matter, in legal terms, is a civil matter between neighbours.

Based on the results from research regarding existing conditions, industry engagement (Appendix A) and best practices of other Western Canadian cities (Appendix B), the City of Regina should consider improvements to its lot grading practices. The following three options were considered as part of this report:

Option 1: Maintain the Status Quo

Option 2: Enhanced Status Quo (Recommended)

Option 3: Enforcement of Existing Lot Grades with two new positions and Enhance the Status Quo.

It is recommended that the City move forward with Option 2 Enhanced Status Quo upon evaluating the options. This option does not include any changes to enforcement practices; however, it is the amalgamation of the many business improvements that this document explored. This option would result in the bylaw issues being resolved, process improvements for infill lot grading, and community knowledge development.

Creating this new bylaw will allow the City to conduct enforcement in situations where there is a risk to a City asset due to lot grading issues. It would be difficult to enforce lot grading issues that impact City-owned assets unless these assets were located on a registered easement in the current state. The new bylaw provisions would also support and align with any development permit-related grading activity and provide stakeholders consistency. This option is presented as the low-cost option as it would not require any budget approval for new resources. Resources in the City Solicitor's Office, Water, Waste and Environment Department and Planning & Development Services Departments would still be required to conduct existing enforcement of the new bylaw. However, the option would maintain that neighbours' drainage issues continue to be a civil matter between property owners. The summary of actions of this recommendation are noted below:

Action	Issue	Impacts	Outcome
Create a new lot grading bylaw that would include these provisions from the Building Bylaw.	Building Bylaw drainage provisions are not enforceable.	Creation of a project that would require resources to enforce.	Legally Binding drainage provisions.
Create material for Regina.ca. Provide transparent process information for the establishment of lot grades.	Regina lacks available public information and educational tools.	Creation of a Project that would require resources to deliver.	Public Information. Transparency.
Create lot grading guidelines for Regina.	Regina lacks available public guidelines for lot grading.	Creation of a project that would require resources to deliver.	Public Information. Transparency.
Create a process for the establishment of infill lot grades. Publish the process on Regina.ca.	Inconsistent process for the establishment of residential infill lot grades.	Requires a process review and resources to deliver.	Process Creation. Transparency.
Review the process for the creation of lot grades and explore the costs of title registration.	Inconsistent lot grading records.	Requires a process review and resources to deliver.	Improved Lot Grading Records.



# 1.0 What is Lot Drainage?



## Lot Drainage

Lot drainage is any aspect of grading, constructed elements, or landscaping that directs stormwater runoff on a lot (resulting from rain, hail, or snow) to flow overland from the property. Good lot drainage directs stormwater runoff away from and off permanent structures (homes and garages) to public roadways, landscaped areas, or drainage swales where runoff can ultimately find its way into the municipal stormwater drainage system.

The stormwater drainage system must be differentiated from the wastewater drainage system, a system designed to direct all water from bathrooms, sinks, laundry facilities, and kitchens to wastewater treatment plants for treatment before being considered safe for discharge. In contrast, stormwater is water from natural sources, safely released into streams, rivers or other natural locations with no treatment. Due to the expense associated with water treatment, stormwater infiltration (requiring no treatment) into wastewater (which must be treated) is avoided. Similarly, since stormwater remains untreated as it passes through the stormwater drainage system, the infiltration of wastewater (which contains toxins) into it is considered a serious breach between systems.

The stormwater drainage system includes measures to reduce the risk of flooding. Detention and retention ponds, dikes and berms direct as much runoff as possible away from roads and storm sewers after a rainfall event. Detention and retention ponds will fill with water until the stormwater drainage system can catch up. All these measures help prevent basement flooding and reduce damage and loss to homes and businesses in Regina.

The fundamental principle of good drainage design is that water drains away from the foundation of a house. This is referred to as *positive lot drainage*. Positive lot drainage is designed and created for individual lots by developers and expected to be maintained by property owners. There are many routine maintenance activities that a property owner should undertake to preserve positive lot drainage. Property owners should ensure that their downspouts and sump pump discharges are directed properly, eavestroughs are cleaned regularly, keep swales clear of obstructions, and fill any depressions or settlements that may occur over time. There are also guiding principles and rules that should be followed during installing any new landscape or hardscape projects (decks, patios and sidewalks) to maintain the drainage system's integrity. Property owners should seek advice and services from skilled professionals for lot grading activities outside of their knowledge and skill ability.

Property owners should keep themselves informed of their lots' intended grading plan by contacting the City to request it. A properly graded lot helps avoid potential flooding problems and damage to neighbouring properties. Improper lot grading can result in ponding, basement dampness and/or flooding to the homeowner or adjacent neighbours.

## Other Property Drainage Systems

Lot drainage is described in the previous section as a form of drainage related to a single property in Regina. In addition to this ground-based system, most buildings include a downspout system that collects water from the rooftop via eavestroughs and directs it to the ground away from the structure. Faulty eave and downspout systems can direct a large quantity of water to the building's foundation walls. Homeowners need to inspect and maintain these systems periodically.

Water that does soak or saturate the ground is typically managed by the foundation drain discharge collection system around the building. Found in newer structures, the foundation drain discharges subsurface water with a sump pump to the property's surface; there, the water

makes its way overland into the stormwater drainage system. In older systems, the foundation drain may be connected to the sanitary sewer system via a sump pump or other means.

Properties located in areas of the City experiencing high underground water tables or high underground water pressure (artesian) will produce a discharge from their collection system many days after a precipitation event. When the City receives several seasons of above-average precipitation, the groundwater table will elevate significantly, causing the discharge system to run for a prolonged period. It is important for owners of properties subjected to these conditions to ensure the foundation drain discharge collection system is inspected and maintained regularly.

Both the downspout system and the foundation discharge system rely on positive lot drainage to perform optimally.

## **Historical Information on Lot Grade Controls**

Lot grade controls are elevations formally established for lot corners, midpoints and any other notable point that aids in establishing positive drainage on the property. They are intended to provide effective surface runoff away from the property to the municipal systems previously discussed. Before about 1963, lot grade controls were not required by the City. Most of these properties backed onto public lanes that accommodated lot drainage. Many of the Whitmore/Hillsdale area properties abutted utility parcels, which were intended to accommodate utilities and surface drainage. Owners and homebuilders were responsible for setting their own lot grading controls on the property's front, side, and rear.

For a period from approximately 1963 to 1974, the design of rear property lot grades was a requirement for new subdivision development. These lot grading plans were theoretical and not confirmed through the subdivision process as true or of record. Specifically, the properties had not been surveyed at the time of development to verify their compliance with the assigned design grades. As a result, there was inconsistency in applying theoretical lot grading design throughout new subdivisions during this time. The City's difficulty experienced in this matter is that no documents are on file to verify that the rear of lot grades was ever brought to the required design grades. When many of the drainage problems from this era are investigated, the entire block can be found to be off the design grade by a consistent amount.

Since approximately 1974, the City has required a Rear of Lot Elevation Certificate prepared by a Legal Surveyor. This certificate verifies that, upon grading completion, the rear lot grades are correct to design.

In 1990, the City actively started enforcement of rear lot grades. The City would notify the property owner of required lot grading adjustments after the City surveyed the property. The property owner would then typically have 15 days to conduct the adjustments. If the property owner failed to comply, legal proceedings would be initiated. Through this process, it was identified that grades set before 1974 are difficult to enforce legally.

In 2001, the Council considered motion CR01-242 to address the enforcement of grades set before 1974. The report resolved that the Administration continue working through rear lot drainage issues on properties developed before 1974 by promoting cooperative solutions among the affected homeowners. However, if no cooperation was reached, property owners' recourse was to initiate a civil court action against their neighbours.

The 2007 City of Regina budget deliberations and subsequent approval removed the funding available for the surveyors and associated legal costs of enforcement of rear lot grading. Funding for these services was no longer available and is estimated at a value of \$175,000 to

\$350,000 (2020 dollars) per annum using an average inflation rate of 1.79% per year. The program to enforce lot grading was suspended, and the decision that any drainage concerns would remain solely the responsibility of the property owners. Furthermore, any unresolved grading issues between neighbours would be considered a civil matter between neighbours under the principle of nuisance. It was decided that the City would give access to our records regarding drainage for those that wish to pursue legal action against their neighbours, but further City involvement was ceased.

# 2.0 Current State Analysis

## **Development Standards (Greenfield Development)**

In Regina, individual lots are created through the subdivision process governed by *The Planning and Development Act, 2007* (P&D Act). This process is typically known as greenfield development or neighbourhood-level development. Residential lots are typically designed in blocks. The grading plans design for drainage on these blocks are both individually and as a system within the larger area. The individual lot grades establish the relationship between abutting properties. During this process, the City of Regina requires that rear lot elevation plans be designed and submitted to the City for review and approval.

For larger developments, a developer will submit engineered lot elevations plans with the design drawings required for a servicing agreement. This lot elevation plan is checked for compliance during construction and requires the construction completion process for land development. Final lot elevations are recorded with the developer's engineer's submittal of a verification and record drawings certificate. The enforcement of this requirement is conducted through the P&D Act, the *Administration of Servicing Agreements and Development Levy Agreements Policy*, and the servicing agreement's agreed-upon terms.

New subdivisions adjacent to existing subdivisions must not alter the existing drainage patterns unless approved by the City. Typically, new subdivisions are designed to match or continue the existing drainage patterns of adjacent subdivisions. Only under unusual circumstances are other provisions allowed; these situations must be preapproved by the City and rare.

When designing drainage in new subdivisions, where there is no separated utility easement or rear lane, the rear lot drainage is shared at the property line. The City typically requires a one (1) metre wide earth swale centred from the property line. This infrastructure accommodates the drainage and provides room for shallow utility servicing at the rear of the lot. A registered easement sometimes protects the swales. These easements are required when the City has a specific interest in the protection of the public infrastructure. The grades within this easement are not to be altered or blocked in any way. Any blockage or grading alterations could result in ponding, basement dampness or flooding to the homeowners or adjacent neighbouring properties.

## **Development Standards (Lot Development)**

During the development permit process or lot level development, approved rear lot elevations are assessed to ensure that positive grading is achieved when the development project is constructed. A rear lot elevation certificate is required to achieve the unit's final occupancy through the building permit process. This certificate is submitted to the City by the builder/owner. The builder/owner is responsible for obtaining a stamped certificate that demonstrates a property's compliance with the pre-determined grade elevations. Temporary occupancy may be issued if the survey cannot be performed due to snow cover. This accommodation requires a letter of commitment for compliance by June 30th of the following year. The enforcement of these requirements is conducted through *The Building Bylaw*.

In older established neighbourhoods, the City may not have a record of an approved lot grading plan. For properties with no approved lot grading plan, the developer must submit assigned lot rear lot elevations from a legal land surveyor of Saskatchewan to establish or maintain surface grades that drain water away from the buildings and towards a City right of way. The City reviews this certificate for compliance. Where infill lot grades cannot be practically achieved, or a rear lot elevation plan does not exist, the City derives grades and promotes positive drainage. This design accounts for the neighbouring properties, elevation of the dwelling and any other information required to achieve positive drainage on the infill lot.

Infill development also creates an opportunity for abutting property owners to consider the existing conditions of their grading and improve their property's surface drainage. In many cases, the designer or home builder should collaborate with adjoining property owners to minimize costs associated with proper stormwater drainage design.

Development also includes both earthwork and fence structures as defined in the P&D Act. The *Regina Zoning Bylaw 2019* (Zoning Bylaw) exempts fences from requiring a development permit. Earthmoving is not exempt, and the City requires permits for large excavation work. Due to the variability of size and extent of earth-moving work, the City does not regulate much smaller earth-moving activities. These would be typical for smaller individual lot landscaping projects a property owner may initiate.

## Existing Neighbourhoods

Regina has a very flat topography built on highly plastic clay soil that can change shape with varying moisture conditions. Separately or in combination, these two factors present challenges to maintaining positive drainage runoff from residential properties and occur most often during summertime conditions. During the spring melt runoff period, snow, slush, and frozen City infrastructure can impede the designed runoff. Flooding that occurs during this time, though valid, is unlikely a lot grading issues as it relates to this report.

Generally, catch basins and the underground stormwater pipe network are designed in Regina to accommodate a 1:5 year storm event. This means that statistically speaking, there is a twenty percent chance for a storm that exceeds this capacity every year. For this report related to lot grading issues, rainfall events that exceed the 1:5 year intensity are not considered lot grading issues.

In general, the number of lot grading drainage issues brought to the City of Regina's attention, whether by direct contact with staff or by calls to Service Regina, is relatively small. This does not suggest that rear lot drainage issues do not require the City's attention and consideration. City staff are generally empathetic to property owners' difficulties and frustrations with chronic rear lot grading issues. Chronic and unresolved existing rear lot grading issues are sometimes complicated and time-consuming for both the Administration and the elected officials to respond to. These issues often can be confrontational in nature as they typically involve a dispute between neighbouring properties. There is also a general agreement amongst staff that many individual property owners are hesitant or unwilling to approach their neighbour, which has caused the alleged lot grading issue. The public that contacts the City through various methods typically wants the City to resolve the lot grading issue.

While there can be any number of property specific factors causing a lot grading issue, it was generally agreed by City staff that three typical scenarios cause most issues:

1. The natural process of ground movement in Regina that results in a degradation of positive lot drainage.
2. Utility company maintenance work conducted in easements.
3. Property owner altering the existing lot grades with landscaping.

The listed scenarios impact residents differently depending on the type of abutting property along with the lot grades. Properties that abut alleys, utility parcels, municipal reserve in the form of open space or parks have City capital programs that support the resolution of any lot grading issues. Properties that have common rear or side yard lot grading with another property are more complex. The City does not have a specific operational program that provides grading or other maintenance for this scenario. These property owners' responsibility is to maintain

grade elevations that share a common rear or side yard property line. These grades are to extend into each property by 0.5 metres. The criteria for maintenance of these grades are set out in *The Building Bylaw*.

When issues arise between property owners, the City provides technical information and advice concerning lot grading information. Staff work with residents to determine the original design grades to support the resolution of the issue. In terms of enforcing *The Building Bylaw's* content, property owners are advised that the City does not have a program for ongoing enforcement of existing lot grading. If one property owner has allegedly caused issues for another, the City does not involve itself with these matters. Property owners are advised that the matter, in legal terms, is a civil matter between neighbours.

## **Regulatory Role**

Sections 2.8 and 2.9 of *The Building Bylaw* appear to regulate lot elevations for new and existing buildings. However, these provisions are not enforceable because they are outside the provincial legislative regime that authorizes *The Building Bylaw (The Uniform Building and Accessibility Standards Act)*. The Province has therefore declined to approve the provisions, which results in the provisions being unenforceable. The City does apply and regulate these sections during the permitting process through the issuance of the rear lot grade certificate.

The same sections of *The Building Bylaw* are applied when drainage issues arise within the city's established areas. The City regulates through observing the property, speaking with disputing neighbours and other means to promote positive drainage. The City supplies approved lot grade plans as requested or when concerns arise. The City also provides consistent explanations across departments about potential risks and the importance of homeowners adhering to lot design elevations. This is further elaborated in the *Organizational Ownership* section. When all these other measures fail to address the drainage issues, property owners' disputes are then considered a civil matter, and the City ceases to be involved. This approach had been described as unsatisfactory by residents. If the grading issues are impacting City-owned and operated assets, the City conducts a similar approach to the neighbour-to-neighbour disputes. Like the neighbour-to-neighbour disputes, the City relies on working with the property owners to resolve the asset's issues. In some cases, the assets are protected by a registered easement, and, if necessary, enforcement would be applicable through the easement. Ultimately, the inability to conduct legal enforcement for scenarios impacting a City asset carries considerable risk.

The City enforces downspout locations through *The Regina Community Standards Bylaw* to direct stormwater from building roofs. All downspouts are to be directed a minimum of one (1.0) metre away from the foundation and to the front or rear of the lot so that the stormwater travels overland to the storm drain system. The enforcement of these requirements is conducted through *The Cities Act*.

*The Wastewater and Storm Water Bylaw* include provisions for the control of drainage systems. Since December 31, 2016, the bylaw includes provisions to protect properties from stormwater being intentionally discharged into the sanitary sewer system. It also includes regulations for weeping tile discharge from buildings. All weeping tile drainage is expected to direct stormwater, accumulated either from the ground or from roof runoff, into the storm drainage system. This bylaw includes all source control measures for stormwater systems, such as prohibited substances that shall not be released into the stormwater system and provisions for collecting the utility service charges related to storm sewers and the drainage system in general. The City enforces and regulates the related provisions in this bylaw.

## Organizational Ownership

There are several departments involved in lot grading and drainage. Three City bylaws have content relating to lot grading and drainage - *The Building Bylaw*, Bylaw No. 2003-7, *The Regina Community Standards Bylaw*, Bylaw No. 2016-2, and *The Wastewater and Storm Water Bylaw, 2016*, Bylaw No. 2016-24. Planning and Development Services, Office of the City Solicitor, and Water, Waste & Environment own each bylaw.

Planning and Development Services is responsible for setting the lot grading of a subdivision at the development permit stage. These are the approved grades to which the general drainage scheme must adhere.

The Office of the City Solicitor contains bylaw enforcement and actively enforces eaves and downspouts compliance. Bylaw Enforcement also enforces general soil erosion infractions that support *Regina Zoning Bylaw, 2019* landscaping regulations.

Water, Waste & Environment enforce the bylaw as needed to ensure that only clearwater waste is entering the storm sewer. The City relies on Provincial and Federal regulations to regulate the water quality of stormwater drainage from a property.

In terms of service requests, lot grading and drainage impact several different operational areas. In addition to Roadways & Transportation and Parks, Recreation & Cultural Services, the three previously mentioned areas all receive concerns regarding drainage issues and grading. The table below summarizes lot drainage-related service requests of these areas:

	2015	2016	2017	2018	2019	2020 (August)	Total
<b>Department</b>							
Roadways & Transportation	10	11	12	11	7	1	52
Planning & Development Services	8	5	6	8	2	2	31
Water, Waste & Environmental	11	4		4	7	20	46
City Solicitor	7	2	2	3	1	1	16
Parks, Recreation & Cultural Services			2	3	2		7
<b>Grand Total</b>	<b>36</b>	<b>22</b>	<b>22</b>	<b>29</b>	<b>19</b>	<b>24</b>	<b>152</b>

The information above was compiled using a keyword search of *lot drainage*, *lot grading* and *drainage issues*. The search criteria were intended to target lot-related drainage.

The data results in an average of approximately 26 lot drainage-related service requests per year.



## 3.0 Discussion

## **Bylaw Changes**

When comparing Regina to the cities researched for best practices, one notable difference is where lot grading regulations reside.

In Regina, *The Building Bylaw* currently claims to regulate lot grade elevations and drainage (in Sections 2.8 and 2.9); however, it does not. The authority to enact a Building Bylaw is governed by *The Uniform Building and Accessibility Standards Act* (UBASA), a provincial regulation.

To become valid and enforceable, *The Building Bylaw* and the individual provisions within must receive provincial approval. UBASA regulates buildings for safety and accessibility. It does not regulate lot creation, lot landscaping or drainage. The Government of Saskatchewan (Province) declined to approve the drainage standards currently written into *The Building Bylaw* because UBASA does not provide these standards' authority. UBASA is intended to regulate what occurs within the building envelope relating to health and safety. Apart from provisions to deal with unsafe buildings, UBASA is also intended to apply to a property only during the period from building permit application to the permit's final inspection.

Section 2.8 and 2.9 of *The Building Bylaw* were not approved by the Province, as those sections do not relate to (i) accessibility; or (ii) safety. Without the Province approving these sections, the provisions are void, and the City currently lacks the legal authority to conduct any enforcement of the provisions.

All four best-practice cities rely on the *Cities Act* or equivalents' authority to regulate grading and drainage. They all have specific drainage or grading bylaws that contain provisions relating to assignment, regulation and enforcement of lot elevations.

There are many variations of moving the drainage provisions into various City bylaws. Regina's recommended approach is to create a new lot grading bylaw and move the Building Bylaw's drainage provisions into it. Creating this new bylaw will allow the City to conduct enforcement in situations where there is a risk to a City asset due to lot grading issues. It would be difficult to enforce lot grading issues that impact City-owned assets unless these assets were located on a registered easement in the current state. The provisions in the new bylaw would also support and align with any development permit-related grading activity.

This could be accomplished with minimal efforts and allows the Province to consider *The Building Bylaw's approval*. It would ultimately provide a clear and concise bylaw related to all lot grading matters and clarity and consistency to residents and the development industry.

## **Community Education – New / Existing Lots**

During the analysis and research of best practices, there was a marked difference between cities regarding ease of access to drainage information. Each jurisdiction's web material was searched and quantified for material/information available relating to lot elevations to provide a fair assessment. Edmonton had the greatest quantity of material available, followed by Calgary, Saskatoon, then Winnipeg. The material was targeted at educating homeowners about the purpose and maintenance of lot grades. There was also material readily accessible relating to the technical specifics of grade elevations, surface drainage, and the City's regulation or enforcement practices.

Currently, Regina does not have as much information available to the public via Regina.ca. To address this shortfall, the development of an education strategy for lot grading should be undertaken. Among other tactics, the strategy could include the following:

1. Information on the City website explains the importance of lot grades and how to maintain them alongside yard or lot improvement projects.
2. Information on the process for the establishment of lot grades in greenfield and infill development.
3. Creation of City of Regina lot grading or drainage guidelines in published documentation like those available in Saskatoon, Edmonton, and Calgary.
  - a. Launch these guidelines with a supported Communication Plan

This information would increase public awareness and provide the public with information to mitigate issues relating to lot elevation mismanagement and circumvent neighbour to neighbour drainage disputes. Additionally, these actions would provide for transparent technical specifications for the industry to follow.

## Enforcement

Enforcement would require further clarification regarding what is included in the definition of development, what constitutes a violation, what evidence is needed to prove a violation, and what the enforcement process would look like. Although Regina has some resources assigned to the resolution of lot grading, it does not have a specific dedicate resource to manage it. Each of the cities from the best practices research uses a different approach toward resourcing to manage lot elevation regulations.

The resource assignment of each of the population centres on a per capita basis is provided below and only includes Enforcement inspectors and does not include supporting Legal Counsel:

<u>City</u>	<u>Population (2017)</u>	<u>Dedicated FTE's</u>	<u>FTE/per 100K</u>
Regina	228,928	0*	0.00
Saskatoon	273,010	1	0.37
Calgary	1,336,000	6	0.45
Winnipeg	749,534	4	0.53
Edmonton	981,280	9	0.92

\*Enforcement is conducted through non-dedicated resources for downspouts and development permits.

- Edmonton had the largest assigned resources, with nine (9) full-time staff. These resources are roughly split between municipal bylaw officers and supporting engineering technicians with one administrator that manages the work. The work within the Edmonton unit was comprehensive related to drainage. They conducted regulation on development and existing neighbourhoods.
- Calgary has six (6) full-time resources; however, the focus of these is not to resolve neighbour to neighbour disputes. Their focus is primarily ensuring that easements are free and clear of obstructions. This results in their staffing resources being made up entirely of drainage control technicians, as the focus is of a technical nature related to

the investigation. If enforcement is required, it is supplied by the City of Calgary's Bylaw and Legal Services departments.

- Winnipeg conducts business through a central administrator, like the structure of Edmonton. The remaining positions are standard bylaw officers assigned primarily to lot grading and drainage-related concerns or enforcement. Saskatoon has a single bylaw officer assigned to all lot grading and drainage matters.
- Saskatoon currently does not have a process for assignment of lot grades assigned during development. Thus this resource is solely to regulate existing drainage within the city.
- Regina currently has no dedicated resources for the regulation of existing lot grading. Regina currently requires lot grading certificates to be produced by the developer during development through the building permit process.

It is important to note that all these structures rely on their respective legal departments resourcing when drainage enforcement is enacted to the full extent of their respective bylaws. It was evident through discussions with the best practices Cities that it is difficult to measure the number of positions required to support bylaw action, appeals, and any other legal actions required due to enforcement.

This data can serve as an indicator for resourcing for the regulation of existing lot grading and drainage. Using the minimum factor per 100K population from the research Cities in this report, the result is one (1) full-time equivalent staff assignment to regulate existing lot grade elevations. This may require further review depending on the expanse of and level of service determined by the City.

### **Cost of Enforcement of Existing Neighbourhoods**

Enforcement would be conducted with one full-time position. The range for funding this position would be between \$131,710 and \$199,070. This range includes benefits. In order to conduct enforcement of existing neighbourhoods, supporting legal costs would be required. The legal costs can be estimated using a factor of 0.5 FTE for a legal consul and 0.5 FTE for a legal assistant at \$87,500 and \$38,000, respectively. The total estimated costs of legal support of the program could be estimated at \$125,500 annually.

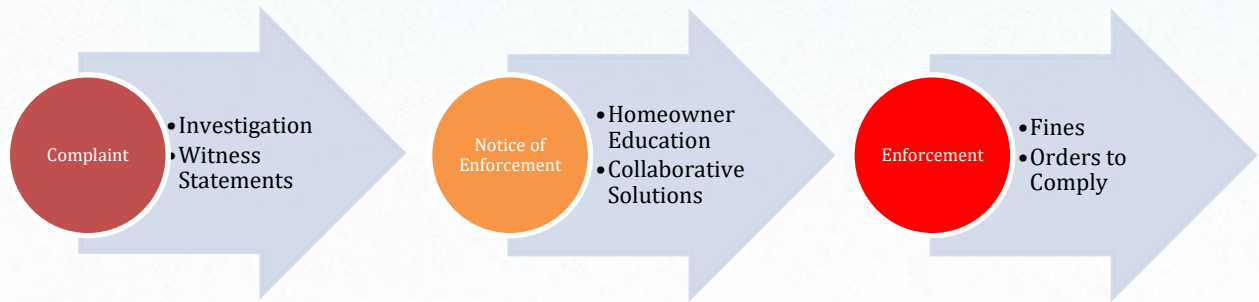
The position would require approximately \$45,000 for initial capital investment concerning survey equipment. However, legal surveys would also be required to form a legal land surveyor. Based on data collected from the Saskatchewan Land Surveyors Association members, typical costs for a lot grading survey range from \$200 to \$800 depending on the lots' complexity. Using the average of 26 complaints per year and a minimum of two property surveys per the complaint, the range of survey costs can be estimated at \$10,400 to \$41,600 annually.

In addition to equipment, a fleet vehicle would be a reasonable consideration as the position would be evident to the public and require transporting equipment to and from job sites. The annual cost of a fleet vehicle would be approximately \$4000 for fuel and maintenance.

The total estimated cost range of the program would be from \$267,610 to \$366,170 annually. For comparison, the 2007 program was estimated at \$175,000 to \$350,000 (2020 dollars) per year.

### **Projected Workload: Drainage Related Complaints**

As described earlier, Regina receives, on average, 26 drainage-related complaints per year, which are recorded within our service request system. To plan for work relating to this, an understanding of what enforcement action would require is needed. The following steps are typical in conducting the act of enforcement.



With compliance-based models, the most effective strategy involves education and finding collaborative solutions. As the City has not historically conducted its business in this manner, estimating the time and effort required to provide enforcement of existing lot grading is difficult. A reasonable expectation is that if more time and effort are expended on homeowner education and information, less effort would be expended on enforcement action. It is also expected that if the decision is to conduct enforcement, the increased publicity related to this report will potentially cause an initial uptake of lot grading and drainage complaints in existing neighbourhoods.

### **Enforcement of Existing Lot Grading**

The discussion of enforcement of existing lot grading relates to two fundamental questions:

1. How much does the City want to get involved in the enforcement of lot grading in existing neighbourhoods?
2. How much effort and resources does the City want to spend on the enforcement related to the above.

The first point of discussion is related to how much the City will get involved in drainage enforcement. To this question, it is assumed that the City will always apply enforcement practices when a property owner's lot grading adversely impacts a City's asset. The costs and resources for this type of enforcement action would be attributed to the Utility. Also, concerning how much, the question was considered before the Council in 2001 (Appendix C): Should the City seek to regulate lots developed before 1974? For this document, the assumption is that lots before 1974 would not be enforced as it would be difficult to achieve enforcement. It is assumed that, for this discussion, the enforcement of existing neighbourhoods be conducted on lots that were constructed after 1974.

Enforcement with existing City resources seems an unlikely scenario. The departments in which this could occur are already allocating their full resources to meet the level of service obligations and resourcing. The existing resources would compete with this new business line, and the department responsible would either incur additional costs or a further reduced level of service in other supplied services.

To achieve some enforcement level, it is calculated that two full-time equivalent positions would be required to support it effectively. As previously stated, the total estimated cost range of the program would be from \$267,610 to \$366,170 annually.

## Summary Recommendations

Based on the results from research regarding existing conditions, industry engagement (Appendix A) and best practices of other Western Canadian cities (Appendix B), the City of Regina should consider improvements to its lot grading. The following options are for consideration:

### Option 1: Maintain the Status Quo

This option would be to maintain our existing practices in all areas of lot grading in the City. There would be no bylaw changes, not changes to the process, no changes to enforcement practices and no additional resources.

This option is not recommended. There are solutions to potential issues that are identified in this report.

### Option 2: Enhanced Status Quo (Recommended)

This option does not include any changes to enforcement practices; however, this paper has explored the amalgamation of the many business improvements. This option would result in the bylaw issues being resolved, process improvements for infill lot grading, and community knowledge development. This option is presented as the low-cost option as it would not require any budget approval for new resources. The table below provides a summary of the recommendations included within this option:

Recommendation	Issue	Impacts	Outcome
Create a new lot grading bylaw that would include these provisions from the Building Bylaw.	Building Bylaw drainage provisions are not enforceable.	Creation of a project that would require resources to enforce.	Legally Binding drainage provisions.
Create material for Regina.ca. Provide transparent process information for the establishment of lot grades.	Regina lacks available public information and educational tools.	Creation of a Project that would require resources to deliver.	Public Information. Transparency.
Create lot grading guidelines for Regina.	Regina lacks available public guidelines for lot grading.	Creation of a project that would require resources to deliver.	Public Information. Transparency.
Create a process for the establishment of infill lot grades. Publish the process on Regina.ca.	Inconsistent process for the establishment of residential infill lot grades.	Requires a process review and resources to deliver.	Process Creation. Transparency.
Review the process for the creation of lot grades and explore the costs of title registration.	Inconsistent lot grading records.	Requires a process review and resources to deliver.	Improved Lot Grading Records.

### Option 3: Enforcement of Existing Lot Grades with two new positions and Enhance Status Quo

This option includes the recommendations from Option 2 and the full enforcement of the drainage bylaw provisions with two new positions and a supporting program. If this option is pursued, it will effectively restart the enforcement program that the City had before 2007. This will require a budget for the two full-time equivalent positions to conduct the enforcement work. The service would provide enforcement of new and existing lot grading within the City of Regina. The services provided would be the investigation of lot drainage complaints, homeowner education, onsite lot elevation troubleshooting, issuance of orders to comply, and fines. The total estimated cost range of the program would be from \$267,610 to \$366,170 annually.

The option provides for dedicated resources for the regulation of lot grading. The resources would be tailored for the respected job duties. However, it would be difficult to justify the program's costs with the number of known complaints. Due to these costs, this option is not recommended.

In evaluating the options above, it is recommended that the City move forward with option 2, Enhanced Status Quo. This will provide the Bylaws' necessary changes, clarify process requirements, and invest in educational materials supporting lot grading in Regina. This option would require no further resourcing or costs. This option would maintain that drainage issues would continue to be a civil matter between property owners.

# Appendix A: Industry Engagement



## **Regina and Region Home Builders' Association (RRHBA)**

On April 21, 2020, the City met with RRHBA in an open forum-style discussion about lot drainage. The meeting intended to log known issues with lot elevation and solicit ideas for compliance with the bylaws.

RRHBA members indicated no specific concerns regarding the process for assignment of grades during new greenfield development. Members of the association voiced concerns about the lack of a consistent process for determining infill lot elevations. This concern is expected since older areas of Regina may not have established design elevations during subdivision. It was determined that the infill process be refined to ensure as much consistency as possible.

Another outcome was the decision to include Winnipeg's drainage practices, Manitoba, in the research and review for best practices, as only Edmonton and Calgary, Alberta and Saskatoon Saskatchewan was initially part of the research. The addition intended to round out the City of Regina's knowledge base of best practices as applied by neighbouring provinces.

## **Infill Lot Development**

In the engagement session with RRHBA, the feedback received during the process for greenfield lots was positive. In addition to the RRHBA, member companies of the Saskatchewan Land Surveyors Association were canvassed, and input was requested on lot grading in Regina. Responses were received from 6 of 9 companies listed as members, including Altus Group, 2020 Geomatics, Compass Geomatics, WSP Canada, Midwest Surveys, and Caltech Surveys. Members of the association voiced concerns about the lack of a consistent process for determining infill lot elevations. This concern is not unexpected as older areas of Regina may not have established design elevations during subdivision.

Issues were generally related to infill lot grading assignments and consistency from the City to establish lot elevations for mature neighbourhoods without approved grading plans. The concerns raised focus on the lack of a clear process for determining infill lot grades where the City has no record of existing lot elevation plans. The concerns were specific to older neighbourhoods with no existing, previous lot elevation plan to reference while applying for a permit. Generally, this group's preference was that the City set lot elevations for all infill development instead of the current practice of having the land surveyors set the lot elevations.

It is recommended that the Administration develop a process for the establishment of infill lot grades. This process would clarify the development community and the Administration regarding each party's responsibilities and requirements during infill development. The Cities surveyed require that any application for an infill development permit be accompanied by a proposed lot grading plan for any property where an approved lot grading plan does not exist. The process shall provide clarity on who provides the approved lot grades when there is a lack of an approved grading plan.

# Appendix B: Best Practices Research

## Summary

The following tables summarize the comparisons of the best practices of each of the Cities.

Regulation of Development				Residential DP		Commercial DP
<u>City</u>	<u>Governing Act</u>	<u>Reference Bylaw</u>	<u>Subdivision</u>	<u>Rough Grade Certificate</u>	<u>Final Grade Certificate</u>	<u>Record Drawings</u>
Regina	P&D Act	Building	Engineered Grading Plan	Yes	Yes	Yes
Saskatoon	Cities Act	Drainage	Engineered Grading Plan	No	No	No
Calgary	MGA	Drainage	Engineered Grading Plan	No	Yes	Yes
Edmonton	MGA	Drainage	Engineered Grading Plan	Yes	Yes	Yes
Winnipeg	Charter	Lot Grading	Lot Grading Plan	Yes	No	Yes

Regulation of Existing Neighbourhoods	Enforcement						
	<u>Governing Act</u>	<u>Reference Bylaw</u>	<u>Down Spouts</u>	<u>Rear Lot Grades</u>	<u>Side Yard Grades</u>	<u>Available Publications</u>	<u>Dedicated FTE's</u>
Regina	Cities Act	Community Standards	Yes	No	No	0-5	0
Saskatoon	Cities Act	Drainage	Yes	Yes	No	5-10	1
Calgary	MGA	Drainage	Yes	*Yes	No	10-50	6
Edmonton	MGA	Drainage	Yes	Yes	Yes	50-75	9
Winnipeg	Charter	Lot Grading Bylaw	Yes	Yes	Yes	10-50	4

\* City of Calgary only enforces rear lot grades when the impacts directly affect a drainage easement or infrastructure.

## **City of Saskatoon**

### **Development Standards (Greenfield)**

In Saskatoon, individual lots are created through the subdivision process governed by the *Planning and Development (P&D) Act*. During the subdivision process, the overall drainage schemes for new sections of the city are considered. Grading plans are submitted and reviewed by the City of Saskatoon and are then constructed by the developer. Submission requirements for grading plans are outlined in the Development Permit Drawing Applications package. The City confirms that the grading plans are constructed as per the approved plan before the contract's final acceptance to construct that city section.

If there is no separated utility easement or rear lane, the rear lot drainage is shared at the property line. The City of Saskatoon typically requires an earth swale centred from the property line. This infrastructure accommodates the drainage and provides room for shallow utility servicing at the rear of the lot. A registered easement typically protects the swales. The grades within this easement are not to be altered or blocked in any way.

### **Development Standards (Lot Development)**

For lot development, the City of Saskatoon does not issue lot elevation certificates. The builder is responsible for building the house and grading the lot to the approved design. The City of Saskatoon is currently undertaking a review of the drainage bylaw and the implementation of lot drainage review during a development permit issuance. The City of Saskatoon is also reviewing requirements for infill grade inspections and infill grading plans. It has determined that many of the complaints received result from infill developments and will target infill regulations. In August of 2020, the City of Saskatoon released new guidelines for lot grading. These can be found in appendix A.

### **Existing Neighbourhoods**

The City of Saskatoon enforces a portion of their drainage bylaw and currently employs one full-time bylaw inspector for enforcement. The City of Saskatoon exclusively enforces drainage issues along shared drainage easements, particularly those adjacent to the rear lot without an alley. The City does not enforce side yard drainage issues and believes those issues constitute a civil matter between property owners. The bylaw is limited to the enforcement of surface drainage systems based on the engineered rear lot grading plan.

When enforcement is enacted, it is cooperative and akin to an informal education process in nature. The process for a complaint of non-compliance with the bylaw begins with the bylaw officer conducting an onsite investigation that requires site access to all properties affected and surveying to determine the complaint's validity. Once an infraction is deemed valid by the investigation, the bylaw officer explains the infraction to the homeowner, provides recommendations for compliance, and issues a verbal warning for continued non-compliance. If the property owner does not initiate compliance, the City issues a formal, written remediation order, stating in explicit detail what is required and when. The homeowner may choose to appeal the order or comply. If the order is appealed, the City is required to provide evidence of the non-compliance to the Saskatoon Property Maintenance Appeal Board and seek a suitable remedy.

## **City of Calgary**

### **Development Standards (Greenfield)**

The Municipal Government Act governs the creation of a new subdivided section of land in Alberta. During the subdivision process, the overall drainage schemes for new sections of the city are considered. Grading plans are submitted and reviewed by the City of Calgary and are then constructed by the developer. The City confirms that the grading plans are constructed as per the approved plan before finalizing the construction contract to build the City's new section. Notably, in the City of Calgary, controlling rear lot drainage is conducted through a formal infrastructure feature; a concrete swale is an example of such a characteristic.

### **Development Standards (Lot Development)**

The City of Calgary Lot Grading Bylaw ensures that all new residential or commercial buildings have a properly graded lot with surface water drainage directed away from buildings at the time of construction completion. The Builder is responsible for fulfilling the requirements of this bylaw.

The builder is responsible for grading the lot and building the house to the approved design. The builder must also submit a lot grading certificate to the City of Calgary within twelve months of the permission to occupy. The lot grading certificate must be produced by a legal land surveyor, professional engineer, or architect. The City of Calgary receives the lot grading certificate from the builder as formal notification that grades are certified as per the design and within limits specified by the lot grading bylaw. This completes the land development process and ends the City's involvement. More information can be found on the City of Calgary lot drainage in appendix B.

### **Existing Neighbourhoods**

The City of Calgary establishes processes and guidance and ensures compliance with applicable bylaws and regulations to protect people, the environment, and public infrastructure. Through the development and construction process of new homes, the City monitors compliance with applicable Bylaws.

After completing the new construction/development process, the City has a limited role in lot grading unless it relates to a specific bylaw infraction. At no time does the City of Calgary mediate neighbour-to-neighbour disputes between property owners nor monitor lot grading or landscape modifications once the development process is complete. Disputes between or among neighbours constitute civil matters which are expected to be addressed in civil court.

If property owners have a dispute, the City of Calgary refers them to their homeowners' guidelines to understand their options. The City does not offer/conduct mediation services. If a property owner is having a dispute with a neighbour related to a drainage issue, they are referred to general mediation services provided in the City if they cannot resolve it amongst themselves.

The City of Calgary does enforce and regulate the use of downspouts and registered swales within their drainage bylaw and community standards bylaw. Most rear lots registered drainage easements are in the form of concrete swales, which have been in effect since the eighties. Typical drainage blockage takes the form of a shed or outbuilding, which the City has homeowners move to remediate. If the structure allows for drainage water flow despite disrupting it, an allowance is issued through a formal variance.

The enforcement of an infraction such as a downspout or easement blockage requires an initial inspection; further action, if required, is conducted by the drainage group. For example, if a registered drainage easement is blocked, the drainage group issues a compliance letter to remove the obstruction. If the compliance letter does not result in a resolution, the drainage group issues a remedial order. Most issues are resolved upon receipt of a remedial order. If further action is required after this order is issued, the case is forwarded to Bylaw, who either issue further notice, issue fines or prosecute.

The City ensures that design guidelines are available to help guide development and construction. They also provide drainage bylaws to regulate and enforce what is permitted or forbidden. The City provides publications and communication materials to support property owners with drainage disputes. Overall, the preferred approach is to bring awareness and education to citizens to understand the guidelines, processes, and bylaws.

## **City of Edmonton**

### **Development Standards (Greenfield)**

The Municipal Government Act governs the creation of a new subdivided section of land in Alberta. The overall drainage schemes for new sections of the city are considered during the subdivision process. Grading plans are submitted and reviewed by the City of Edmonton and are then constructed by the developer. The City confirms that the grading plans have been constructed as per the approved plan before finalizing the construction contract to build the City's new area.

### **Development Standards (Lot Development)**

The City of Edmonton Drainage Bylaw 18093 came into effect on January 1, 2018, replacing Drainage Bylaw 16200. This Bylaw requires that all single-family, semi-detached, and row-house residential properties are graded per an approved Lot Grading Plan or Infill Lot Grading Plan.

City of Edmonton, Lot Grading Inspectors, are Engineering Technologists and Bylaw Enforcement Officers. They conduct inspections and issue approvals for Lot Grading for all private properties' developments to ensure compliance with the Drainage Bylaw, Lot Grading Plan and Lot Grading Guidelines. Lot Grading Inspections are required after the buildings are constructed, and the site is graded. Lot Grading inspection season normally occurs between spring and fall and is suspended when there is significant snow cover. The City of Edmonton differentiates between rough grade lot construction (required at the time of completion of the building unit) and a lot's final grade certificate (when landscaping is completed).

The builder is responsible for grading the lot to the approved design and, during construction, a City-employed lot grading inspector is responsible for ensuring compliance with grading standards. The rough grade certificate is issued after building construction is completed; the rough grade must be realized within 18 months after issuing a valid building permit. The final grade must be completed within one year from rough grade approval. Both standards of lot grading certificates must be produced by a legal land surveyor, professional engineer, or architect. The City of Edmonton receives each lot grading certificate as a formal notification from the builder that grades are certified as per the design and within limits specified by the lot grading bylaw. These grading certificates are required for all developments, including infill development. More information on the City of Edmonton lot grading can be found in appendix C.

### **Existing Neighbourhoods**

The City of Edmonton encourages all homeowners to take preventive measures to avoid flooding as grading on private property is the owner's responsibility. There are set standards for surface and lot drainage defined in the drainage bylaw.

Many mature neighbourhoods in the City of Edmonton do not have approved Lot Grading Plans. Those with approved plans have plans that were developed before the implementation of the lot grading approval program. While the bylaws came into effect in 1997, the standards are enforced retroactively for all properties.

The City promotes issue management between neighbours with various communication tools and information. If a dispute between neighbours does not result in satisfactory drainage arrangements, the City of Edmonton may investigate. Once the complainant has provided a witness statement, the City begins its investigation. The City will conduct a site visit and issue non-compliance communications and/or orders to the homeowners if non-compliance with the

bylaw are determined. If property owners refuse to comply with the orders, tickets are issued as outlined in the bylaw. The ticket includes a fine and a written remediation order, stating in explicit detail what is required and when. Upon receiving a ticket, a homeowner may choose to plead not guilty and defend themselves in the respective appeal board.



## **City of Winnipeg**

### **Development Standards (Greenfield)**

Subdivision in the City of Winnipeg occurs per *The Planning Act* of Manitoba. The overall drainage schemes for new sections of the city are considered during the subdivision process. Grading plans are submitted and reviewed by the City of Winnipeg and are then constructed by the developer. The City confirms these plans through written confirmation of an Engineer at the time of contract completion.

### **Development Standards (Lot Development)**

The City of Winnipeg requires that you obtain a lot grading permit before building any new structures and/or proceeding with any lot grading changes that may alter drainage patterns. When required, this must consider the elevation of the existing properties to ensure that the new construction does not affect neighbouring properties. Often a retaining wall must be constructed along the property line to contain the surface water.

The applicant (developer or owner) must obtain Lot grading permits before being issued building permits on residential, commercial, industrial, or multi-resident sites. Applications must include, in triplicate, lot grading plans for the site that include building locations, lot grade elevations, catch basin locations, land drainage sewer sizes & locations, and a plan showing a section of the foundation & floors of the building(s) to be constructed – any information the designated City Administrator deems pertinent. The City confirms the grading and drainage plans are constructed as per the approved plan to rough grade standard, with approximately one hundred (100) millimetres of allowance for the final grade to be completed as convenient for the owner/tenant the property.

Although a differentiation exists between rough grade and final grade, no certificate is issued to complete the final grade.

The applicant is responsible for grading the lot to the approved design within twelve (12) months of the lot grading permit issuance. The applicant must have the lot graded by a qualified, experienced surveyor to rough ("substantial") grade before the Lot Grading Deposit is released; it can only be released with certification by the Applicant's surveyor regarding the landscaping of the property and conformance with the elevations of the Lot Grading Permit. This grading certificate is required for all developments, including any construction(s) that alter a lot's drainage properties.

In non-compliance with a Lot Grading Permit, the City has a designated City Administrator provide written notice by certified mail to the applicant, directing the completion or correction of lot grading. The City Administrator may require a new lot grading plan to be prepared as part of the corrective measures. Where compliance with notice, order or directive given by a City Administrator is refused or neglected, the City Administrator may choose to have the City complete the work and then charge the work costs back to the applicant against any deposit(s) held by the City, direct billing, or via cost recovery as a debt due to the City.

### **Existing Neighbourhoods**

Lot grading permits have been required in the City of Winnipeg since 1980. The City of Winnipeg maintains that property owners be held responsible for maintaining all lot grades established and approved by the City before the passage of its Lot Grading Bylaw or established by a Lot Grading Permit. Owners are responsible for ensuring any stormwater originating on the property not be directed nor permitted to flow onto the adjacent property in any manner that

would be detrimental to or harmfully affect the property. Property owners must maintain roof downspouts, sump pump discharge pipes and splash pads; standards are defined in the lot grading bylaw.

An owner registers a complaint with the City, and a designated City Administrator has investigated and determined that lot grading and/or drainage has not been properly maintained. The designated City Administrator provides written notice by certified mail to the owner, directing the lot grading correction. The City Administrator may require a new lot grading plan prepared by a Professional Engineer or Architect, be prepared as part of the corrective measures. Where compliance with notice, order or directive given by a City Administrator is refused or neglected, the City Administrator may choose to have the City of Winnipeg complete the work and then charge the work costs back to the applicant as a debt due to the City, or as taxes due & owing in respect of that land. A homeowner who contravenes this Bylaw is guilty & liable to a fine of not more than one thousand (1000) dollars, or the imprisonment of a term, not more than six (6) months, or both. The individual is guilty of a separate offence for each day the non-compliance continues.

# Appendix C: Report CR01-242

A report dated October 22, 2001 from the Regina Planning Commission, read as follows:

The Regina Planning Commission, at its meeting held on October 10, 2001, considered the following City Manager's report:

#### BACKGROUND

At the meeting of June 26, 2000 City Council passed the following motion:

"BE IT RESOLVED that the Administration prepare a report to the appropriate committee on the legislative or bylaw changes required to provide a solution to drainage problems which exist on properties built prior to 1974."

The purpose of this report is to examine the options available to address this issue.

#### DISCUSSION

Prior to 1963 the City did not have a system to assign design grades to the rear of developed properties in new subdivisions. During this era, the majority of these properties backed onto public lanes and were drained into such lanes. Many of the properties in the Whitmore/Hillsdale area abutted utility parcels, which were intended to accommodate utilities as well as the surface drainage. The responsibility for establishing a rear lot drainage pattern was essentially left to the discretion of the developer.

After 1963, subdivisions were mostly developed without rear lanes. The common practice was to accommodate rear lot drainage of properties along the common rear lot line. The Building Bylaw of that time required that design grades be established and assigned to these properties and that these grades be maintained.

While the legal authority of the bylaw of the time would still be relevant to the enforcement of these grades, the system proved to not be adequate to address the problems that arose whenever the rear of the lots did not drain properly. Specifically, the properties had not been surveyed at the time of development to verify their compliance with the assigned design grades. The grading had been approved along with the construction of the dwelling at the time the Occupancy Permit had been issued. The property owner was not aware of the intention as to how the drainage system was to function and the developer would generally be of the position that the property had been turned over to the owner at the correct grade.

The difficulty experienced in this matter by the City is that no documents are on file to verify that the rear of lot grades were ever brought to the required design grades. When many of the drainage problems from this era are investigated, the entire block can be found to be off the design grade by a consistent amount. It is also frequently found that the public infrastructure presents a problem with draining the water from the rear lot system, as catch basins or curbs may not have been constructed at the required design grades. In 1973, the City's legal opinion was that a property owner could not be prosecuted for failing to maintain rear lot grades at the design elevations unless it was confirmed that the elevations were correct at the time the lot was developed. Subsequently, in 1974 the City revised the Building Bylaw to cause the property owner of any newly developed lot to submit a Rear of Lot Elevation Certificate prepared by a Legal Surveyor. This certificate is verification that the lot has been graded in compliance with the assigned design elevations.

To date, the City has not attempted to prosecute any owner of a property developed prior to 1974 for rear of lot grade non-compliance. The present practice is that a reported problem is investigated to identify the source of the drainage issue. The affected residents are then contacted with an attempt to encourage an agreement to reach a solution to their problem. The City offers assistance in the form of survey and redesign calculations. This system requires the cooperation of the owners of the higher graded properties to reach a solution. The only other recourse currently available to the homeowner is to take civil court action against their neighbour(s) for damages and/or a court order to remedy the problem.

In 2000, 197 complaints were received on drainage problems affecting 500 lots. Approximately 50 percent of these inquiries involved lots that were developed prior to 1974. The map attached as Appendix "A" shows a breakdown of residential development based on the time of construction. The breakdown of numbers of existing residential properties by development time is as follows:

	Residences	Percentage
After 1974	18,644	35.8 %
1963 – 1974	11,431	21.9 %
Before 1963	22,028	42.3 %

The manner in which the drainage inquiries of the pre-1974 era are addressed frequently results in dissatisfaction for the affected homeowner as well as the City Administration when an agreement to resolve the issue cannot be reached among the homeowners. Methods to address this issue have been identified as follows:

1. Continue the present procedure of promoting a cooperative solution among neighbours to revise grades to the design elevations. If such cooperation cannot be reached, the affected property owner is advised of the option to take civil court action against their neighbour(s).
2. City revise existing landscaping on private lots to provide proper drainage at City expense. Under this scenario, the cost to the City is estimated to be \$500 to \$1000 per lot assuming landscaping repairs only. Costs would increase significantly in cases where the City's infrastructure, such as sidewalks or catch basins, requires revision.
3. Seek an amendment to *The Urban Municipality Act, 1984* granting the City authority to enforce rear lot grading elevations on the pre-1974 properties. The amendment would need to include the authority to enter a property to correct existing elevations and charge the costs back to the homeowner. Presently, the Building Bylaw does not grant the City legal access to properties to revise lot grading. Access could only be obtained by a specific legal judgement. The City would require this access to perform landscaping revisions along rear lot lines where the property owner has failed to comply with the bylaw. Under this scenario, the City would prosecute to gain an order for the property owner to do the work, failing which the City would make the revisions with the costs charged back to the owner.

The City Administration sent correspondence to the Minister of Urban Affairs on October 24, 1990 requesting that the feasibility of this amendment be studied. A response was returned on November 19, 1990 stating that the matter would require a more detailed review. In the

course of more recent discussion on this matter, the Administration again sent correspondence to the Deputy Minister of Saskatchewan Municipal Affairs and Housing on March 21, 2001 referencing the 1990 letter and requesting any comments from the previous review. The response to the latest correspondence was that the proposal be raised for inclusion in the process for considering amendments to the Act for spring 2002.

### BUDGET IMPLICATIONS

The present program of promoting cooperation between neighbours to respond to rear lot drainage problems in areas developed before 1974 can be accommodated in the present operating budget. If the City adopted a program to revise rear lot grades at the City's cost, the amount estimated to resolve the complaints of last year would be approximately \$125,000 to \$250,000. If the City were to administer corrections of grading on properties prior to 1974, with or without the authority to charge costs to the home owners, it is estimated that one additional inspector position, plus approximately \$25,000 in additional surveying funds would be required to address the matter. It should be noted that this cost is dependent on the number and location of complaints received and would tend to be higher in wetter years. If the City did establish a program to address the problems of this era, it could be anticipated that the number of requests for assistance received would increase. Also, properties where the homeowners have already completed the drainage repairs at their own expense may seek compensation from the City.

### COMMUNICATION PLAN

A copy of this report has been sent to interested residents.

### ENVIRONMENTAL IMPLICATIONS

Storm water ponding in rear yards results in environmental problems for residents which include an over-saturated garden or lawn area, a muddy play area for young children and a breeding location for mosquitoes. Proper maintenance of rear lot landscaping at the design grades will minimize these problems.

### DELEGATED AUTHORITY

City Council has the authority to formally make a request to the Provincial Government for an amendment to *The Urban Municipality Act, 1984*.

### CONCLUSION

The City should continue to promote cooperation among homeowners in areas developed before 1974 to maintain proper rear lot design grades and thus facilitate proper drainage from these areas. This approach has been moderately successful to date. However, if no cooperation can be reached, the current recourse for property owners is to initiate a civil court action against their neighbours. The City has insufficient evidence to enforce the former Building Bylaws for properties developed prior to 1974. To pursue the issue, an amendment to *The Urban Municipality Act, 1984* would be required granting the City authority to enforce rear lot grading elevations on properties developed prior to 1974.

### RECOMMENDATION

Your Administration recommends the following:

1. That the Administration continue with the present practice of resolving rear lot drainage issues on properties developed prior to 1974 through promotion of cooperative solutions among the affected homeowners.
2. That City Council request the Provincial Government to amend *The Urban Municipality Act, 1984* to permit a municipality to implement by bylaw a drainage elevation design for existing properties, and to provide for enforcement of that drainage elevation design.

*REGINA PLANNING COMMISSION – OCTOBER 10, 2001*

The Commission concurred in the recommendations, after adding the following recommendation which does not require City Council approval:

3. Item RPC00-75 be removed from the List of Outstanding Items for the Regina Planning Commission.

RECOMMENDATION OF THE REGINA PLANNING COMMISSION  
- OCTOBER 10, 2001

Recommendations #1 and #2 contained in the report be concurred in.

**Councillor Wells moved that the recommendation of the Regina Planning Commission contained in the report be concurred in.**

**Councillor Gray moved, in amendment, seconded by Councillor Fougere, AND IT WAS RESOLVED, that a recommendation #3 be added to read as follows:**

- 3. The Administration be instructed to request the Provincial Government to make an appropriate legislative amendment which would allow the City to register identified rear lot drainage problems on the title of a property.**

**The main motion, as amended, was put and declared CARRIED.**