



REFERRAL REPORT

Report Date: May 29, 2023
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VanRIMS No.: 08-2000-20
Meeting Date: June 13, 2023

TO: Vancouver City Council

FROM: General Managers of Development, Buildings & Licensing;
Planning, Urban Design and Sustainability; and Engineering Services;
and the Chief Building Official

SUBJECT: Simplifying Development Permit Requirements and Alleviating Sewer
Infrastructure Issues

RECOMMENDATION TO REFER

THAT the General Manager of Planning, Urban Design and Sustainability be instructed to bring forward the by-law amendments as described below and that the application be referred to Public Hearing together with the recommendations set out below;

FURTHER THAT the Director of Legal Services be instructed to prepare the necessary by-laws, in accordance with the recommendations set out below, for consideration at the Public Hearing.

Recommendations for Public Hearing

- A. THAT Council approve, in principle, the application to amend the Zoning and Development By-law to remove rainwater management plan requirements, generally as presented in Appendix A;
- FURTHER THAT the Director of Legal Services be instructed to bring forward for enactment an amendment to the Zoning and Development By-law generally in accordance with Appendix A.
- B. THAT Council approve, in principle, amendments to the Building By-law to add rainwater management regulations for new Part 3 buildings, and to update regulations for non-potable water systems, generally as presented in Appendix B;
- FURTHER THAT the Director of Legal Services be instructed to bring forward for enactment an amendment to the Building By-law generally in accordance with Appendix B.

- C. THAT, at the time of enactment of the proposed amendments to the Zoning and Development By-law, the General Manager of Planning, Urban Design and Sustainability be instructed to bring forward for approval by Council the updated Green Buildings Policy for Rezoning, generally in accordance with Appendix C.
- D. THAT, at the time of enactment of the proposed amendments to the Zoning and Development By-law, the General Manager of Planning, Urban Design and Sustainability be instructed to bring forward for approval by Council the updated Rezoning Policy for Sustainable Large Developments, generally in accordance with Appendix D.
- E. THAT, as result of the by-law amendments, staff be directed to administer in-stream applications to facilitate the approval of developments that meet the amended specifications, or their equivalent.
- F. THAT Recommendations A to E be adopted on the following conditions:
 - (i) THAT passage of the above resolutions creates no legal rights for any person, or obligation on the part of the City and any expenditure of funds or incurring of costs is at the risk of the person making the expenditure or incurring the cost;
 - (ii) THAT any approval that may be granted following the public hearing shall not obligate the City to enact any by-laws including zoning by-laws; and
 - (iii) THAT the City and all its officials shall not in any way be limited or directed in the exercise of their authority or discretion, regardless of when they are called upon to exercise such authority or discretion.

Purpose and Executive Summary

This report recommends replacement of the City’s current rainwater management plan review process conducted under the Zoning and Development By-law (ZDBL) with a streamlined process under the Building By-law (VBBL).

The current process for review and approval of rainwater management plans under the ZDBL took 56 weeks on average for development permits issued in 2022. This process can be reduced to an anticipated 3 weeks through administration using the VBBL. This simplified approach to rainwater management has been endorsed by the development community and would no longer involve multiple submissions at various permit stages, permit holds, or covenants requiring case-by-case legal negotiation.

The streamlined rainwater management requirements are proposed to apply city-wide on January 1, 2024 to all new Part 3 (complex) buildings — excluding residential buildings with up to eight dwelling units — to help relieve sewer system capacity constraints and meet regulatory obligations. Alongside coordinated sewer system upgrades, these private property rainwater management requirements will enable housing development to proceed. Existing permit applications which have not yet been issued would be sheltered from the new requirements in the transition, and would not be required to resubmit.

Council Authority/Previous Decisions

- In April 2016, Council endorsed the City-wide Integrated Rainwater Management Plan ([RTS 11354](#)) — a provincially-mandated document under Metro Vancouver’s May 2010 [Integrated Liquid Waste and Resource Management Plan](#) — to address the impacts of the sewer and drainage system on receiving waters. To implement this plan, Council in November 2019 adopted the Rain City Strategy ([RTS 13220](#)) which articulates objectives for private property rainwater management.
- Before July 2018, private property rainwater requirements were limited to policy statements that affected large rezonings and by-laws that affected particular geographical areas, like [Shaughnessy](#).
- In July 2018, Council approved policy to expand rainwater management requirements to new developments along the Cambie corridor ([RTS 12483](#)). In September 2018, the present-day mechanism of submitting and reviewing rainwater management plans was enacted into the Zoning and Development By-law ([RTS 12586](#)), providing city-wide authority for rainwater management plans. In practice, Engineering Services focused application of this authority on the Cambie corridor.
- Since 2018, and following approval of the Broadway Plan in May 2022 ([RTS 14877](#)), Engineering Services has expanded the use of the rainwater tools in the Zoning and Development By-law to the Broadway Plan area and to other “sites of interest.”

City Manager’s Comments

The City Manager concurs with the foregoing recommendations.

Context and Background

The objective of this report is to streamline the issuing of development, building and occupancy permits, with recommended changes to private property rainwater management regulations.

Private property rainwater management

Presently, rainwater management plans are required for rezoning applications city-wide, development permit applications in the [Cambie Corridor Plan](#) and [Broadway Plan](#) areas, and any new development in an “area of concern” identified by Engineering Services. The iterative submission and review process is described in the [Rainwater Management Bulletin](#), with authority from the Zoning and Development By-law (ZDBL).

Since inception of the rainwater management program in 2018, of the approximately 500 development sites that have been subject to its approval process, 112 have received building permits and 4 have received occupancy permits.¹ For those that reached development permit (DP) acceptance in 2022, the start-to-finish review time for the rainwater management plan component averaged 56 weeks (range: 20 – 129 weeks), with three submissions per DP. An average of 35% of this time was for staff reviews, and 65% was for applicant preparation of resubmissions.

¹ City-wide progress on managing rainwater runoff volume was summarised for Council in the February 2023 Rain City Strategy update ([RTS 15199](#)).

The current process under the ZDBL includes drafting and registering a legal agreement prior to DP issuance. This is negotiated case-by-case between Legal Services and the applicant's lawyer, and places holds on building and occupancy permits, describes owner obligations and grants a statutory right-of-way. Until recently, prior to receiving an occupancy permit, a second legal agreement was drafted and registered with the Land Title and Survey Authority of British Columbia to remain on a property's title in perpetuity, or until discharged by the City.²

Public sewer infrastructure

The City is responsible for managing its sewer system (with a replacement value of approximately \$6.1 billion) and for meeting regulatory requirements to protect human health, property and the environment, which includes reducing sewer back-ups, flooding and overflows to receiving waterbodies. The risk of these events occurring increases as the capacity in existing sewers depletes over time. In 2020, about 38 billion litres of combined sewage — equivalent to 16 times the volume of BC Place — was discharged without treatment into local waters, including the harbour, the Fraser River and False Creek, with about 10% of this volume as sanitary sewage and the bulk as rainwater and groundwater ([RTS 13902](#) and [RTS 15152](#)).

Development to provide housing and new jobs typically increases rainwater runoff volume discharged from private properties into the sewer system which, unless mitigated, can directly increase flooding risk and sewer overflow volumes. In tandem with intensifying efforts by the City and Metro Vancouver to improve the public sewer system, private properties must share the responsibility for managing rainwater runoff to control discharges into the public sewer infrastructure (as summarised under Council Authority/Previous Decisions). This is especially important as the aging sewage collection system suffers capacity constraints and as the area in the City for rainwater to soak into shrinks due to redevelopment.

Discussion

This report proposes to streamline the issuing of development, building and occupancy permits by transitioning private property rainwater management performance requirements from the ZDBL into the VBBL on January 1, 2024 (Appendices A and B). It is recommended that the corresponding rezoning policies for rainwater management also be simplified to align with the by-law changes on enactment (Appendices C and D).

Performance requirements & process simplification

The current ZDBL requirements for new developments to capture the first 24 mm of rainfall in 24 hours and to limit the peak release rate into the sewer system would be moved into the VBBL. Any combination of strategies is available to developers to achieve the 24 mm capture requirement, including infiltration, green roofs, non-potable water re-use, and detention (storage) tanks.

To demonstrate how a new development will achieve these performance requirements — and replacing the current iterative submission and review process — would be a single design package at the plumbing permit application stage, sealed by a professional engineer. Documentation pertaining to rainwater management would no longer be required at the

² Such legal covenants are established under the [Land Title Act](#), section 219 and referred to commonly as "Section 219 Covenants."

rezoning and development permit stages.³ Holds on building permits and occupancy permits would be eliminated. The VBBL would negate the need for legal agreements.

Existing authorities within the VBBL include Letters of Assurance, which are legal accountability documents that delineate professional design and field review responsibilities for construction projects.⁴ Applied since 1987 through the VBBL, these address building concerns with life safety implications like structural capacity, slope stability, and fire protection. Rainwater management will benefit from a similar shift to reliance on registered professionals.⁵

The proposed process would leverage the City's existing, web-enabled permitting and inspections platform (POSSE), and all permits would be managed through a customer's online account. It presently takes 2-3 weeks for a plumbing permit to be issued. This timeline would be maintained, with staff support to audit applications, verify requirements and conduct inspections on a cost-recovery basis.

Applicability & transition

Presently, the ZDBL provides city-wide authority for rainwater management plans. To uphold the objective of relieving sewer system capacity constraints and mitigating sewer overflows, this report recommends applying the simplified rainwater management requirements city-wide to new Part 3 (complex) buildings on January 1, 2024.⁶ This report recommends excluding application of the rainwater requirements to residential buildings with up to eight dwelling units and Part 9 (simple) buildings, which are anticipated to be the subject of future recommendations to Council.

This report also recommends "in-stream" application protection for sites that have submitted a development permit (DP) application before January 1, 2024. Until that date, if the Director of Planning or Development Permit Board does not, under the present authority of the ZDBL and in consultation with the City Engineer, assess the need for rainwater management, that site would be sheltered from the VBBL rainwater requirements.

Presently, about 500 "in-stream" development sites require rainwater management plans. On January 1, 2024, those sites which have not cleared the DP stage will be transitioned by staff to fulfill their rainwater requirements through the simpler VBBL process. This may involve

³ For rezoning applications, rainwater management conditions are listed presently as Form of Development Conditions or less typically as Enactment Conditions. These would become unnecessary with the transition of performance requirements into the VBBL, unless the City Engineer chooses to impose customised obligations under the authority of the *Sewer & Watercourse By-law*, which is not affected by this Referral Report.

⁴ Reference: Province of British Columbia, Building & Safety Standards Branch (February 11, 2022) "Guide to the Letters of Assurance in the BC Building Code 2018 and Vancouver Building By-law 2019" (version 6.1): www.bccodes.ca/assurance/2018GuideLoA.pdf

⁵ This fulfills a key finding from the industry engagement sessions hosted through 2021 by the City's "Development Application and Permitting Modernization Task Force" ([RTS 14674](#)).

⁶ The two main types of buildings in the City of Vancouver are classified as either "Part 3" (complex) or "Part 9" (simple). The provincial government provides a summary of the difference here, on page 5: www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/guides/buildingactguide_sectiona1_june2015_web.pdf Note that in the City, there can be important differences from the provincial code in the details of Part 3 and Part 9 buildings.

removing holds and unwinding legal agreements, of which over 100 have been registered. Rezoning applications will require additional examination by staff to ensure the continuity of site-specific rainwater management conditions approved by Council.⁷ Current resources would be employed to transition existing applications to the simplified process.

Additional regulatory simplification

Lastly, to also streamline permit issuance and reduce wait times, this report recommends eliminating the need for an “[Alternative Solution](#)” application for a non-potable water system that uses storm water (a term for rainwater discharged from surfaces, like driveways). This proposal introduces defined water quality criteria developed with the Vancouver Coastal Health Authority to protect public health and facilitate storm water use. A new development may choose to install such a system to address its rainwater management performance requirements, concurrently lessening potable water use and reducing sewer and water utility bills. Post-occupancy monitoring and inspections would be facilitated through the existing Operating Permit program (vancouver.ca/operating-permit), which presently oversees 40 registered non-potable water re-use systems in the City of Vancouver.

What is unchanged & future recommendations

Predating the ZDBL regulations addressed by this report are other rainwater requirements, such as within the location-specific [First Shaughnessy District Schedule](#). These are unaffected by this report, do not conflict with this report’s recommendations, and are expected to be the subject of future recommendations to Council.

To meet regulatory obligations and help deliver capacity for housing, City staff are conducting studies on sanitary sewage, rainwater, groundwater and local waterways. Evidence-based studies and stakeholder consultation will inform follow-up proposals to Council to build upon the VBBL rainwater management performance requirements and process recommended here.

This proposal does not modify the groundwater management plan requirement and review process applied under the authority of the ZDBL and summarised in the [Groundwater Management Bulletin](#).

⁷ For rezoning applications and germane development permit applications — as a Condition of Approval of the Development Application or as a Condition in the “prior-to permit issuance” letter, respectively — Engineering Services typically requires an applicant to provide a rainwater management plan for (1) volume reduction, (2) water quality treatment and (3) release rate control. If Council approves this report’s recommendations, substantially equivalent requirements for volume reduction and release rate control will come into force and effect in the VBBL on January 1, 2024. Therefore, on January 1, 2024, for “in-stream” applications that have not yet been issued a development permit, staff will generally consider the Condition for a rainwater management plan to have been met by virtue of compliance with the downstream building permit application process, except for the water quality treatment requirement and any Council approved, site-specific drainage requirements exceeding those of the VBBL.

There are additional Conditions normally applied by Engineering Services for rainwater management. Engineering Services typically requires the applicant to sign a legal agreement before receiving a development permit, and to provide a final rainwater management plan and an operations and maintenance manual before receiving a building permit. On January 1, 2024, staff will consider all of these Conditions to have been met by the applicant: in effect, both the legal agreement and rainwater management plan become superfluous with the proposed VBBL process, and an operations and maintenance manual is required by the VBBL.

Stakeholder consultation & communications

The proposals have been shared through a public consultation process involving professional and industry associations, consultants and suppliers. This included direct outreach, information on City webpages, and presentations both in-person and online. Responses from professional organisations, consulting engineers, industry groups and developers were unanimously in favour of the overall proposal and some suggested refinements which were incorporated into the legal text. The Urban Development Institute has offered a letter of support (Appendix E).

A communications plan has been developed to support these efforts. Pending Council approval, staff will implement the communications campaign to inform the development community, promote preparedness for the pending changes, and increase awareness of the benefits the changes bring to all of Vancouver.

Financial Implications

There are no financial implications associated with this report’s recommendations.

Legal Implications

Council has the authority under sections 306 and 330 of the Vancouver Charter to make by-laws for regulating the installation of plumbing facilities, for fixing standards for plumbing facilities, for protecting the health of inhabitants and for preventing, prohibiting and remedying insanitary conditions in the city.

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APPENDIX A

DRAFT

A By-law to amend Zoning and Development By-law No. 3575 Regarding Rainwater Management Regulations

Note: A By-law will be prepared generally in accordance with the provisions listed below, subject to change and refinement prior to posting.

1. This by-law amends the indicated provisions of Zoning and Development By-law No. 3575.
2. In section 2, Council strikes out the following definitions in their entirety:
 - (a) Rainwater;
 - (b) Rainwater Drainage;
 - (c) Rainwater Management Plan; and
 - (d) Rainwater Management System.
3. Council strikes out section 4.3.4 and substitutes the following:

“4.3.4 In making a determination regarding the adequacy of drainage under section 4.3.3(d) of this by-law, the Director of Planning or Development Permit Board may require any development permit applicant to submit a hydrogeological study and an impact assessment, and may consider drainage to be inadequate if the proposed development will result in any groundwater discharge from the site into the City collection system.”.
4. Council strikes out section 4.3.5 and substitutes the following:

“4.3.5 In order to address the inadequacy of drainage the Director of Planning or Development Permit Board may impose conditions on development requiring the applicant to develop the proposed site in accordance with a groundwater management plan designed to prevent groundwater discharge into the City collection system and limit or reduce environmental impacts, including stricter targets if the development is below the water table.”.
5. Council strikes out section 4.3.6. and substitutes the following:

“4.3.6 In order to ensure compliance with a groundwater management plan, the Director of Planning or Development Permit Board may refuse to issue the development permit until the property owner has entered into a groundwater management agreement, to the satisfaction of the Director of Legal Services and the City Engineer, to:

 - (a) construct a groundwater management system on the site that is designed and certified by a professional engineer to prevent groundwater discharge from entering the City’s collection system;
 - (b) maintain the groundwater management system at the expense of the owner;
 - (c) grant a statutory right of way and equitable charge to the City; and

APPENDIX B

DRAFT

A By-law to amend Building By-law No. 12511 Regarding Rainwater Management Regulations

Note: A By-law will be prepared generally in accordance with the provisions listed below, subject to change and refinement prior to posting.

1. This by-law amends the indicated provisions of Building By-law No. 12511.
2. In Article 11.2.1.1. of Book I, Division B, Council adds the following new Sentence:

“2) An *alteration* to an *existing building* shall not trigger upgrading of the *existing building* to meet the rainwater management requirements described in Article 2.4.2.5. of Division B of Book II (Plumbing Systems) of this By-law.”
3. In Clause 1.2.1.1.(1)(b) of Division A, in Books I and II, Council adds “and Sentence 3.3.1.3.(1) of Division C” after “except as required by Sentence (3)”.
4. In Article 1.5.2.10. of Division C, in Books I and II, Council adds a new Sentence:

“2) The *Chief Building Official* may relax the rainwater management requirements of Division B, Sentences 2.4.2.5.(2) and (3) of Book II (Plumbing Systems) of this By-law as provided in Division B, Sentence 2.4.2.5.(7) of Book II (Plumbing Systems) of this By-law.”
5. In Section 2.3 of Division C, in Books I and II, Council:
 - (a) strikes Clause 2.3.1.1.(1)(a) and substitutes:

“a) except as permitted by Sentence 3.3.1.3.(1), the measure will achieve at least the level of performance required by Clause 1.2.1.1.(1)(b) of Division A, and”; and
 - (b) strikes Sentence 2.3.1.2.(1) and substitutes:

“1) Except as required by Sentence 3.3.1.3.(2), the *Chief Building Official* may require a person requesting the use of an alternative solution to provide documentation to demonstrate that the proposed alternative solution will achieve at least the level of performance required by Clause 1.2.1.1.(1)(b) of Division A.”
6. In Section 3.3 of Division C, in Books I and II, Council adds a new Article:

“3.3.1.3. Rainwater Management Regulation Transition

 - 1)** An alternative solution accepted by the *Chief Building Official* under Section 2.3 may achieve less than the minimum level of performance required by Division B, Article 2.4.2.5. of Book II (Plumbing Systems) of the

Building By-law in the areas defined by the objectives and functional statements attributed to the applicable acceptable solutions.

2) A person requesting an alternative solution under Sentence (1) shall file an application in the form prescribed by the *Chief Building Official*.

3) The application referred to in Sentence (2) shall include

- a) documentation that the *owner* applied to the *City*, prior to January 1, 2024, for a rezoning application or a development permit application pertaining to the *building*,
- b) documentation that the *owner* has not been required to provide rainwater management for the development, or that the *City* has agreed to other rainwater management requirements for the development, and
- c) information about the qualifications, experience and background of the person or persons taking responsibility for the design.”

7. In Sentence 1.4.1.2.(1) of Book II, Division A, Council adds the following new definitions in the correct alphabetical order:

- (a) “**Rainwater** means rainfall and other natural precipitation, and includes *storm water*.”; and
- (b) “**Subsurface investigation*** means the appraisal of the general subsurface conditions at a *building* site by analysis of information gained by such methods as geological surveys, in situ testing, sampling, visual inspection, laboratory testing of samples of the subsurface materials and *groundwater* observations and measurements.”

8. In Sentence 1.4.1.2.(1) of Book II, Division A, in the definition for “Alternate water source system,” Council strikes out “4 *principal dwelling units*” and substitutes “8 *principal dwelling units*”.

9. In Sentence 1.4.2.1.(1) of Book II, Division A, Council adds the following to the list of symbols and other abbreviations in the correct alphabetical order:

“**IDF** Intensity-Duration-Frequency”.

10. In Table 1.3.1.2. of Book II, Division B, Council adds the following new row in the correct alphabetical order:

“

CoV		Engineering Design Manual ⁽⁴⁾	2.4.2.5.(3)
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11. In Section 2.2 of Book II, Division B, Council adds the following new Article:

“2.2.1.9. Operating Manuals

1) When an operating manual is required by Book II (Plumbing Systems) of this By-law, it shall include

- a) the address and location of the system or equipment for which the operating manual is required,
 - b) contact details for the system or equipment designer,
 - c) a simplified process flow diagram,
 - d) a schematic of the system or equipment showing the locations of all substantial components,
 - e) instructions on operating, maintaining, and inspecting the system or equipment,
 - f) required frequency of maintenance and inspections,
 - g) instructions on deactivating and restarting the system or equipment for repair or other purposes,
 - h) safety data sheets, and
 - i) for *alternate water source systems*, details on the corrective action that shall be taken if the water quality fails to meet the standards set out in Table 2.7.7.1.
- 2) The operating manual described in Sentence (1) shall be
- a) supplied to the *owner* or representative of the *owner*, and
 - b) made available on such request to the *Chief Building Official*.”;
12. In Article 2.4.2.4. of Book II, Division B, Council, strikes out “rainwater or *storm water*” wherever it appears, and substitutes “*rainwater*”.
13. In Section 2.4 of Book II, Division B, Council adds the following new Article:
- “2.4.2.5. Rainwater Management**
- 1) This Article shall apply to all *buildings*, except
- a) *float homes*,
 - b) *marinas*,
 - c) retaining structures,
 - d) those to which Part 9 applies, as described in Sentence 1.3.3.3.(1) of Division A of Book I (General) of this By-law, and
 - e) those *buildings* used exclusively for *residential occupancy* containing no more than 8 principal *dwelling units*.
- 2) Except as provided by Sentences (6) and (7), the first 24 mm of *rainwater* in a 24 hour period from the site area shall be detained, and the detention volume requirement
- a) shall be calculated as the volume of water that would be present if water 24 mm deep covered the entire site, and
 - b) may be reduced by any combination of the retention or other practices listed in Table 2.4.2.5., by the amounts in Column C of Table 2.4.2.5.

Table 2.4.2.5.
Permitted Reductions to the Detention Volume Requirement
 Forming Part of Sentence 2.4.2.5.(2)

Retention or Other Practice	Reduction to the Detention Volume Requirement		
	Maximum Permitted Reduction Column A	Limit to Permitted Reduction Column B	Permitted Reduction Column C
Landscape feature ⁽¹⁾	Area of, and area routed to, the landscape feature multiplied by 24 mm	<i>Rainwater</i> capture potential, calculated as <i>rainwater</i> storage potential in the growing medium (%) multiplied by the growing medium volume, plus as applicable the storage volume within a subsurface reservoir layer and the volume infiltrated into the subgrade during a 24 hour period. ⁽³⁾	The lesser of Columns A and B
Green roof ⁽²⁾	Area of, and area routed to, the green roof multiplied by 24 mm		The lesser of Columns A and B ⁽⁴⁾
<i>Alternate water source system</i>	Area routed to the <i>alternate water source system</i> multiplied by 24 mm	Storage volume of the <i>alternate water source system</i>	The lesser of Columns A and B

Notes to Table 2.4.2.5.:

- (1) Or other *acceptable* ground-level or subsurface based practice, such as permeable pavement or an infiltration tank.
- (2) Or other *acceptable* roof-top based practice. For green roofs, see Article 3.1.14.4. of Division B of Book I (General) of this By-law.
- (3) “*Rainwater* storage potential in the growing medium”, “volume infiltrated into the subgrade during a 24 hour period” and “storage volume within a subsurface reservoir layer” shall be demonstrated by *acceptable* data or references.
- (4) For a green roof from which the runoff is directed to an *alternate water source system*, the permitted reduction in the volume requirement shall equal Column A.

3) Except as provided by Sentences (6) and (7), the peak flow rate discharged to the *combined sewer* or *storm sewer* under post-development conditions shall not be greater than the peak flow rate discharged to the *combined sewer* or *storm sewer* under pre-development conditions, and shall be calculated using

- a) the Rational Method,
- b) the IDF curves in the City of Vancouver Engineering Design Manual, applying
 - i) for pre-development, the IDF curve prepared for pre-development estimates with a 5 year return period,
 - ii) for post-development, the 2100 IDF curve with a 10 year return period, and
 - iii) the inlet time specified in the City of Vancouver Engineering Design Manual, and

- c) a composite runoff based on the percentages of different surfaces of the site area, applying the runoff coefficients from the City of Vancouver Engineering Design Manual. (See Note A-2.4.2.5.(3).)
- 4) An operating manual conforming to Article 2.2.1.9. is required for each of the *rainwater* management practices employed to satisfy the requirements of Sentences (2) and (3).
- 5) The *Chief Building Official* shall be provided with a document summarising the *rainwater* management practices employed to satisfy the requirements of Sentences (2) and (3), in the form prescribed by the *Chief Building Official*.
- 6) When there is an *existing building* on the same property, the site area used in Clauses (2)(a) and (3)(c) may be reduced to be proportional to the ratio of the *buildings'* greatest horizontal area within the outside surface of exterior walls.
- 7) The *Chief Building Official* may, in consultation with the *City Engineer*, relax the requirements of Sentences (2) or (3) in accordance with Sentence 1.5.2.10.(2) of Division C if
- a) the *owner* demonstrates to the satisfaction of the *Chief Building Official* by a *subsurface investigation* that excavation is precluded or limited by soil contamination or other factors, and
 - b) it is impractical, in the opinion of the *Chief Building Official*, to meet the rainwater management requirements of Sentences (2) or (3)."
14. In Section 2.7 of Book II, Division B, Council strikes out Article 2.7.1.2. and substitutes:
- “2.7.1.2. Non-Potable Water Sources**
- 1) Except as prohibited by Sentence (2), a non-*potable water system* shall collect only
 - a) *rainwater*,
 - b) *clear-water waste*, or
 - c) a combination thereof.
 - 2) A non-*potable water system* shall not collect
 - a) runoff from a public road,
 - b) runoff from an area on which fertilizer is used or stored,
 - c) *groundwater*,
 - d) *perimeter drainage water*,
 - e) *greywater*, or
 - f) *blackwater*.”.
15. In Table 2.7.1.3. of Book II, Division B, Council:
- (a) strikes out “Rainwater as specified by Clause 2.7.1.2.(1)(a)” and substitutes “*Rainwater*”; and
 - (b) deletes the row for “*Storm water*”.

16. In Article 2.7.1.3. of Book II, Division B, Council:

- (a) in Sentence (1) strikes out “Except as provided in Sentence (2)” and substitutes “Except as provided in Sentences (2) and (5)”; and
- (b) adds the following new Sentence:

“5) Non-potable water systems shall not be used to supply fixtures in healthcare facilities.”.

17. In Article 2.7.5.1. of Book II, Division B, Council adds the following new Sentences:

“2) After an alternate water source system has been commissioned, the requirements of Subsections 2.7.7. and 2.7.8. shall be met.

3) An alternate water source system shall be considered commissioned on the date that the final water sample was collected to fulfill the requirements of Article 2.7.5.2.”.

18. In Article 2.7.6.3. of Book II, Division B, Council strikes out Sentence (2) and substitutes:

“2) Where a non-potable water system is supplied by a potable water system, the potable water system shall be protected in accordance with Article 2.6.2.1.”

19. In Table 2.7.7.1. of Book II, Division B, Council adds the following new rows to the bottom of the table:
“

<i>Rainwater</i> from surfaces that allow the passage of vehicular traffic or where hydrocarbon-based fuels or hazardous materials are stored	Benzene	< 0.005 mg/L	1 sample tested every 2 calendar months with not more than 63 days between samples	All laboratory tests
	Toluene	< 0.024 mg/L		
	Ethylbenzene	< 0.0016 mg/L		
	Xylenes (total)	< 0.02 mg/L		
	Total suspended solids	< 20 mg/L		

20. In Table 2.7.7.3. of Book II, Division B, Council:

(a) adds the following new row immediately above the row for “*E. coli*”:

Total suspended solids	Between 20 and 45 mg/L	Take the appropriate corrective action as set out in the operating manual.
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”; and

(b) adds the following new rows to the bottom of the table:

Benzene	> 0.005 mg/L	1. Immediately, supply the <i>alternate water source system</i> with <i>potable</i> water only; 2. Within 24 hours, give notice to the <i>Chief Building Official</i> and the <i>owner</i> ; 3. Take the appropriate corrective action as set out in the operating manual; and 4. Within 3 days of the corrective action, perform a test for benzene, toluene, ethylbenzene and xylenes (total).
Toluene	> 0.024 mg/L	
Ethylbenzene	> 0.0016 mg/L	
Xylenes (total)	> 0.02 mg/L	
Total suspended solids	> 45 mg/L	1. Immediately, supply the <i>alternate water source system</i> with <i>potable</i> water only; 2. Within 24 hours, give notice to the <i>Chief Building Official</i> and the <i>owner</i> ; 3. Take the appropriate corrective action as set out in the operating manual; and 4. Within 3 days of the corrective action, perform a test for total suspended solids.

”.

21. In Section 2.7 of Book II, Division B, Council strikes out Article 2.7.8.1. and substitutes:

“2.7.8.1. Operating Manual

1) An operating manual conforming to Article 2.2.1.9. is required for an *alternate water source system*, and shall be sealed by a *registered professional of record*.”.

22. In Table 2.8.1.1. of Book II, Division B, Council adds in correct numerical order:

(a) the following new rows:

“2.4.2.5. Rainwater Management

(2) [F40,F62,F80,F81-OP5,OE1.2]

(3) [F40,F62,F80,F81-OP5]

(4) [F80,F81,F82-OP5,OS3.4]”;

(b) under “2.7.1.3. Non-*potable* Water Uses” the following new row:
“(5) [F40-OH2.2]”; and

(c) under “2.7.5.1. Occupancy” the following new row:
“(2) [F46,F81,F82,F130-OS3.4,OH2.1,OH2.2,OH5,OE1.2]”.

23. In the Notes to Part 2 of Book II, Division B, Council adds a new note:

“A-2.4.2.5.(3) Peak Flow Rate Calculation. Pre-development means the site’s use immediately preceding development.”

24. A decision by a court that any part of this by-law is illegal, void, or unenforceable severs that part from this by-law, and is not to affect the balance of this by-law.

25. This By-law comes into force and takes effect upon enactment, except for sections 2, 3, 4, 5, 6, 9, 10, 13, 22(a) and 23, which will come into force and take effect on January 1, 2024.

ENACTED by Council this _____ day of _____, 2023

Mayor

City Clerk

APPENDIX C

DRAFT

Amendments to the Green Buildings Policy for Rezonings

Note: Amendments to Council-adopted policies will be prepared generally in accordance with the provisions listed below, subject to change and refinement prior to posting.

**Proposed amendments are shown in red.*

Within the Green Buildings Policy for Rezonings, delete Policy 1 as follows:

~~1. Integrated Rainwater Management and Green Infrastructure~~

~~All rezoning projects shall explore and describe measures for the management of the site's rainfall through integrated rainwater management and Green Infrastructure (GI) as described in the City Wide Integrated Rainwater Management Plan. Project teams can refer to the Citywide Integrated Rainwater Management Plan Volume I: Vision, Principles and Actions and Volume II: Best Management Practice Toolkit, for specific targets and examples of green infrastructure for rainwater management.~~

APPENDIX D

DRAFT

Amendments to the Rezoning Policy for Sustainable Large Developments

Note: Amendments to Council-adopted policies will be prepared generally in accordance with the provisions listed below, subject to change and refinement prior to posting.

**Proposed amendments are shown in red.*

1. Within the Rezoning Policy for Sustainable Large Developments, modify Section A.4.1.(i) as follows:
 - (i) A Soils Strategy (written and plans) with an accurate soil volume overlay sheet to describe the area and type/quality of soils. This ~~is to be informed by the Rainwater Management Plan, but~~ should consider **the site's rainwater management strategy**, soil conservation practises, low impact construction practises, site constraints, enhancement opportunities and landscape soil standards.

2. Within the Rezoning Policy for Sustainable Large Developments, modify Section E as follows:
 - E. ~~Rainwater &~~ Groundwater Management
 - E.1 **Objective**

The proposal ~~will contribute to the City's Rain City Strategy and Integrated Rainwater Management Plan's target of capturing and treating 90% of annual rainfall on public and private property. It also~~ aims to preserve sewer capacity, reduce the risk of combined sewer overflows and maintain wastewater treatment effectiveness through the reduction of groundwater flows entering the sewer system in alignment with the Metro Vancouver 2010 Integrated Liquid Waste and Resource Management Plan.
 - E.2 **Intent**

~~Rainwater should be recognized as a resource to enhance the community and environment. The use of water sensitive site design and green infrastructure practices or source controls adds resiliency to the City's drainage system in a changing climate and keeps harmful stormwater pollutants from entering our receiving waters. Green infrastructure approaches are to be maximized on site to the greatest extent possible, following a tiered approach, with on-site infiltration and rainwater re-use and being the most preferred approach, and detention being the least preferred.~~

City sewers are limited in their capacity and are not designed to convey groundwater...
 - ~~E.3.3~~

~~The rainwater management system for the building(s) and site shall be designed such that the peak stormwater flow rate discharged to the sewer under post-development conditions is not greater than the pre-development peak flow rate for the return period specified in the City of Vancouver's Intensity Duration Frequency curves (IDF curves). The City of Vancouver's 2014 IDF curve shall be utilized for pre-development design flow calculations, and the City of Vancouver's 2100 IDF curve, which takes into account the effects of climate change, shall be utilized for post-development design flow calculations. Refer to the Groundwater Management Administrative Bulletin for further details.~~

E.3.4

~~The first 24 mm of rainfall falling on all pervious and impervious surfaces across the site shall be retained on site by means of infiltration, evapotranspiration, and/or re-use for the purpose of reducing the volume of rainfall entering the City's sewers. To achieve this on-site retention target the rainwater management system shall manage rainfall in accordance with the green infrastructure tiered approach outlined in the Sustainable Large Developments Admin Bulletin.~~

~~*Note: Landscaped areas designed with the appropriate depth of growing medium over native subsoil may be deemed to meet the 24 mm retention criteria. Appropriate growing medium depths shall be based on providing sufficient storage volume within the media to meet the retention criteria as outlined in the Metro Vancouver Source Control Guidelines and meet horticultural needs as outlined in the Canadian Landscape Standard.*~~

E.3.5

~~The first 24 mm of rainfall from all pervious and impervious surfaces shall be treated to remove 80% Total Suspended Solids (TSS) by mass prior to discharge from the site. For impervious surfaces with high pollutant loads, including roads, driveways, and parking lots the rainfall depth to be treated increases to the first 48 mm of rainfall. Treatment can be provided by either one green infrastructure practice or by means of a treatment train comprised of multiple green infrastructure practices that can be demonstrated to meet the 80% TSS reduction target.~~

E.4 Submission Checklist

At time of rezoning application, applicants must provide the following to show how items E.3.1 ~~to E.3.5~~ and E.3.2 will be achieved:

~~(a) Provide a preliminary Rainwater Management Plan completed by a registered professional Engineer as per the specifications outlined in the Sustainable Large Developments Admin Bulletin.~~

~~(b)~~(a) Provide a preliminary Hydrogeological Study completed by a professional with experience in hydrogeology as per the specifications outlined in the Groundwater Management ~~Administrative~~ Bulletin.

...

At time of development permit application, applicants must provide the following to show how items E.3.1 ~~to E.3.5~~ and E.3.2 will be achieved:

(a) Provide a final ~~signed and sealed Rainwater Management Plan completed by a professional engineer and~~ signed and sealed Geotechnical Study prepared by a subject matter expert and registered professional.

APPENDIX E

LETTER OF SUPPORT



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April 12, 2023

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Andrew Power
Project Manager
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City of Vancouver
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Vancouver, BC V5Z 4A8

Dear Messrs. Radziminski & Power:

***Re: Proposed Plumbing Requirements for New Buildings:
Rainwater Management and Public Health Protection Measures***

Thank you for involving the Urban Development Institute (UDI) in your consultation regarding the proposed plumbing requirements for rainwater and public health protection measures for the *Vancouver Building By-law (VBBL)*, and for meeting with us on March 28th regarding them. UDI is generally supportive of the amendments – especially the changes to make the requirements and reviews of on-site rainwater management much more efficient than the current system.

On-Site Rainwater Management

As you know, the current regulations and oversight of rainwater management for the vast majority of our members' projects are confusing, costly and lengthy, taking an average of 56 weeks to complete. UDI is pleased that you are proposing to remove numerous steps at multiple stages in the development review process to having one step at the Building Permit (BP) application stage as well as simplifying the requirements and paperwork. This is the type of improvement that is needed if we are going to achieve the objectives of the Province and the new Vancouver City Council to substantially increase the supply of new homes for our rapidly growing City and Region.

We concur with your assessment that proponents of projects in areas where rainwater management is a requirement would want to use the new *VBBL* approach if it is approved by Council because it would accelerate the issuance of Development Permits

(DPs). UDI also appreciates your efforts to allow those with in-stream applications to have the option to migrate to the new system.

As you note in your March 2, 2023 letter, the changes would result in additional requirements for a few projects; although it is not clear how many, as the Engineering Department can apply the current requirements to DP applications if they believe a site is "... *in an 'area of concern'* ...". Given that our members may have or will soon purchase sites, make financial commitments, start design work and make DP/BP enquires to the City for potential Part 3 projects in areas where rainwater management may not apply, we recommend the following:

- Staff at the Development, Buildings & Licensing Department immediately make those proponents who have made or will be making DP/BP enquiries aware of the potential changes to the rainwater management system and rules; and
- Provide in-stream protection for those who make complete DP/BP applications one-year after Council adoption of the proposed *VBBL* amendments – with the condition noted in your March 2nd letter that applications must not become "*stagnant*".

Storm Water Use

UDI is also supportive of the processing improvements to approvals for the installation of systems to capture rooftop rainwater for toilets, cooling towers and other applications proposed in Section 2 of your March letter. As you note, captured rainwater cannot be reused for these applications without going through a lengthy Alternative Solutions process. This would be eliminated with some additional water quality tests under the Operating Permit (OP) for these systems. We are pleased that these additional tests can occur at the same time as the other mandated tests under the OP, and the timing of them is remaining the same – every two months.

Conclusion

Thank you again for consulting UDI on the proposed improvements to the rainwater management system as well as the other plumbing requirement changes. We look forward to working with you and others in the City during the development of the next phases of rainwater management requirements over the next few years.

Yours sincerely,



Anne McMullin
President & CEO, Urban Development Institute