

# Kelowna Sustainability Checklist



The City of Kelowna endeavours to...

**Sustain the Environment.** Encourage development and land use changes that will not compromise the ability of future generations to meet their needs and to enjoy the quality of life that we experience today;

**Encourage Mixed Use Developments.** Encourage a mix of residential, employment, institutional, and recreational uses within individual buildings or larger development projects, and an increased share of development going to the Downtown or other designated Urban Centres, in order to provide greater access by proximity, thereby reducing transportation-related pollution and urban sprawl;

Develop a Compact Urban Form. Develop a more compact urban form that maximizes the use of existing infrastructure, increasing densities through by development, conversion, and redevelopment within existing areas, particularly in the Downtown or other designated Urban Centres, and by providing for higher densities within future urban areas. Encourage development to proceed in a logical, sequential order, concurrently with availability of required urban services.

**Sustainable Development.** Continue to promote social well being and quality of life by including and implementing policies and actions that are environmentally sound and sustainable for development and redevelopment within the City.

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## Instructions

All applicants for Official Community Plan Amendment, Zoning Bylaw Amendment, Development Subdivision. Permit or Variance Development Permit are requested to complete the Smart Growth Checklist. Please review and complete the checklist and if necessary, provide a supplementary letter explaining, in more detail, how the proposed development incorporates the listed or other Smart Growth principles. Applicants are encouraged to provide as much information as possible to assist City Council, staff and advisory bodies (i.e. Advisory Planning Commission, Community Heritage Commission etc.) in their review of development proposals. The relevance of the Checklist questions will depend on the nature and scope of the project.

# **Mission Statement**

Kelowna's Official Community Plan seeks to maintain or enhance our unique environment and lifestyle on behalf of the people of Kelowna through the provision of dynamic and accountable leadership and effective municipal services (Kelowna 2020).

Development is an essential part of the City's future: it creates the urban environment as well as influences social wellbeing, economic strength and environmental conditions. This survey is designed to ensure that Council, staff and the development community work in partnership to achieve the long term goals and objectives of the community.

The purpose of this Sustainability Checklist is to assist Council, staff and developers to create the most sustainable project possible. The questions in the Checklis Kelowna are meant to advance the following community planning sustainability objectives.

<sup>+</sup> Z17-0051

1. Efficient use of public funds: mixed use, higher density areas make better use of existing infrastructure, reduce demands for new roads and services and reduce long term infrastructure maintenance costs;

2. **Protect open space and natural areas:** concentrating growth within existing urban areas minimizes land consumption, protects natural features, preserves wildlife corridors and minimizes environmental impacts;

3. **Placemaking:** people want to live in neighbourhoods that are lively and attractive urban live/work/play environments, with adequate amenities, and which respect the existing neighbourhood and community character, design and historic features;

4. **Accessibility:** compact mixed use development reduces commuting distances, and increases transportation choice (e.g., walking, cycling, and public transit);

5. **Housing choice:** expanding housing choices for different age groups, income and household sizes allows people to remain in the same neighbourhood through different life stages and discourages out-migration due to affordability issues;

6. Shorter commutes and more transportation choices: locating jobs in regionally-accessible hubs served by transit and with housing nearby allows people to work closer to home or live closer to work, reducing dependence on the automobile and aids in improving air quality

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# **Economic Sustainability**

A healthy economy relates to the quality of life for the citizens in our community. The City would like to maintain a balance between the number of jobs and the resident labour force, and ensure those jobs are accessible by transit. Important considerations also include support for local business, job creation, infrastructure efficiency and consideration for and reduction of resource consumption.

1. Comment on **direct employment** created by this project during construction:

a) number and duration of jobs (full time, part time) <u>TO BE DETERMINED</u>

b) types of jobs (e.g., construction, design) CONSTRUCTION & DESIGN

c) income range of jobs VARIES

2. Will the project provide direct employment (i.e., on the development site) after the project is completed?

### Yes/No

If so, comment on employment provided by sector, type, income range, and the number of jobs that are full-time and part-time.

3. Are there any other the source of economic sustainability (e.g., suitability of units for home based businesses, green products, local job creation) advanced by this proposal?

Yes/No

If yes, describe: NO

# **Environmental Sustainability**

Community and building design can significantly influence resource consumption (e.g., energy, water) and waste generation (e.g., vehicle emissions, solid waste) in the local community. New development should be designed to avoid or minimize negative impacts on the existing natural environment and maximize the benefits of the City's existing infrastructure.

# **Built Environment**

4. Comment on the following site planning components:

4.1 Walking distance to:

a) bus stop (in kms)

0.3 KMS TO WESTBOUND SUTHERLAND AT GORDON

b) trails, greenways, cycling routes (in kms)

1.1 KM TO ETHEL STREET CORRIDOR

4.2 Is development located in the Downtown or in one of the City's designated Urban Centres (see Kelowna Official Community Plan Map 6.2) and on lands less than 30% slope (Map 7.1 of Kelowna's Official Community Plan).



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Z17-0051

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4.3 Provides additional support for alternative transportation use (check all that apply):

variance received to provide less parking than required;

bicycle storage;

change rooms (end of trip facilities);

designated parking for car share spaces, high occupancy vehicles (e.g., carpool, vanpool, smart cars, hybrids);

incorporates Transportation Demand Management (TDM)<sup>1</sup> measures;

dother, describe:

### <sup>1</sup>Note: for TDM information see http://www.kelowna.ca/CM/Page377.aspx.

4.4 On site storm water management (e.g., green roof treatment, permeable paving, onsite detention/retention drainage, fish or aquatic habitat protection)



If yes, describe (note ratio of impervious to pervious surfaces):

4.5 Floodplain mitigation (note: this is a requirement in floodplain areas)

# Yes/No

CLOSE TO MILL CREEK SO THE LOWEST LEVEL IS THE PARKING GARAGE WHERE IN THE EVENT OF A FLOOD THE LIVING LEVELS ARE ABOVE THE FLOODPLAIN 4.6 Will site remediation doe part of the development process ritials

# Yes/Not Applicable

If yes, briefly outline proposed remediation approach:

4.7 Mitigation of light pollution (e.g., spill lighting and off-site glare avoided)



If yes, describe:

|   | CPTED PRINCIPLES WITH   |  |
|---|-------------------------|--|
|   | DOWNLIGHTING TO LIGHT   |  |
|   | THE SITE BUT NOT IMPACT |  |
| _ | NEIGHBOURS OR NIGHT SKY |  |

4.8 Does the project provide enhanced waste diversion facilities (e.g., on-site recycling for cardboard,/bottles cans/other recyclables, or on-site composting)

Yes/No

If yes, describe:

| <br>STANDARD      |  |
|-------------------|--|
| <br>RECYCLING BIN |  |
| <br>COLLECTION    |  |

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5. Comment on inclusion of the following water efficiency techniques:

5.1 Water efficient landscaping (e.g., drought resistant and/or native plantings, use of non-potable or reclaimed water for irrigation, high efficiency irrigation, use of rainwater cisterns for irrigation and Xeriscape Landscaping )

### Yes/No

If yes, describe:

PLANTINGS WILL BE LOW MAINTENANCE XERISCAPING WITH MINIMAL IRRIGATION VIA DRIP LINES

5.2 Onsite wastewater treatment?

If yes, describe:

5.3 Water use reduction measures (e.g., low consumption fixtures, storm water irrigation)

# Yes/No

If yes, describe:

| LOW         |  |
|-------------|--|
| CONSUMPTION |  |
| FIXTURES    |  |

6. Comment on inclusion of the following methods to reduce energy use and improve air quality:

6.3 Chlorofluocarbons (CFC) reduction in heating, ventilating, and air conditioning (HVAC) equipment, Power Smart technology?

# Yes/No

HEATING/COOLING SYSTEM IS TO BE A VRF MINI-SPLIT HEATING SYSTEM WHICH USES R314A REFRIGERANT

6.1 Energy efficiency in proposed structures (e.g. building location responding to daily sun/shade patterns, high performance envelopes, passive solar gain, solar shading, natural ventilation, ground heating/cooling, high efficiency fixtures, consideration of heat island effect<sup>2</sup>).

# Z17-0051

Yes/No HIGH PERFORMANCE BUILDING ENVELOPE BASED ON PASSIVE HOUSE If yes, d PRINCIPLES. PASSIVE SOLAR GAIN, PASSIVE SHADING, HIGH EFFICIENCY HRV, HEATING/COOLING AND APPLIANCES THROUGHOUT

THIS LINK NO LONGER WORKS AND KELOWNA (CANADA IN GENERAL) IS A HEATING DOMINATED CLIMATE SO WHITE ROOFS ALTHOUGH THEY MAY REDUCE THE HEAT ISLAND EFFECT, THEY'LL ACTUALLY INCREASE THE OVERALL ENERGY CONSUMPTION OF A BUILDING

6.2 Use of renewable energy alternatives (e.g., geothermal, solar, off-grid, FortisBC Green Power).

Yes/No

If yes, describe:

7. Comment on the following methods for sustainable use and reuse of materials and resources:

7.1 Management of construction wastes (e.g. reuse of existing buildings or building materials during construction and/or demolition, remade/recycled content).

### Yes/No

If yes, describe:

7.2 Use of environmentally sensitive or recycled construction materials (e.g., high volume fly-ash concrete, non-toxic finishing materials<sup>3</sup>).

### Yes/No

If yes, describe:

| ENERGY       |  |
|--------------|--|
| CONSTRUCTION |  |
| MATEDALS     |  |
| IVIATERALS   |  |

7.3 Enhanced durability of construction materials (e.g. wall systems, roof materials)

### Yes/No

If yes, describe:

YES, HIGH PERFORMANCE **BUILDING ENVELOPES ARE** SIGNIFICANTLY MORE DURABLE THAN CONVENTIONALLY CONSTRUCTED, MINIMUM **BUILDING CODE ENVELOPES** 

this project?

7.4 Is LEED<sup>4</sup> certification being pursued for Initials

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Yes/No

NO! LEED HAS NOT ACHIEVED REDUCTIONS IN OVERALL ENERGY CONSUMPTION WHICH HAS THE **BIGGEST IMPACT ON THE OVERALL** SUSTAINABILITY OF A BUILDING THEREFORE WE ARE PURSUING PASSIVE HOUSE PRINCIPLES WHICH HAVE THE BIGGEST IMPACT POSSIBLE FOR LONG TERM

sensitive or recycled construction materials, see http://www.ecosmart.ca/. <sup>4</sup> For more information on LEED (Leadership in energy and Environmental Design) certification, see http://www.usgbc.org/LEED/LEED\_main.asp. Or http://www.cagbc.org/index.php

7.5 Has the applicant considered PowerSense Residential/Commercial energy saving initiatives offered by FortisBC:



If yes, which initiatives are you pursuing:

POSSIBLY, THE PROGRAM IS BASED ON ENERGY STAR WHICH ONLY QUALIFIES EQUIPMENT WHICH QUITE OFTEN IS NO WHERE NEAR THE PERFORMANCE STANDARDS OF PASSIVE HOUSE EQUIPMENT.

7.6 Has the applicant considered rebate and energy efficiency programs offered by Terasen Gas:

Yes/No

If yes, which initiatives are you pursuing?

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9. Does the street layanteend design encourage Kelowna walking and cycling, it file providing for personal and commercial vehicle use?

10. If new streets or lanes are constructed as

part of the development, are they designed to reduce storm water runoff (e.g., narrow right

of ways, permeable shoulders)?

# Z17-0051



If yes, describe:

http://www.terasengas.com/Residential/default.htm

8. Comment on inclusion of the following suggested strategies to improve indoor environmental quality:

8.1 Improved air quality through low emitting materials (e.g., paint, carpets) and natural ventilation with windows that open.

8.2 Design attempts to maximize exposure to natural light (i.e. through building orientation).

Yes/No

If yes, describe:

11. If the property is adjacent to existing park space, open space, paths or trails, is a visual and pedestrian connection provided?

## Yes/No

Yes/No

If yes, describe:

If yes, describe:

Yes/No

|   | CHIVIEN I A                                  |
|---|--|
| KELOWNA SUSTAINABILITY CHECKLIST # 217-005  |  |
| 12. Do any of the City of Kelowna's policies<br>or regulations currently prevent you from<br>implementing identified Sustainability<br>initiatives?<br>Yes/No | City of <b>Kelowna</b><br>COMMUNITY PLANNING |
| If yes, describe:   |  |
|   |  |
| 13. Is the proposed residential, commercial or institutional development within a ten-minute walk (approximately 800 meters) from: <b>Natural Environment</b> | t  |
| a) neighbourhood store or other shopping<br>opportunities 14. Comment on green-space a<br>environment.  | and natural                                  |
| Yes/No 14.1 Is proposed development   | in an  |
| b) school Steep Slope, Hazardous Condi<br>Fire, Natural Environment)?   | tions, Wildland                              |
| c) community services (e.g., library, Yes/No  |  |
| community centre) If yes, describe:   |  |
| Yes/No  |  |
| (a) child care facility   Yes/No  |  |
| e) health services (e.g., hospital, doctor's office) 14.2 Was an environmental ass property completed prior to the ment of design work:                       | sessment of the<br>e commence-               |
| f) parks or trails  |  |
| Yes/No 14.3 Are any of the following of features present on the property  | environmental<br>y:                          |
| g) bus stop a) Significant trees Yes/No/Un  | nknown                                       |
| Yes/No b) Natural grassland areas Yes   | /No <mark>/Unknown</mark>                    |

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- c) Riparian areas **Yes/No/Unknown**
- d) Wildlife (red or blue listed species) Yes/No/Unknown
- e) Wildlife habitat Yes/No/Unknown
- f) Wildlife corridors Yes/No/Unknown

g) Has the preservation and/or enhancement of the areas listed above been incorporated in the proposed project? Yes/No/Unknown

14.4 Provision of green-space and trees on site (includes retention of existing trees).

# Yes/No

If yes, note and show calculations for:

h) Amount of green-space in square feet:

i) Amount of usable open space in square feet:

j) Number and percentage of existing trees to be retained on site:

k) Number of trees removed:

1) Number of trees to be planted:

14.5 Are there any significant existing environmental features that are maintained or enhanced on the site (e.g., tree and/or shrub preservation or daylighting of a stream)?



If yes, describe:

### Planner Social Sustainabilit

The primary purpose of a city is to provide for the well being of its residents, labour force and visitors. New development should contribute to the health and safety of Kelowna, as well as enhance the range of housing, service and recreational options to meet diverse community needs. The design of new development should respect local heritage and provide attractive spaces that encourage social interaction.

Z17-0051

15. Anticipated price range of units (note price range for both commercial and residential units, if applicable). Average price per square foot:

# **RENTAL HOUSING**

16. Does the proposed development include non-market housing units (affordable housing)?

Yes/No

If yes:

a) number of units:

b) as a percentage of total units:



c) form of tenure (e.g., rental, co-op, owner):

14

RENTAL

d) targeted population, if applicable (e.g. seniors, family):

**BUILDING DOES** NOT INCLUDE AN ELEVATOR SO THIS WILL APPEAL TO HEALTHY, YOUNGER **BUYERS WHO** WANT TO LIVE IN THE CORE OF THE CITY

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Z17-0051

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17. Does the project include rental housing units?

### Yes/No

If yes:

Number of units:

14

Expected average rent for a one bedroom unit TBD \$ \_\_\_\_

Expected average rent for a two bedroom unit

\$

TBD

18. If the project includes low or medium density residential, are the housing units ground-oriented (i.e. does a door have direct outdoor access to a street or courtyard as opposed to a corridor)?

Yes/No

If yes:

Number of units:

As a percentage of total units

19. Does the project design incorporate Crime Prevention Through Environmental Design (CPTED<sup>5</sup>) principles.

# Yes/No

<sup>5</sup>For more info on Crime Prevention Through **Environmental Design Principles** CPTED, see:

http://www.kelowna.ca/citypage/docs/pdfs/develop ment%20services/crime%20prevention%20thru%2 0design%20guidelines.pdf

20. Does the project miles porate features to enhance adaptability and accessibility within the proposed housing units for people with disabilities (e.g. wider door openings, reinforced walls in bathrooms for future installation of grab bars, ground-oriented entrances)?



If yes, describe:

21. Actions proposed to mitigate noise from external sources such as traffic, railways, industry, commercial uses, patrons, etc.



If yes, describe:

HIGH PERFORMANCE BUILDING **ENVELOPES** WITH MORE INSULATION **REDUCE NOISE** TRANSFER FROM OUTSIDE SOURCES

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# Z17-0051

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22. Does the project enhance local identity and character (e.g., through architectural style, landscaping, colours, project name)?



If yes, describe:

23. Describe the existing neighbourhood character (i.e., historical, single family, mixed use etc.) and how the proposed development will enhance the adjacent neighbourhood.

-MIXED, GENTRIFICATION

24. Does the project contain a mix of uses (e.g. residential, commercial) or introduce a new community serving land use type to the neighbourhood (e.g., new housing form, commercial service)?

### Yes/No

25. Does the project contribute to heritage revitalization through the reuse, relocation or rehabilitation of an existing structure or feature?



If yes, describe:

26. Does the project in the provincial designation of a heritage building?

Yes/No

27. Are public amenities provided with the development (check all that apply):

Public art

Child care facility

Walking / Bike Trails

☐ Other, describe:

28. Does the development incorporate space for public gathering and activities (e.g., courtyards, communal gardens, play areas)?



If yes, describe:

29. Does the proposed development enhance the streetscape?



If yes, describe:

30. Are private amenities provided with the development (e.g., meeting rooms, outdoor space)?

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Yes/No

If yes, describe:

31. Are residents, community stakeholders, and end-user groups involved in the planning and design process?



If yes, describe (e.g., public meetings, residents association meetings, workshops, etc.):

32. Is there something unique or innovative about your project that has not been addressed in this checklist (e.g., creation of a new zone, other sustainable features, contributions to the community)?

### Yes/No

If yes, describe:

# OTHER

Planner Initials TB

33. Have you engaged any Green Building or LEED experienced consultants in association with this development proposal?

If yes, please list and briefly describe their experience:

| YES, CERTIFIED |  |
|----------------|--|
| PASSIVE HOUSE  |  |
| DESIGNERS WHO  |  |
| ARE ALSO LEED  |  |
| <br>ACCREDITED |  |
|                |  |

# VERIFICATION BY THE APPLICANT

34. I hereby certify that the information provided on this Kelowna Sustainability Checklist is accurate and truthful to the best of my knowledge and release the contents for use by the City of Kelor

| by the City of Keld | BRETT SICHELLO |
|---------------------|----------------|
| Applicant Name:     | DESIGN         |
| _                   |                |
| Owner Name:N        | IECESSARY      |
| Title:              | IOMES INC.     |
|                     | 1              |
| Signature:          | 21/            |
| Date:               | $\mathcal{D}$  |
| 2                   |                |

35. I have read and considered the Kelowna Sustainability Checklist and have elected not to complete it at this time.









# **CITY OF KELOWNA**

# MEMORANDUM

Date: September 29, 2017 File No.: Z17-0051

To: Community Planning (TB)

From: Development Engineering Manager (SM)

Subject: 1155 Pacific Ave (REVISED)

RU6 to RM4

The Development Engineering Department has the following comments and requirements associated with this rezoning application. The road and utility upgrading requirements outlined in this report will be a requirement of this development. The Development Engineering Technologist for this project is Jason Angus

### 1. Domestic Water and Fire Protection

- a) This property is currently serviced with a 13mm-diameter water service. The developer's consulting mechanical engineer will determine the domestic, fire protection requirements of this proposed development and establish hydrant requirements and service needs. The applicant will arrange for the removal and disconnection of the existing service and the installation of one new larger service at the applicants cost.
- b) A water meter is mandatory for this development and must be installed inside the building on the water service inlet as required by the City Plumbing Regulation and Water Regulation bylaws. The developer or building contractor must purchase the meter from the City at the time of application for a building permit from the Inspection Services Department, and prepare the meter setter at his cost. Boulevard landscaping, complete with underground irrigation system, must be integrated with the on-site irrigation system
- c) The developer must obtain the necessary permits and have all existing utility services disconnected prior to removing or demolishing the existing structures. The City of Kelowna water meter contractor must salvage existing water meters, prior to building demolition. If water meters are not salvaged, the developer will be invoiced for the meters.

### 2. <u>Sanitary Sewer</u>

Our records indicate that this property is currently serviced with a 100mm-diameter sanitary sewer service. The applicant's consulting mechanical engineer will determine the requirements of the proposed development and establish the service needs. Only one service will be permitted for this development. If required, the applicant will arrange for the removal and disconnection of the existing service and the installation of one new larger service at the applicants cost.

### 3. Storm Drainage

The developer must engage a consulting civil engineer to provide a storm water management plan for this site which meets the requirements of the City Subdivision

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Development and Servicing Bylaw 7900. The storm water management plan must als **Kelowna** include provision of lot grading plans, minimum basementities levations (MBE), **Kelowna** applicable, and provision of a storm drainage service and recommendations for onsite drainage containment and disposal systems

### 4. Road Improvements

- (a) Pacific Ave must be upgraded to an urban standard along the full frontage of this proposed development, including curb and gutter, 1.5m sidewalk, drainage system including catch basins, manholes and pavement removal and replacement and re-location or adjustment of utility appurtenances if required to accommodate the upgrading construction. Road cross section to be used is a SS-R5
- (b) Pasnak Street must be upgraded to an urban standard along the full frontage of this proposed development, including curb and gutter, 1.5m sidewalk, drainage system including catch basins, manholes and pavement removal and replacement and re-location or adjustment of utility appurtenances if required to accommodate the upgrading construction. *Road cross section to be used is a SS-R3*

### 4. Road Dedication and Subdivision Requirements

- (a) Grant Statutory Rights of Way if required for utility services.
- (b) If any road dedication or closure affects lands encumbered by a Utility right-ofway (such as Hydro, Telus, Gas, etc.) please obtain the approval of the utility. Any works required by the utility as a consequence of the road dedication or closure must be incorporated in the construction drawings submitted to the City's Development Manager.
- (c) Provide 6m corner rounding at intersection of Pacific Ave and Pasnak Street.
- (d) Provide curb extensions at the intersection of Pacific Ave and Pasnak Street
- (e) Dedicate 2.5m width along the full frontage of Pacific Ave.
- (f) Dedicate 1.5m width along the full frontage of Pasnak Street

### 5. <u>Development Permit and Site Related Issues</u>

- a) Direct the roof drains into on-site rock pits or splash pads.
- b) The vehicle access to this site must be from Pasnak Street.

### 6. <u>Electric Power and Telecommunication Services</u>

The electrical and telecommunication services to this building must be installed in an underground duct system, and the building must be connected by an underground service. It is the developer's responsibility to make a servicing application with the respective electric power, telephone and cable transmission companies to arrange for these services, which would be at the applicant's cost.

Street lights along Pacific Ave and Pasnak Street must be installed.

### 7. Design and Construction

(a) Design, construction supervision and inspection of all off-site civil works and site servicing must be performed by a Consulting Civil Engineer and all such work is

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subject to the approval of the City Engineer. Drawing must conform to Cikelowna standards and requirements.

- (b) Engineering drawing submissions are to be in accordance with the City's "Engineering Drawing Submission Requirements" Policy. Please note the number of sets and drawings required for submissions.
- (c) Quality Control and Assurance Plans must be provided in accordance with the Subdivision, Development & Servicing Bylaw No. 7900 (refer to Part 5 and Schedule 3).
- (d) A "Consulting Engineering Confirmation Letter" (City document 'C') must be completed prior to submission of any designs.
- (e) Before any construction related to the requirements of this subdivision application commences, design drawings prepared by a professional engineer must be submitted to the City's Works & Utilities Department. The design drawings must first be "Issued for Construction" by the City Engineer. On examination of design drawings, it may be determined that rights-of-way are required for current or future needs.

### 8. <u>Servicing Agreement for Works and Services</u>

- (a) A Servicing Agreement is required for all works and services on City lands in accordance with the Subdivision, Development & Servicing Bylaw No. 7900. The applicant's Engineer, prior to preparation of Servicing Agreements, must provide adequate drawings and estimates for the required works. The Servicing Agreement must be in the form as described in Schedule 2 of the bylaw.
- (b) Part 3, "Security for Works and Services", of the Bylaw, describes the Bonding and Insurance requirements of the Owner. The liability limit is not to be less than \$5,000,000 and the City is to be named on the insurance policy as an additional insured.

### 9. Administration Charge

An administration charge will be assessed for processing of this application, review and approval of engineering designs and construction inspection. The administration charge is calculated as (3.5% of Total Off-Site Construction Cost plus GST).

### 9. <u>Survey, Monument and Iron Pins</u>

If any legal survey monuments or property iron pins are removed or disturbed during construction, the developer will be invoiced a flat sum of \$1,200.00 per incident to cover the cost of replacement and legal registration. Security bonding will not be released until restitution is made.

### 10. <u>Geotechnical Report</u>

If any road dedication affects lands encumbered by a Utility right-of-way (such as BC Hydro Gas, etc.) please obtain the approval of the utility prior to application for final subdivision approval. Any works required by the utility as a consequence of the road dedication must be incorporated in the construction drawings submitted to the City's Development Manager

### 11. Geotechnical Report

As a requirement of this application the owner must provide a geotechnical report prepared by a Professional Engineer qualified in the field of hydro-geotechnical survey to address the following:



- (a) Area ground water characteristics.
- (b) Site suitability for development, unstable soils, etc.
- (c) Drill and / or excavate test holes on the site and install pisometers if necessary. Log test hole data to identify soil characteristics, identify areas of fill if any. Identify unacceptable fill material, analyse soil sulphate content, identify unsuitable underlying soils such as peat, etc. and make recommendations for remediation if necessary.

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- (d) List extraordinary requirements that may be required to accommodate construction of roads and underground utilities as well as building foundation designs.
- (e) Additional geotechnical survey may be necessary for building foundations, etc.

James Kay, P. Eng. Development Engineering Manager JÁ

20