CORPORATION OF THE CITY OF COURTENAY
COUNCIL MEETING AGENDA

DATE: **October 13, 2015**
PLACE: **City Hall Council Chambers**
TIME: **4:00 p.m.**

1.00 ADOPTION OF MINUTES

1. Adopt October 5, 2015 Regular Council meeting minutes

2.00 INTRODUCTION OF LATE ITEMS

3.00 DELEGATIONS

1 **1. C.V. Conservative Strategy Presentation on Priorities and Budgets for 2016**

4.00 STAFF REPORTS/PRESENTATIONS

Pg #

(a) CAO and Legislative Services

(b) Community Services

(c) Development Services

(d) Engineering and Operations

3 1. Lewis Park Dike Wall – Erosion Mitigation and Wall Repair

(e) Financial Services

5.00 EXTERNAL REPORTS AND CORRESPONDENCE FOR INFORMATION

6.00 INTERNAL REPORTS AND CORRESPONDENCE FOR INFORMATION

7.00 REPORTS/UPDATES FROM COUNCIL MEMBERS INCLUDING REPORTS FROM COMMITTEES

8.00 RESOLUTIONS OF COUNCIL

9.00 UNFINISHED BUSINESS

1. Request from Matt Hulse – Our Horizon (postponed from Oct. 5th RCM)

That Council implement gas pump information labels in the City of Courtenay.

10.00 NOTICE OF MOTION

11.00 NEW BUSINESS

1. Cancellation of October 26, 2015 Committee of the Whole meeting

Recommendation: That the Committee of the Whole meeting scheduled for October 26, 2015 be cancelled.

(This is due to the Downtown Forum being held on the same date).

12.00 BYLAWS

For Third Reading and Final Adoption

13 1. "Zoning Amendment Bylaw No. 2827, 2015"
(to rezone 855 Back Road from R-1 to R-1S zone)

13.00 ADJOURNMENT

COMOX VALLEY
CONSERVATION STRATEGY
COMMUNITY PARTNERSHIP

David Stapley
Program Manager
(250) 897-1271
Email: dsconsulting@shaw.ca

Mailing Address
P.O. Box 3462
Courtenay, BC V9N 5N5

Office:
2356a Rosewall Crescent
Courtenay, BC, V9N 8R9

Partner Organizations

Comox Valley Land Trust
C.V. Environmental Council
Comox Valley Nature (CVNS)
C.V. Water Watch Coalition
Mack Laing Heritage Society
Mountainaire Avian Rescue Society
Millard-Piercy Watershed Stewards
Morrison Creek Streamkeepers
Project Watershed Society
Tsolum River Restoration Society

Supporter Organizations

Arden Area Residents Association
Black Creek Streamkeepers
Brooklyn Creek Watershed Society
Comox Town Residents Association
Cumberland Community Forest Society
Forbidden Plateau Road Residents Association
Friends of Comox Lazo Forest Reserve
Friends of Strathcona Park
Macdonald Wood Park Society
Oyster River Management Committee
Perseverance Creek Streamkeepers
Merville Area Resident's & Ratepayers Association
Saratoga and Miracle Beach Residents Association

Funding Partners

Real Estate Foundation of B.C.
Community Gaming Grant
RBC Blue Water Fund
Comox Valley Regional District

www.cvconservationstrategy.org

October 6, 2015

CVCS Delegation to Courtenay Council

Request to Consider a Resolution

To be presented to Mayor and Council by a Delegation of the Comox Valley Conservation Strategy, Tuesday October 13, 2015

Dear Mayor and Council:
The purpose of this delegation is to ask that water conservation encompassing both human needs and the needs of nature become a Strategic Priority for 2016 City Council direction.

We ask Council to pass the following resolution:

Whereas flooding and drought are becoming more common with a changing climate.

Whereas rainwater is a resource to be captured and managed through Integrated Stormwater Management Planning (ISMP) and leading edge rainwater capture methodologies, and

Whereas Council sets direction for staff through the Council's annual determination of Strategic Priorities,

We therefore request it be resolved that Courtenay City Council will make Water Conservation a key 2016 Strategic Priority as a means to provide uninterrupted water and sewer services to our community while making progress towards finding solutions to drought and flooding.

And further be it resolved that, as the City of Courtenay completes and implements the ISMP, protecting sensitive habitats and disappearing ecosystems are recognized as important goals of the ISMP that support the financial and health interests of our community.

We draw Council's attention to documents as old as the *1999 Stewardship Series* produced by Environment Canada's Federal Guide for Municipal Bylaws. The Green Bylaws Toolkit has provided many suggestions. Provincial Guidelines in Develop with Care and publications such as *Developing and Implementing an Integrated Stormwater Management Plan (ISMP)* have laid out excellent principles and ideas for achieving better environmental outcomes as we welcome development into our communities. These documents contain the required guidelines and information and for many years have been available and continually updated. However, we have largely failed to integrate and implement these important principles into our land use policies and procedures.

To quote from Developing and Implementing an Integrated Stormwater Management Plan (ISMP);

"*In British Columbia, the term Integrated Stormwater Management Plan (ISMP) has gained widespread acceptance by local governments and the environmental agencies to describe a comprehensive approach to stormwater planning. The purpose of an ISMP is to provide a clear picture of how to be proactive in applying land use planning tools to protect property and aquatic habitat, while at the same time accommodating land development and population growth… At the highest level of effort and complexity, all watershed stakeholders work together to achieve watershed management objectives while considering inter-related social, economic, and environmental issues. These high level watershed management plans include not only the hydrology aspects of [master drainage plans] but also consider other issues, such as the environment, water quality (surface and groundwater), fisheries and aquatic life, wetlands, riparian corridors, transportation, and agriculture.*

An urban watershed is an ecosystem with a complex system of interacting natural and man-made components. Managing such watersheds involves planning and caring for its water, land, land/water interactions, human activities, wildlife and wildlife habitat, and aquatic resources to protect the health of the ecosystem. Government agencies, other stakeholders, and watershed residents must work together to accomplish watershed management objectives while considering inter-related social, economic and environmental issues."

Stormwater Planning: A Guidebook for British Columbia (the "Guidebook")

The language in the "Guidebook" provides specific ways to accomplish a suite of necessary and healthy outcomes:

"The key to reducing property damage, poor water quality and damage to aquatic habitat is to decrease the volume of runoff that flows into streams. The idea is to mimic the water balance of a naturally vegetated watershed by controlling stormwater at its source or where it falls onto the ground.

An ISMP, once implemented, can be a solution to achieve water conservation, reduction of property damage from flooding and improvements to water quality and flows to aquatic habitat. The CVCS, along with its many watershed stewardship group partners are watershed stakeholders that offer the City environmental information and expertise during the ISMP process. Stewards have an intimate knowledge of urban watersheds and hold the knowledge of changes over time. They know what the problems are and how to prevent or restore them. They are also able to access funding and mobilize volunteers to carry out projects such as habitat restoration, invasive species monitoring and control, collection of key data sets, establishment of baselines upon which to measure progress and to work in collaboration with the City to conserve and protect our freshwater resources.

We urge Council to:

a) make water conservation a strategic priority,
b) provide the resources necessary to implement a comprehensive, modern ISMP that aligns asset management with watershed health, and
c) direct staff to work collaboratively with the CVCS and the stewardship community to develop and implement the ISMP.

Thank you for the opportunity to Present to Council,
Jack Minard, on behalf of the Comox Valley Conservation Strategy Steering Committee

THE CORPORATION OF THE CITY OF COURTENAY

STAFF REPORT

To: Council **File No.:** 5225-04

From: Chief Administrative Officer **Date:** October 13, 2015

Subject: Lewis Park Dike Wall – Erosion Mitigation and Wall Repair

PURPOSE:

The purpose of this report is to request authorization from Council to proceed with short-notice erosion protection work on the Lewis Park Dike Wall adjacent to the tennis courts in Lewis Park.

CAO RECOMMENDATIONS:

That, based on the October 13, 2015 Staff Report "Lewis Park Dike Wall – Erosion Mitigation and Wall Repair", Council proceed with OPTION 1, to direct staff to undertake the recommended repair option "Short Term Repair Options & Costs – option c) Expandable Grout Bags & Rip Rap" identified within the MCSL Technical Memorandum dated October 2, 2015; to direct staff to make a direct award of the repair contract to Upland Excavating Ltd. of Campbell River due to their experience with the recommended repair method and their immediate availability; and to approve a maximum of $175,000 of 2015 operating surplus be re-allocated to this Project; and staff undertake a comprehensive assessment of the Lewis Park Dike during 2016.

Respectfully submitted,

David Allen, BES, CLGEM, SCLGM
Chief Administrative Officer

BACKGROUND:

Following the flooding of December 2014, an inspection of the Lewis Park and Anderton Dike Walls was performed. At that time, an inspection of the foundation of the dike walls was not possible due to high water levels. An inspection of the wall foundations was recently completed due to low water levels.

DISCUSSION:

During the inspection that was recently completed by McElhanney Consulting Services Ltd (MCSL), an area of the Lewis Park Dike Wall was identified as a source of concern due to erosion of the ground under the foundation. The Technical Memorandum prepared by MCSL is attached to this staff report. The inspection revealed that the soils beneath the dike wall have been significantly eroded over time. Staff has reviewed previous inspection reports and have found that the extent of the erosion in the area has increased significantly since 2010. Continued erosion of the soil under the dike wall could lead to a failure that could

result in significant damage to Lewis Park proper, the pathway adjacent to the dike wall and the tennis courts.

A risk analysis has been completed by staff using the best practices provided for in *CAN/CSA-ISO 31000-10 and 31010-10 – Risk Management.* The likelihood of failure and the consequences of failure have been combined to determine that the risk is credible and the Risk Rating is "Very High". This suggests that immediate corrective action is required.

MCSL recommends that the void under the wall be filled and protected from further erosion and staff concur with the recommendation.

FINANCIAL IMPLICATIONS:

The MCSL Technical Memorandum has provided a Class C cost estimate of $125,000 which means the estimate may have an error of +/- 30%. This is an unplanned maintenance cost that will return the asset to its intended Level of Service. As such, Gas Tax revenues may not be used to pay for the repair.

However, with Council's permission by Resolution, anticipated 2015 operating surplus may be designated to pay the repair expense.

Additionally, MCSL has recommended a direct award of a repair contract to Upland Excavating Ltd. of Campbell River due to their experience with the repair method and their immediate availability. Council may approve a direct award arrangement by Resolution without amendment to the 2015 Financial Plan.

ADMINISTRATIVE IMPLICATIONS:

Staff will prioritize this work. It is anticipated that this work will require approximately 20 hours of staff time over the duration of the project. Other work will be delayed in order to complete this project.

ASSET MANAGEMENT IMPLICATIONS:

This repair will result in returning the dike wall to its intended Level of Service with an expected lifecycle of 20 years remaining. It is already intended that a dike replacement strategy be developed in 2016 as there are other areas requiring maintenance of less immediate concern on the remainder of the existing dike network. The outcomes of this strategy will be incorporated into the Asset Management process and Long-Term Financial Plan.

STRATEGIC PRIORITIES REFERENCE:

None directly, but related to Council Strategic Priority #2: FLOOD STUDY (IFMS)

OFFICIAL COMMUNITY PLAN REFERENCE:

None

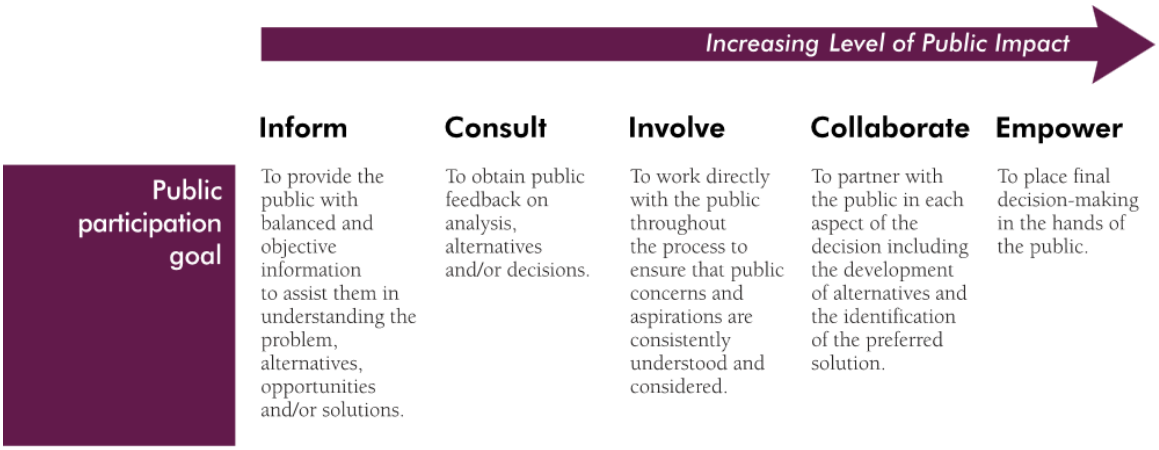
REGIONAL GROWTH STRATEGY REFERENCE:

None

CITIZEN/PUBLIC ENGAGEMENT:

Staff would use the "Inform" level of public engagement based on the IAP2 Spectrum of Public Participation:

http://c.ymcdn.com/sites/www.iap2.org/resource/resmgr/imported/IAP2%20Spectrum_vertical.pdf



OPTIONS:

Option 1:

Council direct staff to undertake the recommended repair option "Short Term Repair Options & Costs – option c) Expandable Grout Bags & Rip Rap" identified within the MCSL Technical Memorandum dated October 2, 2015; and

Council approves a direct award of the repair contract to Upland Excavating Ltd. of Campbell River due to their experience with the repair method and their immediate availability to be funded from 2015 operating surplus up to a maximum of $175,000.

That staff undertake a comprehensive assessment of the Lewis Park Dike Wall during 2016.

Option 2: That staff is directed to not perform any work on the Lewis Park dike wall.

Option 3: An alternative course of action as directed by Council.

Prepared by:

Craig Perry, P.Eng.
Manager of Engineering

Lesley Hatch, P.Eng.
Director of Engineering and Public Works

David W. Love, CD, BA, LGM(Dip), PCAMP
Senior Advisor - Strategic Initiatives

Attachment:

1. McElhanney Consulting Services Ltd (MCSL) Technical Memorandum dated October 2, 2015

McElhanney

TECHNICAL MEMORANDUM

TO: **City of Courtenay**
Attn: Craig Perry, P.Eng.

PREPARED BY: **Bob Hudson, P.Eng.**

REVIEWED BY: **Mark DeGagne, P.Eng**

DATE: **October 5, 2015**

FILE NO: **2211-47416-13**

LEWIS PARK DIKE #29 – EMERGENCY REPAIR

BACKGROUND

Lewis Park Dike #29, see Figure 1, is a river retention/flood protection structure built in the late 1970s, on the Courtenay River left bank. The structures replaced log piles and walls built in the 1950s. Some portions of the log piles were never removed and exist today. Photos from the 1970s construction, showing pre-cast wall units lowered on a cast in place concrete slab foundation, are contained in Appendix A.

Dike #29 has been overtopped during several high water events in the last five years. Most recently, during flooding events occurring between December 8 and 10, 2014. A local state-of-emergency was declared, and flood assistance protocols initiated with Emergency Management BC. Post event inspections on the land-side of the dike were conducted on December 17, 2014 in accordance with provincial dike guidelines; summary is included within Appendix B. The City noted that continued high water in the following weeks and daytime high tides prevented further water side inspections. In post-event reporting to the province, the City committed to conduct further inspections during lower water conditions in summer 2015.

2015 WATERSIDE INSPECTION

Initial water side inspections along the length of Lewis Park dike were conducted on September 22, 2015 during favorable tide and low river levels. Undercutting observed at the upper portion of the dike, highlighted area in Figure 1, warranted closer inspection. A follow-up inspection was conducted on September 26, 2015; see select photos in Appendix C.

The high priority area requiring immediate attention starts 75m from the upper limit of the dike and is approximately 30m long, per Figure 1. At this location, the Courtenay River narrows and turns approximately 45 degrees, subjecting the dike structure's foundation to erosive forces.

495 Sixth St
Courtenay BC
Canada V9N 6V4

Tel 250 338 5495
Fax 855 407 3895
mcelhanney.com

2015 inspections have found that erosion has undercut the concrete dyke structure in several locations, estimated to be up to 2m horizontally under the dyke, and 1m vertically at the wall face. Several gaps have opened up between precast wall sections, indicating movement of the dyke structure. It is unknown when this movement occurred. The presence of grass and moss may indicate these gaps have existed for several years.

The exposed granular material under the wall appears to be bank pit run, or gravel river deposits. There is minimal baseline data available to confirm erosion rates; however, settlement behind the wall has been noted previously. This settlement is located directly above the undercutting, visible in both 2008 and 2014 photos.

RISK OF FAILURE

Details regarding construction methodology are scarce. It is not known if the cast in place concrete base atop which the precast wall sections are set is reinforced, or if the precast and cast in place sections of the wall are doweled together. Without knowledge of these construction details, it is difficult to predict the likelihood of a structural failure under present day conditions. Notwithstanding, continued erosion and undercutting of the wall, if not mitigated, will lead to failure at some point. The consequences of failure have yet to be completely determined, as hydraulic modeling of a potential breach at this location has not been completed. The most likely consequence will be damage to City owned assets within Lewis Park. Flooding in the Ryan Road area, as a result of a collapse, should not change.

SHORT TERM REPAIR OPTIONS & COSTS

a) Do nothing.

b) Sheet Pile wall & concrete backfill:
   - Drive interlocking steel sheet piles into river base, stopping 1.0m above the current concrete foundation, overlapping void areas min. 3.0m parallel to dike alignment at each end;
   - Cut filling ports in steel wall every 5m;
   - Inject quick setting Controlled Density Fill concrete into void;
   - Estimated costs: TBD;
   - Estimated time to implement: TBD.

c) Expandable Grout Bags & Rip Rap:
   - Typical Repair section, Figure 2, enclosed;
   - Prepare work site removing sharp angular rocks and debris;
   - Lay non-woven geotextile on exposed granular soil;
   - Install turbidity curtain in Courtenay River, verify all fish removed from work zone *(subject to confirmation with Fisheries);*
   - Manually place woven geotextile grout bags under dike structure & pump quick setting Controlled Density Fill concrete;
   - Armor exposed face with angular rip rap;
   - Estimated cost - see Class C cost estimate, attached: $125,000;
   - Estimated time to implement: 3 weeks material ordering and delivery, 1 week installation.

LONG TERM REMEDIATION OPTIONS

a) Rebuild existing wall.
b) Replace with a new concrete or steel pile wall.
c) Replace with a traditional earth berm dike.

REQUIRED APPROVALS AND TYPICAL TIMING TO OBTAIN

Compile base mapping, plans and sections of proposed works, preliminary construction schedule, measures to protect environment and submit applications to the following agencies.

a) BC Ministry of Forests, Lands and Natural Resource Operations - Dike Maintenance Act (DMA):
    - Submit DMA Maintenance Application form;
    - Conform to Application Requirements - Erosion Protection;
    - Highlight urgency and construction schedule;
    - Initial conversation with Deputy Dike Inspector (DDI) suggested there would be cooperation to expedite referrals / approvals process, normally 30 – 45 days.
b) BC Ministry of Forests, Lands and Natural Resource Operations - Water Act:
    - Submit Section 9 Approval, typically 140 days for processing;
    - Per above, DDI agreed to assist with shortening the approval process;
c) Fisheries and Oceans Canada – Fisheries Act:
    - Submit Request for Review;
    - Restrict spatial footprint of works to less than 1,000 sq.m. to minimize permanent alteration or destruction of fish habitat;
    - Notwithstanding above threshold, Fisheries may deem an Authorization is necessary and habitat compensation required.
d) Transport Canada –Navigation Protection Program:
    - Proposed works have been confirmed exempt and therefore may proceed without notification.
e) BC Ministry of Forests, Lands and Natural Resource Operations – Heritage Conservation Act:
    - Archeology Site Alteration Permit.

SCHEDULE

Time is of the essence if repairs are to be undertaken in 2015. November typically receives the highest levels of precipitation experienced in this area, and tidal variation (extreme low tides) is decreasing. MCSL is actively working with the project biologist and archaeologist to determine approval timelines. An update will be provided to the City once contact has been made with the above noted agencies.

CONCLUSIONS AND RECOMMENDATIONS

- Continued erosion and undercutting of the Lewis Park Dike No29, if not mitigated, will lead to failure at some point.
- Recommend the expandable grout bag option is favored as a cost-effective, quick method of repair. Life expectancy, with annual monitoring, is expected to be in order of over 20 years.
- Recommend the City consider direct award of work to Upland Excavating (Rick Bate as superintendent) as having experience with this repair methodology.
- Recommend that agency consultation to secure permits and selecting a Contractor run concurrent in order to effect repairs in as short of time as possible.
- Recommend closing portion of the pedestrian walkway to limits shown in Figure 3, attached.

Yours truly,

MCELHANNEY CONSULTING SERVICES LTD.

Bob Hudson, P.Eng.

Reviewed by:

Mark DeGagne, P.Eng.

MS/njg

Rev	Date	Description	Drawn	Design	Appd
0	2015-09-29	ISSUED FOR REVIEW	MS	MS	BH

Scale: 1:750 (Metres: 22.5, 0, 22.5, 45)

ORIGINAL DWG SIZE: A1 (594 x 841mm)

McElhanney
McElhanney Consulting Services Ltd.
695 Sixth Street
Courtenay BC
Canada V9N 0N4
Tel 250 338 5496

Approved Sealed

CITY OF COURTENAY

GENERAL PLAN
LEWIS PARK DIKE No 29

COURTENAY, B.C.

Drawing No.
FIG-1

Project Number	Rev.
2211-47416-01	0

THE CORPORATION OF THE CITY OF COURTENAY

BYLAW NO. 2827

A bylaw to amend Zoning Bylaw No. 2500, 2007

The Council of the Corporation of the City of Courtenay in open meeting assembled enacts as follows:

1. This bylaw may be cited for all purposes as **"Zoning Amendment Bylaw No. 2827, 2015"**.

2. That "Zoning Bylaw No. 2500, 2007" be hereby amended as follows:

   (a) by rezoning Lot 3, Section 15, Comox District, Plan 19130 (855 Back Road), as shown in bold outline on **Attachment A** which is attached hereto and forms part of this bylaw, from Residential One Zone (R-1) to Residential One S Zone (R-1S);

   (b) That Zoning Bylaw No. 2500, 2007, Schedule No. 8 be amended accordingly.

3. This bylaw shall come into effect upon final adoption hereof.

Read a first time this 14th day of September, 2015

Read a second time this 14th day of September, 2015

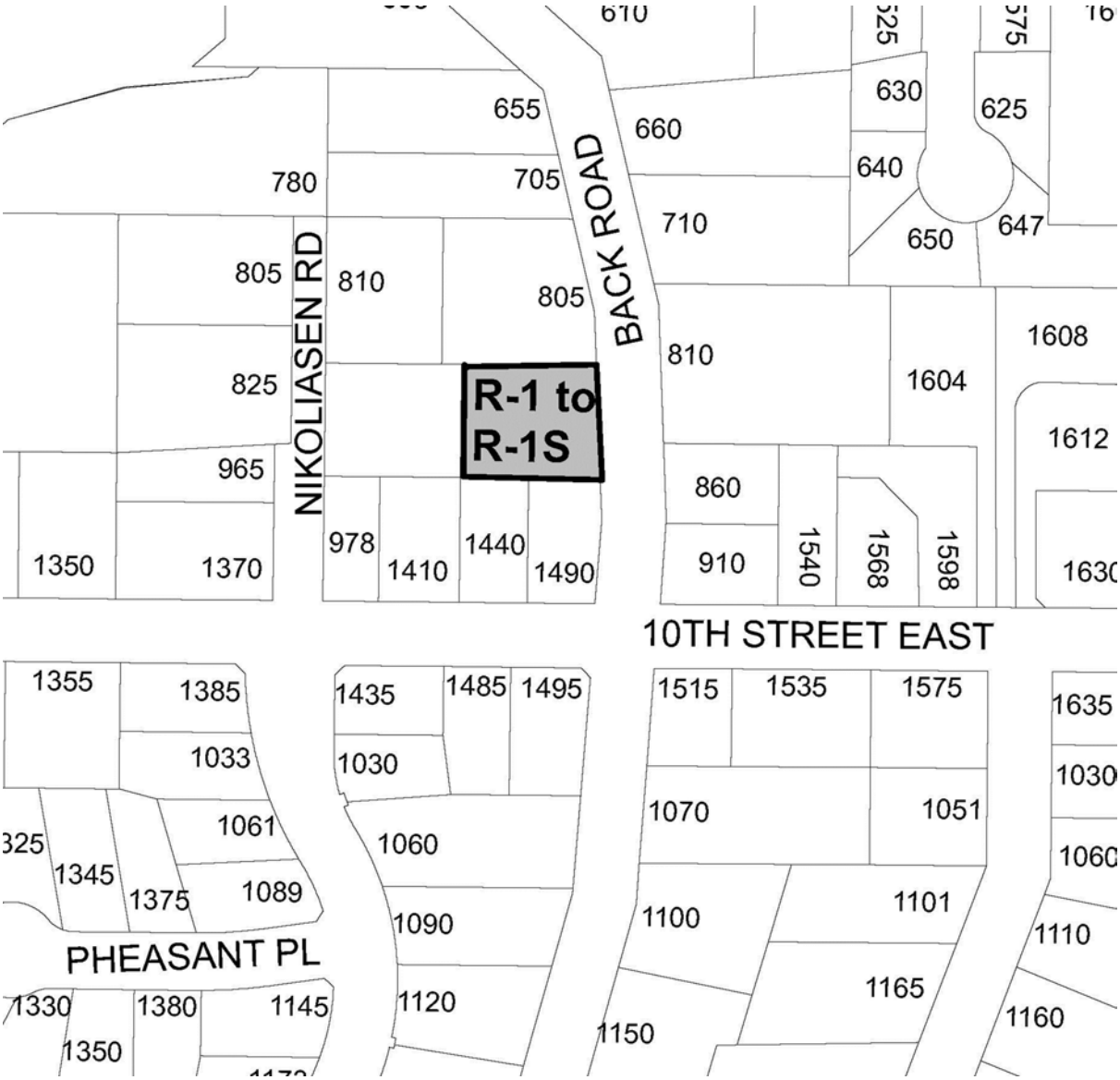
Considered at a Public Hearing this 5th day of October, 2015

Read a third time this day of , 2015

Finally passed and adopted this day of , 2015

_____ _____

Mayor Director of Legislative Services



THE CITY OF COURTENAY
ATTACHMENT "A"
Part of Bylaw No. 2827, 2015
Amendment to the
Zoning Bylaw No. 2500, 2007