

RE: Request for Further Info: Young invitees to Trespass mtg

From: Raymond, Mark AGRI:EX <Mark.Raymond@gov.bc.ca>, Raymond, Mark AFF:EX <Mark.Raymond@gov.bc.ca>
To: Godfrey, Sam AGRI:EX <Sam.Godfrey@gov.bc.ca>, Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>, Godfrey, Sam AFF:EX, Lyttle, Shawna AFF:EX
Sent: August 10, 2020 11:18:12 AM PDT

Thank you Sam,

It is my team (Georgina's) that has the lead on the Animal Activism file.

Thanks,
Mark

-----Original Message-----

From: Godfrey, Sam AGRI:EX <Sam.Godfrey@gov.bc.ca>
Sent: August 10, 2020 10:59 AM
To: Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>
Cc: Raymond, Mark AGRI:EX <Mark.Raymond@gov.bc.ca>
Subject: RE: Request for Further Info: Young invitees to Trespass mtg

Hi,

Jen's team, rather than Arif's, I think has the lead on this initiative.

I did talk to Tom about this but essentially as I understand it these two are young women who live/work on farms and have negative experiences of animal rights activists' protests. MLP thought it would be good to give them the opportunity to express their feelings to the working-group that is meeting on this issue. They have agreed to do so and are expecting contact. MLP thought three minutes or so each would be enough.

Their last names are embedded in their emails - I think. I'm not sure what farms they are part of.

s.22

I have only s.22

Depending on their age, be good to connect with their parents as well. They are minors, I think around s.22
Parents are supportive I understand. Hope that provides what is needed but feel free to call if it is not clear.

Best. S.

Sam Godfrey
Senior Ministerial Assistant to the Honourable Lana Popham Minister of Agriculture, British Columbia
Mobile: 250 208 1359 | Office: 250 387 1023 Rm 325, Parliament Buildings, 501 Belleville St., Victoria, B.C. V8V 1X4

This message, including any attachments to it, is not to be disclosed outside of the Provincial Government without

prior written approval from the Ministry of Agriculture. If you have received this communication in error, please destroy the email message and any attachments immediately and notify me by telephone or by email.

-----Original Message-----

From: Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>
Sent: August 10, 2020 8:26 AM
To: Godfrey, Sam AGRI:EX <Sam.Godfrey@gov.bc.ca>
Subject: Request for Further Info: Young invitees to Trespass mtg

Sam:

Do you have any further information on these two young women as Mark has requested below?

Thank you.

Shawna Lyttle
Manager of Executive Operations and Planning Deputy Minister's Office | Ministry of Agriculture
T: 778 974-2142

-----Original Message-----

From: Raymond, Mark AGRI:EX <Mark.Raymond@gov.bc.ca>
Sent: August 10, 2020 8:21 AM
To: Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>
Cc: Ethier, Tom AGRI:EX <Tom.Ethier@gov.bc.ca>
Subject: RE: For Action: Young invitees to Trespass mtg

Hi Shawna,

Can we get a little more information.... Last Names, telephone numbers, what they would be speaking towards?

Thank You,
Mark

-----Original Message-----

From: Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>
Sent: August 10, 2020 8:17 AM
To: Raymond, Mark AGRI:EX <Mark.Raymond@gov.bc.ca>
Cc: Ethier, Tom AGRI:EX <Tom.Ethier@gov.bc.ca>
Subject: For Action: Young invitees to Trespass mtg

Good morning Mark:

I hope you had a nice weekend. As you will see below, Sam has sent some names forward that Minister would like invited to the ongoing meetings regarding trespass and animal activism that your team is managing. She would like these young women to speak at the next meeting for 3-5 minutes to share their perspectives of what they feel or whenever they are on social media.

This message is being passed through to me via email from Sam to Tom, so if you need any further information in this regard, please let me know, and I will endeavour to hunt it down.

Thank you.

Shawna Lyttle

Manager of Executive Operations and Planning Deputy Minister's Office | Ministry of Agriculture

T: 778 974-2142

-----Original Message-----

From: Godfrey, Sam AGRI:EX <Sam.Godfrey@gov.bc.ca>

Sent: August 7, 2020 4:08 PM

To: Ethier, Tom AGRI:EX <Tom.Ethier@gov.bc.ca>

Cc: Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>

Subject: Young invitees to Trepas mtg

s.22

They are expecting the outreach.

Sent from my iPhone

Check-In Document

From: Benbow, Lindsay AGRI:EX <Lindsay.Benbow@gov.bc.ca>, Benbow, Lindsay
AFF:EX <Lindsay.Benbow@gov.bc.ca>
To: Liggins, Lavona AGRI:EX <Lavona.Liggins@gov.bc.ca>, Liggins, Lavona
AFF:EX
Sent: February 8, 2021 4:25:53 PM PST
Attachments: Benbow L Check In February 9 2021.docx

Hi Lavona,

Here is my check-in document for tomorrow.

Thanks,

Lindsay

Lindsay Benbow | Regional Agrologist | Vernon

BC Ministry of Agriculture, Food and Fisheries

NEW UC Office Number: 778-943-7026 | cell: 250-241-2558

1-888-221-7141 | AgriServiceBC@gov.bc.ca

February 9/21 Vernon Update (covers Jan 27/20 – Feb 8/21):

- Referrals
 - RDNO –
 - Development Permit with Variance - Completed
 - Subdivision, road allowance and relative residence - Completed
 - Spallumcheen
 - Wildfire Plan - Completed
- Inquiries
 - Trespass Act Inquiry - resolved
 - Pasture replant - resolved
 - Application requirements for mineral extraction – discussed/resolved with LG
 - Grants for infrastructure on Haskup Farm
- Complaints
 -
- Projects/E-Approvals
 - ALC Site Visit
 - Sent Manure FAQ Interior back to s.22
- Emergency Response Roster – Waiting to hear
- Industry Contact
 - L2T
 - BX Ranchlands Feasibility
 - Debrief Processor Online Gathering
 - Feedback on local government request
 - Spallumcheen
 - Referrals
 - Discuss FPPA – discussed with planner
 - Salmon Arm AAC Touchbase
 - Feed BC Presentation Scheduled for March Meeting
 - Salmon Arm Food Hub Check-in – February
 - RDNO
 - BX Ranchlands
 - Check-ins prior to RAAC meetings
- Meeting
 - BC Beef Producers Meeting – January 27
 - Check-In – CZ, LB, CF, WS – January 28
 - Cherry Cold Damage – January 28
 - CF/LB Mentoring Session – January 29
 - Intensive Container Meeting – Feb 2
 - Salmon Arm Food Hub Check-In – Feb 3
 - BX Ranchlands Meeting – Feb 3
 - Processors Debrief – L2T – Feb 5
 - Webinar Training – Feb 8

Upcoming events:

Training:

- SFU Planning for Non Planners – Starts Feb 18
- Lean Training – Learning System – Need to complete

Meetings:

- SFBA Debrief – Feb 9
- Salmon Arm AAC – Feb 10
- Vineyard Development Meeting – Feb 10 (Conflicts with Salmon Arm AAC)
- RDNO RAAC Meeting – Feb 11
- L2T Strategic Planning Session – Feb 12
- ADM Regional Development – Feb 16
- RAAC Agenda Check-In- Feb 16
- GBA+ Training – Feb 17
- BX Ranchlands Follow up – Feb 19

Ongoing Projects:

- Waiting on feedback s.22 Manure FAQ
- Research RMU project
- Touch base with LG going into spring
- BX Ranchlands Research
- Standing updates RDNO RAAC

Leave:

- Leave calendar – March 19 and April 9

Outstanding Questions/Concerns:

- BCIA – Editing Webinar – Feb 17 – 12:15 – 1:45 (45 minutes of work time)
- Schedule meeting to discuss webinars – New webinar team, Jason + Lavona
 - o Future planning, direction for webinars

FW: Trespass Fines

From: Lalani, Arif AGRI:EX <Arif.Lalani@gov.bc.ca>, Lalani, Arif AFF:EX
: <Arif.Lalani@gov.bc.ca>
To: Godfrey, Sam AFF:EX <Sam.Godfrey@gov.bc.ca>
Cc: Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>, Zachary, Dawnae AGRI:EX
<Dawnae.Zachary@gov.bc.ca>, Lyttle, Shawna AFF:EX, Zachary, Dawnae AFF:EX
Sent: February 19, 2021 12:18:27 PM PST

Arif Lalani | ADM | Business Development Division | Ministry of Agriculture, Food and Fisheries
C 250.208.9902 | E arif.lalani@gov.bc.ca

From: Anderson, Arlene AGRI:EX <Arlene.Anderson@gov.bc.ca>
Sent: February 4, 2021 9:22 AM
To: Lalani, Arif AGRI:EX <Arif.Lalani@gov.bc.ca>
Cc: Zachary, Dawnae AGRI:EX <Dawnae.Zachary@gov.bc.ca>; Beyers, Georgina AGRI:EX
<Georgina.Beyers@gov.bc.ca>; Raymond, Mark AGRI:EX <Mark.Raymond@gov.bc.ca>; McGuire, Jennifer AGRI:EX
<Jennifer.Mcguire@gov.bc.ca>; Renaud, Michael AGRI:EX <Michael.Renaud@gov.bc.ca>
Subject: RE: Trespass Fines

Hi Arif,

s.13; s.14

Arlene

From: Lalani, Arif AGRI:EX <Arif.Lalani@gov.bc.ca>
Sent: February 4, 2021 8:53 AM
To: Anderson, Arlene AGRI:EX <Arlene.Anderson@gov.bc.ca>; Beyers, Georgina AGRI:EX
<Georgina.Beyers@gov.bc.ca>; Raymond, Mark AGRI:EX <Mark.Raymond@gov.bc.ca>
Cc: Zachary, Dawnae AGRI:EX <Dawnae.Zachary@gov.bc.ca>
Subject: Trespass Fines

s.13; s.14

Arif Lalani | ADM | Business Development Division | Ministry of Agriculture, Food and Fisheries
C 250.208.9902 | E arif.lalani@gov.bc.ca

FW: s.13

From: Lalani, Arif AGRI:EX <Arif.Lalani@gov.bc.ca>, Lalani, Arif AFF:EX <Arif.Lalani@gov.bc.ca>
To: Godfrey, Sam AFF:EX <Sam.Godfrey@gov.bc.ca>
Cc: Lyttle, Shawna AGRI:EX <Shawna.Lyttle@gov.bc.ca>, Zachary, Dawnae AGRI:EX <Dawnae.Zachary@gov.bc.ca>, Lyttle, Shawna AFF:EX, Zachary, Dawnae AFF:EX
Sent: February 19, 2021 12:19:10 PM PST
Attachments: s.13

Arif Lalani | ADM | Business Development Division | Ministry of Agriculture, Food and Fisheries
C 250.208.9902 | E arif.lalani@gov.bc.ca

From: Jeremy Dunn <jdunn@bcdairy.ca>
Sent: February 19, 2021 12:08 PM
To: Lalani, Arif AGRI:EX <Arif.Lalani@gov.bc.ca>
Subject: s.13

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Arif,

s.13

Reg shared this with Tom and Georgina in the summer.

jd

--

Jeremy Dunn
General Manager
BC Dairy Association

O. 604.294.3775
M. 604.726.8350
Toll Free in BC 1.800.242.6455
E. jdunn@bcdairy.ca
bcdairy.ca

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Withheld pursuant to/removed as

s.13

FW: AEIAC Agenda package for March 10

From: Mori, Nadia AFF:EX <Nadia.Mori@gov.bc.ca>
To: Roberts, Mikayla AFF:EX <Mikayla.Roberts@gov.bc.ca>
Sent: March 10, 2021 6:46:57 PM PST
Attachments: image001.png, AGN PKG AEIAC 2021 03 10.pdf

Hi Mikayla,

Here is the agenda from the last Agriculture, Environment, and Investment Advisory Committee (AEIAC) of the City of Surrey for your reference.

It contains the terms of conditions, the future meeting dates, the proposed workplan for the year as well as one exclusion application which was brought forward and not supported as presented.

On the workplan there were a few additional topics that members would like to see in the workplan (a revised version will be brought to the next meeting):

- Traffic pinch points and future road development
- Ag land used for truck parking
- Public walking on dikes (which are private properties)
- Collaborate with Surrey Food Hub

Next meeting will be on April 14.

Best,
Nadia

Nadia Mori, M.Sc. P.Ag | Regional Agrologist
B.C. Ministry of Agriculture, Food and Fisheries | Fort St. John
Nadia.mori@gov.bc.ca | Office: 778-666-2438 | Cell: 778-201-5431

I acknowledge that I live and work on Treaty 8 territory and honour and acknowledge all of the First Nations, Métis and Inuit peoples who have lived, traveled and gathered on these lands for thousands of years.

From: Eagles, Chelsea <CEagles@surrey.ca>
Sent: March 10, 2021 7:06 PM
To: Mori, Nadia AFF:EX <Nadia.Mori@gov.bc.ca>
Subject: RE: Agenda package for March 10

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Here you are. sry I messed ALC/Ministry up! – and its not even Monday!

From: Mori, Nadia AFF:EX <Nadia.Mori@gov.bc.ca>
Sent: March 10, 2021 6:05 PM
To: Eagles, Chelsea <CEagles@surrey.ca>
Subject: Agenda package for March 10

Hi Chelsea,
I can't seem to find my agenda package for tonight's meeting. Would you have a copy to share.

Sorry for the late request,
Nadia

Nadia Mori, M.Sc. P.Ag
Regional Agrologist | Extension and Support Services Branch
B.C. Ministry of Agriculture, Food and Fisheries
10043 100th Street | Fort St. John | V1J 3Y5
Nadia.mori@gov.bc.ca | Office: 778-666-2438 | Cell: 778-201-5431



Where ideas work

I acknowledge that I live and work on Treaty 8 territory and honour and acknowledge all of the First Nations, Métis and Inuit peoples who have lived, traveled and gathered on these lands for thousands of years.



Agriculture, Environment, and Investment Advisory Committee - Agenda

Location: Virtual
Wednesday, March 10, 2021
Time: 6:00 p.m.

A.	ADOPTIONS	Time	Page #
1.	Adoption of the Agenda	6:00	1
2.	Adoption of the Minutes Minutes of February 23, 2021.		
B.	HOUSEKEEPING		
1.	Terms of Reference The Committee is requested to pass a motion to receive the Terms of Reference for information.	6:05	6
2.	2021 AEIAC Meeting Schedule The Committee is requested to pass a motion to receive the 2021 AEIAC Meeting Schedule for information.	6:15	10
3.	2021-2022 Work Plan	6:20	11
C.	NEW BUSINESS		
1.	Development Application 7918-0236-00 Misty Jorgensen, Planner File: 7918-0236-00; 6821 - 176 Street Proposed ALR exclusion application.	6:35	12
D.	OUTSTANDING BUSINESS		
1.	Verbal Updates	6:50	
E.	ITEMS REFERRED BY COUNCIL This section has no items to consider.		
F.	CORRESPONDENCE This section has no items to consider.		

G. NEXT MEETING

The next meeting of the Agriculture, Environment, and Investment Advisory Committee is scheduled Virtually for Wednesday, April 14 at 6:00 p.m.

H. ADJOURNMENT

VIRTUAL MEETING ATTENDANCE

Should you wish to join and observe the virtual Agriculture, Environment, and Investment Advisory Committee meeting via Teams, please contact Chelsea Eagles at ceagles@surrey.ca no later than 12:00 p.m. on the day before the meeting. You will need to provide your full name and an e-mail address. A Microsoft Teams Meeting Link will be forwarded to you. Please ensure that your microphone and camera are turned off for the duration of the meeting.



Agriculture, Environment, and Investment Advisory Committee Minutes

Location: Virtual
Tuesday, February 23, 2021
Time: 3:00 p.m.

Present:

Councillor Patton, Chair
Councillor Nagra, Vice-Chair
Councillor Hundial
M. Lamont
S. Rai
S. VanKeulen

Agency Representative:

Nadia Mori, Ministry of Agriculture

Regrets:

Staff Present:

B. Daly, Planning Technician
D. Todd, South Planning Manager
D. Quesada, Planning Technician
S. Neuman, General Manager, Engineering
W. Siegner, Planning Technician
Y. Yohannes, Manager, Utilities
C. Eagles, Administrative Assistant

A. RECEIPT OF MINUTES

This section has no items to consider.

B. DELEGATIONS

This section has no items to consider.

C. OUTSTANDING BUSINESS

This section has no items to consider.

D. NEW BUSINESS

1. Development Application 7920-0090-00

Ben Daly, Planning Technician
File: 7920-0090-00; 3073 – 184 Street

The proposal is for a Development Variance Permit to reduce the side yard setback of an accessory residential structure and Development Permit for Sensitive Ecosystems.

- The site is approximately 1.8 hectares, designated "Agricultural" in the Official Community Plan (OCP), is zoned "General Agricultural Zone (A-1)" and is located within the Agricultural Land Reserve (ALR).
- The applicant is proposing to construct a new single family dwelling on the property that is compliant with maximum floor area restrictions established by the Agricultural Land Commission (ALC) and the siting restrictions contained within the A-1 Zone.
- The applicant is proposing to decommission and retain a single family dwelling that is existing on the site. Once decommission the structure will be converted to an accessory residential dwelling for storage/shop use. The side (north) yard setback of the existing dwelling does not meet the current

setback requirements of the A-1 Zone, therefore a Development Variance Permit is proposed to make the existing setback compliant.

- Members expressed the importance to decommission the home, potentially increasing the bond amount and trust the home will not be used as a secondary dwelling.
- In response to a question from the Committee, it was asked if staff can apply policies that would ensure the original home is decommissioned before final approval of the new dwelling. It was noted that building conditions could be added to the application.

It was

Moved by S. VanKeulen

Seconded by Councillor Nagra

That the Agriculture, Environment, and

Investment Advisory Committee recommend to the General Manager of Planning and Development to support Development Application 7920-0090-00 on conditions the dwelling becomes an accessory building and not a second dwelling.

Carried

2. Development Application 7918-0298-00

Ben Daly, Planning Technician

File: 7918-0298-00; 18167 – 12 Avenue

The proposal is for Non-Adhering Residential Use Application and Development Permit for Sensitive Ecosystems.

- The site is approximately 16 hectares in area, designated "Agricultural" in the Official Community Plan (OCP), is zoned "General Agricultural Zone (A-1)" and is located within the Agricultural Land Reserve (ALR).
- The applicant is proposing a Non-Adhering Residential Use Application to the Agricultural Land Commission (ALC) to allow the temporary retention of an existing dwelling on the property while a new dwelling is being constructed.
- It was suggested that prior to granting final approval of the new home, the existing home that is being retained during the construction should be demolished.
- The Committee expressed concerns on the placement of the dwelling in which staff advised that the location chosen complies with City zoning bylaws and ALC requirements.
- It was suggested to construct the dwelling within the existing farm residential footprint area. In response, Staff advised that they cannot make an applicant place their home outside the requirements of the zoning bylaw. Staff clarified that it is the decision of the applicant to proceed with a Variance Permit or not. In response to a question from the Committee, it was noted that the Farm Home Plate states that the dwelling and all accessory buildings be placed in a certain setback.

- In response to a question from the Committee, staff clarified that no business license is required to grow agricultural products.

It was

Moved by Councillor Patton

Seconded by Councillor Nagra

That the Agriculture, Environment, and

Investment Advisory Committee recommend to the General Manager of Planning and Development to support Development Application 7918-0298-00.

Carried

In future, the Committee would like to see the most viable option available to preserve the as much farmland as possible.

Councillor Hundial joined the meeting at 3:40 p.m.

3. Development Application 7920-0209-00

William Siegner, Planning Technician

File: 7920-0209-00; 4311 King George Boulevard

The proposal is for a Development Variance Permit to permit a 41-metre telecommunication tower in the Agricultural Land Reserve. The application is being presented for information only.

- The site is approximately 1.6 hectares in size, designated "Agricultural" in the Official Community Plan (OCP), zoned "General Agricultural Zone (A-1)", and located within the Agricultural Land Reserve (ALR). The property is currently used as part of an adjacent nursery and stonework business.
- Telecommunication towers are needed to help meet City of Surrey emergency response, economic development, and service delivery goals.
- Staff noted that there are additional spaces further down the pole that can be propose for future use.
- The Committee expressed concerns on the height of the tower and that the location and height would impact local air traffic at the surrounding regional airports that are located within the ALR.
- The Committee expressed concerns on the lighting aspect, given the proximity to the Serpentine River, particular in the evening, that light pollution can affect migrating birds. Staff noted that this can be reviewed by the consultant.

It was

Moved by Councillor Patton

Seconded by S. VanKeulen

That the Agriculture, Environment, and

Investment Advisory Committee receive Development Application 7920-0209-00 as information.

Carried

4. Development Application 7920-0140-00

Donna Quesada, Planning Technician

File: 7920-0140-00; 4966 - 176 Street

The proposal is for a Development Variance Permit to reduce the front yard setback from 30 metres to 9 metres in order to construct a farm machinery and equipment storage building.

- The site is approximately 39 acres, designated "Agricultural" in the Official Community Plan (OCP), zoned "General Agricultural Zone (A-1)" and located within the Agricultural Land Reserve (ALR). The property is classified as farmland under the *BC Assessment Act*.
- The property is being used as a full production blueberry farm. The applicant defines "full production blueberry farm" as a farm fully planted with blueberry plants which are about 18 years of age and are in the full production stage of their life cycle. If they were to be uprooted, they cannot be replanted successfully.
- The applicant is proposing to construct a 765 sq. m. (8,241 sq. ft.) farm machinery and equipment storage building with a pickers' lunch room and an office meeting area. A portion of the proposed building will be used to operate a seasonal fruit market.
- The Committee expressed concerns on the size of the farm building. Staff noted it is to store farm equipment, be used as a lunch room and a place to sell the blueberries, where it would be closer to the highway and more visible. The Committee noted that blueberry harvesting has now become increasingly automated and can see the need for a building of the proposed size to store the necessary farming equipment. It was noted for a blueberry farm of this scale, the proposed accessory building size is reasonable.
- It was noted that the applicant was granted approval by the Ministry of Transportation and Infrastructure (MOTI) to discharge a no-build restrictive covenant prohibiting any building within 25 metres west of the property. The applicant will be required by MOTI to apply for a commercial access permit for the fruit market as well as a temporary access permit during construction of the building.

The Committee would like to ensure that the proposed building stays as an accessory or farm building and not as a shed.

It was

Moved by Councillor Patton

Seconded by Councillor Nagra

That the Agriculture, Environment, and

Investment Advisory Committee recommend to the General Manager of Planning and Development to support Development Application 7920-0140-00.

Carried

E. CORRESPONDENCE

This section has no items to consider.

F. INFORMATION ITEMS

This section has no items to consider.

G. NEXT MEETING

The next meeting of the Agriculture, Environment, and Investment Advisory Committee will be held on Wednesday, March 10, 2021 at 6:00 p.m. Virtually via Microsoft Teams.

H. ADJOURNMENT

It was

Moved by S. VanKeulen

Seconded by S. Rai

That the Agriculture, Environment, and

Investment Advisory Committee meeting adjourn.

Carried

The Agriculture, Environment, and Investment Advisory Committee adjourned at 4:23 p.m.

Jennifer Ficocelli, City Clerk

Councillor Allison Patton, Chair

AGRICULTURE, ENVIRONMENT, AND INVESTMENT ADVISORY COMMITTEE**TERMS OF REFERENCE****1. Mandate**

The purpose of the Agriculture, Environment, and Investment Committee (the "Committee") is to advise Council on strategic and policy issues pertaining to the City's agricultural, environment and investment goals including but not limited to:

- Increasing food security and investment;
- Improving availability of agricultural land;
- Enhancing City wide response to climate change; and
- Protecting the City's environment.

2. Role

The Committee will:

- a) Focus on four agriculture, environment and investment related priorities that represent challenges for our community in achieving our goals:
 - I. **Agriculture Lands:** Ensuring the Agricultural Land Reserve is maintained and agricultural practices are sustainable. This includes advising and making recommendations to Council on current and proposed policies and land use plans, development applications that directly impact agricultural lands and require referrals to the Agricultural Land Commission and the Ministry of Agriculture.
 - II. **Enhance Agricultural Productivity:** Developing a proactive plan to enhance the agricultural communities, enhance agricultural viability and increase economic investments through increased food production and processing. Advise City Council in developing a proactive plan to sustain the agricultural community and improve agricultural viability within Surrey with assistance from the Agricultural Land Commission and the Ministry of Agriculture.
 - III. **Climate Change:** Advise council on policies and actions in support of the Climate Change Action Strategy as it relates to community and corporate emission reductions, improving the health and resilience of our community, and mitigating and adapting to the impacts of climate change.
 - IV. **Protect the Environment:** Advise and make recommendations to Council on policies, procedures and bylaws as they may affect our rich, natural environment. This priority will focus on desired outcomes and strategic directions of our Sustainability Charter 2.0 and advancement of the City's Biodiversity Conservation Strategy.

- b) Consider and make recommendations to Council on any other matters referred to the Committee by Council.
- c) Liaise, on behalf of Council, with public and private agencies, including senior governments, to encourage the provision of sustainable agricultural and environmental processes and the creation of a positive and constructive climate for changes in the community that will be mutually beneficial for Surrey and its residents.

3. Membership

The Committee is a standing committee appointed by the Mayor until October 2022.

- a) The Committee will consist of six (6) voting members as follows:
 - Three (3) members of City Council, appointed by the Mayor, with one designated as Chair and one designated as Vice-Chair of the Committee;
 - Three (3) Volunteer members will be appointed or re-appointed to the Committee for a term of two years, except as otherwise determined by the Mayor. One volunteer must be an active member of agricultural community and one volunteer from environmental community; and
 - Up to one (1) observer from each of the Ministry of Agriculture and Agriculture Land Commission. Observers will have no voting privilege.
- b) Volunteer members may serve for up to three terms on the Committee, except as otherwise determined by the Mayor.
- c) The Vice-Chairperson will preside at any meeting where the chair is absent.

4. General Terms and Code of Conduct

- a) Decorum and Debate: Committee members must devote the necessary time and effort to prepare for meetings, arrive at meetings on time, provide feedback in keeping with the Committee mandate, and be respectful of others' thoughts and opinions.
- b) Authority and Reporting: The Committee and its members will not represent themselves as having any authority beyond that delegated in the Terms of Reference ("TOR") endorsed by Mayor and Council.
- c) Media/Social Media: Members of the Committee are not permitted to speak to the media as representatives of the Committee. Committee members must strive to convey the public interest and remember that they represent the City of Surrey; this means that they must be consistent with the City's position on specific issues. It is the policy of the City of Surrey to encourage clear and effective communication with all Committee members, stakeholders, and members of the

public. Any use of social media must, as with all other forms of communication, meet tests of credibility, privacy, authority, and accountability.

- d) Professionalism: Committee members who engage in activities regarding the City of Surrey or Committee initiatives/projects and promotions are expected to maintain a respectful, constructive, and professional tone that maintains the brand consistency of the City of Surrey.
- e) Confidentiality: All new Committee members are required to sign a copy of the "Volunteer Services Confidentiality Agreement" as part as their general orientation. All returning Committee members have previously signed a copy of the agreement and are expected to honour and uphold the provisions as outlined within the Agreement.
- f) Surrey Residency Requirement: All Committee volunteers must reside in the City of Surrey. If a Committee member's primary place of residence changes to another municipality during the term of an appointment, the member must notify the Chair and Administrative Assistant regarding change of address. Vacancies will be filled through advertisement placed in local newspapers, social media, and on the City website; applications received will be reviewed by the Mayor.
- g) Conflict of Interest: City policy regarding conflict of interest applies to all Committee members. A conflict of interest exists if a Committee member is a director, member, or employee of an organization seeking to benefit from the City, or if the Committee member has a direct or indirect pecuniary (financial) interest in the outcome of committee deliberations. Committee members who have a conflict of interest with a topic being discussed must declare that they have a conflict of interest, describe the nature of the conflict, and leave the room prior to any discussions, and must refrain from voting thereon. Committee members are not permitted to directly or indirectly benefit from their participation on the Committee during their tenure and for a period of twelve (12) months following the completion of their term(s).

5. Meetings

- a) Meetings will generally meet monthly and be held at the call of the Chair.
- b) Meetings will be held at least four times a year.
- c) Quorum for a meeting of the Committee is one half of the voting members, which includes the Chair or Vice-Chair. Any member who is absent from three or more meetings of the Committee per year without reason satisfactory to the Committee Chair may be removed from the Committee by the Mayor.
- d) Minutes of meetings of the Committee will be recorded by the Legislative Services Department and be forwarded by the City Clerk to a Regular Council meeting as information and, where recommendations are included in the minutes, for consideration by City Council.

6. Annual Work Plan

- a) From a strategic approach, select Committees are expected to identify a concise set of annual targets and objectives to be submitted to Council for endorsement each November for the following calendar year. The Annual Work Plan must be in line with the TOR and must outline specific targets as to what the Committee plans to achieve while supporting the work, priorities, and underlying principles of the City of Surrey.
- b) The agreed upon Work Plan will be executed by the Committee, with the reasonable assistance of support staff, and must contribute to the overarching goals of the City of Surrey.

7. Administration

Staff assistance will be provided to the Committee, as necessary, by:

- a) The General Manager, Engineering and other staff as required.

8. Authority

- a) Section 141 (1) of the Community Charter states that “The Mayor must establish standing committees for matters the Mayor considers would be better dealt with by a committee and must appoint persons to those committees.”.
- b) This Committee is standing committee appointed by the Mayor.
- c) The proceedings of the Committee are to be conducted in public unless the subject matter being considered falls within an applicable subsection of Section 90 of the Community Charter.

Supported by Council on January 11, 2021. This is a standing committee as set out in Section 141 of the *Community Charter*, the Terms of Reference were approved by the Mayor on January 11, 2021.

AGRICULTURE, ENVIRONMENT, AND INVESTMENT ADVISORY COMMITTEE

B.2

2021 MEETING SCHEDULE

MEETING START TIME: 6:00 PM

January 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

February 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
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28						

March 2021

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April 2021

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May 2021

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30	31					

June 2021

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6	7	8	9	10	11	12
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27	28	29	30			

July 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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25	26	27	28	29	30	31

August 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
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29	30	31				

September 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
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26	27	28	29	30		

October 2021

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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

November 2021 *moved from Nov 10*

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
2	3					

 AEIAC Meetings
  Council Meetings
  Statutory Holidays
  Closure

Meetings are subject to change. Please confirm meeting with the City Clerk's Office at 604-591-4132.

Agriculture, Environment, and Investment Advisory Committee (AEIAC): 2021-22 Work Plan				
	#	Work Plan Description	Delivery Method	Target Date
Agriculture and Agricultural Investment	1	Update Lowland Drainage Strategy to enhance opportunities for increased agricultural productivity and resilience	Engineering (Drainage)	
	2	"Buy local" campaign and initiatives <ul style="list-style-type: none"> Virtual Surrey Farm Tours 	PRC, Planning, Engineering (Sustainability), AEIAC	
	3	Leverage KPU's new Agricultural Research Centre to provide tools to help the agriculture sector to enhance product development	Engineering, AEIAC, DAC	
	4	Update strategies to reduce illegal fill in the ALR, based on ALC regulations and enforcement	Planning, Engineering, AEIAC, Bylaws	
Environment	1	Assess opportunities for tree preservation and growth: <ul style="list-style-type: none"> Encourage public to recommend unique trees Tree planting family activities Plant 1 tree for every person moving to Surrey "Adopt a tree" campaign 	PRC, Engineering	
	2	Explore opportunities for Utilizing Green City Fund	PRC, Engineering	
	3	Review Proposed Policies/Changes Regarding Rodent & Pesticide Use <ul style="list-style-type: none"> Alternative rodent control methods European chafer beetle control methods 	PRC, Engineering	
Climate	1	Review and comment on Policies and Actions to support Climate Change Action Strategy	AEIAC	
	2	Find opportunities to receive funding for: <ul style="list-style-type: none"> Green infrastructure Low carbon Clean technology programs Climate action and awareness 	AEIAC, Engineering	

INTER-OFFICE MEMO

TO: **Surrey Agriculture, Environment and Investment Advisory Committee**

FROM: **Acting Current Planning Manager – North Planning and Development Department**

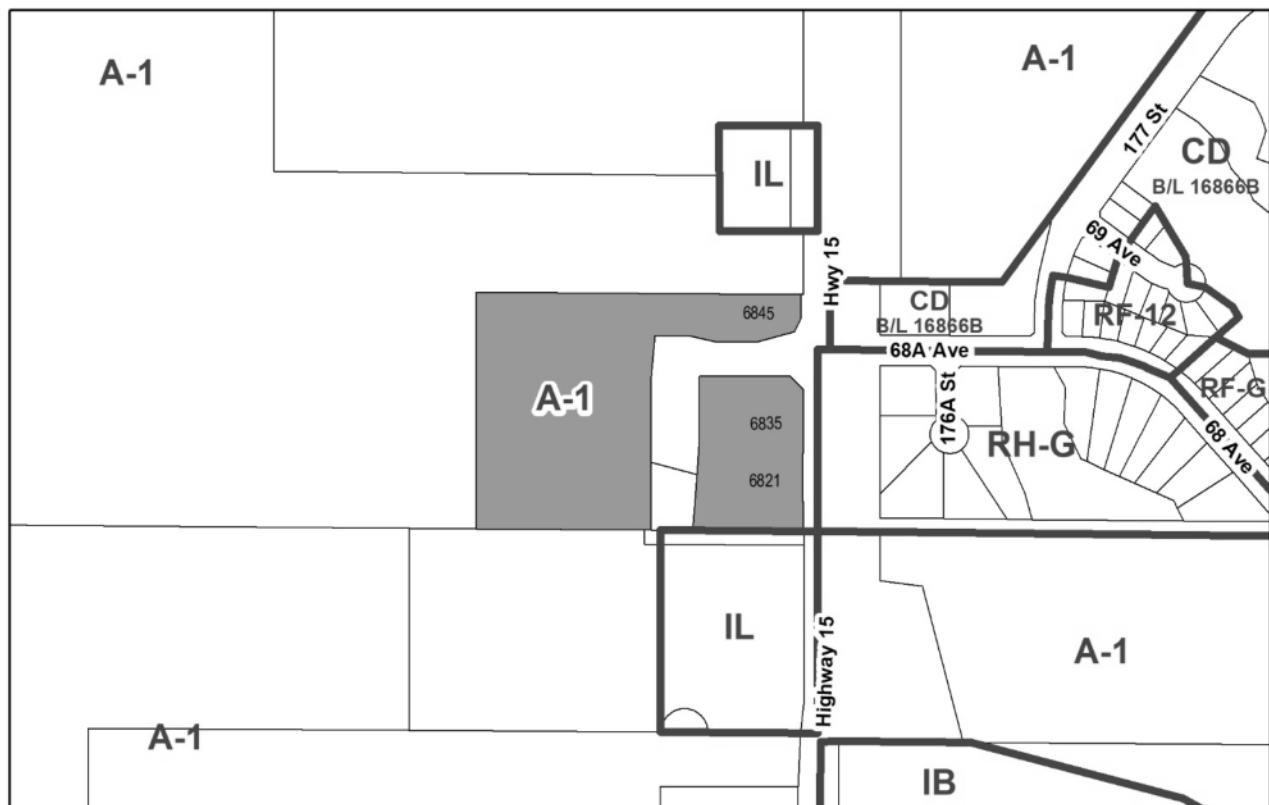
DATE: **March 2, 2021**

FILE: **7918-0236-00**

RE: **REQUEST FOR AEIAC COMMENTS**
 Proposed ALR exclusion application

Subject Site: 6821 – 176 Street
 Applicants: Hillside Farms Ltd.
 Agent: Jim Crawford

PLANNER:	Misty Jorgensen	PARCEL SIZE:	3.36 hectares (8.3 acres)
OCP:	Agricultural	FARM STATUS:	Granted (2019)
ZONING:	A-1	ALR STATUS:	Located within the ALR
LOCAL AREA PLAN:	N/A	DISTANCE TO ALR BOUNDARY:	N/A



REQUEST FOR COMMENTS: AGRICULTURE, ENVIRONMENT AND INVESTMENT ADVISORY COMMITTEE

The Planning and Development Department is in receipt of the below described Development Proposal. The General Manager, Planning and Development, is seeking comments and recommendations from the Agriculture, Environment and Investment Advisory Committee with respect to impacts on the following:

- agricultural land use.

Specifically, the Planning and Development Department is seeking comment regarding the applicant's proposal to exclude a 0.8 hectare (1.98 acre) portion of the subject site, located along 176 Street (No. 15 Highway), from the ALR in order to permit future redevelopment for mixed employment uses.

Please provide comment to the General Manager of Planning and Development with respect to this proposal. Any comments that are received will be included in a report to Council for consideration at the April 12, 2021 Regular Council – Land-Use Meeting.

DEVELOPMENT PROPOSAL

- The applicant is proposing to exclude a 0.8 hectare (1.98 acre) portion of the subject site, located along 176 Street (No. 15 Highway) from the ALR and rezone this portion of the site to "Light Impact Industrial Zone (IL)" in order to permit future redevelopment for mixed employment uses.

Site Description

- The subject property at 6821 – 176 Street (No. 15 Highway) is approximately 3.36 hectares (8.3 acres) in total area.
- The property is designated "Agricultural" in the Official Community Plan (OCP) and located within the Agricultural Land Reserve (ALR) boundary. The site is zoned "General Agricultural Zone (A-1)".
- The southerly portion of the subject site is encumbered by a B.C. Hydro right-of-way.
- The western portion of the site, currently occupied by the manufactured home, was granted farm status by the Agricultural Land Commission (ALC) for 2019.
- The subject property was subdivided in November 1993 under the Home and Homesite Severance provisions of the *Agricultural Land Commission Act* (Development Application No. 6093-0221-00). The proposal involved subdividing a 3.36 hectare (8.3 acre) portion of the original parent parcel to permit the owner to retire and sell the remainder of the dairy farm. The remnant parcel created by the subdivision was subsequently consolidated with the adjacent northerly property to form 6981 - 176 Street and sold to Winners Holstein Farms Ltd. At the time, the Ministry of Transportation and Infrastructure (MOTI) recommended the City of Surrey consider a conceptual road plan to provide alternative access to properties fronting 176 Street, in the event of future re-development.
- In 2003, the owner of the subject site was approached by MOTI to discuss expropriation in order to construct a north-south road to provide alternate access for properties adjacent to 176 Street, which aligns with 68A Avenue. The north-south road was constructed in 2008 and provides access to the truck park operating on the southerly property at 6739 – 176 Street. As a result of the expropriation, several buildings on-site were removed while several existing buildings no longer comply with the setback requirements of the A-1 Zone.

- The subject property is currently occupied by a manufactured home and several heritage buildings. The easterly portion of the site, proposed to be excluded from the ALR, includes a heritage dwelling dating from 1929 (Hillside Farms – Livingston House) as well as an accessory heritage building. The northern portion of the site, which is to remain within the ALR, includes a heritage barn dating from 1929 (Hillside Farm – Small Gambrel Barn) and a smaller accessory heritage building. The Livingston House and Small Gambrel Barn are on the City’s Community Heritage Registry. The Large Gambrel Barn, previously located beside the Small Gambrel Barn, was similarly on the Community Heritage Registry but was demolished with permit in August 2017 given its poor condition and low retention value.
- The adjacent north westerly property is designated “Agricultural” in the OCP, located within the ALR boundary and similarly zoned “General Agricultural Zone (A-1)”. The property is currently farmed and owned by Winner Holstein Farms Ltd.
- The southerly property is split-designated “Agricultural” and “Mixed Employment” in the OCP. The Agricultural portion of the subject site is zoned “General Agricultural Zone (A-1)” with a mixture of outdoor storage of materials and truck parking taking place on-site. The Mixed Employment portion of the site is zoned “Light Impact Industrial Zone (IL)” and occupied by a truck park facility. As with the subject property, the site at 6739 – 176 Street (No. 15 Highway) is encumbered by a B.C. Hydro right-of-way.
- The easterly properties, across 176 Street (No. 15 Highway), are designated “Suburban” in the OCP and “Half-Acre Cluster (2 u.p.a.) in the North Cloverdale West Neighbourhood Concept Plan (NCP). The property at 6890 – 176 Street (No. 15 Highway) is occupied by a municipal pump station while the properties south of 68A Avenue are occupied by single family residential dwellings and zoned “Half-Acre Gross Density Zone (RH-G)”.

Project Description

- The applicant is proposing to exclude from the ALR the 0.8 hectare (1.98 acre) portion of the subject site along 176 Street (No. 15 Highway) created after MOTI expropriated the land to construct a north-south road in 2008.
- If the ALR exclusion application is supported by the ALC, the applicant proposes to amend the OCP from “Agricultural” to “Mixed Employment”, rezone from “General Agricultural Zone (A-1)” to “Light Impact Industrial Zone (IL)” and subdivide the excluded portion of the site in order to sell the lot for future mixed-employment/industrial development. The applicant will enter into a Heritage Revitalization Agreement (HRA) in order to relocate and retain the existing dwelling and, potentially, other heritage buildings on the excluded portion of the site if the buildings are deemed to have heritage value and are suitable for long-term retention.

POLICIES

ALC

- *The Agricultural Land Commission Act* allows any owner of land within the ALR to apply to the ALC, through the local government, to exclude their land from the ALR under Section 30(1). The Act does not specify any criteria as to under what circumstances these applications should or could occur.
- According to Section 30(4) of the *ALC Act*, a resolution of the local government is required to allow the applicant to proceed to the ALC for consideration if the land is currently zoned for Agricultural use and/or where an amendment is required to the Official Community Plan.

- Should an application to exclude land from the ALR be referred to the ALC by a local government, the ALC may do one of the following:
 - Refuse permission to have land excluded from the ALR;
 - Grant permission to have land excluded from the ALR; or
 - Permit a non-farm use or subdivision on the land.

Official Community Plan/Neighbourhood Concept Plan Compliance

- The Official Community Plan (OCP) contains policies designed to protect agricultural land and farm practices by acknowledging the important role that agriculture plays in promoting sustainable food systems. These policies include:
 - Maintaining the integrity of the ALR boundary;
 - Avoid the fragmentation of ALR lands and limit subdivision of land within the ALR to greater than 4 hectares (10 acres);
 - Require 2 hectares (5 acres) of land, located within Surrey, of equivalent or better soil capacity to be included into the ALR for each 1 hectare (2.5 acres) of land excluded from the ALR with the submission of an Agricultural Impact Assessment detailing how this conversion provides a net benefit to agriculture in Surrey (City Policy No. O-51); and
 - Ensure the potential fragmentation of agricultural lands by linear development (e.g. new road construction, hydro corridors and pipeline or road upgrades) does not negatively impact the viability of farm operations or access to farm parcels.
- The proposal to exclude a portion of 6821 – 176 Street (No. 15 Highway) from the ALR does not comply with the specific objectives in the OCP in terms of preserving farmland. However, staff note the following conditions are unique to the subject property and surrounding area:
 - The subject property is effectively severed by the north-south road constructed in 2008;
 - The north-south road delineates between existing agricultural practices to the north and west and potential future mixed-employment activities on the easterly portion of the site;
 - The north-south road is expected to continue further south (from 68A Avenue to 65A Avenue) in future and provides alternate access for future mixed-employment uses that are anticipated along the west side of 176 Street (No. 15 Highway); and
 - The easterly portion of properties located south of the subject site are designated “Mixed Employment” in the OCP, located outside the ALR and expected to redevelop in a similar manner for light impact industrial or mixed employment uses.

City Policy No. O-51

- In accordance with City Policy No. O-51 (Policy for Considering Applications for Exclusion of Land from the Agricultural Land Reserve), most ALR exclusion applications must demonstrate that they will provide compensation (e.g. inclusion of land within the ALR that is at least twice as large as the area of land to be excluded).

- Policy No. O-51 is not meant to encourage removal of land from the ALR but rather to be considered in the policy framework for dealing with exclusion applications. As such, Policy No. O-51 makes the following comments:
 - If the land has a Soil Capability Rating of Class 1, 2, 3 or 4, the exclusion application will generally not be supported;
 - If the land has a Soil Capability Rating of Class 4, 5, 6 or 7, it still may lend itself to non-soil bound agriculture, especially if it is surrounded by other agricultural uses and the exclusion application will generally not be supported; and
 - If the land proposed for exclusion is to be zoned for a use that can be accommodated on alternative sites in the City, the application will generally not be supported.
- Policy No. O-51 includes a discussion on compensation for land being excluded from the ALR. The compensation for land being excluded from the ALR is inclusion of land into the ALR with an area that is at least twice as large as the land being excluded (i.e. a 2:1 ratio). For those situations where a 2:1 ratio is not achievable, the ratio may be reduced to as low as 1:1 if the land included in the ALR is supplemented by other means to mitigate the impact of the exclusion and/or increase the overall agricultural capability of land remaining within the ALR. Any land proposed to be included within the ALR boundary as compensation for land excluded from the ALR must be acceptable to the ALC.
- In this particular situation, the owner of 6821 – 176 Street is not proposing to include land within the ALR boundary or provide any other form of compensation for the portion of the site proposed to be excluded from the ALR. However, the applicant is willing to undertake additional improvements to the subject site that would enhance and support existing farmland or benefit agriculture in the area (e.g. drainage improvements) that could be completed as part of the subject development application.

APPLICANT'S RATIONALE/ADDITIONAL INFORMATION

- The applicant has indicated the north-south road constructed by MOTI has negatively impacted the liveability and agricultural viability of the portion of the site proposed to be excluded from the ALR. The north-south road has contributed to increased commercial vehicle traffic, exhaust fumes, debris, dust and trespassing by members of the public, all of which have negative impacts on the health and well-being of animals raised on-site and, therefore, is not conducive to farm practices.

Please provide comments to the General Manager of Planning and Development with respect to this proposal.

Chris Atkins
Current Area Planning Manager – North

ATTACHMENTS

Appendix I - Aerial photo
Appendix II - Subdivision layout



Aerial Photo

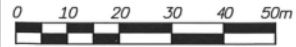
The data provided is compiled from various sources and is NOT warranted as to its accuracy or sufficiency by the City of Surrey. This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office. Use and distribution of this map is subject to all copyright and disclaimer notices at cosmos.surrey.ca

PROPOSED SUBDIVISION PLAN OF LOT 1, EXCEPT:

- 1) PART DEDICATED ARTERIAL HIGHWAY ON PLAN EPP13496
- 2) PART DEDICATED ROAD ON PLAN EPP13497 AND EPP48750
- 3) PART RIGHT-OF-WAY ON EPP48750 (NOW ROAD)

SECTION 18, TOWNSHIP 8, NEW WESTMINSTER DISTRICT, PLAN LMP13791

PLAN EPP_____



SCALE 1 : 1000

All distances are in metres

LEGEND:

- Denotes control monument found
- Denotes lead plug found
- Denotes standard iron post found
- Denotes lead plug set
- △ Denotes survey control point (concrete nail)
- ha Denotes hectares
- Wt Denotes witness



Rem 2
Plan LMP13791

SECTION 18

PROPOSED LOT 1
2.512 ha.

Part Rem 1
Plan LMP13791

B.C. Hydro & Power Authority SRW Plan 12717

ROAD
DEDICATED BY
PLAN EPP13497

PROPOSED LOT 2
0.846 ha.

Part Rem 1
Plan LMP13791

ROAD
PLAN EPP48750

TOWNSHIP 8

68th AVENUE

Rem 10

Cameron Land Surveying Ltd.
B.C. Land Surveyors
Unit 206, 16055 Fraser Highway
Surrey, B.C. V4N 0G2
Phone: 604-597-3777
File: 4907-Sketch1

This plan lies within the Metro Vancouver Regional District

ARTERIAL HIGHWAY
DEDICATED BY PLAN EPP13496

176th STREET
HIGHWAY 15

ARTERIAL HIGHWAY
DEDICATED BY PLAN EPP13496

June 4, 2019.
Kenneth W. Schuurman, BCLS (800)

FW: Manitoba Trespass Legislation

From: Lalani, Arif AFF:EX <Arif.Lalani@gov.bc.ca>
To: Ethier, Tom AFF:EX <Tom.Ethier@gov.bc.ca>, Cotton, Brian GCPE:EX <Brian.Cotton@gov.bc.ca>, Godfrey, Sam AFF:EX <Sam.Godfrey@gov.bc.ca>, Popham, Lana AFF:EX <Lana.Popham@gov.bc.ca>
Cc: Evers, Charlene AFF:EX <Charlene.Evers@gov.bc.ca>, Lyttle, Shawna AFF:EX <Shawna.Lyttle@gov.bc.ca>, Zachary, Dawnae AFF:EX <Dawnae.Zachary@gov.bc.ca>
Sent: March 11, 2021 9:36:58 AM PST
Attachments: RLS-Farm Safety Bills 62 63-ARD-JS.doc

FYI

Arif Lalani | ADM | Agriculture Resource Division | Ministry of Agriculture, Food and Fisheries
C 250.208.9902 | E arif.lalani@gov.bc.ca <mailto:arif.lalani@gov.bc.ca>

From: Raymond, Mark AFF:EX <Mark.Raymond@gov.bc.ca>
Sent: March 11, 2021 9:03 AM
To: Lalani, Arif AFF:EX <Arif.Lalani@gov.bc.ca>
Cc: Beyers, Georgina AFF:EX <Georgina.Beyers@gov.bc.ca>
Subject: Manitoba Trespass Legislation

Arif – Just FYI – We can add Manitoba to the list of other provinces that are amending their legislation related to animal activism. The below note came to us from BC Pork.

Attached for your information is the release on Manitoba's new trespass legislation.

* Two bills, one amending the Petty Trespass Act and the other amending the Animal Diseases Act.

<https://web2.gov.mb.ca/bills/42-3/b063e.php>
<https://web2.gov.mb.ca/bills/42-3/b062e.php>

March 10, 2021

**PROVINCE DISTRIBUTES NEW LEGISLATION THAT WOULD HELP PREVENT
TRESPASSING ON PRIVATE PROPERTY**

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https://manitoba.ca/asset_library/en/proactive/2020_2021/what-we-heard-development-rural-crime-bio-security-metal-theft-legislation.pdf.

RE: Next FSAAC Meeting on April 29

From: De Sousa, Steven <SDeSousa@richmond.ca>
To: Mike Bomford - KPU (mike.bomford@kpu.ca) <mike.bomford@kpu.ca>, Sarah Drewery - The Sharing Farm Society (sarah@sharingfarm.ca) <sarah@sharingfarm.ca>, Laura Gillanders s.22
s.22 , Erzsi Institoris s.22
s.22 Lynn Kemper s.22
s.22 Ian Lai - Richmond Food Security Society
s.22
Cory Mays s.22 Chris Perreira
s.22 Allen Rose s.22
s.22 Miles Smart s.22
s.22 Steves, Harold <hsteves@richmond.ca>, Hopkins, John <JHopkins@richmond.ca>, Roberts, Mikayla AFF:EX <Mikayla.Roberts@gov.bc.ca>, Lambie, Shannon ALC:EX <Shannon.Lambie@gov.bc.ca>, Haer, Corrine <CHaer@richmond.ca>, Ho, Jason <JHo@richmond.ca>, Williams, Carli <CWilliams@richmond.ca>, 'Mike Bomford - KPU (mike.bomford@kpu.ca)', 'Sarah Drewery - The Sharing Farm Society (sarah@sharingfarm.ca)', 'Laura Gillanders s.22', 'Erzsi Institoris s.22', 'Lynn Kemper s.22', 'Ian Lai - Richmond Food Security Society s.22', 'Cory May s.22', 'Chris Perreira s.22', 'Allen Rose s.22', 'Miles Smart s.22'
Sent: April 22, 2021 4:10:30 PM PDT
Attachments: CITYHALL-#6663194-v1-FSAAC_Meeting_Agenda_-_April_29__2021.PDF

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Hello FSAAC members,

Please see attached for the FSAAC Meeting Agenda for **Thursday, April 29 at 7:00 pm** via Webex (details provided below). The agenda is delivered via email only. We have confirmation of quorum (Ian, Sarah, Mike, Chris, Lynn, Laura, Miles, Allen & Corey).

Have a great weekend.

Thank you,

Steven De Sousa
Planner 1, Policy Planning Department
City of Richmond | T: 604-204-8529

-----Original Appointment-----

From: De Sousa, Steven

Sent: April 8, 2021 1:56 PM

To: 'Mike Bomford - KPU (mike.bomford@kpu.ca)'; 'Sarah Drewery - The Sharing Farm Society (sarah@sharingfarm.ca)'; 'Laura Gillanders s.22'; 'Erzsi Institoris s.22'; 'Lynn Kemper s.22'; 'Ian Lai - Richmond Food Security Society s.22'; 'Cory May s.22'; 'Chris Perreira s.22'; 'Allen Rose s.22'; 'Miles Smart s.22'; 'Steves, Harold'; Hopkins, John; 'Roberts, Mikayla AFF:EX'; 'Lambie, Shannon ALC:EX'; Fedoruk, Lisa; Haer, Corrine; Ho, Jason

Subject: Next FSAAC Meeting on April 29

When: April 29, 2021 7:00 PM-9:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Webex

Hello FSAAC members,

The next Food Security & Agricultural Advisory Committee (FSAAC) meeting is scheduled for **Thursday, April 29 at 7:00 pm** via Webex (details provided below). Please kindly confirm your attendance as soon as possible as it is important to achieve quorum.

If you have any questions, please feel free to contact me.

Thank you,

Steven De Sousa
Planner 1, Policy Planning Department
City of Richmond | T: 604-204-8529

-- Do not delete or change any of the following text. --

When it's time, join your Webex meeting here.

Join meeting

More ways to join:

Join from the meeting link

<https://richmondbc.webex.com/richmondbc/j.php?MTID=m756d44f3d00ad4fb5a40fe97e2e5e7f4>

Join by meeting number

Meeting number (access code): s.16

s.16

Meeting password: s.16

Tap to join from a mobile device (attendees only)

[+1-855-699-3239](tel:+18556993239), [1602805039](tel:+1602805039)## CANADA/US TOLL FREE

[+1-604-646-8916](tel:+16046468916), [1602805039](tel:+1602805039)## VANCOUVER LOCAL

Join by phone

+1-855-699-3239 CANADA/US TOLL FREE

+1-604-646-8916 VANCOUVER LOCAL

[Global call-in numbers](#) | [Toll-free calling restrictions](#)

Join from a video system or application

Dial [1602805039](tel:1602805039)@richmondbc.webex.com

You can also dial 173.243.2.68 and enter your meeting number.

Join using Microsoft Lync or Microsoft Skype for Business

Dial [1602805039](tel:1602805039).richmondbc@lync.webex.com

If you are a host, [click here](#) to view host information.

Need help? Go to <https://help.webex.com>



FOOD SECURITY AND AGRICULTURAL ADVISORY COMMITTEE MEETING

Thursday, April 29, 2021
WebEx
7:00 p.m. – 9:00 p.m.

	<u>Speaker</u>	<u>Time</u>
1. Adoption of the Agenda	Chair	5 minutes
2. Adoption & Signing of the Minutes for March 25, 2021	Chair	5 minutes
3. Business Licensing for Seasonal Farm Stands	Chair	15 minutes
4. Land Raising – Flood Protection Management Strategy	Engineering Staff	45 minutes
5. New Business	All	5 minutes
6. Updates:		
a. Council	Councillor Steves	15 minutes
b. Policy Planning	Planning Staff	
c. Ministry of Agriculture/ALC	Ministry/ALC Staff	
7. Next Meeting Date: May 20, 2021	Chair/All	
8. Adjournment	Chair	

Attachments: FSAAC Minutes for March 25, 2021
Materials for Land Raising – Flood Protection Management Strategy

Distribution: FSAAC Members
Cllr. Steves
John Hopkins, Policy Planning

MINUTES

March 25, 2021



Food Security and Agricultural Advisory Committee (FSAAC)

Held Thursday, March 25, 2021 (7:00 pm)
Webex

In Attendance:

Members: Laura Gillanders (Chair); Mike Bomford; Sarah Drewery; Erzsi Institoris; Lynn Kemper; Cory May; Chris Pereira; Allen Rose

Non-Members: Councillor Harold Steves (Council Liaison); John Hopkins (Policy Planning); Steven De Sousa (Policy Planning); Katie Ferland (Economic Development); Sherry Baumgardner (Economic Development); Mikayla Roberts (Ministry of Agriculture)

Regrets:

Members: Ian Lai; Miles Smart

Non-Members: Shannon Lambie (Agricultural Land Commission)

1. Adoption of the Agenda

The Committee passed the following motion:

That the March 25, 2021 FSAAC Agenda be adopted as presented.

Carried Unanimously

2. Adoption & Signing of the Minutes for February 25, 2021

The Committee passed the following motion:

That the February 25, 2021 FSAAC Minutes be adopted as presented.

Carried Unanimously

3. Food Recovery Network Pilot Program Report

Katie Ferland, Manager of Economic Development, introduced the Food Recovery Network Pilot Program Report and provided the following comments:

- The agri-food sector is highly represented in Richmond, including businesses that span the entire food supply chain;
- 58% of all food produced in Canada is never consumed, with over half of that waste being avoidable;
- There is a Council mandate regarding economic development, sustainability and the circular economy;
- The City launched a Food Recovery Network in 2019, in partnership with FoodMesh, to help address food waste and food insecurity, through an app-based exchange platform to create an online network where Richmond-based food businesses and farmers with surplus food could either donate or sell it to charities, farmers, or businesses;
- The City of Richmond and FoodMesh worked together to develop a dedicated City of Richmond landing page, two virtual webinars and a virtual town hall; and
- 59 local businesses and organizations joined the network and most of the program targets were significantly exceeded.

In response to questions from the Committee, Jessica Regan, FoodMesh CEO, and staff provided the following responses:

- Reasons for not meeting the target for food for animal feed include a lack of hobby farmers that participated in the program and the seasonal nature of many farms;
- The program is now self-sustaining and does not require any further funding from the City;
- The goal is to prevent and redistribute waste, including selling, donating or giving food to farmers and composters for use; and
- There is also a purchase program for farmers as a potential revenue stream, to sell their excess product to members of the program.

Councillor Steves indicated that there are not many livestock farmers in Richmond and generally there is too much product and not enough animals.

The Committee thanked the presenters for attending and presenting.

4. Local Food Map Update

Sherry Baumgardner, Tourism Development Liaison, introduced the Richmond Local Food Map and provided the following comments:

- The local food map and guide was last produced by the Richmond Food Security Society (RFSS) in 2017;
- Staff are considering options to update the map to highlight local food and farmers;
- As part of the Farming First Strategy, promoting local food through this type of initiative is supported;
- The project would be led by the City in partnership with RFSS and potentially other organizations; and
- The project is being presented to the FSAAC at a preliminary level to seek feedback and identify any missing farm operators from the updated list.

The Committee provided the following information based on the updated list of roadside stands:

- Consider including the new Country Farms stand on Steveston Highway;
- Remove the Richberry Group of Farms as there is no roadside stand;
- Update the links and operating hours for Kwantlen Street Market and The Sharing Farm;
- Consider including “pick your own” farms, which may not have business licenses; and
- Temporarily remove Sweet Digz, as they are only selling to markets this year due to COVID-19.

In response to questions from the Committee, staff provided the following responses:

- If a farmer wants to be included on the list but does not have a valid Business License, staff can work with the farmer to obtain the appropriate approvals at the same time;
- The intention is to also include farmers markets that will be operating this year;
- Farm operators are constantly changing, but the map will strive to be as accurate as possible, with potential for continuous yearly updates; and
- The map is an important first step to develop other agri-tourism opportunities, such as Circle Farm Tours (for those operators who wish to be included).

5. New Business

The Committee Chair presented two items as new business:

- a. Hunting and trespassing issues on farmland: the Committee discussed various issues and examples of hunting on farmland and properties in the ALR without permission and trespassing.

- b. Illegal dumping on farmland: the Committee discussed various issues and examples of illegal dumping on properties in the ALR.

6. Updates

a. Council

Councillor Steves provided the following updates:

- Hunting: in regards to hunting issues on farmland, the Committee may want to make a referral to the appropriate body.
- Garden City Lands: temporary community gardens at the Garden City Lands will be considered by Council to forward to the ALC for approval. Council has asked staff to investigate more opportunities for community gardens as the waitlist continues to grow.

b. Policy Planning

- Farming First Strategy: the Strategy was tabled at the last Public Hearing due to a bylaw error and will be considered at the April 19 Public Hearing for final adoption.
- The proposed Soil Bylaw update is scheduled to be considered by Council at the April 19 General Purposes Committee.
- Barry Konkin has retired and John Hopkins has been appointed as the new Director of Policy Planning.

c. Ministry of Agriculture/ALC

- Mikayla Roberts, Ministry of Agriculture, introduced herself as the new regional agrologist for the Ministry.

7. Next Meeting Date: April 29, 2021

8. Adjournment

Meeting adjourned at 7:55 pm.

Certified a true and correct copy of the minutes of the meeting of the Food Security and Agricultural Advisory Committee of the City of Richmond held on March 25, 2021.

Laura Gillanders
Chair

AGENDA ITEMS



City of Richmond

Report to Committee

To: General Purposes Committee
From: Milton Chan, P.Eng.
Director, Engineering
Re: Review of Land Raising Initiative in the City's Flood Protection Management Strategy

Date: February 22, 2021
File: 10-6060-01/2021-Vol 01

Staff Recommendation

That the staff report titled "Review of Land Raising Initiative in the City's Flood Protection Management Strategy", dated February 22, 2021 from the Director, Engineering be received for information.

Milton Chan, P.Eng.
Director, Engineering
(604-276-4377)

Att. 1

REPORT CONCURRENCE		
ROUTED TO: Policy Planning Sewerage & Drainage Fleet & Environmental Programs Bylaws	CONCURRENCE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	CONCURRENCE OF GENERAL MANAGER
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

At the January 27, 2020 Regular Council meeting, the following referral motion was made:

“That staff review the City’s Flood Protection Management Strategy 2019, as referenced in the staff memorandum titled “Non-Farm Use Soil Deposit Proposal for the Property Located at 21700 River Road” dated January 13, 2020, and provide comments with regard to the raising of land, specifically as it relates to agricultural land and agricultural viability.”

This report responds to the referral and supports the following strategies within Council’s Strategic Plan 2018-2022:

Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.2 Future-proof and maintain city infrastructure to keep the community safe.

Strategy #2 A Sustainable and Environmentally Conscious City

Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City’s unique biodiversity and island ecology.

2.1 Continued leadership in addressing climate change and promoting circular economic principles.

Analysis

The land raising objective within the Flood Protection Management Strategy is expected to accrue flood protection benefits over the long term (100-year horizon) and would be realized as the agricultural community fulfills their farming objectives by addressing the impacts of climate change. The intent of the Flood Protection Management Strategy is to identify that any raising of land for agricultural purposes would be consistent and supportive of the City’s flood protection objectives. Land raising, whether for agriculture or in urban areas of the City, is an overall benefit to the City from a flood protection perspective. Land raising does not need to be comprehensive in order to meet the objectives of the Flood Protection Management Strategy, and any raising should be consistent with all the City’s land use strategic objectives.

As detailed in the City’s Flood Protection Management Strategy, Richmond is situated approximately 1.0 m above sea level and flood protection is integral to protecting the health, safety, and economic viability of the City. The Flood Protection Management Strategy identifies raising land within all areas of the City as a key overall long-term objective, whereby the City will strategically encourage land to be raised where such raising is proposed to meet City objectives, such as agricultural viability.

Agriculture is a critical, protected land use in Richmond and approximately 39% of the municipality is within BC's Agricultural Land Reserve (ALR). Maintaining agricultural viability is a high priority for Richmond. This has been demonstrated through a number of council referrals, including:

- At the February 8, 2021 Regular Council meeting, Council endorsed that staff be directed to consult with the Food Security and Agricultural Advisory Committee on the Draft New Soil Deposit and Removal Bylaw, dated January 11, 2021, from the General Manager, Community Safety, and report back to Council with a proposed bylaw for adoption.
- At the February 8, 2021 Regular Council meeting, Council endorsed the Farming First Strategy.

The City retained a consultant, which included Professional Agrologists, to perform a review of land raising, specifically as it relates to agricultural land and agricultural viability. Their final report is included as Attachment 1 and a summary is outlined in the sections that follow.

Staff are not recommending any changes to the City's Flood Protection Management Strategy or any further actions at this time.

Historic Geomorphology

Richmond's agricultural land is underlain by sediment deposited from the Fraser River. In recent centuries, the seasonal flooding of the Fraser River deposited sediment throughout the island. The installation of dikes eliminated the natural sediment deposition process. Without dikes, the annual cycles of sediment deposition that formed Lulu Island would have continued and created a quasi-stable equilibrium resulting in a long-term trend of negligible land subsidence or rising instead of the approximately 2 mm per year of subsidence that is currently observed. Without diking, the average elevation of undeveloped areas of the island would be slightly higher than it is currently.

Climate Change

Climate change and sea level rise are expected to have broad impacts to Richmond's agricultural land. This includes an extended growing season with warmer drier summers, warmer wetter winters and fewer frost days. It also includes an increased chance of extreme weather events that have the potential to be problematic to crop production. Current climate change science estimates that sea level will rise approximately 1.0 m by the year 2100 and 0.2 m of land subsidence is forecasted over the same time period.

Richmond's groundwater table varies with the tide and the Fraser River water levels. Since most of the City's agricultural land is at or below daily high tide, the groundwater level is close to the surface in these areas. Climate change induced sea level rise is expected to worsen this issue by raising the groundwater table, which would cause the root zone to be saturated longer. These conditions are expected to reduce root growth, crop yield and plant resilience.

Land raising is expected to keep crops out of the rising groundwater table without the need for active groundwater pumping. This will subsequently increase the number of growing days annually and will enhance the parcel's Land Capability Classification for Agriculture in BC. In exchange, there may be an increased irrigation requirement caused by a drier root zone.

Saltwater Intrusion

Richmond's agricultural land is susceptible to saltwater intrusion. Saltwater intrusion occurs when saltwater from the ocean (and from the wedge of saltwater that travels up the Fraser River during high tide) seeps into the fresh groundwater inland. Saltwater intrusion is expected to increase and move further inland with climate change induced sea level rise and subsidence, further altering soil chemistry and negatively impacting crop viability. Crops that are sensitive to soil salinity include berry crops like strawberries, raspberries and blueberries.

Raising land reduces the impacts of saltwater intrusion movement landward by lifting the rooting zone above any saline groundwater, and by potentially raising the groundwater level inside the dike enough to push back against saltwater intrusion.

Drainage

Land raising is expected to facilitate drainage as there will be an increase in unsaturated soil, allowing more rainfall to infiltrate into the ground. This would reduce the peak runoff that enters the City's drainage system, as rainfall travels slower through the ground than it does over land.

Raising land on one parcel also has the potential to impact lower adjacent land; however, this can be mitigated with a City-reviewed and approved drainage plan and assessment completed by a Qualified Professional, as currently required through the City's soil deposit application.

Over the long term, an increase to the land elevation will also increase watercourse capacity and storage potential, reducing the risk of flooding.

Next Steps

When the City's Flood Protection Management Strategy was developed, the Agricultural Advisory Committee (now known as the Food Security and Agricultural Advisory Committee) was a key stakeholder. Staff will be bringing the content of this report to a future FSAAC meeting for discussion and will advise Council of any required actions arising from this discussion.

Financial Impact

None.

Conclusion

Land raising over the long-term is an effective way to mitigate the effect of climate change and sea level rise when undertaken using best practices. Land raising replaces the natural sediment deposition process that offset the subsidence of Lulu Island prior to the construction of dikes and to protect the City from flooding. Properly done, land raising maintains or improves agricultural viability in the low-lying areas of Richmond, thereby increasing food security over the long-term. Staff are not recommending any changes to the City's Flood Protection Management Strategy at this time.



Jason Ho, P. Eng.
Manager, Engineering Planning
(604-244-1281)



Corrine Haer, P. Eng.
Project Manager, Engineering Planning
(604-276-4026)

JH:ch

Att. 1: Land Raising Review (Flood Protection Management Strategy) Final Report by KWL



KERR WOOD LEIDAL
consulting engineers

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Flood Protection Management Strategy

Land Raising Review

Final Report

November 30, 2020

KWL Project No. 651.161-300

Prepared for:





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Executive Summary

The City of Richmond (Richmond) has initiated an investigation into the benefits and challenges of widespread raising of agricultural land, as recommended in their 2019 Flood Protection Management Strategy (FPMS). The majority of Richmond's municipal land lies on Lulu Island, with approximately 4,993 ha, or 39% of the municipality, within BC's Agricultural Land Reserve (ALR). Richmond has policies in place to preserve and protect agricultural land in Richmond, including the Agricultural Viability Strategy (AVS) and the overarching policies in the Agricultural Land Commission (ALC). These policies guide any land raising that is to occur in the ALR.

Climate change and sea level rise (SLR) is expected to have broad impacts to Richmond with positive and negative implications for agricultural production. Climate change is expected to extend the growing season with warmer drier summers, warmer wetter winters, and fewer frost days, while increased chances of extreme weather events will be problematic to crop production. Sea levels are estimated to rise by 1 m by the year 2100 and the land in Richmond is expected to subside approximately 0.2 m by the same time. SLR combined with land subsidence will cause increased groundwater tables and saline intrusion into soil zones with crop root systems, leading to decreased crop viability. Land raising is estimated to reduce flood risk by reinforcing existing dikes (if the land being raised is adjacent to an existing dike) and by creating more land above flood levels. Using land raising as a flood mitigation strategy is recommended in other jurisdictions around the world but there seems to be a lack of applied documentation of its outcomes, aside from the 'Polder' system in the Netherlands.

Currently, agricultural land raising in Richmond is enabled under ALC policies and City bylaws, which require a landowner in the ALR to have an assessment completed by a qualified professional (QP) prior to importing soil. This process is similar to policies set in other jurisdictions in the lower mainland of BC and the world, however there are few examples where widespread land raising has been put into practice.

Research in this study found that the potential benefits to land raising in Richmond include:

- Offsetting subsidence and sediment replenishment that would naturally occur without the dikes;
- Mitigating the effects of SLR on groundwater, salinification, and flood risk;
- Reducing flood risk from river, ocean and stormwater drainage;
- Increasing growing days; and
- Improving agricultural viability on lands that currently experience high groundwater tables.

The most prominent challenges identified with agricultural land raising are:

- Changing drainage patterns around raised land and neighbouring low land;
- Obtaining quality soils that are suitable for agriculture in Richmond;
- Mitigating the potential introduction of invasive species; and
- Temporary loss of agricultural production during and soon after raising.

If done under a standardized set of best practices, agricultural land raising presents a flood management strategy that supports existing flood management infrastructure, reduces flood risk on agricultural lands, and improves crop viability particularly in areas with existing high groundwater tables. Lastly, if land raising is undertaken with the best practices, it is considered to be an effective way to mitigate the effect of SLR by restoring the quasi-stable natural process which kept Richmond's agricultural lands above sea level prior to the construction of dikes, protect raised lands from ocean and Fraser River flooding and maintain or improve agricultural viability in the lowest-lying areas of Richmond, thus improving food security.



1. Introduction

Richmond's FPMS identifies land raising as an important strategy for flood management across Lulu Island. Lulu Island faces increasing risk of flooding due to a combination of land subsidence (sinking) relative to rising sea levels which are exacerbated by climate change and an increased magnitude of spring freshet. Land raising is one of many flood management initiatives posed in the FPMS to be implemented over the next 20 years and beyond.

1.1 Purpose & Objectives

The purpose of the study is to consider how land raising initiatives identified in Richmond's FPMS could impact agricultural lands and viability. The study is based on a review of literature and documentation regarding land raising and the experiences and outcomes of land raising on agriculture in other jurisdictions. This report provides a summary of the history of land raising in Richmond and summarizes the benefits and challenges that land raising has on agriculture and gives brief high-level recommendations to overcome or mitigate some challenges. This report does not cover the economic, social, or logistical benefits and challenges regarding agricultural land raising.

1.2 Scope

This study considers the relationship between land raising and agriculture through the following topics:

- Agricultural history and current practices in Richmond;
- Impacts of diking;
- Historical Fraser River delta formation, and theoretical delta development in the absence of any form of diking;
- Net impact of land subsidence and SLR on agriculture and groundwater; and
- Impacts of soil placement on water table, drainage, agricultural uses, productivity and soil quality.

1.3 Team

The team involved in this study includes:

- Colin Kristiansen, P.Eng. – Project Manager and Flood Protection Planner;
- Dwayne Meredith, P.Ag. – Senior Agrologist and Technical Reviewer;
- Bryce Whitehouse, B.Sc., P.Ag. – Agrologist; and
- Robin Hawker, MCIP, RPP – Climate Change Adaptation.



2. Background

Agriculture is an important land use in the municipality of Richmond that is vulnerable to impacts from climate change and flooding. The Richmond FPMS outlines land raising as one strategy to preserve and protect agricultural land from river and coastal flood events.

2.1 Agriculture Land Reserve

According to Richmond's agricultural fact sheet, approximately 4,993 ha of Richmond's land base, or 39% of the municipality, is within BC's Agricultural Land Reserve (ALR). Approximately 2,000 ha of this has active farms (City of Richmond, 2018). Over time, the ALR land has slowly been converted to other land uses but regulations created by the Agricultural Land Commission in the 1970's have curbed the transition of ALR to other land uses.

Agricultural land in Richmond is underlain by sediment deposited from the Fraser River. Atop the Fraser River deposits lie rich organic surficial soils from prolonged plant growth that developed from a variety of crops and livestock (Diamond Head, 2014). Cranberries, blueberries, and hays / grasses make up approximately 79% of the active farmland in Richmond (AECOM, 2013). Maintaining the soils and environmental conditions that ensure the viability of these and other crops is a high priority for Richmond.

Currently, Richmond has strategies in place to preserve and protect agricultural land in Richmond, including the Agricultural Viability Strategy (AVS) and the ALC has numerous policies that seek to maintain not only the ALR but that quality of that land; like Policy L-23 *Placement of Fill for Soil Bound Agricultural Activities* that is specific to land raising practices.

2.2 Climate Change

As declared by the governments around the world and by the City of Richmond, there is a climate emergency. Climate change is expected to have broad impacts across Metro Vancouver, with positive and negative implications for agricultural production in Richmond. Rising annual temperatures are expected to extend the growing season with warmer drier summers, warmer wetter winters, and fewer frost days. However, other climate change impacts such as heavy rainfall events, drought, and extreme weather could affect the health of crop and livestock and damage agricultural infrastructure (Metro Vancouver, 2016).

Richmond is also particularly vulnerable to SLR, in which gradual increases in mean ocean water levels can inundate low lying areas and exacerbate flooding during storm events. Water levels in the Fraser River delta are projected to rise by approximately 10 mm annually resulting in a 1.0 m rise by the year 2100 (Ausenco Sandwell, 2011). Agricultural land in Richmond is particularly vulnerable to flooding, with most agricultural land (based on data used for Figure 1) below 2 m geodetic elevation compared with daily high tide being between 1 m and 2 m geodetic.

SLR could impact agricultural lands in a range of ways including:

- increasing demand on flood protection infrastructure and drainage infrastructure during storm events, demands such as pumping;
- increasing saltwater intrusion of groundwater further inland;
- altering soil chemistry from saltwater intrusion; and,
- rising groundwater levels, causing greater saturation of rooting zones.

As sea levels rise, higher tides and groundwater levels in Richmond's ALR are expected to cause shallower rooting zones that are saturated longer, thereby reducing root growth, crop yield, and plant resilience (BC Ministry of Agriculture, 1997). Increased saturation times in the rooting zone could also be caused by increased water levels in the city's drainage system from higher tides and runoff taking longer to drain due to the expected increase in rainfall intensity and volumes. In some cases, low lying areas and areas near drainage outlets may not drain at all resulting in bog-like conditions.

These impacts due to climate change risk the food security for all everyone that receives food grown in Richmond. To reduce the risks associated with climate change and maintain or increase the food security, actions need to be taken in Richmond to further reduce agricultural flood risk and slowdown or stop the saltwater intrusion.

2.3 Flood Management

Richmond relies on flood management to protect land uses in urban and rural areas across Lulu Island. As seen in Figure 1, almost all of Richmond is within the floodplain, with the natural elevation ranging between 0 m and 3.5 m and the majority of land being between 0.5 m and 2.5 m elevation. Without flood management infrastructure, most lands in Richmond would experience flood events annually from high Fraser River levels (especially during freshet), increased precipitation and storm surge and even daily flooding from tidal cycles.



Figure 1: Ground Elevation Range in Richmond



The practice of flood management in Richmond dates back to the 1800's starting with activities by local farmers constructing rudimentary diking systems to keep their lands from flooding multiple times a year. Since then, large flood events in 1894 and 1948 led to the widespread installation of diking around the perimeter of Lulu Island which has reduced flood risks enough to allow urban, rural, and agricultural development to occur.

To further reduce flood risk, Richmond established a Drainage and Diking Utility in 2002, adopted Flood Construction Levels (FCL) that set the minimum elevation for development in the floodplain, and developed flood protection management strategies in order to mitigate flood risk. The established Drainage and Diking Utility, currently generates over \$13 million annually which goes to maintaining and upgrading Richmond's flood protection infrastructure. Upgrades and improvements to the flood protection infrastructure is based on the guiding framework developed in The Flood Protection Management Strategies (FPMS), with the latest adopted strategy was developed by KWL in 2019. The 2019 FPMS reviews and updates the 2008 FPMS by providing a better understanding of flood risk in Richmond and recommending new flood management strategies for flood hazards under current and future climate change conditions. The FPMS continually seeks to mitigate flood risks by guiding urban and rural development and city planning and enforcing the adaptation to climate change (City of Richmond, 2019).

The 2019 FPMS recommends widespread land raising for flood protection in agricultural areas in accordance with the regulatory framework outlined by the ALC. Land raising is expected to be an effective way of offsetting subsidence and flooding by raising land above the estimated flood level. Though there are no well-documented examples of agricultural land raising for the purpose of flood management in other jurisdictions, studies like this one have been completed that recommend a similar process.



3. Lulu Island

Land can be raised through natural processes or through human engineering (e.g., importing soils). Prior to diking, Lulu Island was subject to periodic river flooding and storm surge events that caused sediment to accumulate and raise land naturally over time. However, diking for flood protection cut off this natural sediment deposition, leading to gradual land subsidence (sinking) across Lulu Island. As sea levels rise and the land subsides, agricultural land on Lulu Island is getting lower relative to surrounding river and sea levels.

3.1 Historical Geomorphology

To raise land effectively in Richmond and Lulu Island it is important to understand the natural process that formed Fraser River delta and Lulu Island. With this understanding in mind, best management practices can be better established in agricultural land raising that will maintain or enhance agricultural lands.

The Fraser River Delta was formed by a combination of deglaciation of the region and the rapid westward extension of the Fraser River east of the City of New Westminster. Clague (1983) estimates that about 10,000 years ago, the Fraser River began to empty into the Strait of Georgia and, as the sea dropped below its present level relative to the land over many years, and glacier melt carried sediments down towards the Strait and a delta was formed south and west from the point of discharge. The westward movement of the delta continued after sea level stabilized at about – 12 m elevation after 8,000 years before present (BP) (Clague *et al.*, 1991). Approximately 4,000 – 5,000 years ago, when the sea levels were approximately 1 m or 2 m below their present position, a large area of the delta emerged and bogs began to form. Since then, the Fraser River Delta grew westward under a regime of relatively stable sea levels (Clague, Luternauer, & Hebda, 1983).

In recent centuries, sediment deposition and accretion on Lulu Island has been from the Fraser River water levels rising above Lulu Island's exposed land; most of which is sand discharged during annual freshet (Milliman, 1980). Throughout the remainder of the year, the river carries mainly silt and clay with much lower flow and sediment concentrations. At lower Fraser River flows, sediments are still deposited at the westward edge of Lulu Island due to annual tidal cycles that influence the transport of sediment by reducing the transport capacity of the Fraser River and 'pushing' the westwards flow eastwards towards Lulu Island (Ages and Woollard, 1976).

3.2 Impacts of Diking

The installation of dikes in Richmond began in the 1800s and has eliminated the natural sediment deposition processes, causing land subsidence to be the dominant process. The elimination of Fraser River flooding across the delta (Lulu Island) has eliminated the recruitment of nutrient-rich soil. If left undisturbed, the annual cycles of sediment deposition that formed the Fraser River Delta and Lulu Island would have continued and cause the land elevation on Lulu Island to reach a quasi-stable equilibrium (i.e., there would not be a long term trend of land subsidence or rising when compared to sea level).

Subsidence

Historically, subsidence of land in Richmond has been attributed to tectonic processes and crustal deformation. In recent years, it has been observed that subsidence is likely due to the slow, natural consolidation (compacting) of thick Holocene sediments (Ertolahti, 2014). Most delta environments experience the effect of subsidence, but the rate of subsidence is offset by sediment accretion from their respective river. Sediment settlement has contributed to Lulu Island subsiding at an average rate of 1 – 2 mm per year, with small pockets subsiding at rates up to 3.5 mm per year. Figure 2 below shows the rate of uplift in the lower mainland from annual surface comparisons. Subsidence due to the settlement of sediments combined with SLR means that, on average, Lulu Island is estimated to drop approximately 12mm per year relative to sea level (annual subsidence + SLR); with exceptions in areas where there is positive uplift seen in Figure 2.



Figure 2: CTM-InSAR Uplift Rates from Surface Movement Analysis (Lambert et. al., 2008)



Nutrients

Diking in Richmond has also been found to affect the soils on Lulu Island. Without annual replenishment of sediments that supply nutrients, soils slowly lose nutrients with annual crop yield. With nutrient replenishment cut off in Richmond, agricultural practices return nutrients to the soils. These practices include but are not limited to the planting of nitrogen fixing crops, though nitrogen fixing crops are not common in Richmond so, more commonly, fertilizers are applied to return nutrients to the soils and increase crop yield. Unfortunately there are risks associated with the application of fertilizer, with regards to this study as stated by a Madrone report in 2020, the high-water tables in Richmond make the application of fertilizers problematic due to the potential for groundwater contamination.

3.3 Theoretical Development without Diking

Before development, Lulu Island was mainly comprised of wet prairie, bog, and marsh (Davis & Rose, 2004). It is now a mix of urban, industrial, and agricultural land, surrounded by dikes and crossed by numerous transportation and infrastructure networks. Dikes prevent regular flooding from the river and ocean and have allowed development and traditional agriculture practices to ensue.

According to Williams and Roberts (1988) there was approximately an average of 0.12 mm to 0.40 mm of accretion in the Fraser River delta annually with larger magnitude flood events (>1 in 5 year return period event) transporting more sediments (Attard, Venditti & Church, 2014), resulting in event-based accretion in excess of the annual range. Without diking, the island would, on average, be higher than it is currently. If it was assumed that diking cut off the accretion of sediments in the late 1800's, it could be also be assumed that some areas could be as much as 12-50 mm higher than today; though, these assumptions would not account for a possibility of a non-linear annual accretion patterns. It is most likely that without diking, the potential sediment accretion experienced in the floodplain would vary vertically and horizontally, with lower areas closer to the ocean experiencing greater rates of accretion than higher elevation areas inland.

When Williams and Roberts (1988) concluded their research, they were both under the impression that the sediment discharge rate of the Fraser River was sufficient to allow accretion of Lulu Island to keep pace with the rate of sea-level rise and to maintain westward expansion throughout the period of rising sea level. However, this estimate was made in the early 1990's. Recent research has estimated the rate of SLR to be larger than it was in the early 1990's. This means that SLR could still have exceeded natural sediment accretion even if dikes had not been installed. Regardless of SLR, if left unhindered, Lulu Island would be expected to have varying degrees of ground elevations higher than the elevations seen to today, with most of the island covered in bog and marsh land, possibly intersected with Fraser River distributary channels.



3.4 Current Land Raising Practices

Land raising within the ALR can be achieved by adding soil to land barren of agricultural activity or by uprooting an existing crop, raising the land with agriculturally viable soil, and replanting with a new crop on top of the raised land.

Richmond

Currently, property owners who wish to import soil to raise a property in the ALR must submit a soil deposit application to the City and provide either a 'Soil Use for the Placement of Fill Application' or, a 'Notice-of-Intent' application to the ALC. A 'Soil Use for the Placement of Fill Application' requires Council approval prior to the ALC reviewing and deciding on said application.

Applications to import soil to raise lands in the ALR undergo a thorough review by staff. Should provincial legislation require it, applications also are assessed by Council. City requirements include, but are not limited to, the following:

- Report provided by a QP (property and soil quality assessments);
- Farm Plan provided by a QP;
- Drainage Plan/Assessment provided by a QP;
- Geotechnical report prepared by a geotechnical engineer;
- Topographic survey provided by a registered land surveyor;
- Erosion and Sediment Control Plan; and
- BC ENV site profile.

Should a permit to import soil be issued by the City, permit conditions include, but are not limited to, the following:

- Source site investigation/sign-off by a QP;
 - Addresses source soil type to ensure it meets the agrologist's recommendations and City/ALC approval requirements and invasive species review/assessment;
- Soil deposit site monitoring during soil deposit operations;
- Soil deposit site monitoring reports (typically every 3,000 cubic metres); and
- Requirements to adhere to the recommendations within all other reports provided by the applicant (i.e. Geotechnical report, Drainage Plan, Farm Plan, etc.).

ALC Regulations (Soil Placement / Removal)

An application must also adhere to Section 20 (3) of the Agricultural Land Commission Act (S.B.C. 2002) regarding the placement and removal of fill which states:

- (1) *A person must not remove soil from, or place fill on agricultural land unless one of the following applies:*
- a. the removal or placement is permitted under section 25 or 45 and the removal or placement is done in accordance with the permission;*
 - b. the removal or placement is permitted under the regulations and the removal or placement is done in accordance with the regulations;*



- c. *the person*
 - i. *is an owner of the agricultural land, or has a right of entry, granted under an enactment, to the agricultural land,*
 - ii. *first submits to the chief executive officer the prescribed fee and notice of the person's intent, in the form and manner required by the chief executive officer, and*
 - iii. *receives approval under subsection (2) (b) and removes the soil or places the fill in accordance with the approval, or is a person to whom subsection (4) applies.*

The above excerpt from the ALC act refers to the conditions required for permitted removal or fill, in accordance with 'regulations'. Regarding the process of the placement of fill and its quality there are two sets of regulations that need to be adhered to, the first is the ALC Policy L-23 regarding fill that states:

Soil and Fill Use applications for fill placement under Section 20.3 of the Agricultural Land Commission Act (the "ALCA") may be approved where it can be demonstrated to the satisfaction of the Agricultural Land Commission (the "Commission") that:

- a. *Fill placement will aid the farm/farming activity;*
- b. *Fill placement will not reduce the agricultural capability of the land, degrade soils, or limit the range of crops that can be grown on the subject property compared to the current crop suitability of the land;*
- c. *Applicants are able to demonstrate that fill placement is the only means available to address implementation of standard agricultural best practices;*
- d. *Fill placement will aid in the rehabilitation of agricultural lands severely impacted by past fill activities or other activities that have degraded agricultural land whether permitted or not permitted;*
- e. *Fill placement will not foul, obstruct, or impede the flow of any waterway;*
- f. *If fill is required for drainage improvements, the proposed fill height does not exceed more than 0.5 metres above the maximum height of the water table (as confirmed by a Qualified Registered Professional) which is equivalent to a Class 1 excess water limitation;*
- g. *The final finished grade of the subject property compliments adjacent landforms and provides for a smooth transition between the land contours and drainage channels on adjacent lands and the reclaimed area; and*
- h. *Fill placement activities should not extend beyond two years. Extensions will not be granted beyond the expiry date indicated in a Commission decision letter.*

The second is the City of Richmond's regulations from the *Soil Removal and Fill Deposit Regulation* Bylaw No. 8094 which states:

Permitted Material Includes:

- a. *Any material that is listed in the Guidelines for Farm Practices Involving Fill, or that is used as specified in the Guidelines for Farm Practices Involving Fill;*
- b. *Any material not specified in (a) that is certified in writing, as a standard farm practice, by a Professional Agrologist in a form acceptable to the Manager; and*
- c. *And material that is authorized for deposit as fill at a specified location by the Commission pursuant to Section 20 (3) of the Agricultural Land Commission Act, as amended.*



To adhere to all the regulations regarding fill stated above, if all imported soils cannot meet the quality required for the rooting zone as recommended by a QP, the professional can consider preserving the existing rooting zone material and using imported material as the base (below the rooting zone) and place the native material back on top of the placed base.

Other Jurisdictions

Research into land raising practices and policies revealed Richmond's situation is unique within the lower mainland, due to the majority of Richmond being so close to sea level. There are many examples of studies in jurisdictions that recommend land raising as a flood mitigation, but there were limited examples of municipalities situated on deltas that have employed land raising as a means of flood management. Most other lower mainland jurisdictions do not consider widespread land raising as a means of flood mitigation because most of their municipal land is high enough that the current high tide and SLR can be effectively mitigated in other ways. Although their soil bylaws include similar requirements to Richmond's, they identify imported soil quality and raising groundwater tables as issues that need to be addressed before soil importation can proceed.

One example of a jurisdiction that incorporated agricultural land raising into its flood management strategy is in the Netherlands. Their '*Polder*' system (Hoogheemraadschap van Rijnland, 2009), among many other measures, promotes the active agricultural land be raised above the expected water level in the drainage system. It is important to note that the *Polder* system is quite unique as most of the agricultural area in the Netherlands is below sea level, and like in Richmond, their main flood management system is an elaborate network of dikes. Jurisdictions in the Netherlands actively employ land raising in agricultural area out of necessity with success (Hoogheemraadschap van Rijnland, 2009).



4. Potential Impacts of Land Raising Practices on Agriculture

Land raising for flood management should be done in a way that maximizes benefits and reduces negative impacts on agricultural lands. Land raising can be an effective way to mitigate the effect of climate change and improve agricultural viability. This section summarizes the main challenges and potential benefits that land raising can have on agricultural land.

4.1 Irrigation & Groundwater

In Richmond and on Lulu Island there is a dynamic groundwater table that goes up and down with the tide and the Fraser River water levels. At high tide and during freshet months the groundwater table raises to its highest levels. In some places, groundwater can reach ground level, which is problematic for growing the majority of crops seen in Richmond (B.C. Ministry of Agriculture, 1997).

Saltwater intrusion is also detrimental to crops specific to the ALR in Richmond and is associated with high tides. Saltwater intrusion is a process where water from a saline waterbody seeps into the fresh groundwater reaching inland. In Richmond's case, saline water comes from the sea as well as from a saltwater wedge that travels up the Fraser River and lies below the outflowing freshwater of the river (Thomson, 1981). This intrusion causes saline groundwater to periodically rise into the rooting zone in lands adjacent to the sea or salt wedge. Once the groundwater recedes, it can leave behind salt precipitate which can greatly affect the viability of some crops, particularly those sensitive to soil salinity. In Richmond, crops that would be sensitive to salinity include berry crops like strawberries, raspberries, and blueberries (Province of Manitoba, 2020).

Without land raising, higher water levels (due to SLR and subsidence) outside the perimeter dikes is expected to result in greater seepage through the foundation of the dikes resulting in a higher groundwater table and an increase in groundwater salinity (Atlantic Climate Adaptation Solutions Association, 2011).

Benefits of Land Raising

- Keeps the growing medium out of the water table by offsetting subsidence and rising groundwater table due to SLR.
- Reduces the effect of increased salinity in the unsaturated zone and rooting zone in agricultural lands adjacent to the sea or salt wedge.
- Increases the number of growing days annually by reducing the period when the groundwater table reaches into the rooting zone during freshet. Freshet can cause high groundwater levels for weeks. If the land is raised enough such that the rooting zone is higher than the freshet groundwater level during high Fraser River flows, the rooting zone will not experience weeks of total saturation.
- Facilitates drainage by increasing the unsaturated zone in turn increasing the volume of rainfall that can be infiltrated. Infiltrated water flows slower through the ground than overland which reduces peak runoff rates in drainage ditches. Additionally, increasing land elevation around drainage ditches could increase ditch conveyance capacity and increasing storage potential as well as reduce the risk of drainage-based flooding.



Challenges of Land Raising

- Affecting groundwater flow patterns on adjacent land (City of Richmond & Richmond Farmers Institute, 2003 & Ritter, J., 2016). Raising land in one area can, depending on the hydraulic conductivity of the imported soils and grading, affect lower adjacent land. Soils with lower conductivity on the raised land could cause groundwater to flow into adjacent lands.
- Increased irrigation requirements, due to an increased unsaturated zone and a deeper groundwater table causing a drier rooting zone. Especially in summer months, more irrigation could be required after land raising has been undertaken because of groundwater providing less moisture to the larger unsaturated zone.

4.2 Soil Quality & Crop Viability

One of the major challenges of land raising is obtaining quality soil that is suitable for maintaining crop health, viability, and longevity. Currently, Richmond has an established agricultural region that supports mostly berry, grass and various vegetable crops. Soils that make up the native material in Richmond currently support these crops and importing soils that will continue to support these crops is essential to crop viability. Imported soils will likely have a different distribution of sand, silt, gravels, and organics than native material so it is essential to use best practices to bring in quality soils and preserving as much native material as possible.

Benefits of Land Raising

- Through best practices like re-using native topsoil, importing high-quality soils, etc., the land raising process can maintain the current quality of existing soils or re-established soils. By raising land, it would maintain an unsaturated rooting zone that is required for agriculture. Soil that is consistently saturated or within the groundwater table for an extended time would reduce its agricultural value.
- Reduces saltwater intrusion by allowing the groundwater table elevation to increase. Having more available storage area for infiltrated rainfall and runoff, will effectively add to the existing groundwater and the groundwater table elevation will increase. A higher groundwater table would increase the hydraulic head (height of groundwater above sea level) which would reduce the movement landward of saline groundwater from the ocean. To reduce saltwater intrusion, it would be important to raise the land enough such that the freshwater table on the land can rise and apply more force against the opposing saline groundwater intrusion force (Atlantic Climate Adaptation Solutions Association, 2011).
- Enhance quality of existing soils. A parcel of land capability recognized by the 'Land Capability Classification for Agriculture in BC' could be enhanced by establishing an unsaturated zone higher than the groundwater table, conducive to agriculture.



Challenges of Land Raising

- Maintaining soil quality as it is known that, due to its many origins, soil is variable in terms of its particle size distribution and organic composition. Any imported soils need to make up a profile in the unsaturated zone and rooting zone that is ideal for agriculture in Richmond and/or specifically ideal for desired crops within individual land parcels.
- Mitigation of introducing invasive species. Importing clean soil is essential to crop viability, invasive species have the potential to severely reduce crop viability within the land being raised and adjacent lands where imported invasive species could spread.
- Land rehabilitation. Rehabilitation efforts will likely need to be undertaken if the imported soils do not have the same soil profile and soil characteristics as in the existing land that is being raised, or if there is a disturbance to the existing soil profile through re-grading. It has been observed that after native soils have been disturbed or imported soils with different soil profile have been placed it can reduce crop viability initially due imported soils unestablished soil profile that is conducive for the crop being planted or the area it was placed. Rehabilitation through the addition of nutrients, or organics or some years of established crops would eventually develop a productive soil profile that is capable of supporting crop yields experienced before the disturbance (Ministry of Agriculture and Rural Affairs Ontario, 2016 & Miner G.L., *et. al.*, 2020).



5. Conclusions and Recommendations

The findings from this study suggest that land raising in Richmond's ALR lands could have the following benefits if performed in accordance with Richmond's Soil Removal and Fill Deposit Regulation Bylaw No. 8094, soil deposit application checklist, ALC Act and the ALR Regulation and corresponding ALC policies. The potential benefits of land raising are:

- Offsetting subsidence and sediment replenishment that would naturally occur without the dikes;
- Mitigating the effects of SLR by:
 - a. Reducing the saltwater intrusion effect,
 - b. Reducing flood risk, and
 - c. Maintaining or increasing the unsaturated zone;
- Reducing flood risk from high river flows, ocean storm surge events and stormwater drainage by having more land elevations higher than the estimated flood water levels;
- Reinforcing existing flood protection when land is raised adjacent to diking;
- Increasing number of growing days for crops;
- Facilitating drainage; and
- Improving agricultural viability on lands that currently experience high groundwater tables.

The most prominent challenges identified with agricultural land raising are:

- Changing drainage patterns and groundwater movement around raised land and affecting the existing drainage patterns on neighbouring properties at a lower elevation;
- Obtaining quality soils that are satisfactory for agriculture in Richmond;
- Mitigating the potential introduction of invasive species.

General Recommendations

In general, it is recommended that Richmond consider the following actions when raising lands in agricultural areas:

- City staff and Council maintain the current soil deposit application requirements and internal staff review process in order to mitigate the above-mentioned challenges in raising agricultural lands.
- Maintain continued best practices, with respect to all soil deposit applications requiring supporting documents provided by QP's i.e. professional reliance model with review by relevant City staff
- City staff ensure that the existing *Soil Removal and Fill Deposit Regulation Bylaw No. 8094* remain relevant given recent changes to the ALC Act and the ALR Regulations
- If deemed acceptable by a QP, dredged materials from the Fraser River could be used as inexpensive agricultural soil and would come from the historical source of material on Lulu Island.
- City planning processes could facilitate the widespread raising of land so individual parcels of land are not raised without adjacent lands being raised as well; reducing drainage impacts on neighbouring properties at a lower elevation.



- Create/maintain an open dialogue with the ALC, Ministry of Agriculture and any other provincial or federal ministries regarding the challenges of ensuring Richmond farmland remains viable given the changing climate and likely impacts due to rising sea levels

Agricultural land raising can be a flood management strategy and a response to the enacted climate emergency that improves existing infrastructure, reduces flood risk, and benefits agricultural practices in areas with high groundwater tables. If undertaken with the best practices mentioned above, it is considered to be an effective response to the climate emergency that mitigates the effect of SLR, restores the quasi-stable natural process which kept Richmond's agricultural lands above sea level prior to the construction of dikes, protects raised lands from Fraser River flooding and maintain or improve agricultural viability in the lowest-lying areas of Richmond thus increasing food security in the region.



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Revision History

Revision #	Date	Status	Revision	Author
0	November 30, 2020	Final	Issued as final for client copy.	BW



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