THE CORPORATION OF THE
DISTRICT OF SUMMERLAND
COUNCIL REPORT

DATE: October 16th, 2017 File: 2016-1787

TO: Linda Tynan, Chief Administrative Officer

FROM: Dean Strachan, MCIP, RPP, Director of Development Services

SUBJECT: OCP Amendment and Rezoning – 13610 Banks Crescent - Update

---

STAFF RECOMMENDATION:

That Council pass the following resolution:

1. *THAT the update report dated October 16th, 2017 from the Director of Development Services in relation to the OCP Amendment and Rezoning for 13610 Banks Crescent be received.*

2. *THAT staff be directed to engage a third-party engineering firm to conduct an independent review of the applicants proposed aquifer protection strategy.*

PURPOSE:

To receive an update on the proposed OCP Amendment and Rezoning of 13610 Banks Crescent and direct staff to have a third-party engineering review of the proposed aquifer protection strategy conducted.

BACKGROUND and DISCUSSION:

1. At the August 14, 2017 Council Meeting, the Freshwater Fisheries Society of BC was granted an audience with Council to provide an updated statement regarding the subject application. Representatives provided a written statement following their verbal statement. In their presentation and letter, the Freshwater Fisheries Society of BC stated their opposition to the subject applications as they currently stand.

   Staff followed up with the Freshwater Fisheries Society of BC on Tuesday, August 15, 2017 to confirm they continue to be willing to discuss and consider options related to the water needs for their facility. It was confirmed that they would review and respond to information and options presented by the applicants in attempts to address their concerns.

   The aquifer protection strategy letter, submitted by the Lark Group to the District on August 14th, 2017 was presented to Council and sent to Freshwater Fisheries Society of BC for review and response.

   E-mail correspondence and phone conversations confirmed their receipt of the proposed strategy and Fisheries Society representatives provided a written response dated September 7th, 2017. Through subsequent telephone and e-mail

conversations with the Fisheries Society staff confirmed that a third-party engineering review of the proposed aquifer protection strategy is supported.

District staff contacted the applicants on the potential of a third-party engineering review of the proposed aquifer protection strategy, they had no objection and support the proposed review.

If approved staff will engage a third-party engineering firm to conduct a review of the proposed aquifer protection strategy. Staff will report back to Council with the results of the review once completed.

2. The Lark Group submitted an update letter on their efforts to engage residents and businesses in support of the proposed project dated October 5th, 2017.

3. A Committee of the Whole meeting has been scheduled for October 25th, 2017 at 7:00 pm to review the infrastructure components for the subject application.

LEGISLATION and POLICY:

The Bylaws related to the subject application have received second reading, however, a Public Hearing has not yet been scheduled.

FINANCIAL IMPLICATIONS:

The District would be responsible for the cost of the third-party engineering review.

CONCLUSION:

The study and review process for the subject application continues. A third-party engineering review of the aquifer protection strategy is proposed.

OPTIONS:

1. Move the motion as recommended by Staff.
2. Request additional information on one or more updates provided.

Submitted by,

Dean Strachan, MCIP, RPP
Director of Development Services

Approved for Agenda

Linda Tynan, CAO

LARK GROUP
DEVELOP BUILD MANAGE

August 14, 2017

iCasa Resort Living, Summerland BC
at Shaughnessy Green (the "Project")

ATT: **Summerland Mayor and Council**
RE: **Vibration-induced turbidity not a risk to Aquifer**

Dear Mayor and Council,

Further to our letter of July 27th issued to development services describing our enhanced aquifer protection plan during construction, we would like to present two consulting engineers' letters that support the position that vibration-induced turbidity will not pose a risk to the underlying aquifer.

Please find attached from Rock Glen Consulting Ltd. of Okanagan Falls a letter relating to the depth at which vibrations from site are expected to dissipate. In addition, please find attached from Piteau Associates Engineering Ltd. of Kelowna a letter with reference to the Rock Glen Consulting letter that states the depth of the aquifer is substantially lower than the lowest level vibrations are expected to occur due to the attenuation quality of the earth.

Both letters, in conjunction with our enhanced protection plan (attached), serve to support the position that vibration-induced turbidity will not pose a risk to the aquifer. Should the turbidity level of the water leaving the construction site ever exceed the baseline and pre-construction levels, work will be stopped immediately. As required by municipal engineering and construction standards, our water quality monitoring plan and sedimentation and erosion control plan will continue to be in place before, during and after construction to support continued monitoring and data collection from the aquifer.

Sincerely,

Lark Enterprises Ltd.
Malek Tawashy,
Development Project Manager

Attachments (3):
Rock Glen Consulting Ltd. re: Vibratory Attenuation dated August 3rd
Piteau Associates Engineering Ltd. re: Aquifer Depth and monitoring plan dated August 14th
Lark Enterprises Ltd letter to Development Services re: Enhanced Aquifer Protection Plan

ROCK GLEN CONSULTING LTD.
P.O. Box 36, Okanagan Falls, BC V0H 1R0
Tel: (250) 497-8290, Fax: (250) 497-8291
rockglen@shaw.ca

August 3, 2017

Our File: RGC-1839

Lark Group
Suite 1500, 13737 96th Avenue
Surrey, BC
V3V 0C6

Attention: Myron Dirks

Subject: Geotechnical Engineering Review of Potential Groundwater Impacts: Proposed ICASA Resort Living Development 13610 Banks Crescent, Summerland, BC

Dear Mr. Dirks:

In response to your request, we are presenting our professional opinion on the potential impacts to the Shaughnessy Spring of proposed construction at 13610 Banks Crescent.

Rock Glen Consulting is retained as the geotechnical engineers for this project. As such, we have been involved in site investigations and review of construction plans for the project. We are well informed regarding the potential impacts of construction on the underlying aquifer.

Test pit excavations and test drilling did not encounter groundwater within planned construction depths. Soils associated with planned excavations and building construction include typical Okanagan glaciolacustrine silts as well as fluvial sands and gravels.

Our experience indicates that potential issues of concern are: slope stability, construction vibrations, and stormwater management.

Slope stability issues will be managed with conventional geotechnical construction methodologies. Construction excavation stability will be undertaken by experienced contractors under the direction of qualified geotechnical engineers.

Temporary excavation slopes will be designed and monitored to protect workers on the site, and also to ensure the long-term stability of those slopes once the construction is completed and all the buildings are backfilled. Proper drainage around those buildings for the foundations will ensure ongoing stability as well.

Slope stability outside of building areas will be monitored as construction proceeds and setbacks for construction of roadways, buildings, and other structures on the sites will ensure that the

construction activities do not contribute to changes in the stability of those slopes. In particular, sufficient setbacks and runoff erosion protection measures will be implemented to maintain a low risk of any slope instability issues in the area above the Shaughnessy Spring.

Excess water into the ground on a project such as this is normally associated with stormwater runoff from roof areas, parking areas, and other hard surfaces on the site. Stormwater runoff will be managed by following the Construction Erosion and Sedimentation Control Plan prepared by CTQ. Stormwater runoff will be collected for discharge offsite to eliminate the potential for onsite disposal of stormwater runoff having an impact on either buildings or the underlying aquifer.

Vibrations during construction include vibrations from excavation, backfilling and foundation preparation activities. Vibrations from excavation work are typically minimal – some of the soil materials and the gravels will create vibrations of a minor nature as they are excavated and these will attenuate at shallow depths in the surrounding soil.

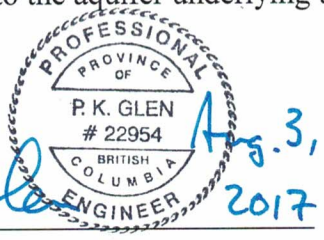
Requirements for structural fill either as foundations under buildings, structural backfill behind retaining walls or building foundations as well as sub-base and base course materials for roadways will be vibratory-packed and these activities will also generate vibrations. The attenuation of these vibrations from even the largest vibratory compactors is expected to attenuate within 5-10 m below where the compaction effort is being applied. On this site, that is estimated to be a maximum of 12 to 15 m below the current ground surface.

RGC is satisfied that the vibrations generated by the excavation and compaction work required to construct the ICASA Resort Living Development will not impact the underlying aquifer, and that the CTQ surface water management plan provides assurance that stormwater runoff from the ICASA site will also not impact the underlying aquifer.

Further, both short-term and long-term slope stability will be managed by adequate setbacks from slopes, including those above the Shaughnessy Spring area, and through construction monitoring by qualified profession engineers.

RGC is confident that construction and operation of the ICASA Resort Living Development represents a very low risk to the aquifer underlying the site and to the water discharged from the Shaughnessy Spring.

Sincerely,



Aug. 3, 2017

Paul Glen, P. Eng.
Rock Glen Consulting Ltd.

PITEAU ASSOCIATES
GEOTECHNICAL AND
WATER MANAGEMENT CONSULTANTS

SUITE 304 - 1912 ENTERPRISE WAY
KELOWNA, B.C.
CANADA - V1Y 9S9
TEL: +1.778.484.1777 / FAX: +1.604.985.7286

www.piteau.com

Our File: 3583-M003

August 14, 2017

Lark Enterprises Ltd.
Suite 1500
13737 – 96th Avenue
Surrey, BC V3V 0C6

Attention: Mr. Myron Dirks, Project Manager

Dear Sirs:

Re: Hydrogeological Update
Proposed ICASA Development at 13610 Banks Crescent, Summerland, BC

Further to your request, we provide the following comments regarding specific issues relating to the proposed ICASSA seniors housing project in Summerland. This letter is further to our original technical memo issued in July 2016 (3583-M001), and a hydrogeological update in January 2017 (3583-M002).

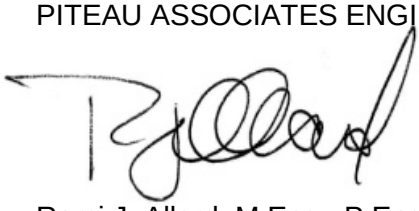
With respect to the August 3, 2017 RockGlen report, this report provides a geotechnical engineering review of potential groundwater impacts at the proposed development. We concur that the potential for vibration induced turbidity to migrate within the aquifer and impact the turbidity in Shaughnessy Springs is negligible. This conclusion is supported by the estimated maximum depth of 10 m to 12 m for the dissipation of vibration generated at ground surface, whereas the most shallow depth to groundwater at the east end of the site is in the order of 20 m. In this regard, we refer to the same technical reference as RockGlen, which is a 2000 paper by Kim & Lee entitled, “Propagation and Attenuation Characteristics of Various Ground Vibrations”, derived from the journal Soil Dynamics and Earthquake Engineering.

Other construction activities are not expected to impact the aquifer in any way, however, our understanding is that the groundwater monitoring plan proposed by Piteau will be used during construction to alert the construction team if there are groundwater issues and allow for cessation of work should turbidity levels exceed a high-risk threshold. The monitoring plan provides for baseline (pre-construction) and ongoing water level and water quality monitoring in two dedicated monitoring wells on site during the construction phase of the project. The groundwater monitoring will proceed in conjunction with the erosion and sediment control plan (ESP), which will manage surface runoff quantity and quality during construction.

I trust that these comments are useful for your dialogue with the District of Summerland and the Freshwater Fisheries Society.

Yours truly,

PITEAU ASSOCIATES ENGINEERING LTD.



Remi J. Allard, M.Eng., P.Eng.
Principal Hydrogeologist

RJA/skn

REFERENCES

Kim & Lee. 2000. Propagation and Attenuation Characteristics of Various Ground Vibrations. Journal Soil Dynamics and Earthquake Engineering. V19 (2000).

RockGlen Consulting Ltd. August 2017. Geotechnical Engineering Review of Potential Groundwater Impacts, Proposed ICASSA Resort Living Development, 13610 Banks Crescent, Summerland, BC.

D. 2002. Identifying and Quantifying Urban Recharge: A review. Hydrogeology Journal Volume 10, Issue 1, pp 143-152.

Piteau Associates Engineering. July 2016. Hydrogeological Assessment 13610 Banks Cresecent, Summerland, BC. Technical Memo 3583-M001.

Piteau Associates Engineering. January 2017. Hydrogeological Update (January 4, 2017 Meeting Summary) Technical Memo 3583-M002.

LARK GROUP
DEVELOP BUILD MANAGE

July 27, 2017

iCasa Resort Living, Summerland BC
at Shaughnessy Green (the "Project")

ATT: **Dean Strachan, Director of Development Services, Summerland BC**
RE: **Alternative to Contingency Water Supply**

Dear Mr. Strachan,

Subsequent to hearing from the Freshwater Fisheries Society of BC (FFSBC) at the July 24th, 2017 Council Meeting we would like to present an alternative option for addressing the concerns of the FFSBC. We understand the FFSBC is concerned about construction induced turbidity of the local aquifer that is used by the Hatchery and portions of which may run below the Project site.

As background information, the previously proposed contingency water supply option would have been provided to the District who in turn would have supplied water to the FFSBC for the Hatchery's use. The revised plan presented below provides enhanced protective measures of the aquifer during construction and does not include the provision of a water supply to the District.

The basis of the enhanced protection plan we are working includes the following:

1. Install permanent water monitoring wells on site
2. Begin baseline water quality testing as soon as practicably possible
3. Prior to commencing construction publish the pre-construction turbidity levels and the publically available high-risk turbidity levels that impact fish production
4. During construction provide ongoing water quality monitoring for turbidity with stop-work notifications being issued should the turbidity levels exceed the published high-risk threshold
5. Once work is stopped, and turbidity levels have reduced to acceptable levels, proceed with an approved alternative work method confirmed to reduce vibration-induced turbidity
6. Continue with alternative method until works in the affected area are complete
7. Leave the monitoring wells in place for future hydrology research and data collection

In addition to the above alternative protection measures, all sedimentation and erosion control measures as previously outlined in our erosion and sedimentation control plan will be in place.

Sincerely,

Lark Enterprises Ltd.
Malek Tawashy,
Development Project Manager

Suite 1500, 13737 96 Avenue, Surrey, B.C. Canada V3V 0C6 TEL: 604-576-2935 FAX: 604-576-2936

Freshwater Fisheries
Society of BC

Sept 7, 2017

Mayor Waterman and Council
District of Summerland
Box 159
Summerland BC
V0H 1Z0

Dear Mayor Waterman and Council,

Thank you for the information that was included with the two letters from the Lark Group to District Staff dated July 27, 2017 and August 14, 2017. We have reviewed these letters from the Lark Group and appreciate the opportunity to respond. We are grateful that this process continues to move forward, however, after our reviewing the content of the letters, it is our opinion that the Lark Group's approach to representing the project remains unchanged and they continue to confidently represent things as proceeding with FFSBC's concern's being addressed.

The Lark Group's July 27 letter says "…. *we would like to present an alternative option for addressing the concerns of the FFSBC*". This statement is misleading in two ways:

1. Turbidity in aquifer water (before discharging into the Spring impound) was a confirmed hazard initially identified by Piteau in their July 2016 Hydrogeology Assessment, not a "concern" specifically raised by FFSBC. However, since our initial review of Piteau's July 2016 Hydrogeology Assessment, the Society has repeatedly identified aquifer turbidity as a concern.

2. Lark Group is not providing an "alternative option", instead, their bulleted list borrows heavily from FFSBC's recommendations provided in an April 12, 2017 communication to Mayor and Council. At that time, some of the listed items were dismissed as ineffective by Lark Group's consultants, but are now being offered as an "alternative option".

The Lark Group's letter and attached documents dated August 14, 2017 reference a new "Protection Plan" and an existing "Erosion and Sediment Control Plan" (ESCP) and "groundwater monitoring plan", but few details are actually provided to specifically demonstrate how particular plan elements/components will address certain aquifer and/or Spring water quality hazards. The Lark Group, Rock Glen and Piteau continue to describe risk management in qualitative terms that seem to lack any supporting context, other than professional opinion. We still do not know if any of the pending "Plans" will be based on some form of site-specific, project-specific hazard identification and quantitative risk assessment, or if those plans will continue to be based on qualitative risk assessments.

The Society originally required a Contingency Water Supply due to a lack of specifics regarding management and reduction of potential water quality risks. Until Lark Group's pending "Plans" have been prepared and submitted for review by both FFSBC and an independent reviewer, to confirm risks have been adequately managed, FFSBC's requirement for a Contingency Water Supply will remain in-place. It is also important to reiterate that the FFSBC would not be discussing the need for a Contingency Water Supply if development of the Banks Crescent lands were not proposed, since Shaughnessy Spring has long provided water of sufficient quantity and quality to support operations at the Summerland Trout Hatchery.

Rock Glen's and Piteau's opinions regarding vibration induced aquifer turbidity confirm there is "low" potential (Rock Glen) and "negligible" potential (Piteau) for this hazard to affect Spring water quality. Their rationale is that the Banks Crescent property is vertically separated from the underlying aquifer by a sediment layer of 12-15m thickness, which presumably will attenuate any construction related vibrations from affecting

aquifer water. However, we know that this protective sediment layer is completely absent at the Spring site (which is why groundwater discharges to ground surface) and we know too that the protective layer becomes progressively thinner as you move eastward off the Banks Crescent property, which infers the aquifer would correspondingly be less protected from vibration affects. Piteau's original statement on aquifer turbidity hazards seemed to recognize this scenario by referencing the proximity of construction traffic to the Spring, "*The movement of heavy trucks at the eastern portion of the Site would likely result in increased ground vibrations potentially resulting in the mobilization of finer-grained sediments in the aquifer.… it is expected that any mobilized sediment could potentially increase turbidity without sufficient time to be filtered through the remainder of the aquifer. If possible, an access point at the western edge of the Site should be considered to reduce the vibrations at the eastern side of the Site*". Accordingly, to adequately assess aquifer turbidity risks, FFSBC believes it is necessary for the context of the proponent's existing assessments to be broadened to also consider the effects of construction activities occurring off the Banks Crescent property and in areas where the protective layer is thinner than the referenced 12-15m and particularly in areas where construction activities are in proximity to the Spring.

The concern for the FFSBC regarding Rock Glen's and Piteau's opinions arise, in part, from having two proponent consultants providing complementary opinions (about construction phase vibration effects), which gives the impression that one professional opinion has been reviewed by another professional, when in fact these letters actually provide one proponent opinion stated twice. Our impression would be different, of course, if an independent 3rd party had reviewed Rock Glen's letter.

It is expected that FFSBC's interests and responsibilities as managers/operators of the Summerland Trout Hatchery can only be adequately considered by the District commissioning an Independent Reviewer to consider final versions of all pending proponent submissions relating to aquifer and/or Spring water quality hazards and risks. It is further expected the proponent submissions would discuss both unmitigated risks (i.e., prior to mitigation measures being implemented) and residual risks (i.e., after mitigation measures are implemented), and that the Terms of Reference for the Independent Review would include the reviewer's consideration of FFSBC's stated concerns. FFSBC's final decision regarding the proposed Development could then be based on the Independent Reviewer's findings.

On this basis, The Freshwater Fisheries Society of BC remains opposed to the iCasa Development proposed by the Lark Group for Banks Crescent.

Sincerely,

Kyle Girgan
Summerland Trout Hatchery Manager, FFSBC

CC: Jon Pew, FFSBC Board Chair
Andrew Wilson, FFSBC President
Tim Yesaki, FFSBC VP Operations

LARK GROUP
DEVELOP BUILD MANAGE

October 5, 2017

iCasa Resort Living, Summerland BC
at Shaughnessy Green (the "Project")

ATT: **Mayor and Council**
RE: **iCasa Community Support Campaign Update**

Dear Mayor and Council,

We write to provide an update regarding the Community Support Campaign that our team has had underway since July 18, 2017. Not only have the responses been overwhelmingly positive as per the below summary, but the opportunity to discuss the project with all members of the community has been an incredibly valuable experience; both for us and we hope for the community as well.

The Campaign provides for open and transparent discussion with neighbors of the project, Summerland residents and businesses alike. We value the opportunity to listen to individuals' excitement for the project, their support for the project, their need for the project (both residents and businesses) and of course in some cases, their concerns for the project.

Please find below a breakdown of the Campaign statistics to date:

Total Contacts Made to Date :	**2293**
Signed support letters	981 (134 by business)
Support without signature	201
Online support	41
Neutral	343
Not Home	645
Opposed	82

Of those who responded either in favour or opposed, 1223 (or 94%) were in favour and 82 (or 6%) were opposed. A package including the supporting documents will be submitted in confidence to the District.

Sincerely,

Lark Enterprises Ltd.
Malek Tawashy,
Development Project Manager