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## REPORT TO THE JUAN DE FUCA LAND USE COMMITTEE MEETING OF TUESDAY, JANUARY 17, 2023

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**SUBJECT**      **Radiocommunication and Broadcasting Antenna Systems Application for Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290 - 6246 Gordon Road**

### **ISSUE SUMMARY**

An application has been received from 1291956 BC ULC for a 49 m radio communication antenna system. The purpose of the tower is to provide long-range, high-throughput data communications in the high frequency band to support business activities in the area of data communications.

### **BACKGROUND**

1291956 BC ULC. has requested a statement of concurrence from the CRD to construct a 49 m radio communication antenna system on the subject property (Appendix A).

The approximately 18.44 hectare (ha) property at 6246 Gordon Road is zoned Rural Residential 3 (RR-3) in the Juan de Fuca Land Use Bylaw, Bylaw No. 2040. The property is designated Settlement by the East Sooke Official Community Plan (OCP) Bylaw, Bylaw No. 4000, which signifies that the predominant land use is rural residential. The property is also partially designated as Steep Slope, Riparian and Sensitive Ecosystem development permit areas. There are two existing towers on the property.

The proposal includes a fenced compound enclosing a self-supported tower structure and associated infrastructure (Appendix B).

In accordance with the Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application policy, staff initiated a 30-day public consultation period for the application from September 15 - October 14, 2022. Nine submissions were received from members of public and forwarded to the applicant to provide a response. A web petition with 90 names was also forwarded to the applicant. Responses and a response matrix as provided by the applicant are included as Appendices C and D. CRD First Nations Relations and CRD Regional Parks responded to the referral sent to CRD departments (Appendix E). As the land use authority for the application, the CRD Board is requested to provide a statement of concurrence or non-concurrence to the applicant and Industry Canada.

### **ALTERNATIVES**

#### *Alternative 1*

The Juan de Fuca Land Use Committee recommends to the Capital Regional District Board:

That a statement of concurrence be provided to 1291956 BC ULC for the proposed 49 m radio communication and broadcasting antenna system on Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290.

#### *Alternative 2*

The Juan de Fuca Land Use Committee recommends to the CRD Board:

That a statement of non-concurrence be provided to 1291956 BC ULC for the proposed 49 m radio communication and broadcasting antenna system on Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290.

### **IMPLICATIONS**

#### *Legislative*

Section 5 of the *Radiocommunication Act* states that the Minister may, taking into account all matters that the Minister considers relevant for ensuring the orderly development and efficient operation of radio communication in Canada, issue radio authorizations and approve each site on which radio apparatus, including antenna systems, may be located. Further, the Minister may approve the erection of all masts, towers and other antenna-supporting structures. Accordingly, proponents must follow the process outlined in Innovation, Science and Economic Development Canada's (ISED) *Spectrum Management and Telecommunications Client Procedures Circular* when installing or modifying an antenna system.

Part of the process includes contacting the land use authority and following the required consultation process. The CRD is the land use authority for the Juan de Fuca Electoral Area where the subject property is located.

The CRD Board approved Bylaw No. 3885, the Juan de Fuca Development Fees and Procedures Bylaw No. 3, 2018, and the Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy (the "Policy") in 2019. The Policy establishes a public consultation process and procedures.

#### *Public Consultation*

In accordance with the Policy, a notice was published in the local newspaper and a notice was delivered to property owners and occupants within 500 m of the subject property to advise of the application and the opportunity to provide written comments and questions. The notice was published on September 15, 2022, and submissions were to be received by 9:00 am on October 14, 2022. Nine submissions and a web petition with 90 names were received for LP000034 during the notification period. The submissions were forwarded to the applicant who then provided a response to the concerns and questions raised (Appendix C).

In advance of the January 17, 2023, Land Use Committee meeting, notices were sent to property owners and occupants within 500 m of the subject property advising of the second opportunity to be heard and provide additional comment at the meeting.

A recommendation from the Land Use Committee along with any additional public comments received will be considered by the CRD Board and forwarded to the applicant and Industry Canada.

#### *Referral Comments*

In accordance with the JdF Radiocommunication and Broadcasting Antenna Systems policy, staff referred the application to applicable CRD departments.

CRD First Nations Relations commented that the closest registered archaeological site is located ~800m north of the proposed tower and, given that there is no registered archaeological site on the property, a *Provincial Heritage Conservation Act* permit is not required to undertake the work. A *Provincial Heritage Conservation Act* permit would be required if archaeological deposits, features or materials are exposed and/or encountered during land-altering activities that includes tree felling.

CRD Regional Parks commented that its primary concern is that the tower be sited in such a way as to minimize the height difference between the tower and the surrounding trees in order to reduce its visual impact on park visitors. CRD Regional Parks further replied that it does not support any trail or road development from the tower compound into East Sooke Regional Park. Upon review of additional information provided by the applicant (Appendix E), which states that the tower will be hidden from view from most vantage points due to the rolling terrain of the area and that access points from the tower site to East Sooke Regional Park are not planned, CRD Regional Parks has stated that it does not believe its interests will be unduly impacted by the tower.

#### *Land Use*

The RR-3 zone does not expressly permit radio communication towers; however, it is considered a use permitted in all zones in accordance with Part 1, Section 4.15 of Bylaw No. 2040, which states: "Except where specifically excluded, the following uses shall be permitted in any zone: public utility poles, pipelines, radio, television, and transmission towers and wires; traffic control devices; and underground or submarine utility systems, the installation of which may be sited on any portion of a lot."

Portions of the property are designated as Steep Slope, Riparian and Sensitive Ecosystem development permit areas by Bylaw No. 4000; however, the proposed tower and compound are located outside these DP areas. CRD Building Inspection has indicated that a building permit is not required for the tower.

Evaluation criteria to be considered by the CRD when reviewing an application for a radio communication and broadcasting antenna system is outlined in the Policy and included in Appendix F.

Rationale for the proposed location: 1291956 BC UCL stated that the site location was chosen as it can provide the line of sight required for technical purposes while minimizing the visual impact of the tower. It was further stated that the location was also chosen as there are already existing towers on the subject property and that the proposed tower location is located outside of the designated Steep Slope, Riparian and Sensitive Ecosystem development permit areas.

Proximity to residential uses, institutions, and public lands: The proposed tower site is adjacent to RR-3

zoned properties to the north and west, a Rural Watershed (AW) zoned property to the north, and Public Recreation (P-1) zoned properties to the east and south. The AW zoned property is held by the CRD. The P-1 zoned properties are part of East Sooke Regional Park. The closest dwelling is located on the subject property, approximately 360 m from the tower. The next closet dwelling is located on Copper Mine Road, approximately 390 m away.

Visibility and measures to integrate the tower into local surroundings: The proposed antenna system would be located adjacent to undeveloped portion of East Sooke Regional Park. The applicant has stated that tower will be hidden from view from most vantage points due to the rolling terrain of the area and due to the local tree canopy, which is approximately 38 m tall.

Security measures: The applicant stated that there is an existing locked gate at the beginning of the access road to the proposed site and that the compound and tower area would be fenced and signed to restrict public access. The applicant further stated that the widening of Valentine Road, required to permit access to construction vehicles, will be backfilled once construction is completed. Security cameras to be considered in future.

Alternatives/mitigation measures: The proposed location for the tower meets the applicant's required conditions, including line of sight, ease of access, cleared land and a willing property owner. Other locations were investigated and were either found to be unsuitable because line of sight could not be achieved or for technical operation reasons including structure and height requirements. The applicant also examined colocation options in the area and has determined that no existing structures are available to satisfy its coverage objectives. The applicant has stated that the display of any type of lighting, except where required by Transport Canada, will be avoided.

Hazardous areas: There are no known hazardous conditions in proximity to the proposed tower location.

Environmentally sensitive areas: The proposed tower and compound are located outside the Steep Slope, Riparian and Sensitive Ecosystem development permit areas; therefore, there is no requirement for a professional report or permit.

Aeronautical safety requirements: The applicant will be required to abide by any Transport Canada specifications for installing lights on the proposed antenna system.

Impact on community: Nine submissions from members of the public and a web petition with 90 names were received during the notification period. The petition spoke in opposition to the proposed tower; however, it does not provide information to determine if the individuals reside or own property in the local community. The remainder of the submissions requested information regarding the identity of the applicant, purpose of the tower installation, tower and antenna design details and public consultation measures. The submissions expressed general health and safety concerns including concerns related to emissions/transmissions. The applicant responded that the radiation type is non-ionizing radiation and that the power level is below levels established by Health Canada and ISED Safety Code 6 levels, and that the transmission technology is mature and tested.

The submissions stated concern regarding the tower's vicinity to a residential neighbourhood and/or East Sooke Regional Park and the potential impacts of light pollution and potential impacts to property values and to wildlife. The applicant responded to state its responsibility under ISED Procedures Circular CPC-2-0-03, Radiocommunication and Broadcasting Antenna Systems, for ensuring that antenna systems are installed and operated in a manner that respects the local environment and that complies with other statutory requirements. The applicant further replied that issues related to the impact on property values are outside of the scope of the application. One submission questioned how East Sooke will benefit from the tower installation. The applicant responded that it may consider third-party requests for colocation for the purpose of hosting safety/emergency services telecommunication infrastructure. Five of the submissions and the petition stated non-support for the application.

In addition to replying to each submission, the applicant has provided a response matrix which is included as Appendix D.

Designs that address the guidelines: The distance between the proposed tower and adjacent residences is greater than three times the tower height, as recommended by the CRD policy. The proposed tower site is located adjacent to undeveloped portion of East Sooke Regional Park. The closet dwelling on an adjacent property is located on Copper Mine Road, approximately 390 m away.

ISED Procedures Circular CPC-2-0-03 outlines matters and concerns that are considered “reasonable” and “unreasonable” under the public consultation process for proponents. Matters that are considered “reasonable” include: why the use of an existing antenna system or structure is not possible; why an alternate site is not possible; what the proponent is doing to ensure that the antenna system is not accessible to the general public; how the proponent is trying to integrate the antenna into the local surroundings; what options are available to satisfy aeronautical obstruction marking requirements at this site; what steps the proponent took to ensure compliance with the general requirements of this document. These concerns form the basis of the information requested of applicants in the CRD’s radio antenna system application policy in order to guide staff in providing a recommendation regarding antenna proposals.

Matters that are considered by ISED to be “unreasonable” include: those that are related to disputes with members of the public related to the proponent’s service, but unrelated to antenna installations; potential effects that a proposed antenna system will have on property values or municipal taxes; and questions as to whether the *Radiocommunication Act*, the CPC-2-0-03 document itself, Safety Code 6, locally established bylaws, or other legislation, procedures and processes are valid or should be reformed in some manner.

The concerns raised by the public primarily relate to uncertainty around the health consequences attributed to electromagnetic fields and around benefits to the local community of the proposal as a system intended for research purposes rather than improving service directly to residents. However, the proposed tower location and design satisfy the evaluation criteria outlined in the CRD’s policy. The applicant has presented rationale for the proposed location, demonstrated consideration of alternatives and mitigation measures, and provided information that address comments and questions received from members of the public. Therefore, staff recommend that a statement of concurrence be provided for the proposed 49 m telecommunications tower (LP000034).

## **CONCLUSION**

An application has been received from 1291956 BC ULC to construct a 49 m telecommunications antenna system at 6246 Gordon Road for the purpose of providing long-range, high-throughput data communications in the high frequency band to support business activities in the area of data communications. Through the public consultation process, owners and occupants of land in proximity to the subject properties were provided opportunity to comment or ask questions. Nine submissions and a web petition with 90 names were received. The applicant submitted responses to each of the submissions and has provided a response matrix. The proposal addresses the evaluation criteria in the CRD’s Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy and concerns raised in the submissions are outside the scope of matters that are considered “relevant” as part of the public consultation process outlined in ISED Procedures Circular CPC-2-0-03. Therefore, staff recommend that a statement of concurrence be provided.

## **RECOMMENDATION**

The Juan de Fuca Land Use Committee recommends to the Capital Regional District Board: That a statement of concurrence be provided to 1291956 BC ULC. for the proposed 49 m radio communication and broadcasting antenna system on Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290.

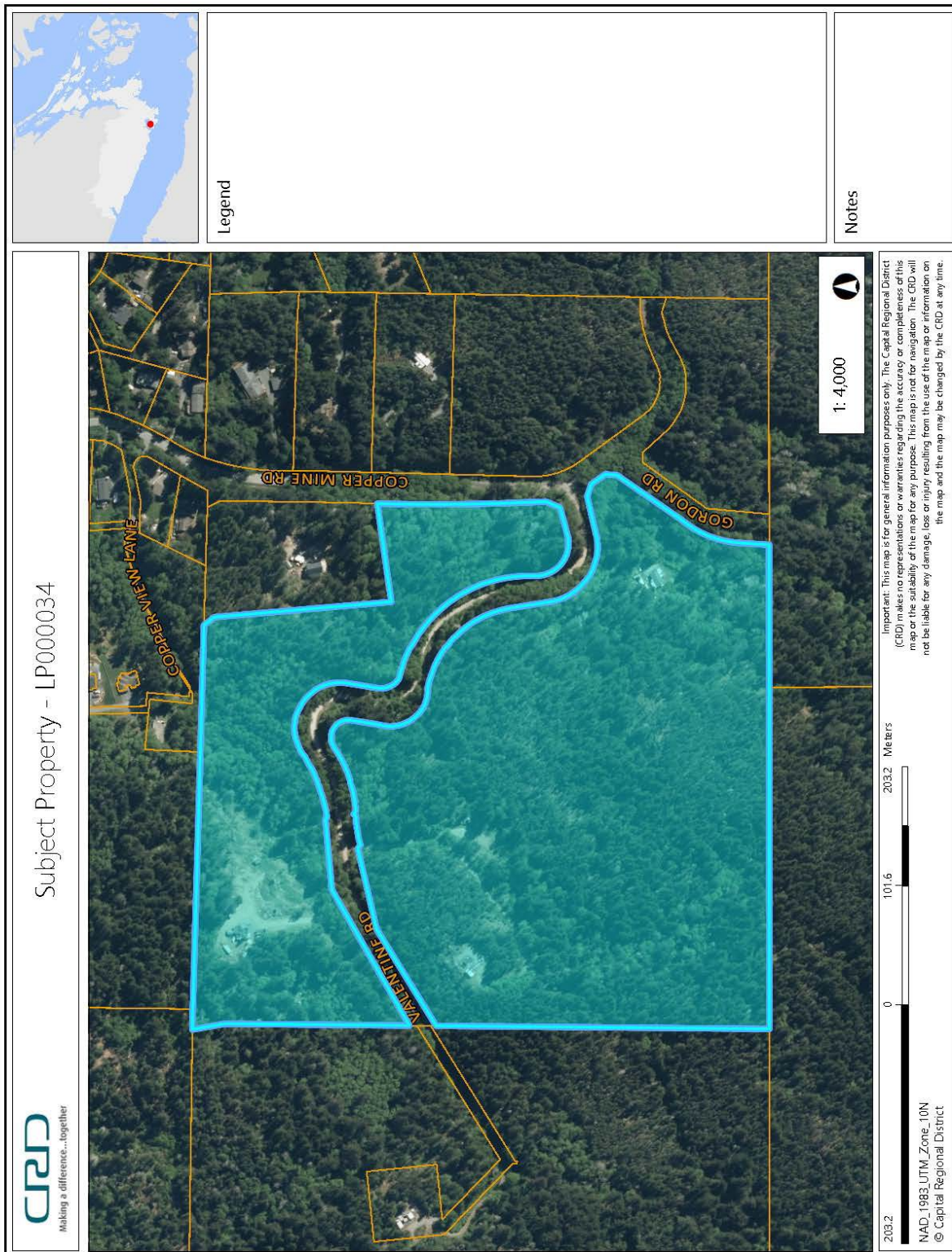
Submitted by:	Iain Lawrence, MCIP, RPP, Senior Manager, JdF Local Area Services
Concurrence:	Kevin Lorette, P.Eng., MBA, General Manager, Planning & Protective Services
Concurrence:	Larisa Hutcheson, P. Eng., Acting Chief Administrative Officer

## **ATTACHMENTS**

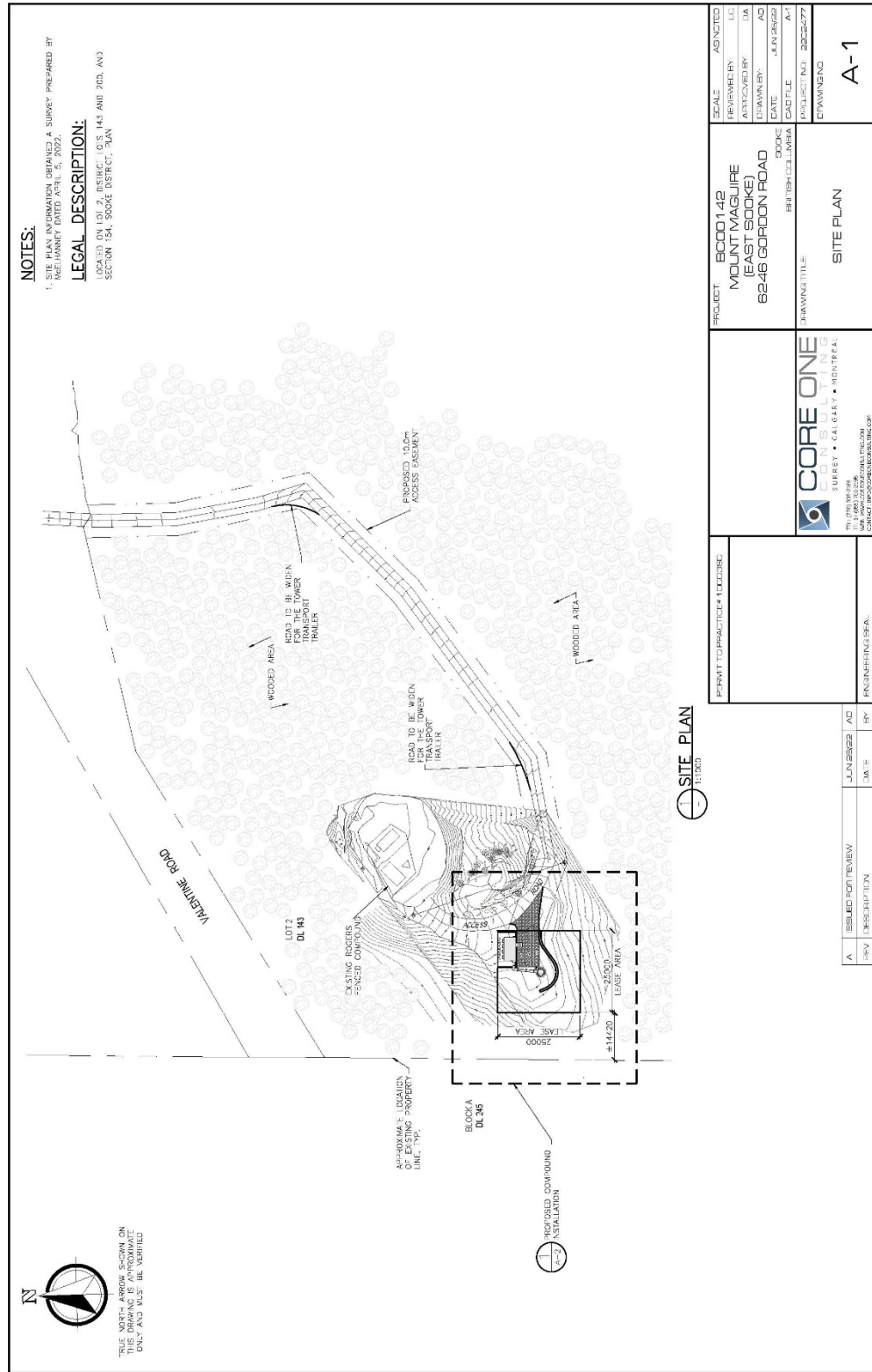
Appendix A: Subject Property Map  
Appendix B: Development Proposal  
Appendix C: Public Submissions and Applicant Responses  
Appendix D: Response Matrix  
Appendix E: Referral Comments  
Appendix F: Evaluation Criteria



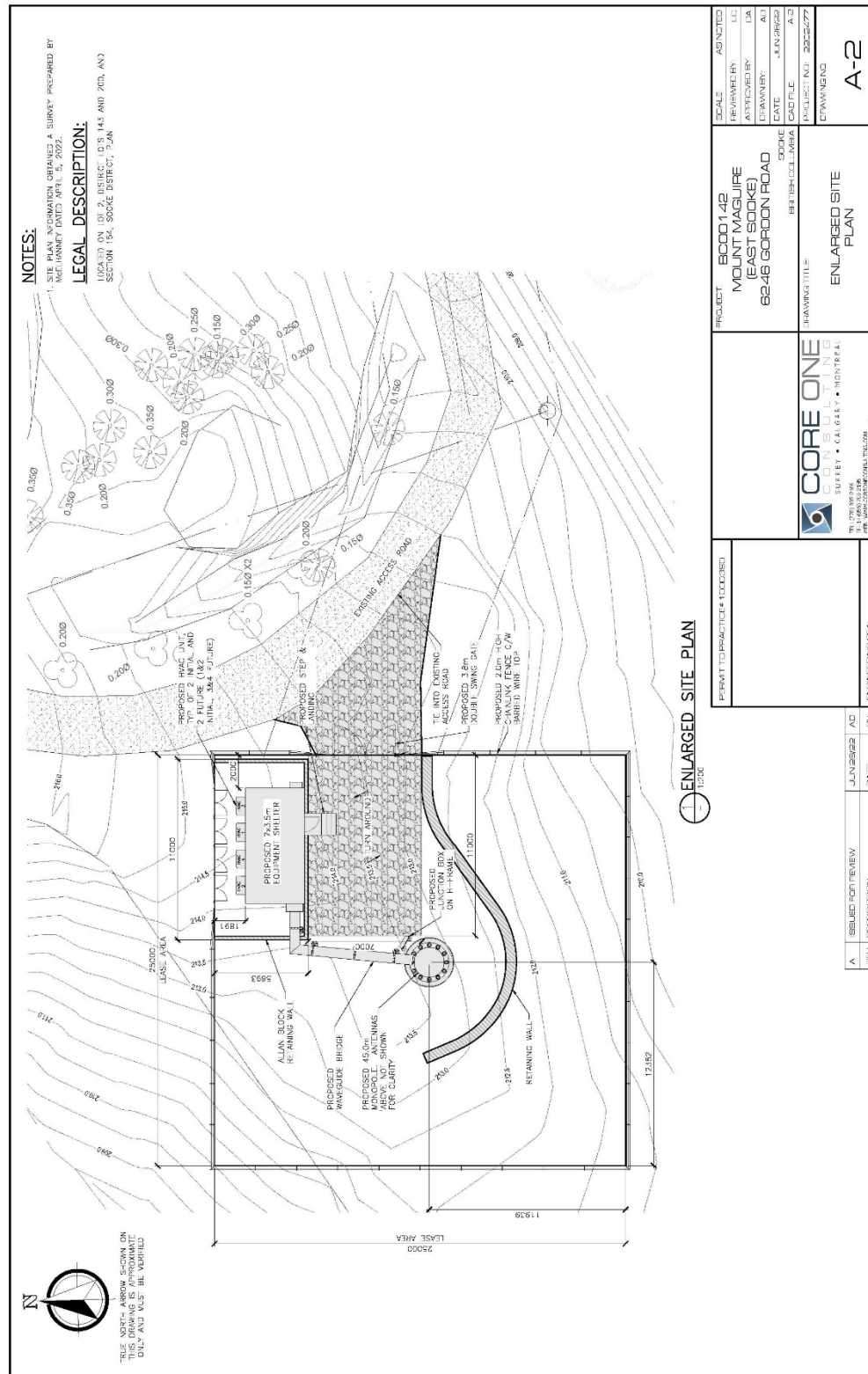
Appendix A: Subject Property Map

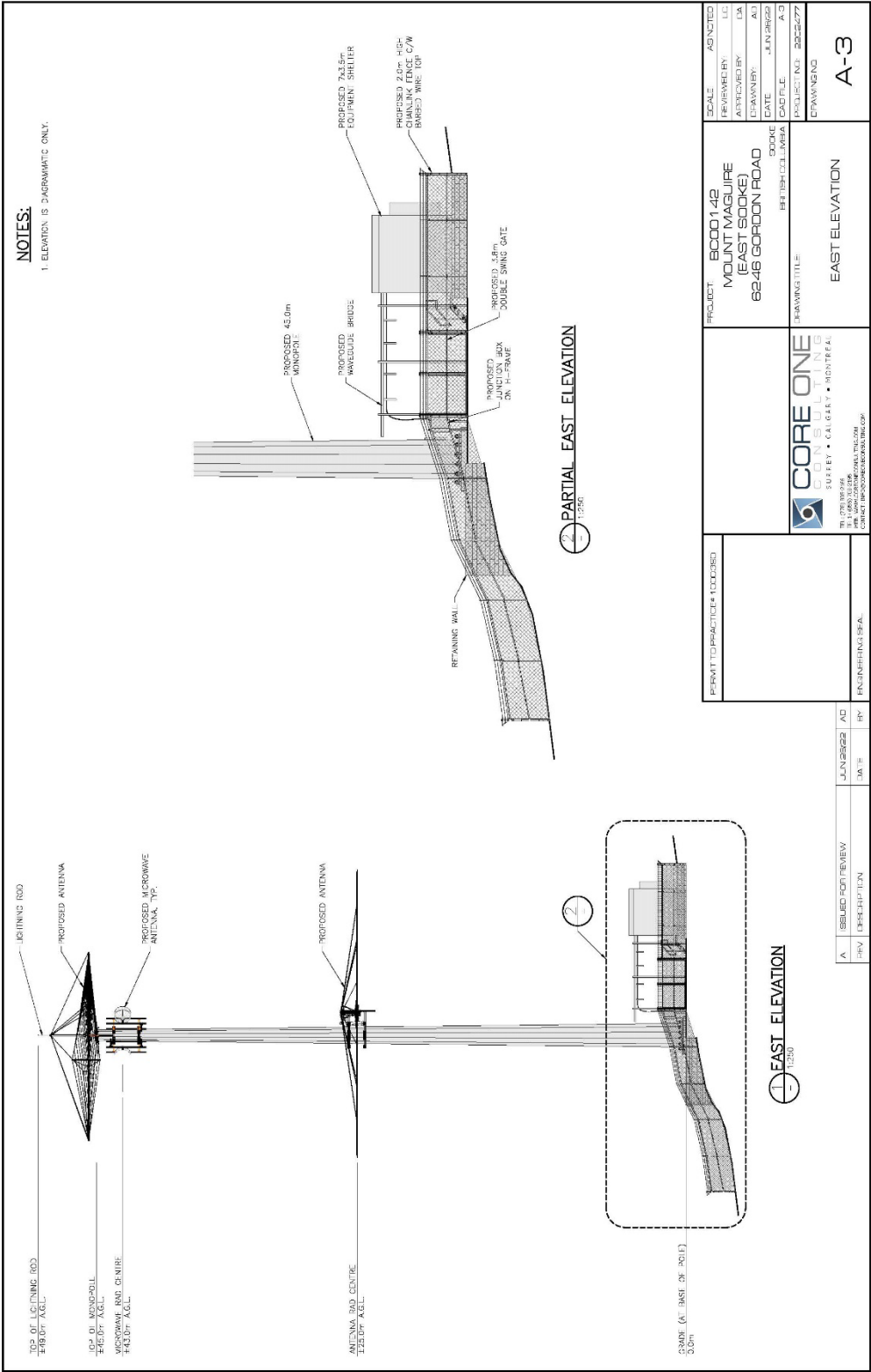


## PPSS-35010459-2925









Appendix C: Public Submissions and Applicant Responses

Submission #1: Kim Amorim

**From:** [REDACTED]  
**To:** [jdf info](#)  
**Subject:** Radio communications tower at Gordon road / East Sooke  
**Date:** Friday, September 16, 2022 7:08:01 PM

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Thanks for the info dated September 15 /22 referring to the subject.

1 - Unfortunately, the attachment 2 is illegible and therefor worthless.

Is this a lapse or is it intentional ?

2 – what is the radiation type and its radius, emitted by the antenna ?

Best Regards,

Kim Amorim

[REDACTED]  
East Sooke BC

Applicant's Response #1: Kim Amorim

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy Miller](#)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Friday, September 30, 2022 2:28:59 PM  
**Attachments:** [image001.png](#)  
[understanding-safety-code-6-eng.pdf](#)  
[6246 Gordon Road, Sooke- PRELIM REV 0.pdf](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,

Please find response to the questions below.

1. As to the attachment of the letter sent by JDF being illegible and whether lapse or intentional? Pretty sure this was not intentional, please see attached copy of preliminary designs, in case JDF wants to send full set.
2. The radiation type is non-ionizing radiation, and power is below levels established in Health Canada and ISED Safety Code 6 standard. See Attached Government Safety-code 6 document.

Please let me know if you have any questions, comments or concerns.

Thank you,  
Regards,  
FRED

Fred Mullie  
Director Business Development and Network Infrastructure Projects | [Core One Consulting](#)  
18525 53rd Avenue, Suite 229, Surrey, BC V3S 7A4  
(O) (778) 805-2166 | (M) (778) 9035200  
(E) [fred.mullie@coreoneconsulting.com](mailto:fred.mullie@coreoneconsulting.com)  
[www.coreoneconsulting.com](http://www.coreoneconsulting.com) | [info@coreoneconsulting.com](mailto:info@coreoneconsulting.com)



### ABOUT SAFETY CODE 6

Safety Code 6 is a document that sets out recommended safety limits for human exposure to radiofrequency electromagnetic fields (EMF) in the frequency range from 3 kHz to 300 GHz.

This range covers the frequencies used by communications devices and equipment that emit radiofrequency EMF such as:

- › Wi-Fi
- › cell phones
- › smart meters
- › cell phone towers
- › those using 5G technology

### ABOUT THE SAFETY LIMITS

The safety limits in the code:

- › protect against all established adverse health effects related to radiofrequency EMF, no matter the source
- › incorporate large safety margins to provide a significant level of protection for all Canadians, including those working near RF sources
- › provide protection for people of all ages and sizes, from exposure to all forms of radiofrequency EMF on a continuous (24 hours a day/7 days a week) basis

The exposure limits in Safety Code 6 are based on:

- › Health Canada research
- › an ongoing review of published scientific studies on potential adverse health effects

You are **protected** from the combined exposure of radiofrequency EMF from multiple sources with Safety Code 6 exposure limits in place. Safety Code 6 takes into account the total exposure from all sources of radiofrequency EMF in the range of 3kHz to 300 GHz. This includes those that may be used in 5G technology.

Safety Code 6 is reviewed on a regular basis to confirm that it continues to provide protection against all known potentially adverse health effects.

Visit **Canada.ca** and search **Safety Code 6** for more information.



Health  
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Santé  
Canada

Canada

UNDERSTANDING  
**SAFETY CODE 6**



**HOW DEVICES ARE REGULATED**

Innovation, Science and Economic Development Canada (ISED) regulates wireless communication equipment such as:

- › Wi-Fi
- › cell phones
- › cell phone towers

ISED also:

- › oversees the licensing and placement of cell phone towers
- › ensures that these towers comply with regulatory standards for human exposure limits outlined in Safety Code 6
- › considers the effects on the environment and local land use before towers are installed

- › develops regulatory standards that require compliance with the human exposure limits outlined in Safety Code 6
- › ensures that exposure to radiofrequency EMF from cell phones and cell phone towers do not exceed the specified limits
- › maintains a market surveillance program and routinely audits antenna installations and devices to verify compliance

If new scientific evidence were to show that exposure to radiofrequency EMF below the levels found in Safety Code 6 poses a risk, the Government of Canada would take steps to **protect the health** of Canadians.

Visit **Canada.ca** and search **Safety Code 6** for more information.

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Canada

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Canada

Canada



Submission #2a: Sean Holland

**From:** [REDACTED]  
**To:** [jdf.info](#)  
**Subject:** Contact Us - Submission  
**Date:** Monday, September 19, 2022 1:26:10 PM

The following message was received through the form at 'https://www.crd.bc.ca/contact-us?r=juan-de-fuca-information'. Neither the name nor the e-mail address can be confirmed as accurate.

.....

**Your Name:**  
Sean Holland

**Your Email Address:**  
[REDACTED]

**Message:**

I live on [REDACTED] in East Sooke and received notice that we are within 500 metres of the radio communication tower on Gordon Road proposed in an application. What I haven't been able to find out is: Who is applying to put up that tower? What will its purpose be? Please let our neighbourhood know this information that could significantly affect whether or not we are happy about this application. Thank you.

Applicant's Response #2a: Sean Holland

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy Miller](#)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Friday, September 30, 2022 1:19:47 PM  
**Attachments:** [image001.png](#)

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Hi Wendy,

Please see response below.

#1291956 B.C. Unlimited Liability Company is applying to put up the Tower.

Purpose of tower and antenna and radio systems:

The purpose of the tower and antenna and radio system is to test and investigate the possibilities of long-range data communications to complement traditional terrestrial transport technologies. 1291956 B.C. Unlimited Liability Company is progressing and advancing a mature, tested, and safe radio transmission technology. The objective for the experiment include the determination of the feasibility of reliable long range data communication in a real world environment that cannot be simulated in a laboratory. 1291956 B.C. Unlimited Liability Company experimental operations will use commercially available and experimental radio equipment all complying with Health Canada's Safety Code 6 guidelines.

Thank you,  
Regards,  
FRED

Fred Mullie  
Director Business Development and Network Infrastructure Projects | [Core One Consulting](#)  
18525 53rd Avenue, Suite 229, Surrey, BC V3S 7A4  
(O) (778) 805-2166 | (M) (778) 9035200  
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[www.coreoneconsulting.com](http://www.coreoneconsulting.com) | [info@coreoneconsulting.com](mailto:info@coreoneconsulting.com)

Submission #2b: Sean Holland

**From:** [REDACTED]  
**To:** [jdf info](#)  
**Subject:** Contact Us - Submission  
**Date:** Friday, October 14, 2022 8:27:01 AM

The following message was received through the form at 'https://www.crd.bc.ca/contact-us?r=juan-de-fuca-information'. Neither the name nor the e-mail address can be confirmed as accurate.

.....

**Your Name:**  
Sean Roderick Holland

**Your Email Address:**  
[REDACTED]

**Message:**  
Please do not approve the application for the proposed 'experimental' radio communications tower at the top of Coppermine Rd in East Sooke. This type of facility is not appropriate for a residential neighbourhood right next to East Sooke Park.

Applicant's Response #2b: Sean Holland

**From:** [Fred Mullie](#)  
**To:** [Wendy Miller](#)  
**Subject:** Re: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Monday, October 31, 2022 11:32:41 AM  
**Attachments:** [image002.png](#)

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Hi Wendy,

Please see the response below.

Roderick Holland

Our evaluation of the environmental conditions in the area of the proposed tower location (the "Proposed Site") confirmed that the tower is unlikely to cause negative environmental impacts. Along the Valentine Road, there is an area noted as "riparian and sensitive," but this area is not in close proximity to the Proposed Site. We acknowledge our responsibility under Innovation, Science and Economic Development Canada ("ISED") Procedures Circular CPC-2-0-03, Radiocommunication and Broadcasting Antenna Systems, for ensuring that antenna systems are installed and operated in a manner that respects the local environment and that complies with other statutory requirements.

Thank you,  
Regards,  
FRED

Submission #3a: Alex Stringer

**From:** [REDACTED]  
**To:** [jdf.info](#)  
**Subject:** Contact Us - Submission  
**Date:** Wednesday, October 05, 2022 12:59:23 PM

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.....

**Your Name:**  
Alex Stringer

**Your Email Address:**  
[REDACTED]

**Message:**

Hello, I am writing in reference to the proposed radio communication tower/application LP000034 on Gordon Road in East Sooke. I am against having this tower installed so close to residential neighborhoods. Regardless of what you believe are relevant concerns or not (as listed in the public consultation letter we received from the CRD), my main concern is for my son's health. He is immunocompromised and one of the numerous reasons we moved out to East Sooke was to allow him to grow up as healthy as possible. This tower being so close to where we live, sending out signals 24 hours a day until he turns 18 is not something we were looking for when we decided to move out here. I know the general response is "the science isn't conclusive" regarding health effects when companies want to install towers in the middle of residential neighborhoods; however, I firmly believe living this close to a tower would be detrimental to his health. We already have UHF signals from existing towers in the area, and our proximity to the Rocky Point military base does not help matters either. I would very much like to avoid another trip to the emergency room with him. You may view this as a dramatic approach, however in this case every little bit helps. Furthermore, I have a difficult time deciding the placement of the tower. Of course I understand towers are necessary and the location proposed may seem like a good spot being so elevated, however why not somewhere that does not have an entire neighborhood living under it?? To be honest, unfortunately I'm already feeling defeated as there are a number of proposals in our area that are "in progress", and it doesn't really seem like anybody really wants to know what the community's input is. A public inquiry is opened for a period of time, the community has their say, and the proposal moves forward regardless of what the public thinks. This is one of the main reasons we moved away from Langford. In this instance, however, I hope you will listen to the general public's opinion and seriously consider whether you HAVE to put the tower where it has been proposed. I am a homeowner who really doesn't care what this tower will do to my home's value. I don't care about what it looks like. I wouldn't care where you put it in all honesty if it wasn't for the various radio signals etc. it would be broadcasting through our home's walls 24 hours a day. I care about my son's health, and the health and well-being of my neighborhood as a whole. Thank you.

Applicant's Response #3a: Alex Stringer

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy Miller](#)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Friday, October 14, 2022 2:44:57 PM  
**Attachments:** [image001.png](#)

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Hi Wendy,

Please see response below,

Alex Stringer

1291956 B.C. cares about safety. The proposed structure will be operated in a manner that complies with Health Canada's RF exposure guideline, Safety Code 6

Thank you,  
Regards,  
FRED

Fred Mullie  
Director Business Development and Network Infrastructure Projects | [Core One Consulting](#)  
18525 53rd Avenue, Suite 229, Surrey, BC V3S 7A4  
(O) (778) 805-2166 | (M) (778) 9035200  
(E) [fred.mullie@coreoneconsulting.com](mailto:fred.mullie@coreoneconsulting.com)  
[www.coreoneconsulting.com](http://www.coreoneconsulting.com) | [info@coreoneconsulting.com](mailto:info@coreoneconsulting.com)

Submission #3b: Alex Stringer

**From:** [REDACTED]  
**To:** [jdf.info](#)  
**Subject:** Contact Us - Submission  
**Date:** Monday, October 10, 2022 10:29:21 AM

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.....

**Your Name:**  
Alex Stringer

**Your Email Address:**  
[REDACTED]

**Message:**

Hello, I have already emailed you regarding the proposed tower on gordon Rd in east sooke. I felt the need to email again as I have just learned that the tower is going to be used to "test and investigate" the possibility of long-range data communications and "experiment" to determine the feasibility of their technology in a "real world environment". I do not under any circumstances want new technology, or existing technology being used in new ways to be tested just above my house. We live in east sooke to be away from development, towers, and major infrastructure etc. Please put your tower somewhere else.

Applicant's Response #3b: Alex Stringer

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy.Miller@fred.mullie@coreoneconsultants.com](mailto:Wendy.Miller@fred.mullie@coreoneconsultants.com)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Wednesday, November 02, 2022 1:05:08 PM  
**Attachments:** [image002.png](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,

Please see response below;

**Alex Stringer**

We acknowledge the receipt of this feedback. As stated in CPC-2-0-03 — *Radiocommunication and Broadcasting Antenna Systems*, “current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with Safety Code 6.” (at pg. 13). We note that existing provincial and federal regulations for the permitting of telecommunication towers do not require applicants to provide research or studies to prove these facilities will have no health effect on local residents. We have taken steps to minimize any potential issues regarding visual aesthetic impact. One of the main reasons we selected the Proposed Site was its close proximity to two existing communication towers. We also considered the Proposed Site to be appropriate as it is distant from community sensitive locations

Thank you,  
Regards,  
FRED

Fred Mullie  
Director Business Development and Network Infrastructure Projects | [Core One Consulting](#)  
18525 53rd Avenue, Suite 229, Surrey, BC V3S 7A4  
(O) (778) 805-2166 | (M) (778) 9035200  
(E) [fred.mullie@coreoneconsulting.com](mailto:fred.mullie@coreoneconsulting.com)  
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Submission #4: Justin Rubelo

**From:** [East Sooke](#)  
**To:** [jdfinfo](#)  
**Subject:** Proposed 49 m radiocommunications facility  
**Date:** Friday, October 07, 2022 3:40:36 PM

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

I live very near the proposed new facility and have owned this property for over 7 years and for some reason I was only just informed about this proposal by my next-door neighbour who tells me that he got a notice in the mail about this. Why is it that I was not delivered any such notice? How many of my neighbours were also not notified?

It is unacceptable that this proposal could be ruled on when clearly you have failed to sufficiently notify the nearby residents of their opportunity to comment and it should be required for you to ensure that all of the affected residents are properly given notice and opportunity to comment.

As it stands, I object to the proposal both on the grounds that we do not need yet another radio tower here (we already have one) and that it could be seen as though someone is intentionally trying to allow this to go through by failing to inform all of the affected parties about the proposal so that the number of negative comments will be very low and make it appear as if you have the consent of the majority who in fact may not even be aware of the proposal.

I would like to receive a response confirming that you are going to do something about this issue. The local residents MUST be made aware of this and their opportunity to comment must be extended since they have not been notified in a reasonable timeline.

Justin Rubelo  
[REDACTED]

Applicant's Response #4: Justin Rubelo

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy Miller](#); [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Wednesday, November 02, 2022 12:10:20 PM  
**Attachments:** [image003.png](#)

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Hi Wendy,

Please see response below.

**Justin Rubelo**

The community has been engaged in accordance with the JDF Policy. As part of this engagement, CDR posted on its website a notice of the application and an invitation for public input on September 15, 2022. The CRD's notice of application and invitation for comments was also published on the Sooke News Mirror on the same day.

Thank you,  
Regards,  
FRED

Fred Mullie  
Director Business Development and Network Infrastructure Projects | [Core One Consulting](#)  
18525 53rd Avenue, Suite 229, Surrey, BC V3S 7A4  
(O) (778) 805-2166 | (M) (778) 9035200  
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[www.coreoneconsulting.com](http://www.coreoneconsulting.com) | [info@coreoneconsulting.com](mailto:info@coreoneconsulting.com)



Submission #5: Josh Stewart

**From:** [REDACTED]  
**To:** [idf.info](#)  
**Subject:** Contact Us - Submission  
**Date:** Monday, October 10, 2022 11:08:19 AM

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The following message was received through the form at 'https://www.crd.bc.ca/contact-us?r=juan-de-fuca-information'. Neither the name nor the e-mail address can be confirmed as accurate.

.....

**Your Name:**  
Joshua Stewart

**Your Email Address:**

[REDACTED]

**Message:**

Hello, I am a resident of East Sooke in the Copper Mine Rd area and have learned of the radio tower proposal. I firmly oppose the idea of this construction. The tower would be far too close to many residences, would protrude far to high above the existing forest canopy, would be a source of light pollution and Electromagnetic frequency pollution within close proximity to wildlife passages and residential areas. I don't want my children to have to grow up under a radio tower.

I would like to know what group or business is funding the tower and the reason to build an experimental radio tower between a neighborhood and a popular community wilderness park.

Josh Stewart

Applicant's Responses #5: Josh Stewart

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy Miller](#)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Friday, October 14, 2022 2:28:40 PM  
**Attachments:** [image002.png](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,

Please see response below.

Joshua Stewart

– The tower/business planning the tower is 1291956 B.C. Unlimited Liability Company. The location was chosen as it fits the requirements necessary for the Company's needs. The proposed structure will be operated in a manner that complies with Health Canada's RF exposure guideline, Safety Code 6. The transmission technology is mature and tested. The experimental nature of the signal is in reference to the novel application of an existing technology.

Thank you,  
Regards,  
FRED

Fred Mullie  
Director Business Development and Network Infrastructure Projects | [Core One Consulting](#)  
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**From:** Wendy Miller <[wmiller@crd.bc.ca](mailto:wmiller@crd.bc.ca)>  
**Sent:** October 11, 2022 4:20 PM  
**To:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**Subject:** Submission Received - CRD File LP000034/6246 Gordon Road

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy Miller](#)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Wednesday, November 02, 2022 12:16:28 PM  
**Attachments:** [image003.png](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,

Please see response below,

**Josh Stewart -**

The applicant, 1291956 B.C. ULC is funding the tower. The purpose of the tower is to provide long-range, high-throughput data communications in the HF band to complement traditional, terrestrial transport technologies. The tower and associated antennas are needed to support business activities in the area of data communications.

As for concerns regarding light pollution to nearby residences, in accordance with CRD's *Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy* ("JDF Policy") the applicant will avoid the display of any type of lighting except where required by Transport Canada. If lighting is required for security reasons, the applicant will endeavour to shield it from adjacent properties and keep it to a minimum intensity (ensuring, where possible, it is downward facing and motion-sensory designed). Further, we will comply with the setback from adjacent dwellings imposed by the JDF Policy, or a different setback as may be required by CRD.

As stated in CPC-2-0-03 — *Radiocommunication and Broadcasting Antenna Systems*, "current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with Safety Code 6." (at pg. 13). We note that existing provincial and federal regulations for the permitting of telecommunication towers do not require applicants to provide research or studies to prove these facilities will have no health effect on local residents

Thank you,  
Regards,  
FRED

Submission #6: Eric Hughes

**From:** [Eric](#)  
**To:** [jdf info](#)  
**Subject:** Opposition to the radio tower at 6246 Gordon Road and questions  
**Date:** Monday, October 10, 2022 3:28:40 PM

---

CAUTION: This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

I am 100% against this radio tower project. As someone who has opted to rarely use a cell phone, have a "radio off" hydro meter at the house etc I moved out here to be away from the multitudes of RF sources found in town.

To have a potentially high powered antenna transmitting from within 500m of my house is something I am steadfastly against. What do I have to do to stop this project?

Here are my questions.

- 1) How many antenna will be on the tower?
- 2) What power outputs will the antennas be putting out?
- 3) What frequencies will the tower be transmitting in?
- 4) What is the expected effect on the surrounding area?
- 5) What will be the expected measurable RF radiation at 50m, 100m, 250m and 500m from the tower?
- 6) What research and or studies has been done or consulted that prove that the tower will have no effect over the local residents?
- 7) At 49m tall the tower will detract from the natural beauty of the local park and neighbourhood. This will reduce our property values. What compensation will be provided to the residents due to the unsightly tower ruining the local beauty?
- 8) Will there be regular RF level testing in the surrounding area to ensure that the tower remains within compliant levels? If the tower is found to exceed levels, what remedies will be taken and how quickly will they be applied?

Eric Hughes

Applicant's Response #6: Eric Hughes

**From:** [fred.mullie@coreoneconsultants.com](mailto:fred.mullie@coreoneconsultants.com)  
**To:** [Wendy Miller](#)  
**Subject:** RE: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Wednesday, November 02, 2022 12:23:13 PM  
**Attachments:** [image003.png](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,

Please see response below:

**Eric Hughes**

1. The tower will have three antennas.
2. The two high frequency ("HF") antennas will be transmitting < 1000W. The 10.7-11.7GHz microwave will be <1W.
3. Two antennas will be transmitting in the HF band 5-30MHz, and one will be transmitting in the 10.7-11.7GHz microwave band.
4. Our evaluation of the environmental conditions in the area of the proposed tower location (the "Proposed Site") confirmed that the tower is unlikely to cause negative environmental impacts. Along the Valentine Road, there is an area noted as "riparian and sensitive," but this area is not in close proximity to the Proposed Site.
5. As we confirmed in our "Conditions and Declarations" document, the tower will be designed and operated in accordance with Health Canada's *Safety Code 6: Radiofrequency Exposure Guidelines* ("Safety Code"). We will retain a licensed engineer to ensure compliance with the *Safety Code*. Our obligation to comply with the *Safety Code* is ongoing and, at any time, we may be required, as directed by Innovation, Science and Economic Development Canada ("ISED"), to demonstrate compliance by (i) providing detailed calculations, and/or (ii) conducting site surveys and, where necessary, by implementing corrective measures (as required by CPC-2-0-20, *Radio Frequency (RF) Fields – Signs and Access Control*). We note that the radio equipment powering the antennas is designed for *Safety Code* adherence, and we will not operate it over the limit recommended by manufacturing specifications. For clarity, potential equipment malfunctioning would not lead to inadvertent power output beyond *Safety Code* limits. Therefore, inspection of the equipment for this reason is not required.
6. As stated in CPC-2-0-03 — *Radiocommunication and Broadcasting Antenna Systems*, "current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with Safety Code 6." (at pg. 13). We note that existing provincial and federal regulations for the permitting of telecommunication towers do not require applicants to provide research or studies to prove these facilities will have no health effect on local residents.
7. Issues related to impact on property values are outside the scope of this application. As stated in CPC-2-0-03 — *Radiocommunication and Broadcasting Antenna Systems*, "potential effects that a proposed antenna system will have on property values" is not a "relevant" concern (pg. 8) and, therefore, applicants are not required to address it.
8. As we confirmed in our "Conditions and Declarations" document, the tower will be designed and operated in accordance with Health Canada's *Safety Code 6: Radiofrequency Exposure Guidelines* ("Safety Code"). We will retain a licensed engineer to ensure compliance with the *Safety Code*. Our obligation to comply with the *Safety Code* is ongoing and, at any time, we may be required, as directed by Innovation, Science and Economic Development Canada ("ISED"), to demonstrate compliance by (i) providing detailed calculations, and/or (ii) conducting site surveys and, where necessary, by implementing corrective measures (as required by CPC-2-0-20, *Radio Frequency (RF) Fields – Signs and Access Control*). We note that the radio equipment powering the antennas is designed for *Safety Code* adherence, and we will not operate it over the limit recommended by manufacturing specifications. For clarity, potential equipment malfunctioning would not lead to inadvertent power output

beyond *Safety Code* limits. Therefore, inspection of the equipment for this reason is not required.

Thank you,

Regards,

FRED

Fred Mullie

Director Business Development and Network Infrastructure Projects | [Core One Consulting](#)

18525 53rd Avenue, Suite 229, Surrey, BC V3S 7A4

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Submission #7: Shandelle Conrad

**From:** [REDACTED]  
**To:** [jdf.info](#)  
**Subject:** Contact Us - Submission  
**Date:** Thursday, October 13, 2022 1:46:46 PM

The following message was received through the form at 'https://www.crd.bc.ca/contact-us?r=juan-de-fuca-information'. Neither the name nor the e-mail address can be confirmed as accurate.

.....

**Your Name:**  
Shandelle Conrad

**Your Email Address:**  
[REDACTED]

**Message:**  
I am opposed to the tower proposed at Gordon's Rd & Valentine. This is an eco-sensitive area. The community has not been engaged.

Shandelle

Applicant's Response #7: Shandelle Conrad

**From:** [Fred Mullie](#)  
**To:** [Wendy Miller](#)  
**Subject:** Re: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Monday, October 31, 2022 11:19:51 AM  
**Attachments:** [image002.png](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,

Please see response below.

Shandelle Conrad

We acknowledge our responsibility under Innovation, Science and Economic Development Canada ("ISED") Procedures Circular CPC-2-0-03, Radiocommunication and Broadcasting Antenna Systems, for ensuring that antenna systems are installed and operated in a manner that respects the local environment and that complies with other statutory requirements. The community has been engaged in accordance with the JDF Policy. As part of this engagement, CRD posted on its website a notice of the application and an invitation for public input on September 15, 2022. The CRD's notice of application and invitation for comments was also published on the Sooke News Mirror on the same day.

Thank you,  
Regards,  
FRED



Submission #8: Ron King

**From:** [Ron King](#)  
**To:** [jdfinfo](#)  
**Subject:** Written Submission for file: LP000034  
**Date:** Thursday, October 13, 2022 6:00:57 PM

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hello;

I am an owner/occupier within 500 meters of the subject site (6246 Gordon Road) and would like to provide the following comments and questions about the application.

I feel that is important to voice my questions and concerns as I have noticed that information about this project seems to be fluid.

My family purchased and moved to our property nearly 20 years ago. We are very concerned about this project and the effects it could have on our community.

Why is a numbered company listed as the applicant and not a parent company or corporation?  
Is this for protection from possible liability?

Why is this rather large and expensive endeavor being proposed for a test?

What happens with the tower and equipment after the test is completed?

What is the proposed duration of the project? (from start of construction to end of testing experiment)

Who if anyone would be monitoring the construction process/progress and during testing/experimenting operations for potential harmful output from the testing equipment?

Who would assume liability if there were harmful health damages to local residents or properties as a result of construction or operations of the facility?

Has the possible harmful effects of the construction and operation of the facility been thoroughly investigated?

The area is a sensitive location as there is East Sooke Park adjacent to the proposed facility.

There is a public trail access to East Sooke Park adjacent to the proposed facility.

As mentioned by CRD "This area is important habitat for large carnivores as well as many smaller organisms including the Warty Jumping - Slug - a Species of Special Concern under the Federal Species at Risk Act"

Widening and constructing a larger access road would definitely have a negative impact.

We purchased our home and moved to this neighbourhood to enjoy the peaceful lifestyle that came with the area. If this facility is built, the negative effects would definitely compromise our daily lives. We chose to live here to be away from the effects and signs of industry, not to be living and now retired, adjacent to it.

The applicant mentioned that the project would be complying with Health Canada Safety Code 6 Guidelines. These are only safe in a perfect scenario. Who's to say that something harmful wouldn't go wrong? The potential damage can't always be seen or proven until long after it's done. An example would be with the tobacco industry and the effects of smoking causing extremely high risk for lung cancer in humans.

One may say that there is no science to prove there is harm to human health from RADIOCOMMUNICATIONS FACILITIES and one can also say that there is no science to prove otherwise.

My suggestion would be for this facility to be suitably constructed at a safe distance away from any residential neighbourhoods.

Thank you for your time and I look forward to your reply.



Applicant's Response #8: Ron King

**From:** [Fred Mullie](#)  
**To:** [Wendy Miller](#)  
**Subject:** Re: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Tuesday, November 08, 2022 9:21:01 AM  
**Attachments:** [image002.png](#)  
[image003.png](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,  
Please see response below.

**RON KING**

The bullets correspond to the various questions:

- The applicant, 1291956 B.C. ULC. will own and operate the tower and, therefore, is the appropriate named applicant. The applicant is the entity with legal authority to bind the company.
- On the subject of liability, we note that we are a Canadian corporation and, as such, subject to Canadian common law and applicable provincial and federal statutes.
- The purpose of the tower is to provide long-range, high-throughput data communications in the HF band to complement traditional, terrestrial transport technologies. The tower and associated antennas are needed to support our business activities in the area of data communications.
- We have not yet determined for how long we will operate the tower. Such determination depends on a number of factors that have yet to be assessed, including how well the tower will perform in the Proposed Site. When the tower is removed from the Proposed Site, we will comply with any legal requirements for reclamation and remediation of the site, as applicable.
- We have not yet determined for how long we will operate the tower. Such determination depends on a number of factors that have yet to be assessed, including how well the tower will perform in the Proposed Site. When the tower is removed from the Proposed Site, we will comply with any legal requirements for reclamation and remediation of the site, as applicable.
- The applicant and/or its contractors will monitor construction progress.
- As stated in CPC-2-0-03 — *Radiocommunication and Broadcasting Antenna Systems*, “current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with Safety Code 6.” (at pg. 13). We note that existing provincial and federal regulations for the permitting of telecommunication towers do not require applicants to provide research or studies to prove these facilities will have no health effect on local residents.
- As we confirmed in our “Conditions and Declarations” document, the tower will be designed and operated in accordance with Health Canada’s Safety Code 6: Radiofrequency Exposure Guidelines (“Safety Code”). We will retain a licenced engineer to ensure compliance with the Safety Code. Our obligation to comply with the Safety Code is ongoing and, at any time, we may be required, as directed by Innovation, Science and Economic Development Canada (“ISED”), to demonstrate compliance by (i) providing detailed calculations, and/or (ii) conducting site surveys and, where necessary, by implementing corrective measures (as

required by CPC-2-0-20, Radio Frequency (RF) Fields – Signs and Access Control)

- Our evaluation of the environmental conditions in the area of the proposed tower location (the “Proposed Site”) confirmed that the tower is unlikely to cause negative environmental impacts. Along the Valentine Road, there is an area noted as “riparian and sensitive,” but this area is not in close proximity to the Proposed Site. We will ensure the tower is installed and operated in a manner that complies with statutory requirements, such as those under the *Migratory Birds Convention Act* (1994, SC 1994, c 22) and the *Species at Risk Act* (SC 2002, c 29), as applicable. We note that the tower is not expected to represent a source of light pollution in the surrounding area. Once our proposal is reviewed by Transport Canada, we will inform the community of Transport Canada’s marking/lighting requirements for the tower. As indicated in our “Community Impact Statement,” we do not anticipate the need for day lighting. We do not anticipate constructing a large access road for the tower. However, a small section of Valentine Road will be temporarily widened for construction vehicle access to the Proposed Site. We note that the road widening will be backfilled once construction is completed.

Thank you,  
Regards,  
FRED

Submission #9: Natalia Day

**From:** [Natalia Day](#)  
**To:** [jdfinfo](#)  
**Cc:** [Jain Lawrence](#); [Wendy Miller](#)  
**Subject:** Application for Radiocommunication Tower - 6246 Gordon Road  
**Date:** Thursday, October 13, 2022 6:18:18 PM

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hello,

This message is regarding the proposed radio communications tower for 6246 Gordon Road.

I wish to have the following questions answered by the applicant.

Who is the actual owner of the tower? As Core One Consulting is likely representing someone, who are they representing?

What is the intended purpose of their 'experiment' and how does that relate to use of the tower over the long term?

What benefits will this tower bring to East Sooke, and the JDF?

What laboratory results has this testing generated, and how has that deemed field testing to be safe?

What other locations are currently being considered to complete this testing?

Should residents suffer consequences as a result of this testing (health impacts, property value decline) who is responsible?

What will be done to mitigate light pollution, and impacts to resident's view?

It has been stated that the tower height will be in excess of the current tree canopy. What will the applicant do to ensure it is not an eye-sore for residents?

Thank you.

Natalia Day

Applicant's Response #9: Natalia Day

**From:** [Fred Mullie](#)  
**To:** [Wendy Miller](#)  
**Subject:** Re: Submission Received - CRD File LP000034/6246 Gordon Road  
**Date:** Tuesday, November 08, 2022 9:27:08 AM  
**Attachments:** [image001.png](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hi Wendy,

Please see below response

**NATALIA DAY**

1. Core One Consulting is representing the applicant, 1291956 B.C. ULC.
2. The purpose of the tower is to provide long-range, high-throughput data communications in the HF band to complement traditional, terrestrial transport technologies. The tower and associated antennas are needed to support our business activities in the area of data communications.
3. Regarding benefits to East Sooke and the Juan de Fuca community, we may consider, on a case-by-case basis, third-party requests to collocate additional equipment on the tower for the purposes of hosting safety/emergency services telecommunication infrastructure. We note we will only consider collocation requests for the strict purpose of safety and/or emergency services and not for business or commercial purposes.
4. As we confirmed in our "Conditions and Declarations" document, the tower will be designed and operated in accordance with Health Canada's *Safety Code 6: Radiofrequency Exposure Guidelines* ("Safety Code"). We will retain a licensed engineer to ensure compliance with the *Safety Code*. Our obligation to comply with the *Safety Code* is ongoing and, at any time, we may be required, as directed by Innovation, Science and Economic Development Canada ("ISED"), to demonstrate compliance by (i) providing detailed calculations, and/or (ii) conducting site surveys and, where necessary, by implementing corrective measures (as required by CPC-2-0-20, *Radio Frequency (RF) Fields – Signs and Access Control*). We note that the radio equipment powering the antennas is designed for *Safety Code* adherence, and we will not operate it over the limit recommended by manufacturing specifications. For clarity, potential equipment malfunctioning would not lead to inadvertent power output beyond *Safety Code* limits. Therefore, inspection of the equipment for this reason is not required.
5. At present, no other locations are being considered for the installation of this tower other than the Proposed Site. However, we have received a statement of concurrence and ISED license to install a tower for similar research reasons in Essex, Ontario. The Essex tower has been in operation since February 2022.
6. Issues related to impact on property values are outside the scope of this application. As stated in CPC-2-0-03 — *Radiocommunication and Broadcasting Antenna Systems*, "potential effects that a proposed antenna system will have on property values" is not a "relevant" concern (pg.

8) and, therefore, applicants are not required to address it. As stated in CPC-2-0-03 — *Radiocommunication and Broadcasting Antenna Systems*, “current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with Safety Code 6.” (at pg. 13). We note that existing provincial and federal regulations for the permitting of telecommunication towers do not require applicants to provide research or studies to prove these facilities will have no health effect on local residents.

7. We note that the tower is not expected to represent a source of light pollution in the surrounding area. Once our proposal is reviewed by Transport Canada, we will inform the community of Transport Canada’s marking/lighting requirements for the tower. As indicated in our “Community Impact Statement,” we do not anticipate the need for day lighting. In accordance with CRD’s *Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy* (“JDF Policy”) we will avoid the display of any type of lighting except where required by Transport Canada. If lighting is required for security reasons, we will endeavour to shield it from adjacent properties and keep it to a minimum intensity (ensuring, where possible, it is downward facing and motion-sensory designed). Further, we will comply with the setback from adjacent dwellings imposed by the JDF Policy, or a different setback as may be required by CRD.
8. We have taken steps to minimize any potential issues regarding visual aesthetic impact. One of the main reasons we selected the Proposed Site was its close proximity to two existing communication towers. We also considered the Proposed Site to be appropriate as it is distant from community sensitive locations. Additionally, the proposed tower and antenna have a low-profile visual impact.

Thank you,  
Regards,  
FRED

**From:** [Ron King](#)  
**To:** [jdfinfo](#)  
**Subject:** Submission for file: LP000034  
**Date:** Thursday, October 13, 2022 8:57:37 PM  
**Attachments:** [Names for Tower 1 \(1\).pdf](#)

**CAUTION:** This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Hello;

Please accept this community petition started by some local neighbours who oppose the tower in the Coppermine Area of East Sooke. As of right now, we have 90 supporters. Their names and postal codes are attached. We hope that you consider this information as part of the community engagement process. The petition was only started on Monday and people are still signing. If I can send you an updated list in the future please let me know. Thank you for your attention to this matter.

Ron King

53/90 East Sooke or Sooke (59%)

64/90 CRD (71%)

26/90 Outside area (29%)

*Say No to Proposed East Sooke 'Experimental' Radio Tower*  
*Petition Names and Location*  
*10/13/2022 5:00PM*

Shandelle Conrad	V9Z	
Joshua Stewart	V9Z	
Brook Reed	V9Z	
Eric Hughes	V9Z	
Oleksiy Dzyuba	M3J	
Ali Samavati I	T3A	
Judy Bruce	L9Z 2B1	
Ellen Hurst	V9Z 1B2	
Stefan Nowak	V9Z 1B3	
Kerry Mewhort	VoH 1T0	
Brynn Watson	V5R	
m mil	V9Z	
Elnaz jajouei		
moghadam	V5P	
Joan Hughes	K2M 2N6	
Nicci Simon	V9Z	
Corey Phillips	M6P	
John Palliser	V9Z	
Jessica Petley	V5K	
Alex Stringer	V9Z	
Rick Mcmurdo	V9Z	
Wayne Skeritt	K2M2N6	
Jacqueline Klose		64720
Armaghan Keshmiri	V6V 3z1	
Maryam Mahmoudi	V6	
Jennifer Bryce	V9Z	
Steven Grebanier	V8r1g5	
Pamela Boulding	V2M 2Z6	
Mailo Paukkunen	V0R 1A1	
Doug Gradecki	B0K 1V0	
Katharine Allen	V9Z	
Michelle Landry	V9Z	
Dana Hughes	V9A3M7	
Lynn Noel	V9Z	
Julie Hughes	V9Z	
Rebecca Clarke-Coates	V9Z	

*Say No to Proposed East Sooke 'Experimental' Radio Tower*  
*Petition Names and Location*  
*10/13/2022 5:00PM*

Manon Bolliger	V0N 1G2	
Alison Charlton	V9Z1A9	
Cory Hobbs	V9Z	
Reiner Meyer	V9Z	
Peter Andrachuk	V9Z	
D G	v8v2p6	
Erica McMillen	V9Z	
Terrie Wilcox	V9B	
Ute Schnarr	V9Z 1A2	
Stefanie Russell	V9Z	
Dana Livingstone	V9Z 1B3	
Genessa Henderson	V9Z0Z7	
Jocelyne Thibeault	V9Z	
Melanie Walton	V9Z1A9	
Luke Thonp	V6B	
Jenna Hobbs	V9z1a9	
Barbara Quick		95954
Steve Pridgeon	V9Z	
Nelson Karger	V3T	
Sarah Buchinski	V9Z	
Keldi Forbes	V9Z	
Nkhia Furlow		36701
haymanpt yimam		89129
Cameron Armstrong		96819
Mercedes Arias		11234
Lenore Black	L3R	
Alexandra Collicott	V9Z	
Wes Collicott	V9Z	
Madison Grothen	V3N	
Marion Schubert	V9B	
Richard Champ	V9Z	
Wendy Cooper	V9Z	
Chris Lewis	V9Z	
Madison Frost	V9Z	
Jesse Baker	V9A	
Noah Morgan	V9A	
Krissy Forward	V9A	



*Say No to Proposed East Sooke 'Experimental' Radio Tower*  
*Petition Names and Location*  
*10/13/2022 5:00PM*

Levi Clark	V6K	
Catherine Albertson	V9C 4H9	
Justin Rebelo	V9Z1B1	
T Forbes	V9Z	
Elizabeth Summers	V9Z	
Les Smith	V9Z	
Krista Kielbusiewicz	V9Z	
J. Hutchins	V9Z	
Bonnie Thynne	V9Z	
Sandra Meyer	V9Z	
Charlotte Senay	V9Z 1A6	
Kimberley McTaggart	V9Z 1A1	
Aleana Repay	V9Z	
Leslie Sharon	V8W 1K2	
S White		98160
Amy Stringer	V9Z	
Nico Mennie	V9Z	
Brad Jones	T6W 1E7	

Appendix D: Response Matrix

Residents' Comments re Telecommunications Tower

Categories	Residents' comments	Applicant's response:
<p>Environmental concerns – including:</p> <ul style="list-style-type: none"> <li>Wildlife</li> </ul>	<p>Concerns/Questions regarding:</p> <ul style="list-style-type: none"> <li>The tower would be a source of light pollution as it would be too high above the existing forest canopy, affecting nearby wildlife passages.</li> <li>This is an eco-sensitive area.</li> <li>Widening and constructing a larger access road would have a negative impact.</li> <li>Proposed experimental radio communications tower is not appropriate for a residential neighborhood beside East Sooke Park.</li> </ul>	<p>Our evaluation of the environmental conditions in the area of the proposed tower location (the "Proposed Site") confirmed that the tower is unlikely to cause negative environmental impacts. Along the Valentine Road, there is an area noted as "rural and sensitive," but this area is not in close proximity to the Proposed Site.</p> <p>We acknowledge our responsibility under Innovation, Science and Economic Development Canada ("ISED") <i>Procedures Circular CPC-2-0-03: Radiocommunication and Broadcasting Antenna Systems</i>, for ensuring that antenna systems are installed and operated in a manner that respects the local environment and that complies with other statutory requirements.</p> <p>We note that the tower is not expected to represent a source of light pollution in the surrounding area. Once our proposal is reviewed by Transport Canada, we will inform the community of Transport Canada's marking/lighting requirements for the tower. As indicated in our "Community Impact Statement," we do not anticipate the need for day lighting.</p> <p>We do not anticipate constructing a large access road for the tower. However, a small section of Valentine Road will be temporarily widened for construction vehicle access to the Proposed Site. We note that the road widening will be backfilled once construction is completed.</p> <p>The purpose of the tower installation is to allow us to gather data on the performance of such towers in remote locations. However, the technology of the tower is not novel and has been widely used in the last decades. Similarly, the frequency at which we proposed to operate the antenna is not "experimental."</p>
<p>Health concerns – including:</p> <ul style="list-style-type: none"> <li>Electromagnetic field concerns</li> <li>Compliance with radiofrequency requirements</li> <li>Issues with liability associated with health concerns</li> <li>Light pollution</li> </ul>	<p>Concerns/Questions regarding:</p> <ul style="list-style-type: none"> <li>The tower would be a source of light pollution as it is too close to many residences.</li> <li>There are concerns about a high-powered antenna transmitting within proximity of residences.</li> <li>Despite the project being compliant with Health Canada Safety Code 6 Guidelines, there remain concerns with the potential damage not being seen until after testing is completed.</li> <li>Number of antennas</li> <li>Power outputs of antennas</li> <li>Expected measurable radio frequency ("RF") radiation at 50m, 100m, 250m, 500m of the tower</li> <li>Whether there will be regular RF level testing and applicable remedy if test results indicate non-compliance</li> <li>monitoring for health impacts associated with this experiment</li> <li>liability if there are health effects</li> <li>Whether research has been conducted to prove field testing is safe or has no effect on the residents</li> </ul>	<p>As we confirmed in our "Conditions and Declarations" document, the tower will be designed and operated in accordance with Health Canada's <i>Safety Code 6: Radiofrequency Exposure Guidelines ("Safety Code")</i>. We will retain a licensed engineer to ensure compliance with the <i>Safety Code</i>.</p> <p>Our obligation to comply with the <i>Safety Code</i> is ongoing and, at any time, we may be required, as directed by Innovation, Science and Economic Development Canada ("ISED"), to demonstrate compliance by (i) providing detailed calculations, and/or (ii) conducting site surveys and, where necessary, by implementing corrective measures (as required by CPC-2-0-20, <i>Radio Frequency (RF) Fields – Signs and Access Control</i>). We note that the radio equipment powering the antennas is designed for <i>Safety Code</i> adherence, and we will not operate it over the limit recommended by manufacturing specifications. For clarity, potential equipment malfunctioning would not lead to inadvertent power output beyond <i>Safety Code</i> limits. Therefore, inspection of the equipment for this reason is not required.</p> <p>As stated in CPC-2-0-03 — <i>Radiocommunication and Broadcasting Antenna Systems</i>, "current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with <i>Safety Code 6</i>." (at pg. 13). We note that existing provincial and federal regulations for the permitting of telecommunication towers do not require applicants to provide research or studies to prove these facilities will have no health effect on local residents.</p>

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<p>Project details – including:</p> <ul style="list-style-type: none"> <li>Issues related to the project's purpose, location, ownership, duration, etc.</li> </ul>	<p>Concerns/Questions regarding:</p> <ul style="list-style-type: none"> <li>The ownership of the tower.</li> <li>Why is a numbered company listed as the applicant as opposed to the parent or corporation?</li> <li>Why is this test of this scale and expense?</li> <li>What happens to the tower and equipment once the testing is completed?</li> <li>Proposed duration of the project (start of construction to end of testing).</li> <li>Installing another radio tower when one already exists.</li> <li>What is the intended purpose of the 'experiment' and how it relates to the use of the tower long term?</li> <li>What other locations are being considered to complete this testing?</li> <li>One resident indicated they do not want new technology or existing technology to be researched on its feasibility just above their house.</li> </ul>	<p>As for concerns regarding light pollution to nearby residences, in accordance with CRD's <i>Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy</i> ("JDF Policy") we will avoid the display of any type of lighting except where required by Transport Canada. If lighting is required for security reasons, we will endeavour to shield it from adjacent properties and keep it to a minimum intensity (ensuring, where possible, it is downward facing and motion-sensory designed). Further, we will comply with the setback from adjacent dwellings imposed by the JDF Policy, or a different setback as may be required by CRD.</p> <p>On the subject of liability, we note that we are a Canadian corporation and, as such, subject to Canadian common law and applicable provincial and federal statutes.</p> <p>Please see our response regarding the specific questions about the tower's technical specifications:</p> <ul style="list-style-type: none"> <li>The tower will have three antennas.</li> <li>The two high frequency ("HF") antennas will be transmitting &lt;1000W. The 10.7-11.7GHz microwave will be &lt;1W.</li> <li>Two antennas will be transmitting in the HF band 5-30MHz, and one will be transmitting in the 10.7-11.7GHz microwave band</li> </ul> <p>The applicant, 1291956 B.C. ULC, will own and operate the tower and, therefore, is the appropriate named applicant. The applicant is the entity with legal authority to bind the company.</p> <p>The purpose of the tower is to provide long-range, high-throughput data communications in the HF band to complement traditional, terrestrial transport technologies. The tower and associated antennas are needed to support our business activities in the area of data communications.</p> <p>Although our proposed tower may assist in evaluating the reliability of HF band usage for connectivity purposes in remote areas, we clarify that the purpose of the tower is to gather data on how it performs in a remote site. The type and purpose of the tower is not new to the industry and a number of similar towers exist in Vancouver Island. Additionally, we have undertaken extensive laboratory and testing on our communication system and associated equipment to ensure it will comply with the <i>Safety Code</i>.</p> <p>We have not yet determined for how long we will operate the tower. Such determination depends on a number of factors that have yet to be assessed, including how well the tower will perform in the Proposed Site. When the tower is removed from the Proposed Site, we will comply with any legal requirements for reclamation and remediation of the site, as applicable.</p> <p>At present, no other locations are being considered for the installation of this tower other than the Proposed Site. However, we have received a statement of concurrence and ISED licence to install a tower for similar research reasons in Essex, Ontario. The Essex tower has been in operation since February 2022.</p>	<p>The applicant and/or its contractors will monitor construction progress.</p>
<p>Construction Monitoring</p>	<p>Concerns/Questions regarding:</p> <ul style="list-style-type: none"> <li>Who will be responsible for monitoring the construction progress?</li> </ul>		

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Visual Impact and Impact on property values – including: • Compensation for reduced property values	Concerns/Questions regarding: • The tower would detract from the natural beauty of the local park and neighbourhood and reduce residential property values. • Who will be responsible for the decline property value as a result of this experiment? • What will be done to mitigate impacts to resident's views since the tower height will be above the current tree canopy?	Issues related to impact on property values are outside the scope of this application. As stated in CPC-2-0-03 – <i>Radiocommunication and Broadcasting Antenna Systems</i> , "potential effects that a proposed antenna system will have on property values" is not a "relevant" concern (pg. 8) and, therefore, applicants are not required to address it.  We have taken steps to minimize any potential issues regarding visual aesthetic impact. One of the main reasons we selected the Proposed Site was its close proximity to two existing communication towers. We also considered the Proposed Site to be appropriate as it is distant from community sensitive locations. Additionally, the proposed tower and antenna have a low-profile visual impact.
Lack of Notice	Concerns/Questions regarding: • Applicant's failure to provide affected resident with proper notice and allow them an opportunity to comment on the proposal. • Lack of community engagement on the proposal.	The community has been engaged in accordance with the JDF Policy. As part of this engagement, CDR posted on its website a notice of the application and an invitation for public input on September 15, 2022. The CPD's notice of application and invitation for comments was also published on the Sooke News Mirror on the same day.
Benefits	Concerns/Questions regarding: • What benefits the tower will bring to East Sooke and JDF • Various residents rose concerns about moving to this neighborhood to be away from industry	As indicated above, it is not anticipated the tower will negatively impact the nearby residents as it will be compliant with applicable safety measures and has been designed to minimize as much as possible potential visual impacts.  Regarding benefits to East Sooke and the Juan de Fuca community, we may consider, on a case-by-case basis, third-party requests to collocate additional equipment on the tower for the purposes of hosting safety/emergency services telecommunication infrastructure. We note we will only consider collocation requests for the strict purpose of safety and/or emergency services and not for business or commercial purposes.

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Appendix E: Referral Comments

Referral Response – CRD First Nations Relations

**From:** Shauna Huculak  
**Sent:** Monday, October 03, 2022 10:52 AM  
**To:** Iain Lawrence <[ilawrence@crd.bc.ca](mailto:ilawrence@crd.bc.ca)>; Wendy Miller <[wmiller@crd.bc.ca](mailto:wmiller@crd.bc.ca)>  
**Cc:** Caitlyn Vernon <[CVernon@crd.bc.ca](mailto:CVernon@crd.bc.ca)>  
**Subject:** RE: Referral: Radiocommunications Tower Application at 6246 Gordon Road - East Sooke (LP000034)

Recommendations:

Although the property is not located within or immediately adjacent to a registered *Heritage Conservation Act* (HCA) protected archaeological site, it is located in an area of **archaeological potential** as determined by the Provincial archaeological overview assessment (CRD 2008) available via the *Remote Access to Archaeological Data* (RAAD) manage by the BC Archaeology Branch (Ministry of Forests). A search of RAAD was undertaken by the CRD on 3-October-2022 as related to Referral: Radiocommunications Tower Application at 6246 Gordon Road - East Sooke (LP000034).

The search indicated that the closest registered archaeological site is located ~800m north of the proposed Radiocommunications Tower. Given that there is no registered archaeological site on the property, a Provincial *Heritage Conservation Act* permit is not required to undertake the work. However, a Provincial *Heritage Conservation Act* permit will be required if archaeological deposits, features or materials are exposed and/or encountered during land-altering activities that includes tree felling. Unpermitted damage or alteration of a protected archaeological site is a contravention of the *Heritage Conservation Act* and requires that land-altering activities be halted until the contravention has been investigated and permit requirements have been established. This can result in significant project delays.

All archaeological sites, whether on Provincial Crown or private land (including land under water) that are known or suspected to predate AD 1846, are automatically protected under the HCA (S.13) this includes culturally modified trees. Certain sites, including human burials and rock art sites with heritage value, are automatically protected regardless of their age. Shipwrecks and plane wrecks greater than two years of age are also protected under the HCA. The *Heritage Conservation Act* does not distinguish between those archaeological sites which are "intact," (i.e., those sites which are in a pristine, or undisturbed state) and those which are "disturbed" (i.e., those sites which have been subject to alteration, permitted or otherwise). All

archaeological sites, regardless of condition, are protected by the HCA, as described above. *Heritage Conservation Act* -protected archaeological sites or objects cannot be disturbed or altered without a permit issued by the Archaeology Branch (Ministry of Forests).

Referral Response – CRD Regional Parks

**From:** [Lynn Wilson](#)  
**To:** [Wendy Miller](#)  
**Cc:** [Larissa Rathwell](#); [Mike Macintyre](#)  
**Subject:** RE: Referral: Radiocommunications Tower Application at 6246 Gordon Road - East Sooke (LP000034)  
**Date:** Monday, October 03, 2022 11:30:17 AM  
**Attachments:** [RE Transmission Tower application at 6246 Gordon Road Sooke B.C. .msq](#)  
[image001.png](#)

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Hi Wendy:

Based on our review of the referral package documents and additional information provided by the proponent (see attached from Fred Mullie on behalf of 1291956 B.C. Unlimited Liability Company), we don't believe the transmission tower at 6246 Gordon Road in East Sooke will unduly impact CRD Regional Park interests for East Sooke Regional Park. Our primary concern is siting of the transmission tower in such a way that it minimizes the height difference between the tower and surrounding trees in order to reduce its visual impact on park visitors. We also do not support any trail or road development from the tower compound into East Sooke Regional Park.

If any significant changes are proposed to the application during the review and approvals process, we would like to request another opportunity to comment on the referral prior to project approval.

Please feel free to reach out to me if you have any questions or comments.

Thank you,  
Lynn

Lynn Wilson M.A., RPP MCIP | Park Planner  
Regional Parks | Capital Regional District  
490 Atkins Avenue, Victoria, BC V9B 2Z8  
T: 250.360.3369 | C: 250.889.8029  
[www.crd.bc.ca](http://www.crd.bc.ca) | [Facebook](#) | [Twitter](#) | [YouTube](#)





In order to prepare comments on the application, I have a few questions that I am hoping you can answer:

- How tall is the proposed tower in relation to the existing tower on the Gordon property? The proposed tower height is at 45 meters. The existing tower on the Gordon property is 36 meters tall. Note that the proposed tower is quite a ways downhill from the existing (Rodgers) tower so that AMSL (above mean sea level) difference in height of the two towers is significantly lessened.
- How tall is it in relation to surrounding trees or other built structures? The local tree canopy is roughly 38 meters tall.
- Do you know if the height of the new tower will be visible to people using trails in East Sooke Regional Park—particularly along the northern parts of the Anderson Cove Trail, Copper Mine Trail, and from the summit of Mount Maguire (summit elevation is 268m)? Tower visibility will be mainly determined by the viewing angle of the person. The tower will be hidden from view from most vantage points on the roads/towns due to the rolling terrain of the area. The tower may be visible from certain higher elevations; however it is hard to specify exactly where as this is dependent on the angle and viewing position of the viewer.
- Does the proposed lease area include any portion of the adjacent East Sooke parcel to the west of the tower site? (it is a little unclear where the lease area boundary is relative to the property boundary) No.
- Does the tower emit any noise or sound related to its operation that would impact wildlife or park visitors in the nearby vicinity? The tower does not emit any impactful sounds.
- Will any trails or other access points be developed between the tower site and East Sooke Regional Park? This is not currently in the development plans.
- Should park visitors in the vicinity of the tower be concerned about any potential health issues arising from the operation of this tower? No, this antenna uses a mature and tested technology which does not pose any potential health issues to people in the vicinity of the tower.
- Will the installation and operation of the tower result in any predicted harms to wildlife that may use this area to travel to/from East Sooke Regional Park? (i.e., will wildlife be allowed to safely travel through the site outside of the fenced area?) We do not predict any harms to wildlife. Wildlife will be able to travel safely outside of the fenced compound.
- What is the predicted need for servicing and maintaining the tower, from a traffic volume/type/timing perspective? Very minimal once construction is complete. Estimated between (2) and (6) visits annually, dependent on ground equipment replacement needs. Service and maintenance, when necessary, can mostly be done with one to two workers in a standard work truck.
- Are there examples of similar towers installed elsewhere that you can send pictures of? (i.e., the site plan shows a significant structure going in, and it would be good to see what it looks like in relation to its environment elsewhere). Similar tower deployments done by 1291956 BC ULC have been in very dissimilar environments (open fields) and would not be illustrative of how the proposed structure would look in relation to the environment.

Appendix F: Evaluation Criteria

Evaluation Criteria:

The CRD Board may consider the following when reviewing an application for an antenna system:

1. Rationale for proposed location;
2. Proximity to residential uses, institutions and public lands;
3. Visibility and measures to integrate the antenna system into the local surroundings;
4. Security measures;
5. Alternatives and/or mitigation measures;
6. Hazardous areas;
7. Environmentally sensitive areas;
8. Transport Canada's aeronautical safety requirements;
9. Referral responses including compliance with BC Building Code, if applicable;
10. Comments received through public notification;
11. Potential impact on the community if the application is approved.
12. Designs that address the following guidelines:
  - i) antenna systems are as unobtrusive and inconspicuous as possible;
  - ii) the visual aesthetic impacts on the community is minimized;
  - iii) landscaping or screening is incorporated;
  - iv) displays of any type of lighting are avoided except where required by Transport Canada. Where lighting is proposed for security reasons, it shall be shielded from adjacent properties and kept to a minimum intensity by being of capped, downward facing and motion-sensory designs;
  - v) antenna systems are set back at least three times the height of the antenna system from adjacent dwellings. The CRD may request a different setback due to factors such as buffering topography and vegetation, transportation and utility corridors, watercourses, or public comments.



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## **SUPPLEMENTAL REPORT TO THE JUAN DE FUCA LAND USE COMMITTEE MEETING OF TUESDAY, NOVEMBER 21, 2023**

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**SUBJECT**      **Radiocommunication and Broadcasting Antenna Systems Application for Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290 - 6246 Gordon Road**

### **ISSUE SUMMARY**

To consider supplemental information submitted by Greenwave Radio, formerly known as 1291956 BC ULC (the “proponent”), for an application for a 49 m radio communication antenna system (the “tower”).

### **BACKGROUND**

LP000034 was previously considered by the Land Use Committee (LUC) and CRD Board in accordance with the CRD’s Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy (CRD Policy) and Innovation, Science and Economic Development Canada (ISED) Circular CPC-2-0-03. At its meeting of January 17, 2023, the LUC considered public input and recommended that the CRD Board issue a statement of non-concurrence for the application (Appendices A and B). At its meeting of February 8, 2023, the CRD Board discussed the LUC recommendation, procedure, jurisdiction, siting, and potential impacts. The CRD Board directed that the issue be referred back to the LUC and area residents for the proponent to provide more clarity on the application’s intention (Appendix C).

The approximately 18.4 hectare (ha) subject property is located at 6246 Gordon Road (Appendix D). There is an existing tower on the property, operated by Rogers Communications, which is located approximately 25 m to the north of the proposed tower site. A second tower, operated by Telus, is located on Crown land, approximately 200 m to the west of the proposed tower site.

Application LP000034 has been revised by Greenwave Radio to include additional information for a 49 m radio communication antenna system. The revisions also include minor design changes to the arrangement of communication systems on the tower (Appendix E). As the land use authority for the application, the CRD Board is requested to provide a statement of concurrence or non-concurrence to the applicant and ISED.

Matters that are considered relevant and may be considered in determining whether to issue a statement of concurrence or non-concurrence include siting, site safety and security, visibility or aesthetics and local context. ISED makes the final decision on disputes and concurrence by reviewing only relevant considerations.

### **IMPLICATIONS**

#### *Public Consultation and Referral*

In accordance with CRD Policy, the original application was referred to applicable CRD departments, a notice was published in the local newspaper, and a notice was delivered to property owners and occupants within 500 m of the subject property to advise of the application and the opportunity to provide written comments and questions. The notice was published on September 15, 2022, and submissions were to be received by 9:00 am on October 14, 2022. Nine submissions and a web petition with 90 names were received for LP000034 during the notification period and forwarded to the proponent for response. All comments received from the public and CRD departments with the proponent’s response matrix were maintained as public record and provided in the staff report for the January 17, 2023, LUC meeting.

As part of the consultation and LUC review process, an interest list was maintained by JdF Planning staff. Those individuals who expressed interest in the application were notified of the November 21, 2023, LUC meeting. In addition, a further notice of the November 21, 2023, LUC meeting was delivered to property owners and occupants within 500 m of the subject property to advise of the public meeting.

*Supplementary Information*

At its meeting of February 8, 2023, the CRD Board discussed the LUC's recommendation of non-concurrence. The Board heard from delegations that included local residents and a representative for the proponent, and passed the following resolution:

**MOVED** by Director Tait, **SECONDED** by Director Kobayashi,  
That the issue be referred back to the Juan de Fuca Land Use Committee to provide more clarity to the committee and area residents on the intention of the application.

**CARRIED**

Opposed: Wickheim

The Board sought clarity on a number of items including: 1) the purpose of the tower and the application of what was described as experimental technology; 2) the jurisdiction of the tower; 3) the referral process; 4) the effect of the tower in responding to increased marine activity, including tanker traffic; and 5) requirements for co-location of equipment on existing towers or on the proposed tower. In response, the proponent has provided supplementary information including materials presented at its public open house session held at the East Sooke Community Hall on September 13, 2023 (Appendix F).

The original application information stated that the proposed tower is private infrastructure for business communication purposes, specifically for Greenwave Radio. The supplementary information clarified that the purpose of the tower is to supplement and act as redundancy for existing cable and fiber optic infrastructure. The antenna system will use existing radio communication technology that operates in the 7.5 to 23.5 MHz (short-wave radio) frequency range. In addition, a microwave antenna will be installed to enable point-to-point communication with a separate tower to provide uninterrupted last-mile connectivity in the event of a fibre or cable line disruption affecting their corporate network. The proponent has provided information stating that energy from the microwave antenna will be concentrated in a direct beam and does not contribute to exposure at ground level. There are no intended consumer services for personal residences, delivery vehicles, or marine traffic. The proponent has also stated that Greenwave Radio is not associated with government, military, cellular service providers, or new wireless/mobile technology. Personal data will not be monitored, collected and/or stored. The more recently developed technology, which was described as "experimental" in the original application, involves channel switching to adapt to changes in the ionosphere for improved reception.

While the proposed tower is sited in the East Sooke community of the Juan de Fuca Electoral Area on lands subject to CRD land use authority, the application is subject to final approval by ISED Canada. The CRD's role is to provide a statement of concurrence or non-concurrence in relation to matters that are under its purview. As the approving authority, ISED may resolve potential disputes that arise between the land use authority and the proponent either by making a final decision on the issue in question or by suggesting an alternate dispute resolution process. Should a dispute continue, either party may request that ISED make the final decision.

The supplementary information included an updated tower design (Appendix E) with space for the Island Trunk VHF/UHF Radio System to improve search and rescue communications south of the Malahat. In accordance with CPC-2-0-03, there may also be potential for co-location of consumer communication services in the future. The proponent has also suggested that the tower could include sensors for early wildfire warning; however, any agreements for equipment or infrastructure benefiting the public would need to be resolved outside the ISED public consultation process.

CPC-2-0-03 explains that proponents are not normally expected to construct a new tower where supporting structure exists and co-location is feasible, unless a new structure is preferred by the land-use authority. The proponent retained a site acquisition consultant who identified 11 potential sites within the CRD. The evaluation is summarized in Appendix F, Annex B. Co-location is neither feasible on the Rogers' tower due to its limited height, nor on the Telus (SBA) tower due to its structural limitations and the proponent's antenna requirements. The supplementary information includes a summary of rationale for the new tower and a visual impact assessment by Underhill Geomatics.

Additional supplementary information included information from the proponent's public open house (Appendix F, Annex D), statements regarding health and safety that include a Safety Code 6 Compliance Review (Appendix F), and comparative information related to power use. While health and safety concerns related to radio systems are outside the scope of local government consideration, the proponent has advised that typical transmitter power output is in the range of 400-600 W, with a maximum output of

1,000 W.

**CONCLUSION**

Application LP000034 for the construction of a 49 m telecommunications antenna system at 6246 Gordon Road by Greenwave Radio was considered by the Land Use Committee on January 17, 2023. The LUC passed a motion recommending that a statement of non-concurrence be provided to the proponent. The Regional Board considered the LUC's recommendation at their meeting of February 8, 2023, and passed a referral motion directing that the item be referred back to the LUC for consideration of additional information from the proponent. The proponent has submitted supplementary information for the LUC's consideration.

**RECOMMENDATION**

There is no recommendation. This report is for information only.

Submitted by:	Iain Lawrence, MCIP, RPP, Senior Manager, JdF Local Area Services
Concurrence:	Kevin Lorette, P.Eng., MBA, General Manager, Planning & Protective Services
Concurrence:	Ted Robbins, B.Sc., C. Tech., Chief Administrative Officer

**ATTACHMENTS**

Appendix A: Staff Report to the LUC, January 17, 2023  
Appendix B: Land Use Committee Minutes, January 17, 2023  
Appendix C: CRD Board Minutes, February 8, 2023  
Appendix D: Subject Property Map  
Appendix E: Tower Design Changes  
Appendix F: Supplementary Application Information

Appendix A: Staff Report to the LUC, January 17, 2023

The January 17, 2023, staff report and appendices can be found at the following link:

[Capital Regional District - File #: 23-010 \(legistar.com\)](#)



Appendix B: Land Use Committee Minutes, January 17, 2023

**Juan de Fuca Land Use Committee Meeting Minutes  
January 17, 2023**

**2**

**7. Planner's Report**

**a) Powers of the Committee as Prescribed by Bylaw No. 3166, "Juan de Fuca Land Use Committee Bylaw No. 1, 2004"**

Iain Lawrence outlined the LUC's composition and its powers, as granted by the CRD Board by Bylaw No. 3166.

At 7:10 pm Natalia Day recused herself from participating in the proceedings related to the application at 6246 Gordon Road due to a non-pecuniary conflict of interest as a resident living in proximity to the proposed site.

**8. Radiocommunication and Broadcasting Antenna Systems Application**

**a) LP000034 - Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290 (6246 Gordon Road)**

Iain Lawrence spoke to the staff report for the application received from 1291956 BC ULC for a 49 m radio communication antenna system for the purpose of providing long-range, high-throughput data communications in the high frequency band to support business activities in the area of data communications.

Iain Lawrence outlined the public consultation process required by the Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy. It was advised that CRD First Nations Relations responded to the referral sent to CRD departments commenting that the closest registered archaeological site is located ~800 m north of the proposed tower. CRD Regional Parks commented that its primary concern is that the tower be sited in such a way as to minimize the height difference between the tower and the surrounding trees in order to reduce its visual impact on park visitors. CRD Regional Parks further replied that it does not support any trail or road development from the tower compound into East Sooke Regional Park.

Iain Lawrence highlighted the subject property, tower proposal and site photos. The existing towers on site and adjacent to the subject property were identified.

Iain Lawrence advised that nine submissions and a web petition with 90 names were received for LP000034 during the notification period. Attention was directed to the 24 submissions and the updated petition received and circulated in the supplementary agenda. It was reported that the updated petition with 221 names is in opposition to the proposal and that submission comments stated concern regarding radiofrequency electromagnetic fields (EMF) impact on the public and wildlife, the outdatedness of Health Canada's standards, the experimental nature of the proposal, impact of construction on roads, and benefit to the community. Staff is recommending that a statement of concurrence be provided, as the proposal addresses the evaluation criteria in the CRD's Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy and as the concerns raised in the submissions are outside the scope of the Innovation, Science and Economic Development Canada's Procedures Circular (ISED) CPC-2-0-03.

The Chair confirmed that the application representatives were present.

Liv Desaulniers introduced herself as counsel for 1291956 BC ULC, Fred Mullie with Core One Consulting and Wayne Logan, director and part owner of 1291956 BC ULC.

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Wayne Logan stated that:

- the application representatives have reviewed the comments received
- Health Canada's Safety Code 6 is current and tested
- the purpose of the tower is to test short wave radio
- the data collected is the extent of the experiment
- 1291956 BC ULC's head office is located in Calgary with the majority of investors located in Canada
- 1291956 BC ULC has three approved towers in Ontario

Fred Mullie stated a Radio Frequency Engineer has provided a report confirming compliance with Safety Code 6

Lindsay Trowell, East Sooke

- asked where the three towers in Ontario are located
- asked why the subject property in East Sooke was selected
- East Sooke is rural and residents wish to keep it that way
- technology moves faster than regulation
- regulations are not keeping up with technology

Sean Minaker, East Sooke

- asked how close the Ontario towers are to residential uses

Eric Hughes, East Sooke

- asked the output of the Ontario towers
- asked if 1000W is considered a high transmission
- 1000W is considered a high transmission under US standards
- Safety Code 6 is outdated
- questioned if the proponent has Radio Frequency Engineers on staff
- application is causing tension in the community
- residents have moved to East Sooke due to its rural nature and distance from radio towers
- requested that consideration of the application be postponed, noting that this is the first meeting of the new LUC membership
- more information is required regarding frequencies/outputs

Shandelle Conrad, East Sooke

- Safety Code 6 is outdated
- the subject property is designated Settlement by the East Sooke Community Plan
- land for settlement/development in East Sooke is limited
- the subject property is capable of receiving piped water
- the subject property is not in an industrial area
- the subject property is not in the middle of nowhere
- more details are required before a decision is made
- residents have been consulted but opportunity to appeal has not been given

Connor Nicol, East Sooke

- the CRD recently purchased a property across the street from the subject property to enhance East Sooke Regional Park and protect species at risk such as the Warty Jumping-slug

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Member of the public, East Sooke

- questioned the residency of the representatives
- questioned the number of protesters required for an alternative location to be considered
- asked the representatives to explain what they mean by traditional, terrestrial transport technologies, as stated in responses to residents
- asked how long it takes to install a tower
- did not move to East Sooke to live beside a 49 m tower
- asked that consideration of the application be postponed as experts in the field of radio frequency are not in attendance

Member of the public, East Sooke

- questioned if other industrial locations in western Canada could be considered for the project

Linda Minaker, East Sooke

- moved to East Sooke to live in a rural residential neighbourhood
- questioned how an industrial tower can be installed in a rural residential neighbourhood
- Regional Parks supports the tower being lower than the tree canopy
- asked the representatives to explain what they mean by traditional, terrestrial transport technologies, as stated in responses to residents

Josh Stewart, East Sooke

- minimal data has been provided
- questioned how changes in wattage and/or ownership are communicated
- questioned if the tower will be permanent

Ron King, East Sooke

- questioned how long the testing will last
- communications from the applicant indicate that the intent of the tower was for the duration of the testing

Zig Readers, East Sooke

- with testing there is generally an expected result/desired outcome
- questioned who the end customer will be, should the experiment be deemed successful

Member of the public, East Sooke

- questioned who is responsible for removing the tower

Kyle Darling, Port Renfrew

- questioned if 1291956 BC UCL would be selling, renting, or leasing space to another company

Dana Livingstone, East Sooke

- had to move from her previous home due health impacts from a radio tower
- asked the LUC to learn more before making a recommendation on the proposal
- other local governments have listened to residents
- concerned for the community, East Sooke Regional Park, local wildlife, including insects, and those who live with electromagnetic hypersensitivity (EHS)

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Member of the public, East Sooke

- many concerns have been expressed
- good questions have been asked
- if residents are being heard, another site should be considered

Charlotte Senay, East Sooke

- questioned who would own/operate of the tower
- questioned if there have been any studies on radio frequency impact on wildlife, including insects
- residents move to East Sooke to live with nature
- residents are taking issue with the proposal

Marg Friesen

- not all increases in tower height require public consultation
- 10.7 – 11.7GHz is not short wave
- the World Health Organization has established a task group on radiofrequency fields and health risks
- requested that consideration of the application be postponed until all requested information is made available including information on the Ontario towers

Steve Pridgeon, East Sooke

- questioned if the technology is related to commercial drone control
- questioned if sight lines into/out of East Sooke Regional Park have been determined

Marcia Waterway, East Sooke

- questioned how many other sites were considered and where those sites are and why there were rejected

NJ Hewitt, East Sooke

- questioned why the environment and health are not considered relevant

Iain Lawrence read aloud from the ISED Client Procedures Circular CPC-2-0-03 which outlines public consultation items that are considered reasonable or unreasonable in the evaluation of the proposal.

Iain Lawrence responded to questions from the public advising that:

- health concerns are outside the scope of the matters that are considered relevant by the ISED Client Procedures Circular CPC-2-0-03
- health concerns are outside the scope of land use
- the Juan de Fuca Land Use Committee may recommend issuance of a statement of concurrence or non-concurrence to the CRD Board
- the CRD Board does not have the authority to approve or not approve antenna towers

**Juan de Fuca Land Use Committee Meeting Minutes**  
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The representatives responded to questions from the public advising that:

- the subject property was selected due to local climate and the property's proximity to microwave and potential for long-term testing
- the subject property is not in a densely populated area and has existing towers on site
- the proposed tower will have low visual impact
- other towers in the area were considered for co-location and were identified as not being suitable
- other areas/sites were considered and identified as not being suitable
- the towers in Ontario are located in an industrial area
- the Ontario towers were tested, meeting Safety Code 6 standards
- there are Radio Frequency Engineers on staff but not in attendance
- willing to appoint a communications representative to answer questions
- the technology is not new
- the technology that is being tested is short wave radio and not related to drone control
- the proposed tower and compound are located outside of the area designated sensitive by the CRD
- line of sight study has not been done
- CRD Regional Parks has stated that its interests will not be unduly impacted by the tower
- should concurrence be received, installation could start within six months with construction taking approximately two months
- 1291956 BC UCL would be the owner/operator of the tower
- ISED would need to be informed of changes to the tower
- 1291956 BC UCL has a one-year license for development/testing purposes
- the desired outcome of the experiment is to provide an alternative to fiberoptic cable for data transmission
- the long-term intention is a permanent tower
- there is no intention to invite co-location on this tower unless co-location is required by ISED
- 1291956 BC UCL would be responsible for tower removal
- the proposal is compliant with Health Canada's Safety Code 6
- the evaluation criteria in the CRD's Juan de Fuca Radiocommunication and Broadcasting Antenna Systems Application Policy has been met

LUC comments included:

- have heard the concerns expressed by the community
- acknowledge that health concerns are outside the scope of land use considerations
- insufficient rationale has been provided for the proposed location compared to alternate locations
- information on the Transport Canada's requirements for aeronautical markings has not been provided but a flashing light at the top is likely
- information on why the tower needs to be so high has not been provided
- it appears that the top of the tower with flashing light will be at the same level as the top of Mt. Maguire
- plan dimensions are difficult to understand as no scale has been provided
- it appears that the antenna will be 10 – 15 m wide and 6 – 11 m above the tree canopy
- no sight line report has been provided; however, based on location, height and topography, it appears that the tower will be visible from the beginning of the Coppermine Road trail, from residences on Gillespie Road and from Sooke Harbour
- proposal does not provide critical infrastructure for public benefit
- cannot overlook community concerns

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- additional information from the applicant could be received at a future meeting, should the proposal be referred or postponed
- the CRD makes the final recommendation to ISED
- ISED is the authority for approving antenna towers

**MOVED** by Roy McIntyre, **SECONDED** by Anna Russell that the Juan de Fuca Land Use Committee recommends to the Capital Regional District Board:

That a statement of non-concurrence be provided to 1291956 BC UCL. for the proposed 49 m radio communication and broadcasting antenna system on Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290.

Opposed: Director Wickheim, Vern McConnell

**CARRIED**

At 9:10 pm Natalia Day returned to the meeting.



Appendix C: CRD Board Minutes, February 8, 2023

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Capital Regional District Board	Meeting Minutes	February 8, 2023
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- 3.1. [23-114](#) Minutes of the January 11, 2023 Capital Regional District Board Meeting

**MOVED** by Director Tait, **SECONDED** by Director Goodman,son,  
That the minutes of the Capital Regional District Board meeting of January 11,  
2023 be adopted as circulated.  
**CARRIED**

**4. REPORT OF THE CHAIR**

The Chair welcomed staff, directors and the public and thanked everyone for attending today's meeting. He congratulated the Board on unanimously agreeing on the strategic priorities, and said that it is a wonderful sign that the CRD Board is working together effectively. He looks forward to seeing how the strategic priorities manifests within the CRD's corporate plan that staff will be bringing to the Board at a future date. He thanked staff for their work.

**5. PRESENTATIONS/DELEGATIONS**

**5.1. Presentations**

- 5.1.1. [23-136](#) Presentation: Larry Stevenson (Chief Executive Officer), Island Corridor Foundation; Re: Rail on Vancouver Island Update

L. Stevenson provided a presentation regarding an update on the Island Corridor Foundation.

Discussion ensued regarding:  
- services included in the business plan  
- provincial funding  
- land use development benefit  
- implications of decommissioning the railway  
- regional district support across the island

**5.2. Delegations**

- 5.2.1. [23-142](#) Delegation - Eric Hughes; Resident of Sooke: Re: Agenda Item 8.1. Radiocommunication and Broadcasting Antenna Systems Application for Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290 - 6246 Gordon Road

E. Hughes spoke to Item 8.1.

- 5.2.2. [23-144](#) Delegation - Linda Gordon; Resident of Sooke: Re: Agenda Item 8.1. Radiocommunication and Broadcasting Antenna Systems Application for Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290 - 6246 Gordon Road

L. Gordon spoke to Item 8.1.

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Capital Regional DistrictPage 3Printed on 3/3/2023

- 8.1. [23-010](#) Radiocommunication and Broadcasting Antenna Systems Application for Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290 - 6246 Gordon Road

Director Wickheim spoke to Item 8.1.

Discussion ensued regarding:

- the purpose of the tower and the application of the technology
- jurisdiction of tower
- referral process
- effects of increased marine activity
- co-location with other antennas

**MOVED** by Director Wickheim, **SECONDED** by Director Little,  
That a statement of non-concurrence be provided to 1291956 BC UCL. for the proposed 49 m radio communication and broadcasting antenna system on Lot 2, District Lots 143 and 200, and Section 154, Sooke District, Plan 42290.

Referral Motion

**MOVED** by Director Tait, **SECONDED** by Director Kobayashi,  
That the issue be referred back to the Juan de Fuca Land Use Committee to provide more clarity to the committee and area residents on the intention of the application.

**CARRIED**

Opposed: Wickheim

- 8.2. [22-688](#) Zoning Amendment Application for Strata Lot A (3692 Waters Edge Drive) & Strata Lot B (12051 West Coast Road), Section 2, Renfrew District, Strata Plan VIS6939, Together with an interest in the Common Property in proportion to the unit entitlement of the Strata Lot as shown on Form V

**MOVED** by Director Tait, **SECONDED** by Director Wickheim,  
1. That the referral of proposed Bylaw No. 4519, "Juan de Fuca Land Use Bylaw, 1992, Amendment Bylaw No. 159, 2022", to the Shirley-Jordan Advisory Planning Commission, CRD departments, BC Hydro; District of Sooke; the Archaeology Branch and Water Protection Section within the Ministry of Forests; the Ministry of Land, Water, and Resource Stewardship; the Ministry of Transportation & Infrastructure; the Pacheedaht First Nation; RCMP; Sooke School District #62; and the T'Sou-ke First Nation be approved and the comments received.

**CARRIED**

**MOVED** by Director Tait, **SECONDED** by Director Goodmanson,  
2. That proposed Bylaw No. 4519 be introduced and read a first time and read a second time.

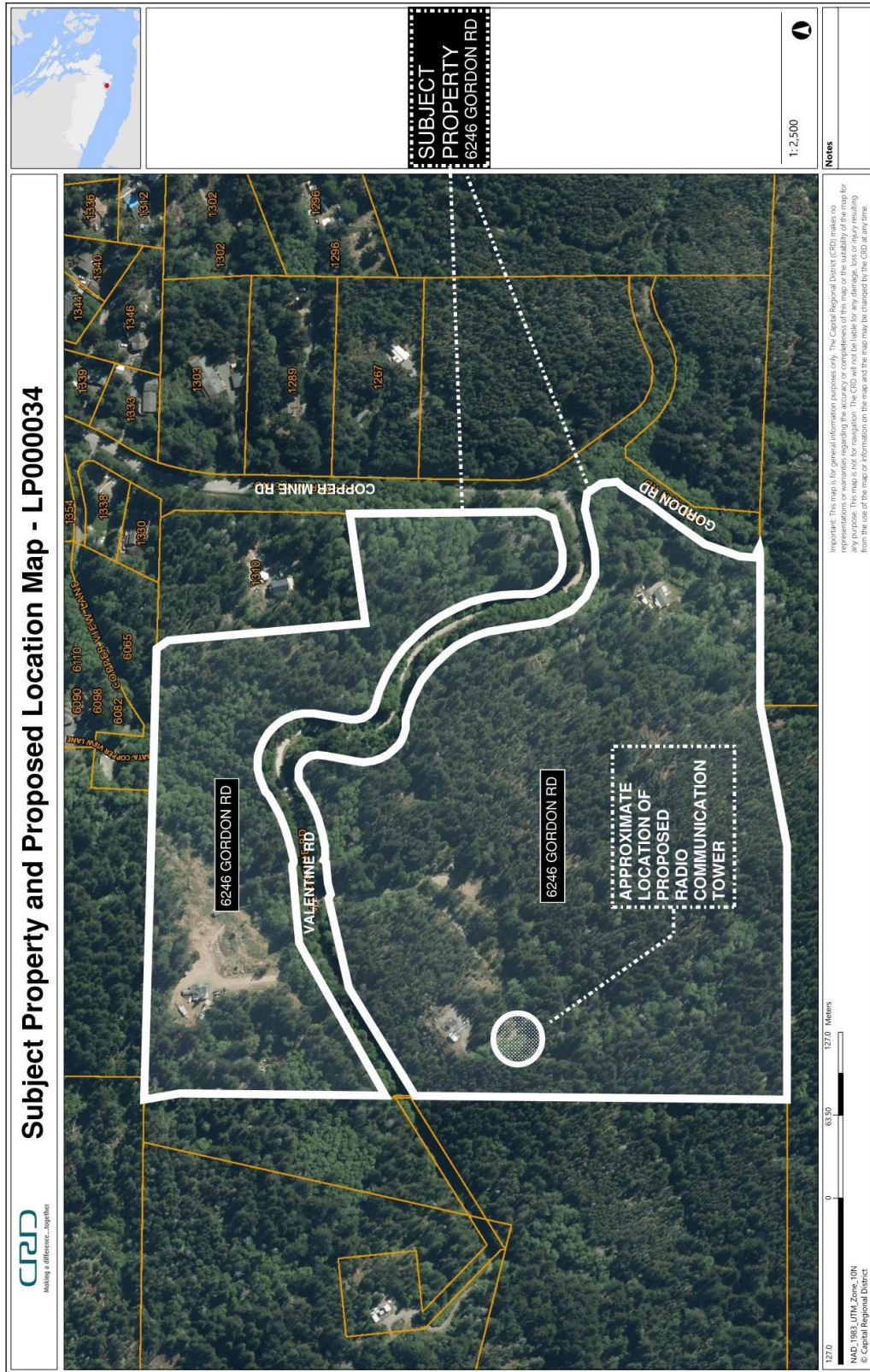
**CARRIED**

**MOVED** by Director Tait, **SECONDED** by Director Little,  
3. That in accordance with the provisions of section 469 of the Local Government Act, the Director for the Juan de Fuca Electoral Area, or Alternate Director, be delegated authority to hold a Public Hearing with respect to Bylaw No. 4519.

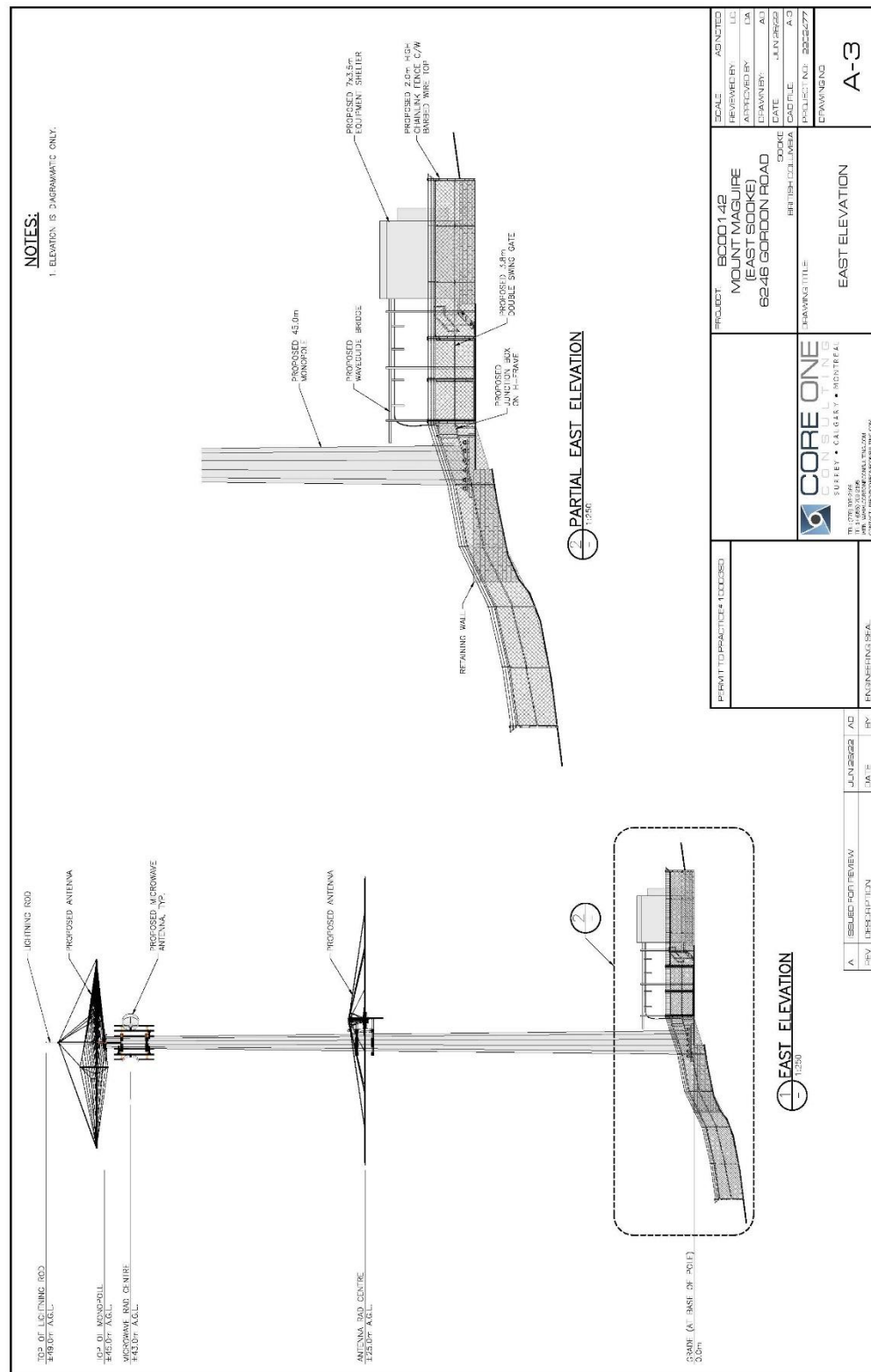
**CARRIED**



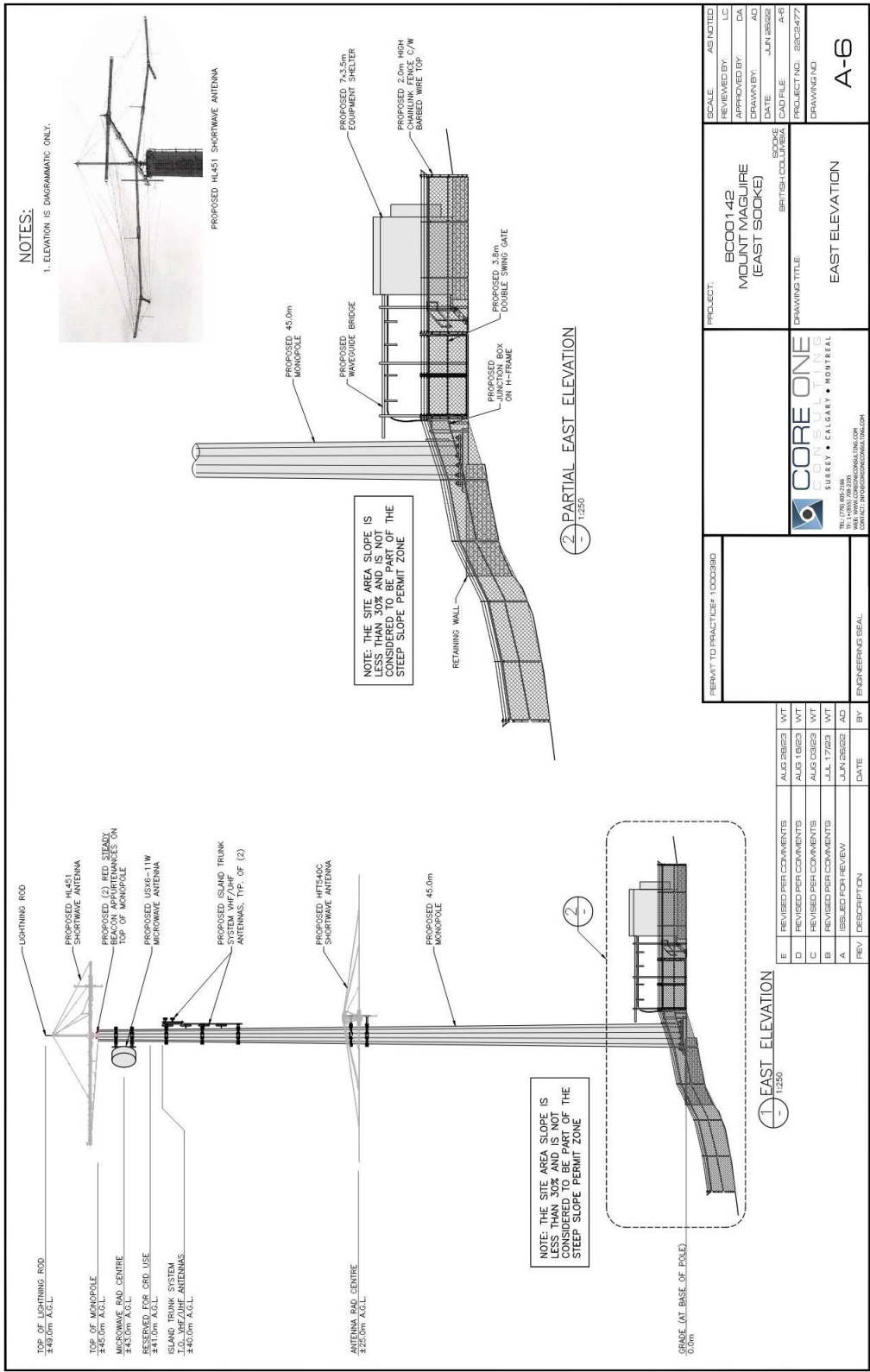
Appendix D: Subject Property Map



**Original Tower Design (provided to the LUC on January 17, 2023)**



Revised Tower Design





Appendix F: Supplementary Application Information

**Annex A – CRD Evaluation Criteria Compliance Summary**

The CRD Board has published formal evaluation criteria for antenna system projects. Greenwave Radio has commissioned and conducted the appropriate studies, prepared the relevant documentation, and deeply engaged with the local community to ensure that all evaluation criteria have been fully met.

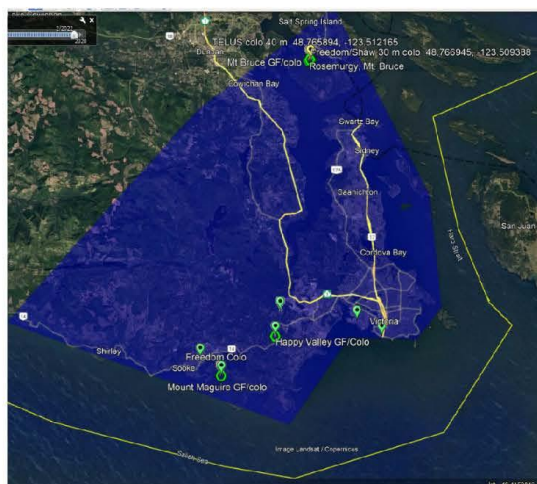
The CRD Board may consider the following when reviewing an application for an antenna system:

CRD Evaluation Criteria	Greenwave Radio Compliance Response
1. Rationale for proposed location	<b>Comply</b> Rationale is detailed on page 2 of our application form in the community impact statement. We also included a list of other sites considered and reasons not feasible in <b>Annex B: Site Acquisition Search</b>
2. Proximity to residential uses, institutions and public lands	<b>Comply</b> Proximity to local areas is detailed in the attached visual impact assessment carried out by licensed surveyors Underhill Geomatics and professionally drafted by Core One Consultants. <b>See Annex C: Visual Impact Assessment.</b>
3. Visibility and measures to integrate the antenna system into the local surroundings	<b>Comply</b> Visibility, integration, and sightlines to local surroundings are detailed in the attached visual impact assessment carried out by licensed surveyors Underhill Geomatics and professionally drafted by Core One Consultants. <b>See Annex C: Visual Impact Assessment.</b>
4. Security measures	<b>Comply</b> Security measures are detailed on page 2 of our application form in the community impact statement and ensure that the site is absolutely secure and inaccessible, except for authorized persons.
5. Alternatives and/or mitigation measures	<b>Comply</b> Mitigation measures are detailed on page 2 of our application form in the community impact statement and in our updated SC6 report, and alternative sites, including reasons for non-selection, can be found in <b>Annex B: Site Acquisition Search.</b>
6. Hazardous areas	<b>Comply</b> Hazardous area is limited to climbing on the actual tower structure itself, within the fenced area, on private property with restricted access, and does not extend to any residential or public park areas. There are no hazardous areas at ground level, even directly under the tower. The details can be found in our updated SC6 report and in <b>Annex G: Health &amp; Safety.</b>

7. Environmentally sensitive areas	<b>Comply</b> There are no environmentally sensitive or steep slope areas within the tower compound. Details can be found in <b>Annex F: Site Plans.</b>
8. Transport Canada's aeronautical safety requirements	<b>Comply</b> Both Transport Canada (file #ATS-22-23-00044520) and NAV Canada (file #22-4607) approvals have been obtained, and steady nighttime beacon lights have been included in updated site plan. There will be no daytime lights and no flashing lights required on the tower per Transport Canada. <b>See Annex F: Site Plans.</b>
9. Referral responses including compliance with BC Building Code, if applicable	<b>Comply</b> Site is in compliance with applicable code: <b>See Annex F: Site Plans</b>
10. Comments received through public notification	<b>Comply</b> In addition to answering public comments and questions in writing via the LUA process, Greenwave Radio carried out a public open house on Sept. 13, 2023 to ensure deep community engagement and to answer local residents questions via a live Q&A session with more than 80 local residents over a 2-hour period. Prominent ads were taken out in the local newspaper in the two weeks prior to the event, and physical flyers were delivered to the closest 636 residences to the proposed tower location. In addition, Greenwave Radio distributed written materials to residents such as the updated Safety Code 6 report and the Visual Impact Assessment documents during the event. <b>See Annex D: Community Engagement.</b>
11. Potential impact on the community if the application is approved	<b>Comply</b> This is addressed on page 2 of our application form in the community impact statement. Additional details can also be found in <b>Annex D: Community Engagement.</b>
12. Designs that address the following guidelines:  i) Antenna systems are as unobtrusive and inconspicuous as possible; ii) The visual aesthetic impacts on the community is minimized; iii) Landscaping or screening is incorporated; iv) Displays of any type of lighting are avoided except where required by Transport Canada. Where lighting is proposed for security reasons, it shall be shielded from adjacent properties and kept to a minimum intensity by being of capped, downward facing and motion-sensory designs; v) Antenna systems are set back at least three times the height of the antenna system from adjacent dwellings. The CRD may request a different setback due to factors such as buffering topography and vegetation, transportation and utility corridors, watercourses, or public comments.	<b>Comply</b> These items are addressed on page 2 of our application form in the community impact statement and additional details can be found in <b>Annex F: Site Plans</b> and in <b>Annex C: Visual Impact Assessment.</b> The closest residential use is at 370 meters from the proposed tower location which is a setback of more than <b>seven times</b> the height of the antenna system, well within compliance with the requirement of three times antenna system height.

### ANNEX B: Site Acquisition Search

The area highlighted in Blue in the map below was provided to a specialized site acquisition firm called Scott Telecom <https://www.scotttelecom.com/>, who has a local specialist based inside the search area on Vancouver Island. They evaluated dozens of different options and the following 11 options that met preliminary selection criteria were submitted to Greenwave Radio for final evaluation. Several factors are considered, but not limited to: Antenna azimuth not blocked by natural or manmade obstacles, available height/structural integrity of colocation options, there is a willing landlord, current zoning is appropriate for required use, integration to natural environment, power availability and access.



- 1) **Rogers W0290 colocation (48.358250, -123.683892) - [REDACTED] parcel:** Tower top is not available for our HL451 antenna, and the latticed tower type is not appropriate for SteppIR antenna collocation. Not technically feasible.
- 2) **New tower build adjacent to the existing Rogers tower on [REDACTED] parcel (48.357778, -123.684167):** This was the option selected by Greenwave Radio since it complies with all technical requirements and is also located on private land, more than three tower lengths away from the closest residence, and is located in a secluded place under the shadow of the Mt. Maguire peak. Furthermore, it uses an existing access road and BC Hydro access built for the neighbouring Roger's tower. Full selection criteria included in our application documents.
- 3) **SBA colocation Mt. Maguire – Freedom Mobile & Telus (48.358666, -123.686756):** Tower was deemed not feasible because, in its current condition, it would not be able to accommodate the weight and dimensions of our equipment.
- 4) **Rogers W4515 - Sooke BC (48.380551, -123.725401):** colocation on tower right in town. 30m tower insufficient height. Western antenna azimuth is blocked.
- 5) **Freedom BVI0061 – Happy Valley colocation & Greenfield option (48.409520, -123.578068):** 18m existing tower, insufficient height. Mountain immediately to NW rising two hundred meters, blocking antenna azimuth.
- 6) **TELUS BC1098 Mt. McDonald (48.441666, -123.568911):** Colocation option reviewed but tower top not available for shortwave antenna. Several mountains immediately to NW blocking antenna azimuth.
- 7) **Freedom BVI0035, 1325 Esquimalt Road, Esquimalt BC (48.429904, -123.418648):** a 28m Rooftop colocation which had insufficient height for network functionality.
- 8) **Freedom BVI0035, 670 Dallas Road, Victoria BC (48.410032, -123.370311):** Site is a 45m rooftop and would not allow for colocation of both shortwave antennas. Furthermore, western antenna azimuth is blocked by mountains.
- 9) **Three colocation options (BC Hydro, Freedom, TELUS) as well as a Greenfield Option were explored on Mt. Bruce, Salt Spring Island:** All crown land, or a sublease on existing TELUS leased lands. Access to the island and no line of sight to closest tower were deemed barriers.



## Annex C: Visual Impact Assessment



**UNDERHILL  
GEOMATICS**

PROFESSIONAL  
LAND SURVEYORS &  
GEOMATICS ENGINEERS

September 25<sup>th</sup>, 2023

UGL #: V23CV075

To Whom it may concern,

Underhill Geomatics Ltd. performed a visual impact assessment and sight line study for Greenwave Radio 1291956 B.C. ULC with survey work and post-survey CAD drafting performed during the period between June 29<sup>th</sup> and August 31<sup>st</sup>, 2023. The details are as follows:

- Review of legal plans and title in the area.
- Field survey to place drone targets.
- 6-hour drone flight using an UAV with advanced LiDAR (Light Detection and Ranging) sensors to create a high-resolution 3D model of the proposed tower, the topography, and the surrounding environment near the peak of Mt. Maguire (BC000142) in East Sooke B.C. situated over LOT 2, DISTRICT LOTS 143 AND 200, AND SECTION 154, SOOKE DISTRICT, PLAN 42290.
- Based on the output of the site survey, Underhill created the attached topographical plan as follows:
  - Resolved legal boundaries showing any pertinent interests such as SRW/Easement (if registered on title);
  - Proposed tower location on site plan with contours, significant nearby trees and existing Rogers Tower location/height.
  - 360 Photos and Panorama from Proposed Tower Location/Height
  - Created a 3D CAD simulation model of Mt. Maguire, the proposed tower, and the entire Sooke basin allowing for viewpoint sight line analysis from any point in the Sooke and East Sooke areas.
- Based on the imagery and information we collected, Alex Vlad, a Senior Draftsman at Core One Consulting, prepared the attached Visual Impact Assessment document.

We hereby certify that the information and visual images were collected and processed in compliance with geomatics industry standards. The topographic sketch was prepared in accordance with the guidelines found within the Professional Reference Manual produced by the Association of BC Land Surveyors.

Sincerely,

Dave Storback, BSc, BCLS, CLS, P. Surv  
Project Manager, Land Surveyor

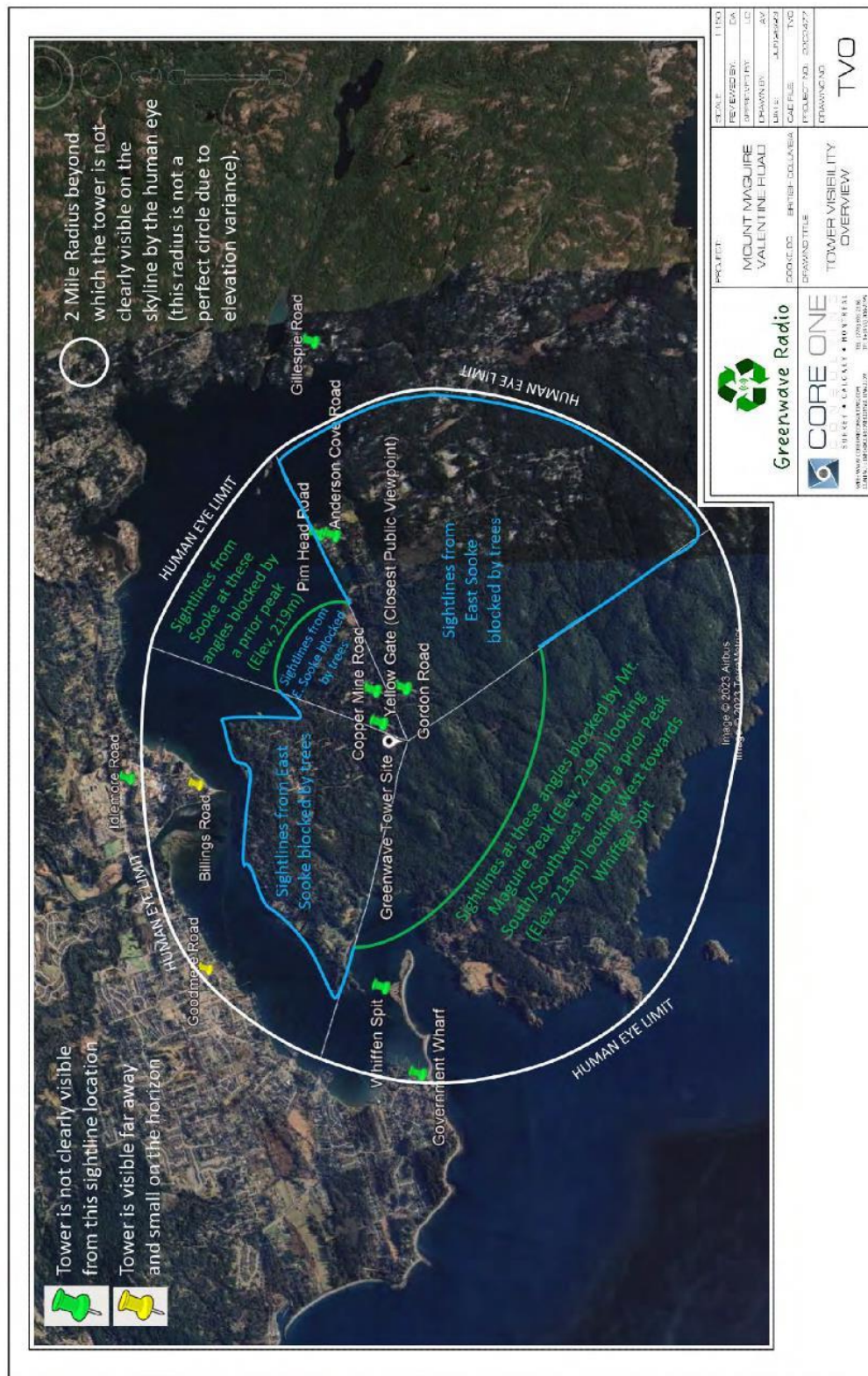
Mitch Laseur, BCLS  
Land Surveyor

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491C 4th Street, Courtenay, BC V9N 1G9 Canada | T: 250-871-4599 | underhill.ca

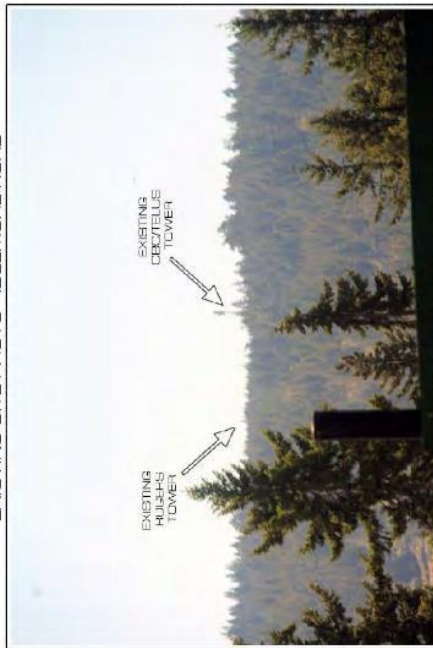
KAMLOOPS | VANCOUVER ISLAND | VANCOUVER | WHITEHORSE

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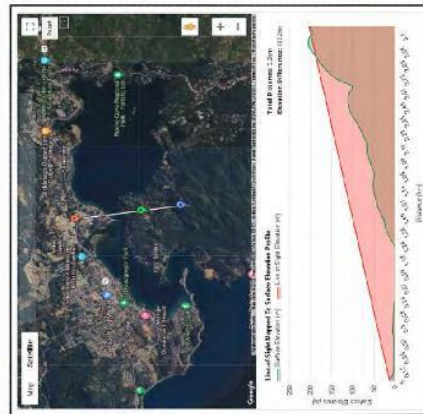
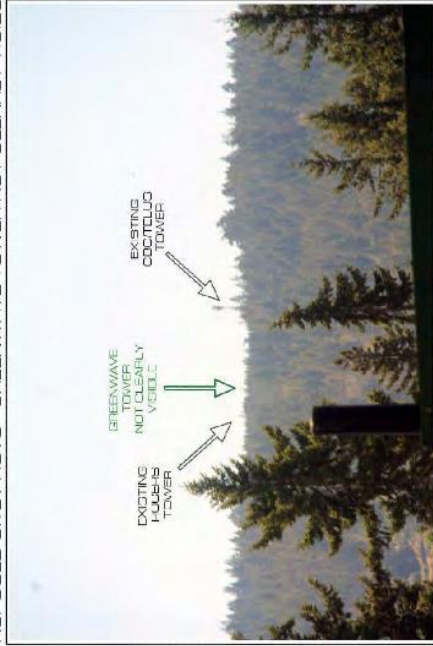




EXISTING SITE PHOTO - IDLEMORE ROAD



PROPOSED SITE PHOTO - GREENWAVE TOWER NOT CLEARLY VISIBLE



Q.S. COORDINATES  
TOWER: 48.9375877, -123.8842870  
CAMERA: 48.3882206, -123.6908150 - Photo Level: 18m  
CAMERA TO TOWER DISTANCE: 0.1100m  
CAMERA TO TOWER BEARING: 253  
EFFECTIVE 35mm FOCAL LENGTH: 26mm



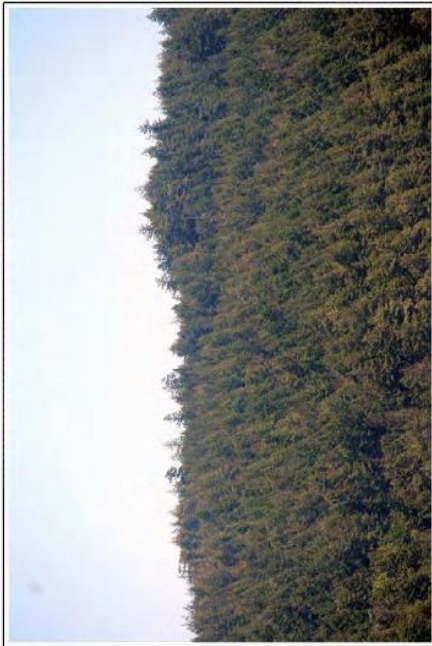
SITE LOCATION

 <b>Greenwave Radio</b>  <b>CORE ONE</b> <small>SURVEY • CALCULATE • MONITOR</small> <small>GREENWAVE RADIO IS A DIVISION OF CORE ONE</small>	<b>PROJECT</b> MOUNT MAQUIRE VALENTINE HUALI	<b>DRAWING TITLE</b> IDLEMORE ROAD	<b>SCALE</b> 1:100
			<b>REVIEWED BY:</b> CA <b>APPROVED BY:</b> LC <b>DRAWN BY:</b> AV <b>DATE:</b> JUNE 2023 <b>CAD FILE:</b> PM-1 <b>PROJECT NO.:</b> 20024277 <b>DRAWING NO.:</b>

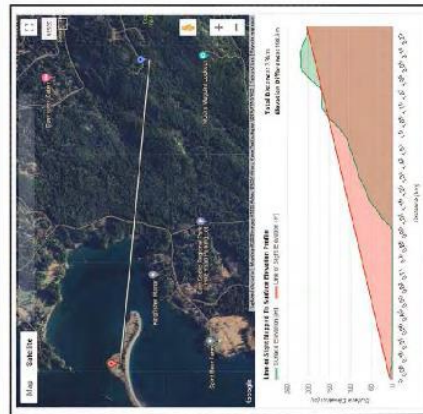
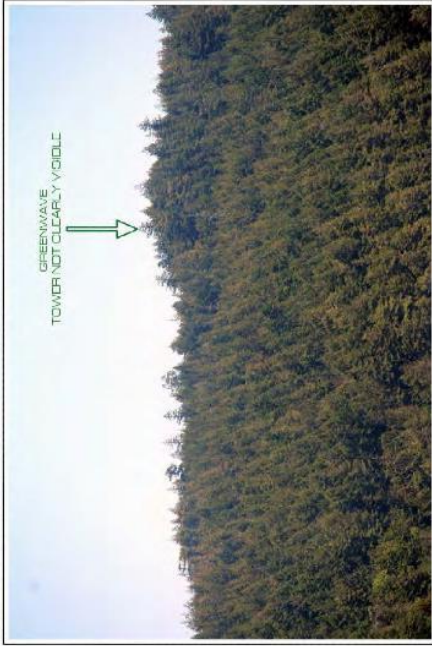
PM-1



EXISTING SITE PHOTO - WHIFFEN SPIT

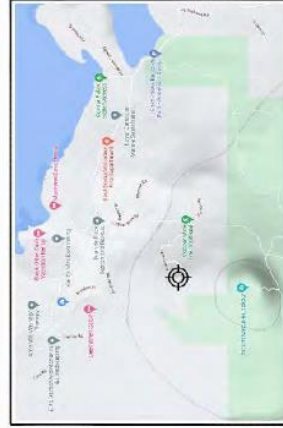


PROPOSED SITE PHOTO - GREENWAVE TOWER BLOCKED BY TREES



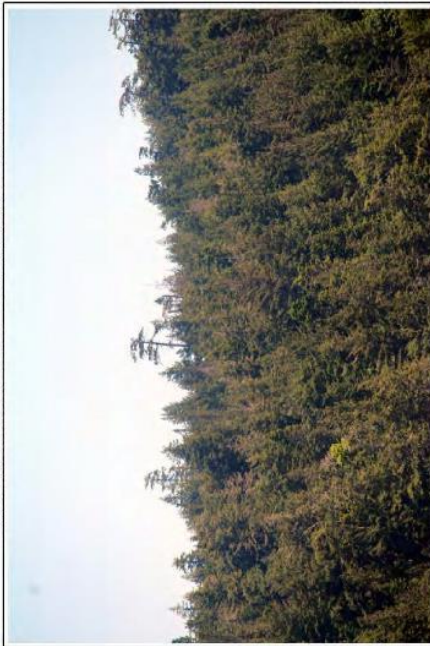
Q.S. COORDINATES  
TOWER 483575877 -1235842670  
CAMERA 483595103 -1237163002 - Photo Level 5m  
CAMERA TO TOWER DISTANCE - 20100m  
CAMERA TO TOWER BEARING - 274  
EFFECTIVE 35mm FOCAL LENGTH - 25mm

SITE LOCATION

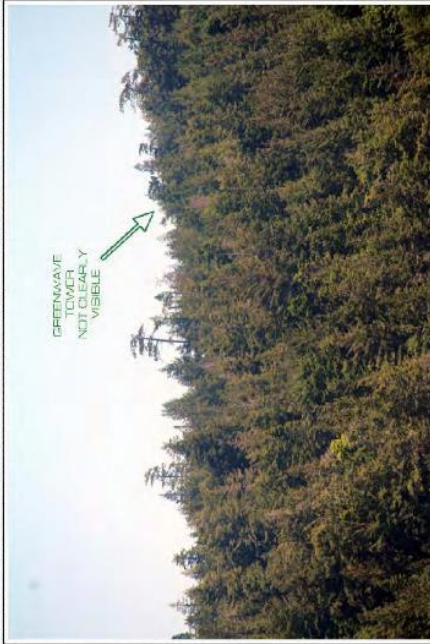


 Greenwave Radio	 CORE ONE SHEETS • CALCULATIONS • MONITORING GREENWAVE RADIO 100% COMPLIANCE	PROJECT	SCALE
		MOUNT MAQUIRE VALENTINE HUALO	1:100
		DRAWING TITLE	REVIEWED BY: DA APPROVED BY: LC DRAWN BY: AV DATE: JUNE 2023 CASE FILE: PINE PROJECT NO: 2002477 DRAWING NO: PM-2

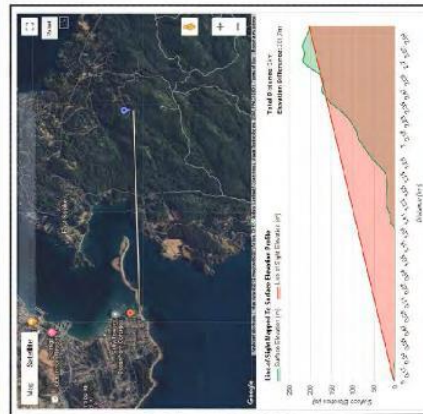
EXISTING SITE PHOTO - GOVERNMENT WHARF



PROPOSED SITE PHOTO - GREENWAVE TOWER NOT CLEARLY VISIBLE



Q.S. COORDINATES  
TOWER: 48.9575877, -123.5842670  
CAMERA: 48.9561890, -123.7268892 - Photo Level 5m  
CAMERA TO TOWER DISTANCE - 3070m  
CAMERA TO TOWER BEARING - 272  
EFFECTIVE 35mm FOCAL LENGTH - 25mm



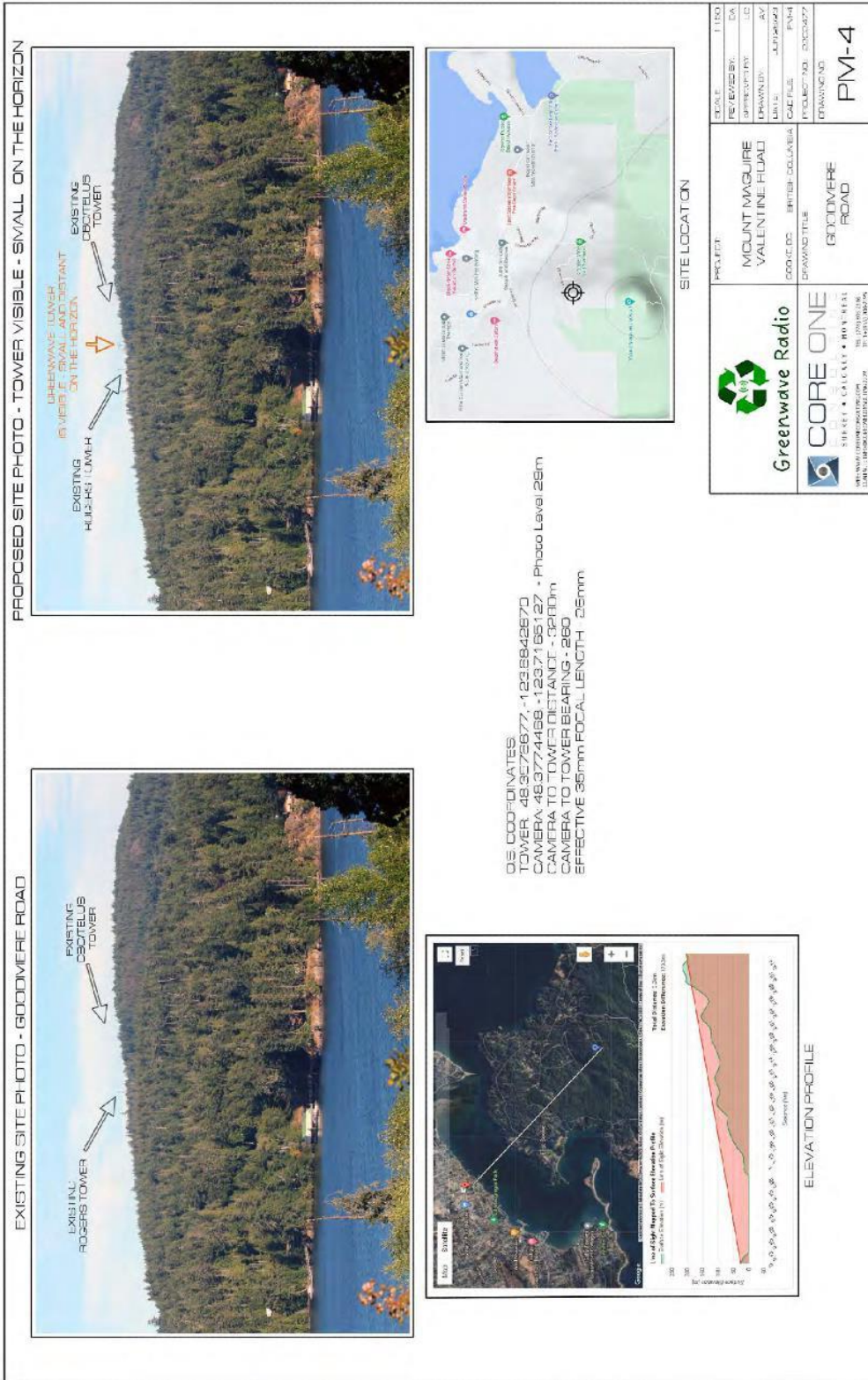
ELEVATION PROFILE



SITE LOCATION

 Greenwave Radio	 CORE ONE	PROJECT MOUNT MAQUIRE VALENTINE HUALO	DRAWING TITLE GOVERNMENT WHARF	SCALE 1:100
				REVIEWED BY CA APPROVED BY LC DRAWN BY AV DATE JULY 2023 CAD FILE PMS PROJECT NO. 20230477 DRAWING NO. PM-3

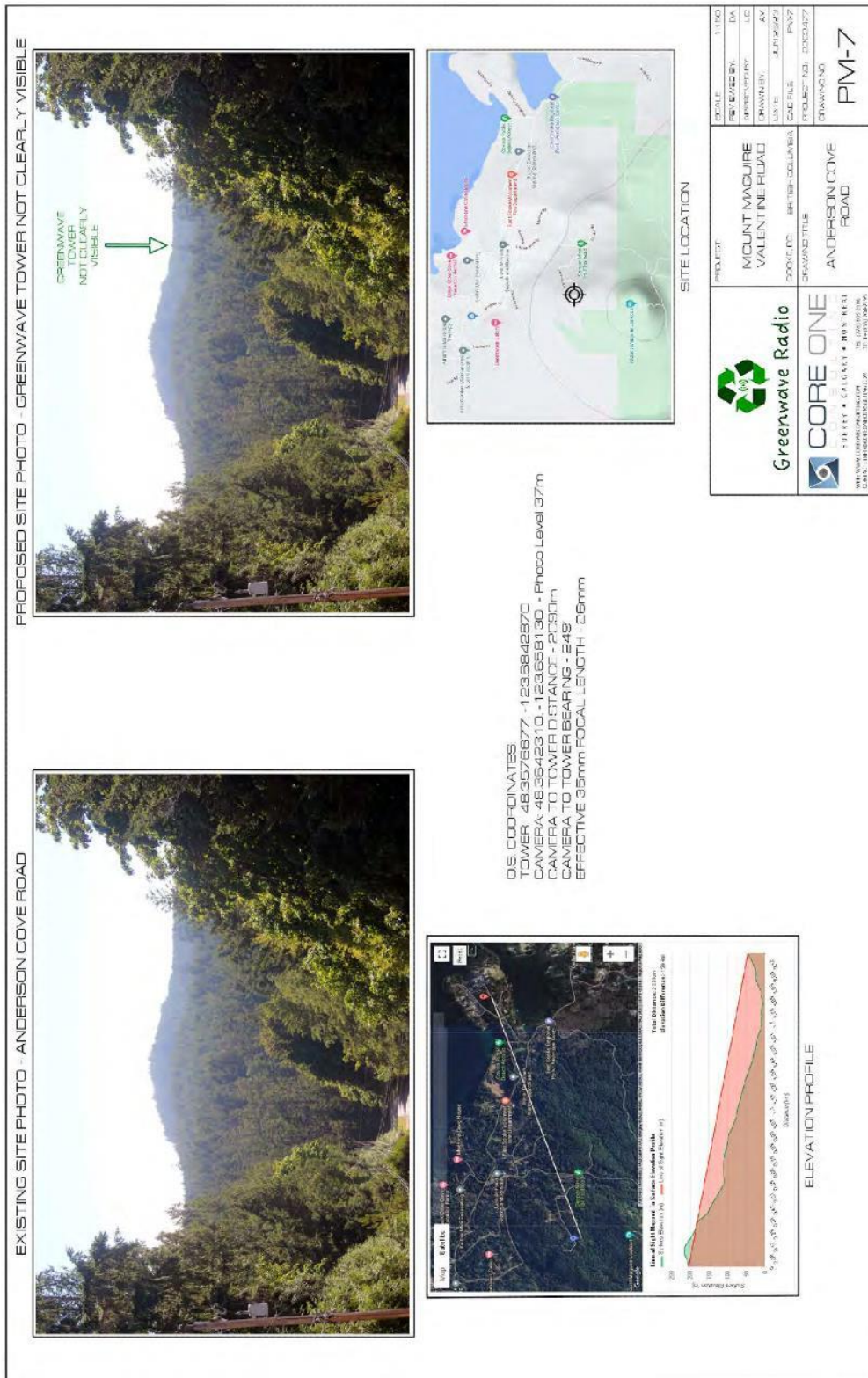




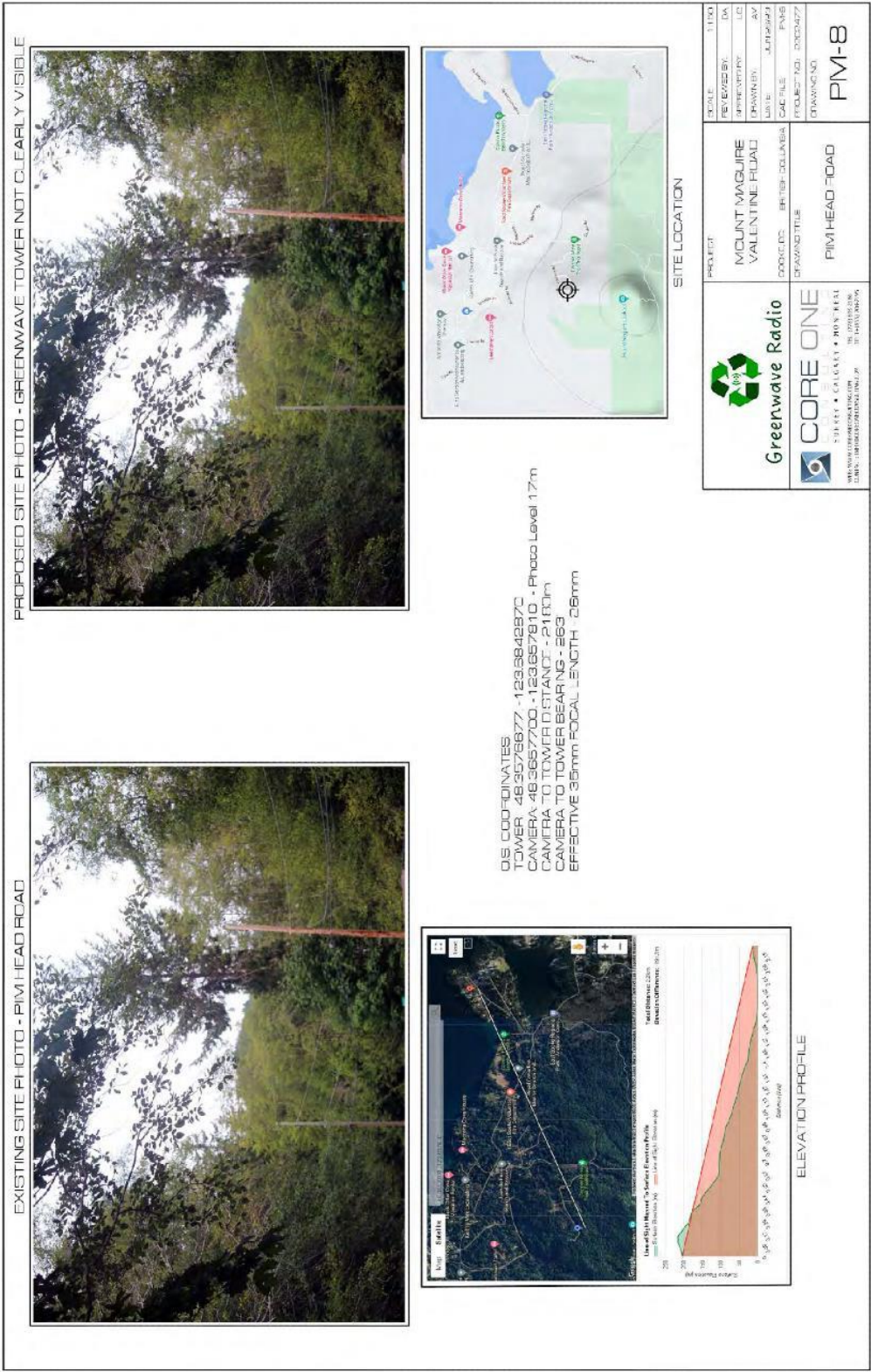
[illegible]



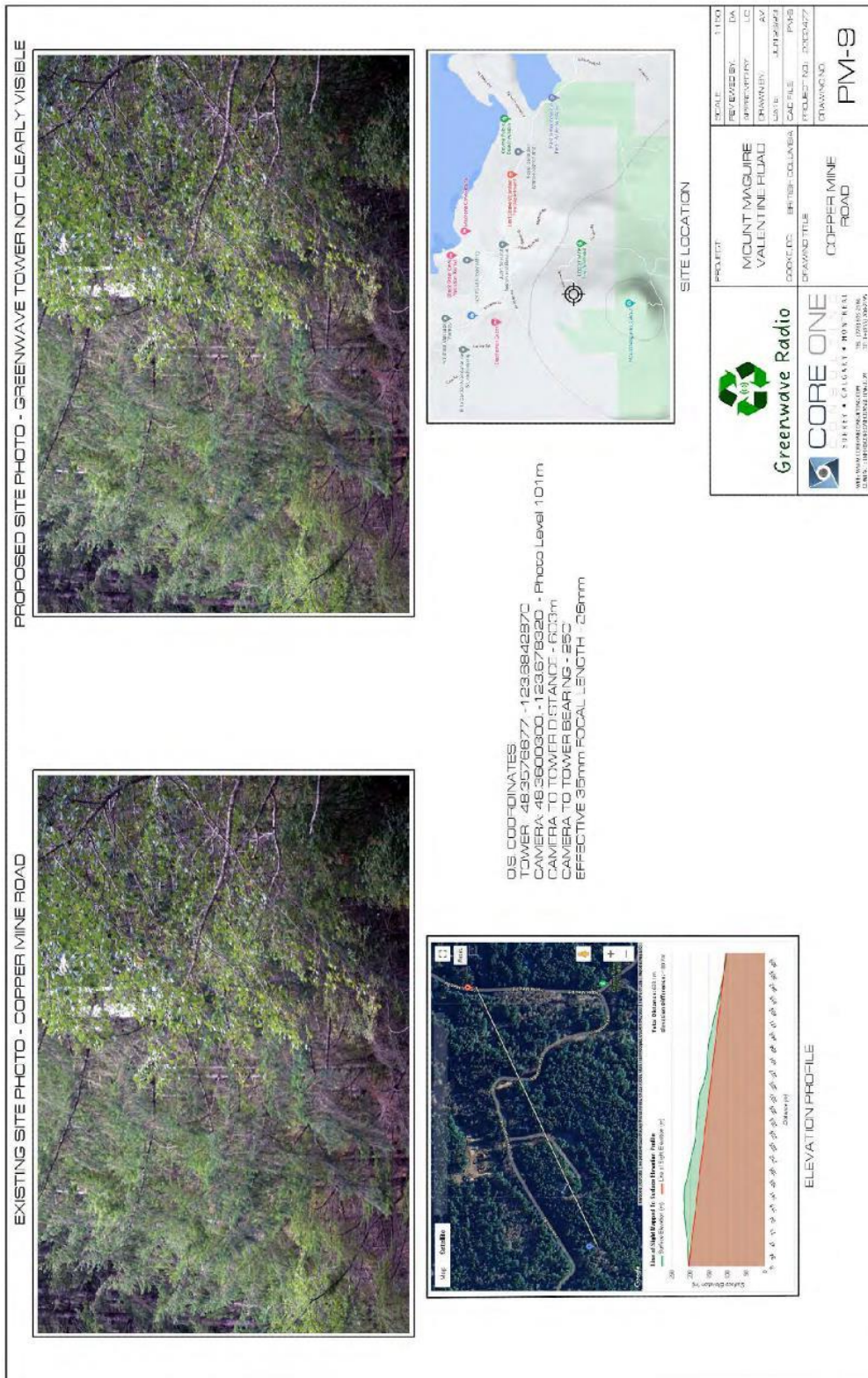








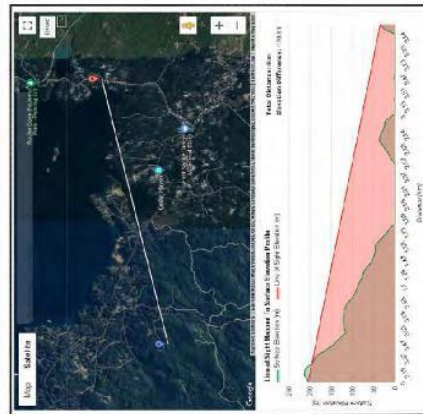




EXISTING SITE PHOTO - GILLESPIE ROAD



PROPOSED SITE PHOTO - GREENWAVE TOWER NOT CLEARLY VISIBLE



OS COORDINATES  
TOWER: 483575877, 1235842870  
CAMERA: 483663200, 123632551 - Photo Level 36m  
CAMERA TO TOWER DISTANCE - 3350m  
CAMERA TO TOWER BEARING - 29C  
EFFECTIVE 35mm FOCAL LENGTH - 26mm

ELEVATION PROFILE

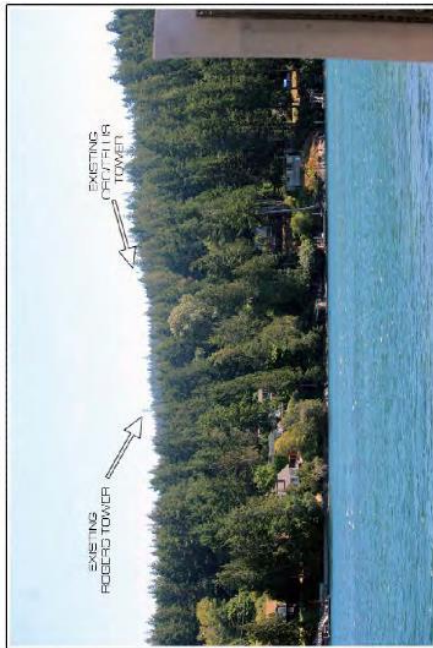


SITE LOCATION

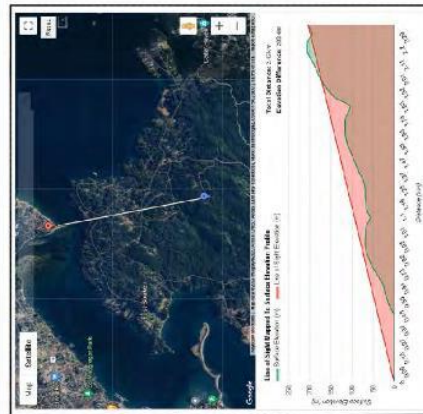
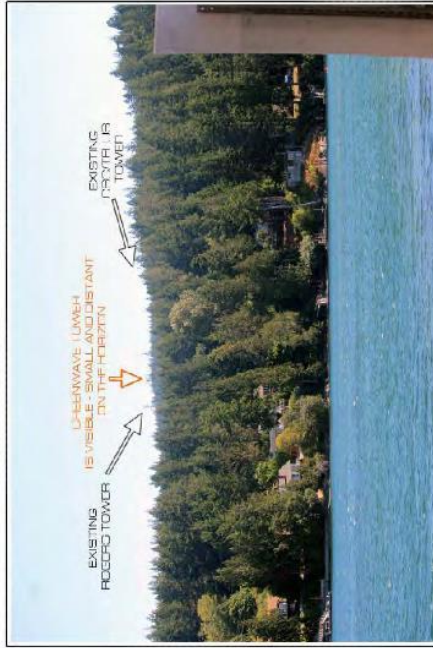
 Greenwave Radio	 CORE ONE	PROJECT MOUNT MAQUIRE VALENTINE HILL COOKS RD. BERTH-DOLAN DRAWING TITLE GILLESPIE ROAD	SCALE 1:100 REVIEWED BY DA APPROVED BY CHANNIN DATE JULY 2023 CADD FILE PM-10 PROJECT NO. 20230477 DRAWING NO. PM-10



EXISTING SITE PHOTO - BILLINGS ROAD



PROPOSED SITE PHOTO - TOWER VISIBLE - SMALL ON THE HORIZON



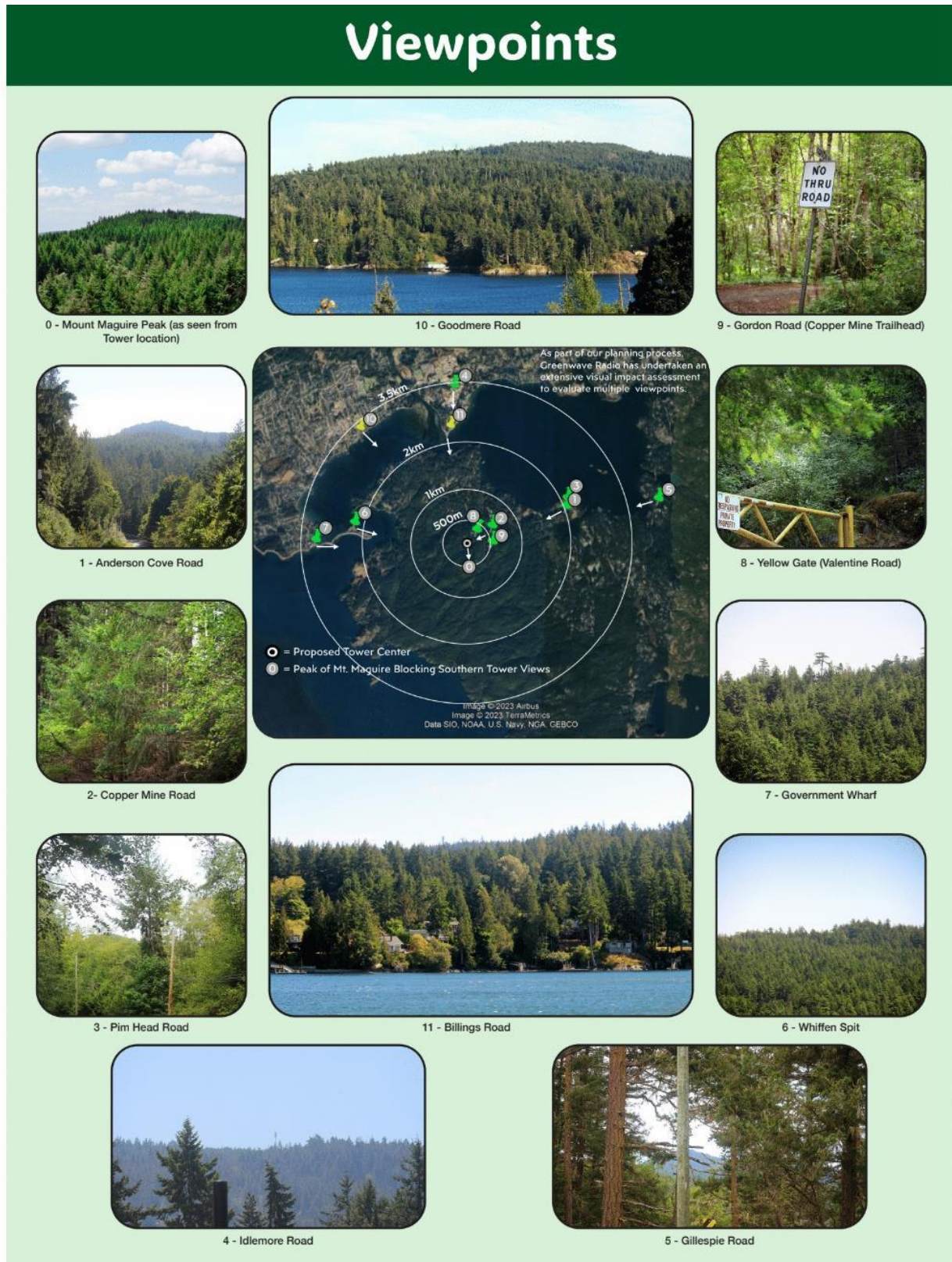
ELEVATION PROFILE

U.S. COORDINATES:  
TOWER: 48.9578877, -123.6942870  
CAMERA: 48.9786010, -123.691251  
CAMERA TO TOWER DISTANCE: 242.7m  
CAMERA TO TOWER BEARING: 169°  
EFFECTIVE 35mm FOCAL LENGTH: 26mm

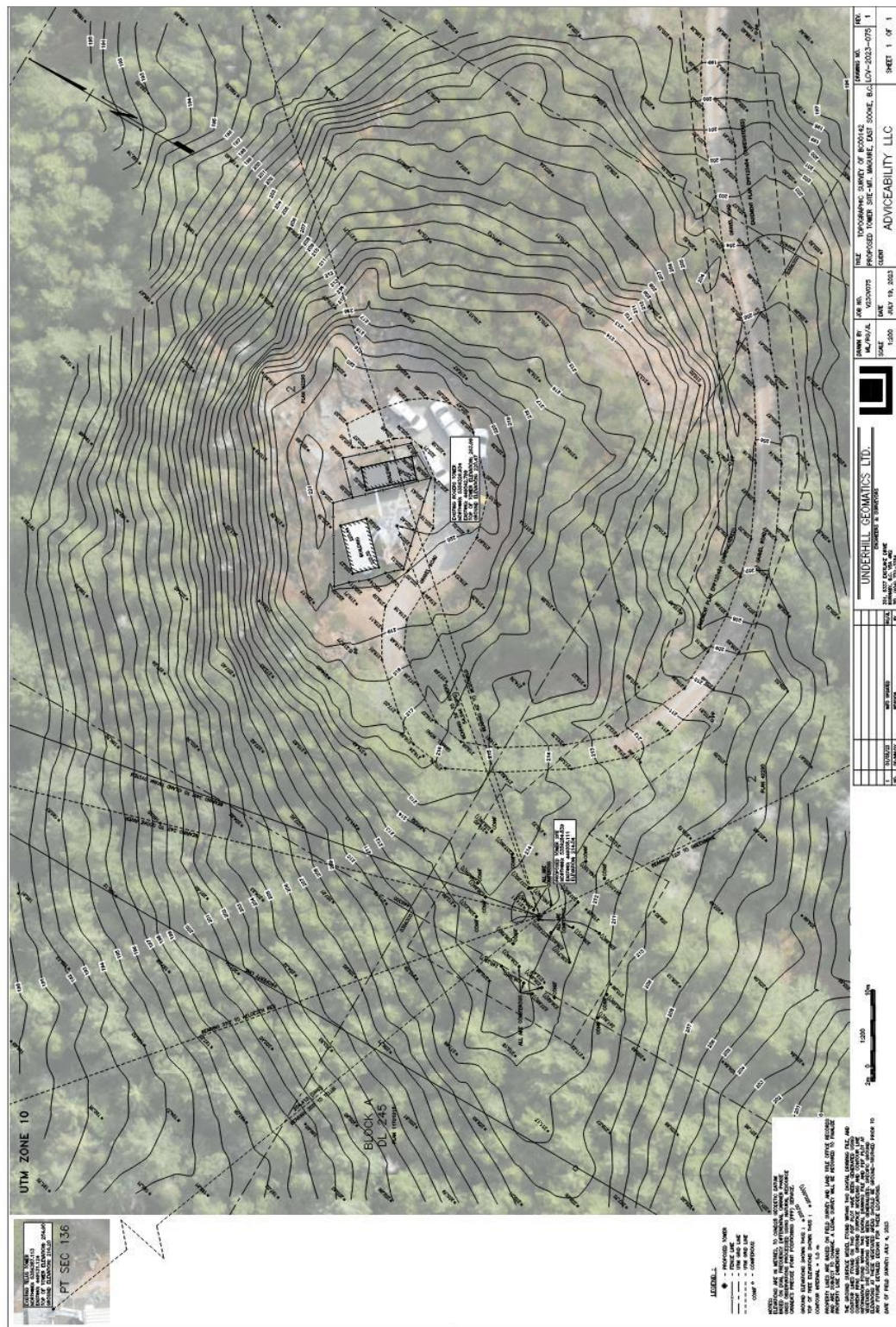


SITE LOCATION

 <b>Greenwave Radio</b>  <b>CORE ONE</b> <small>SURVEY • DESIGN • PROJECT MANAGEMENT</small>	PROJECT	MOUNT MAQUIRE VALENTINE HILL
	DRAWING TITLE	BILLINGS ROAD
	DATE	2023/11/21
	PROJECT NO.	2023/0477
SCALE	1:100	
REVIEWED BY:	CA	
APPROVED BY:	LC	
DRAWN BY:	AV	
CHECKED BY:	JL	
CAD FILE	P4-1	
DRAWING NO.	2023/0477	
DRAWING NO.		PM-11







**Annex D: Community Engagement  
Material from Public Open House**

Greenwave Radio Public Open House  
East Sooke Community Hall - Sept 13<sup>th</sup>, 2023  
Attendance: 80+



Faces have been covered for privacy purposes



Greenwave Radio Public Open House  
East Sooke Community Hall - Sept 13<sup>th</sup>, 2023  
Attendance: 80+



Faces have been covered for privacy purposes



Greenwave Radio Public Open House  
East Sooke Community Hall - Sept 13<sup>th</sup>, 2023  
Attendance: 80+



Faces have been covered for privacy purposes

# Welcome

## Greenwave Radio



**REDUCE** > Transmit Power  
**REUSE** > Old Frequency Bands  
**RECYCLE** > Legacy Radio Technology

Thank you for coming to our Open House.

Through this exhibition,  
**Greenwave Radio** seeks to show a:

- Comprehensive approach to the Juan de Fuca planning & application process
- Deep community engagement before submitting the new application
- Focus on safety and visual impact
- Meaningful and sincere response to the concerns expressed by local residents

Please seek out and talk to our professional experts wearing the **Greenwave Radio name tags**. They will provide information and answer questions about health & safety, visual impact, engineering, land use, and community benefits.

# Who is Greenwave Radio?

Greenwave Radio (1291956 BC ULC) is an **infrastructure business** registered in Vancouver, B.C. We construct and operate private, point-to-point data transmission between business operations locations.

We are **not associated** with government, military, mobile operators/5G, or any new wireless or mobile technology. We do not collect, monitor, or store personal data.

Most of our company data is transmitted over terrestrial and subsea fiber networks. We are developing wireless networks in Canada to create **alternative routes** which will be supplemental to existing infrastructure while also reducing risk when one or more network circuits fail.

**Greenwave Radio** works with **established and proven technologies** such as fiber optics and shortwave radio and strictly complies with Canada's Safety Code 6 regulations.

## Our Values

- Respect the communities in which we operate by harmonizing our visual impact.
- Operate with fair and ethical business practices.
- Cooperate with local planning authorities in accordance with national planning and licensing policy frameworks.
- Partner with local experts to ensure we meet the highest standards of safety and sustainable development.

## Our Objectives



### REDUCE > Transmit Power

We use focused point-to-point transmission between towers, sophisticated receive antennas, and advanced digital modulation all of which reduce transmit power significantly.

### REUSE > Old Frequency Bands

We use old frequency bands some of which have been abandoned by companies like CBC Radio when they moved to digital broadcasting.

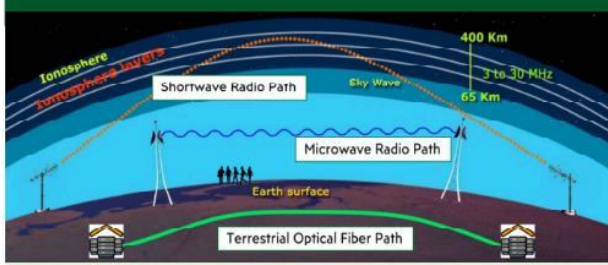
### RECYCLE > Legacy Radio Technology

We recycle legacy shortwave transmission methods to improve them for modern use in long-distance data transmission networks.



Greenwave Radio  
1291956 B.C. ULC  
[contact@greenwaveradio.net](mailto:contact@greenwaveradio.net)

## What is Shortwave Radio?



Shortwave radio is a form of radio transmission using spectrum between 3MHz and 30MHz. Radio waves in the shortwave band can be reflected back from the atmosphere. Therefore, shortwaves directed at an angle into the sky can be reflected back to Earth at great distances, beyond the horizon. This is called skywave propagation.

Shortwave broadcasts of radio programs played an important role in the early days of radio history; however, few broadcasters continue to use shortwave today due to the availability of newer audio streaming technologies.

The first trans-Atlantic shortwave radio transmission was achieved in 1921 and the same method continues to be used by Greenwave Radio today, with improvements to equipment, channel selection techniques and modulation. It is estimated that there are over 600 million shortwave radio receivers in use worldwide, including throughout East Sooke/Sooke, and Vancouver Island.




Existing Greenwave Radio shortwave towers in other locations.

Greenwave Radio is a licensee of shortwave and microwave radio frequencies with existing operations in Canada. Our long-distance shortwave radio transmission towers are often connected to our business data network via commercially standard point-to-point microwave radio links that operate at low power, using less transmit power than that of a lightbulb. Microwave radio has been in use since the 1930's.

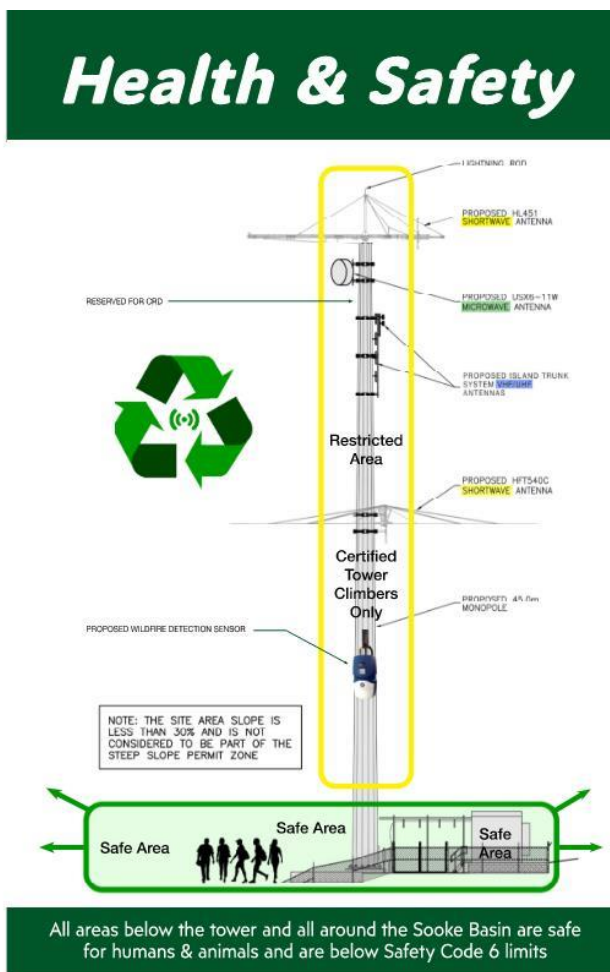
This proposed site will be an extension of our developmental activities in pursuit of further advancement in reliability and throughput of shortwave radio.

The maximum power used is 1000 Watts at transmitter output (less than a kitchen toaster) and over 90% of the time the transmitter power is in the range of 400 Watts to 600 Watts. As an example, commercial FM radio stations can transmit at up to 80,000 Watts of power - our shortwave transmissions are orders of magnitude lower.



**Greenwave Radio**  
1291956 B.C. ULC  
[contact@greenwaveradio.net](mailto:contact@greenwaveradio.net)





In compliance with Canada's extremely strict Safety Code 6 standards, there is no unsafe area near the tower that a human can access, even if they trespass into the compound and walk beneath the tower. This is because our shortwave antennas are low-powered and pointed at distant receivers over the horizon. Our Safety Code 6 compliance requires periodic safety testing after tower installation to ensure long-term compliance.

There are no cellular antennas on this tower, nor do we have any plans to ever collocate cellular antennas of any type on our tower (including 5G). Furthermore, there is no room for cellular antennas at the heights they would require. Greenwave Radio is exempt from mandatory tower sharing pursuant to Industry Canada CPC-2-0-17 as we are a private company and not defined as a common telecommunications carrier.



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1291956 B.C. ULC  
[contact@greenwaveradio.net](mailto:contact@greenwaveradio.net)

## Health & Safety

- ✓ Does not pose any health impact on the surrounding community
- ✓ Complies with all local and international guidelines and standards.
- ✓ Committed to the highest levels of long-term health and safety.

This is not an experimental cell tower. This is a shortwave radio tower that also incorporates emergency response support systems and wildfire detection technology. Greenwave Radio has a developmental license because we are recycling and improving old shortwave technology to create alternative network routes which will be supplemental to existing infrastructure while also reducing risk when one or more network circuits fail.



Emissions are well within Health Canada SC 6 limits right below the tower.

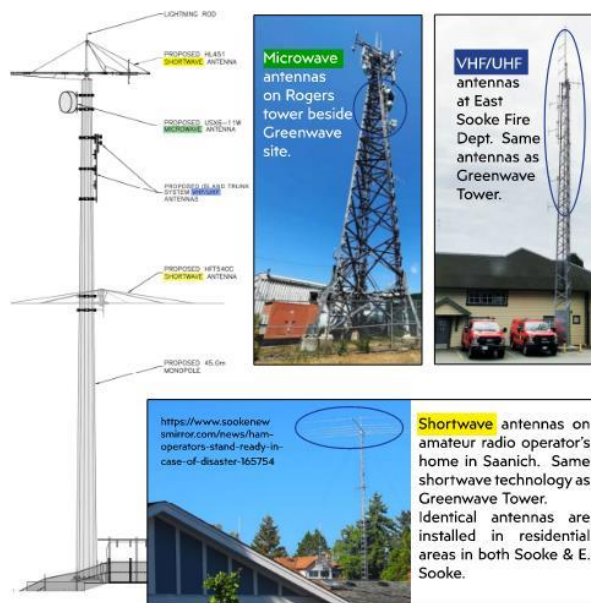


Greenwave Radio's tower has received NAV Canada land use approval file #22-4607.



Greenwave Radio's tower has received Transport Canada approval file #ATS-22-23-00044520.

There are no new antenna or radio technologies coming into the area via our tower. These same 3 antenna types have existed in East Sooke for decades



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1291956 B.C. ULC  
contact@greenwaveradio.net



## Visual Impact Assessment

As part of our planning process, Greenwave Radio has undertaken an extensive visual impact assessment performed by professional surveyors and experienced engineers.



Pictures were taken from the locations listed below, many of which were also identified by residents through the JDF land use public consultation process.

#	TIME	LOCATION	LATITUDE	LONGITUDE	BEARING (MAGNETIC)	REMARKS
1	1230	Idemore Road	48.3862206	-123.6908150	253	Greenwave tower not clearly visible
2	1255	Whiffen Spit	48.3596103	-123.7163002	274	Greenwave tower blocked by trees
3	1320	Government Wharf	48.3561860	-123.7266882	272	Greenwave tower blocked by trees
4	1340	Goodmire Road	48.3774458	-123.7163027	260	Greenwave tower small & distant on the horizon
5	1405	Gordon Road (near Copper Mine Trailhead)	48.3571082	-123.6780158	263	Greenwave tower blocked by trees
7	1440	Yellow Gate (Valentine Road)	48.3591277	-123.6824262	145	Greenwave tower blocked by trees
9a	1000	Anderson Cove Road	48.3642310	-123.6581330	249	Greenwave tower not clearly visible
10a	1010	Pin Head Road	48.3657700	-123.6578100	268	Greenwave tower not clearly visible
12a	1040	Copper Mine Road	48.3600300	-123.6780220	250	Greenwave tower blocked by trees
12a	1110	Gillespie Road	48.3663200	-123.632551	290	Greenwave tower not clearly visible
13a	1245	Billings Road	48.3786010	-123.691251	309	Greenwave tower small & distant on the horizon

In addition to meeting technical requirements, the proposed location was chosen to minimize the impact on the community by situating the site immediately adjacent to an existing Rogers tower on Valentine Road, sharing the same infrastructure including power lines and access road.

The proposed location of the tower site is also ideal from a visual impact perspective since it is blocked by Mount Maguire to the South so as not to be visible from East Sooke Regional Park. Additionally, this location is not visible from most viewpoints in East Sooke due to the dense tree cover and is far enough away from Sooke across the water so as not to materially impact the Mount Maguire skyline.

The tower structure will be painted with non-reflective paint to promote visual integration into the natural tree line. The tower has been designed as a slimline monopole which is the least visible type of tower for this area because it is uniform, thin, and blends into surroundings better than latticed towers.



Greenwave Radio  
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contact@greenwaveradio.net

## Community Benefits

As a benefit to the local East Sooke community and the JDF district, Greenwave Radio has provided collocation space on the tower to the Island Trunk VHF/UHF Radio System (ITS). This will extend coverage to the East Sooke area, Southern Vancouver Island and the Gulf Islands to improve RCMP search & rescue radio coverage when the Crest network or mobile networks are unavailable.



The ITS is one of the emergency radio communications resources under the Emergency Planning and Response area of the Ministry of Emergency Management and Climate Readiness (EMCR). Currently the ITS system has little to no coverage south of the Malahat mountains. This system has been used in numerous emergency response situations on the rest of Vancouver Island but has not been available to the Sooke area due to lack of a local tower host. These are the same type of VHF/UHF radio antennas installed on the roof of the East Sooke Fire Hall.

## Wildfire Prevention



Greenwave Radio is extremely concerned about wildfire prevention, both for the protection of our proposed infrastructure, and for the wellbeing of the local community. We plan to install advanced wildfire detection technology as part of our proposed project to assist with early wildfire detection and response. We have engaged the local volunteer fire department and JDF fire services officials to coordinate efforts. Any other community benefit proposals are welcome, please seek out our community engagement representative to discuss further or fill out our feedback form.



Greenwave Radio  
1291956 B.C. ULC  
[contact@greenwaveradio.net](mailto:contact@greenwaveradio.net)



# Annex E: Community Benefits



## Community Benefits

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The advertisement features a background image of a wildfire with thick black smoke rising from the flames. Overlaid on this image are several text and logo elements. At the top, a dark blue banner contains the text 'Greenwave Radio Community Benefits'. Below this, a central dark blue box displays the 'N5 SHIELD' logo, which includes a hexagonal icon with 'N5' inside, followed by the word 'SHIELD' in large white letters, and the tagline 'Sense. Assess. Secure.' underneath. To the right of this box, another dark blue banner reads 'Early Fire Detection and Real-Time Air Quality Stats'. At the bottom, a large orange banner contains the text 'N5SHIELD™ - Wildfire Detection System' and 'Powered by' followed by the 'N5 Sensors' logo, which consists of a hexagonal icon with a white center and the text 'N5 Sensors'.

Greenwave Radio  
Community Benefits

**N5 SHIELD**  
Sense. Assess. Secure.

Early Fire Detection and  
Real-Time Air Quality Stats

**N5SHIELD™ - Wildfire Detection System**  
Powered by  
**N5 Sensors**

## Challenges in Early and Accurate Wildfire Detection



### 911 Call

Human-Based Reporting is Unpredictable and often too slow



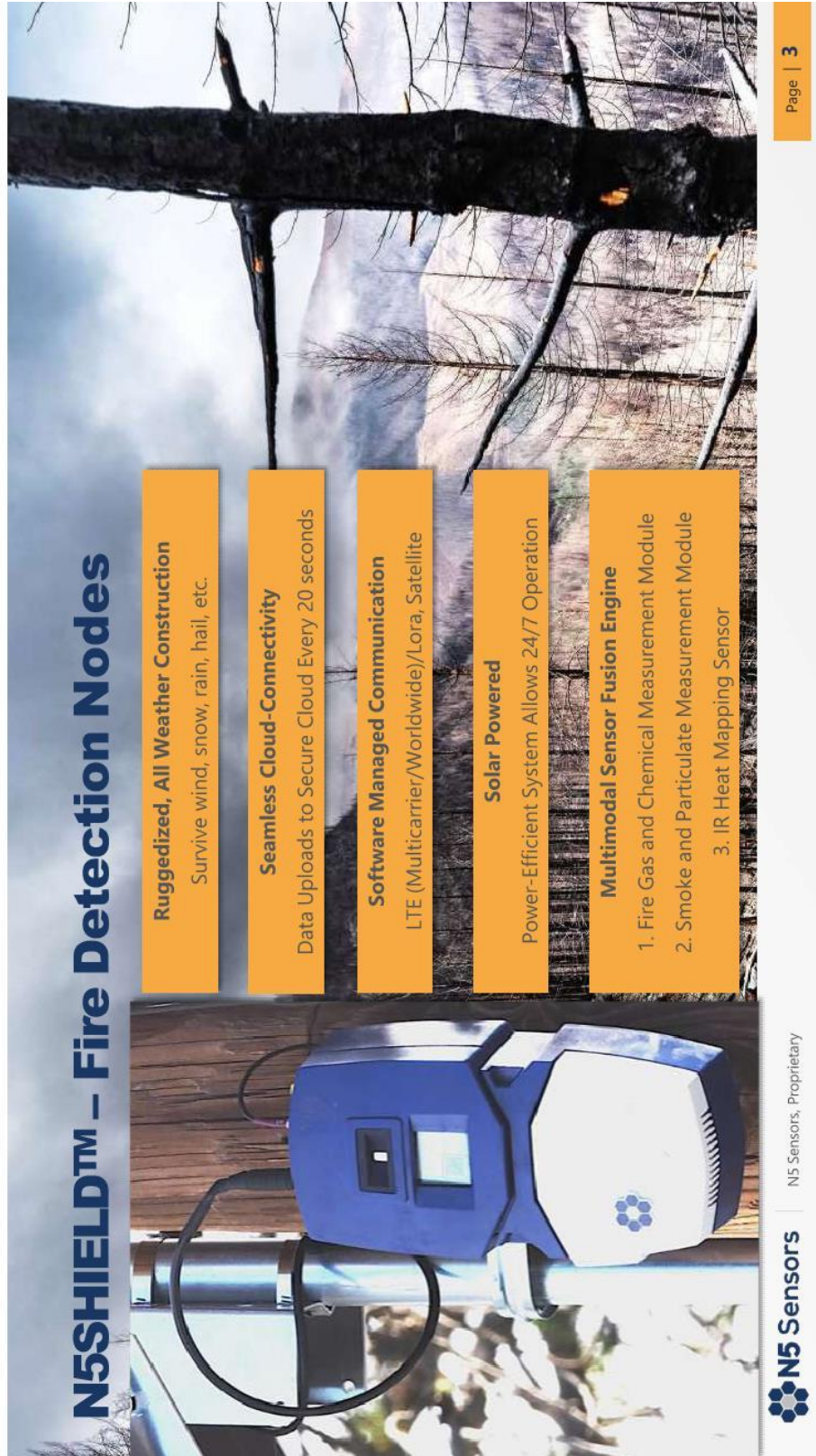
### Satellite

Not Effective for Early Detection – Too Slow and Low-Resolution



### Camera

Requires expensive Infrastructure and maintenance, Can miss fires based on terrain and cloud cover.



The advertisement features a background image of a blue and white N5SHIELD™ Fire Detection Node mounted on a wooden post in a forest. The node has a small screen and a circular sensor array. The title 'N5SHIELD™ – Fire Detection Nodes' is written in large, bold, blue letters on the left. To the right of the title are five orange boxes, each containing a feature name and a description. At the bottom left is the N5 Sensors logo, and at the bottom right is the text 'N5 Sensors, Proprietary'. A small orange box in the top right corner says 'Page | 3'.

# N5SHIELD™ – Fire Detection Nodes

- Ruggedized, All Weather Construction**  
Survive wind, snow, rain, hail, etc.
- Seamless Cloud-Connectivity**  
Data Uploads to Secure Cloud Every 20 seconds
- Software Managed Communication**  
LTE (Multicarrier/Worldwide)/Lora, Satellite
- Solar Powered**  
Power-Efficient System Allows 24/7 Operation
- Multimodal Sensor Fusion Engine**
  1. Fire Gas and Chemical Measurement Module
  2. Smoke and Particulate Measurement Module
  3. IR Heat Mapping Sensor

**N5 Sensors** | N5 Sensors, Proprietary

Page | 3



# N5SHIELD™ – Community Wide Protection



## Identify

N5 Works with Stakeholders to Identify Locations for Highest Protection

## Install

Units are Solar-Powered and Can be Mounted On Any Existing Infrastructure or on A Pole. Box-to-Pole Solution!

## Protect

Web-Based Tools for Monitoring and Analyzing and Automatic Text and Email Capability

**N5 Sensors**

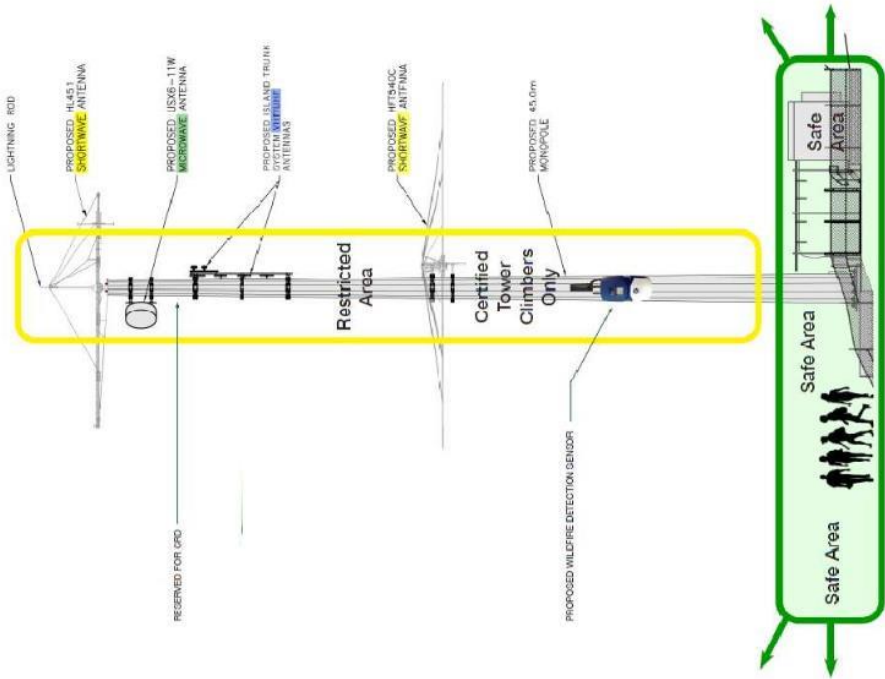
N5 Sensors, Proprietary

Page | 4



# N5 Sensor Installed on Tower

Automatic Call-Out  
to East Sooke Fire  
Rescue Dispatch



The N5 Shield particle sensor that will be installed on Greenwave's tower will add significant early fire detection capabilities to the East Sooke community that were not previously available. On average, N5 sensors report fires 36 minutes before detection by humans.

## N5 Sensor Detection Range

### 3km Radius of Fire Detection:

- 3km is the guaranteed product specification for early fire detection of a single N5 Shield advanced particle sensor.
- This primary detection area covers East Sooke.

### 8km Radius of Fire Detection:

- 8km is the maximum operational detection range experienced by N5 in the field.
- This expanded detection area covers both Sooke and East Sooke.



**N5 Sensors**



## Real-Time Air Quality Data Stream



East Sooke currently receives delayed air quality information, and this may cause confusion and frustration for residents when there is smoke in the air. The N5 Shield Sensor can help mitigate this problem by providing real-time air quality data that can be integrated onto the East Sooke Fire Department Web Page for real-time public viewing.

# East Sooke Fire Department

East Sooke Fire is a highly dedicated volunteer organization of women and men who provide fire and rescue services to our community of 1700 residents and businesses. It has been in continuous operation since 1985.


In addition to emergency response, we provide education, activities and community events to encourage resident participation.

**Our training evenings are on **Thursday nights at 6:30 pm** at our Fire Hall at 6071 East Sooke Road. We welcome and encourage new recruits.**

**Contact us**

Emergencies: 911  
Non-Emergency Dispatch: 250-478-7770  
Fire Chief: 250-562-4208

6071 East Sooke Road, East Sooke, BC  
Phone: (250) 642-4411



BRITISH COLUMBIA  
**FireSmart**

[FireSmart Guides & Manuals](#)  
[FireSmart Home Owner Manual](#)

[East Sooke Fire Commission Website](#)

## Open Burning in East Sooke

Hazard Rating
Extreme

Current Permit Requirements
Category 1: No Burning Allowed
Category 2: No Burning Allowed
Category 3: No Burning Allowed


ATTENTION: Burning is only allowed when venting index is GOOD.

Ventilation Index Forecast:	
Zone name	South Vancouver Island
Date issued	2023-06-19
Today	GOOD
Tomorrow	POOR

ATTENTION: Please check the BCWS Fire Bans and Prohibitions page before carrying out open burning activities. Learn more about the Ventilation Index and burning requirements under the Open Burning Smoke Control Regulations.

BRITISH COLUMBIA

This Ventilation Index Forecast (BEVA) is provided by the Ministry of Environment and Climate Change, Strategic Planning of British Columbia.

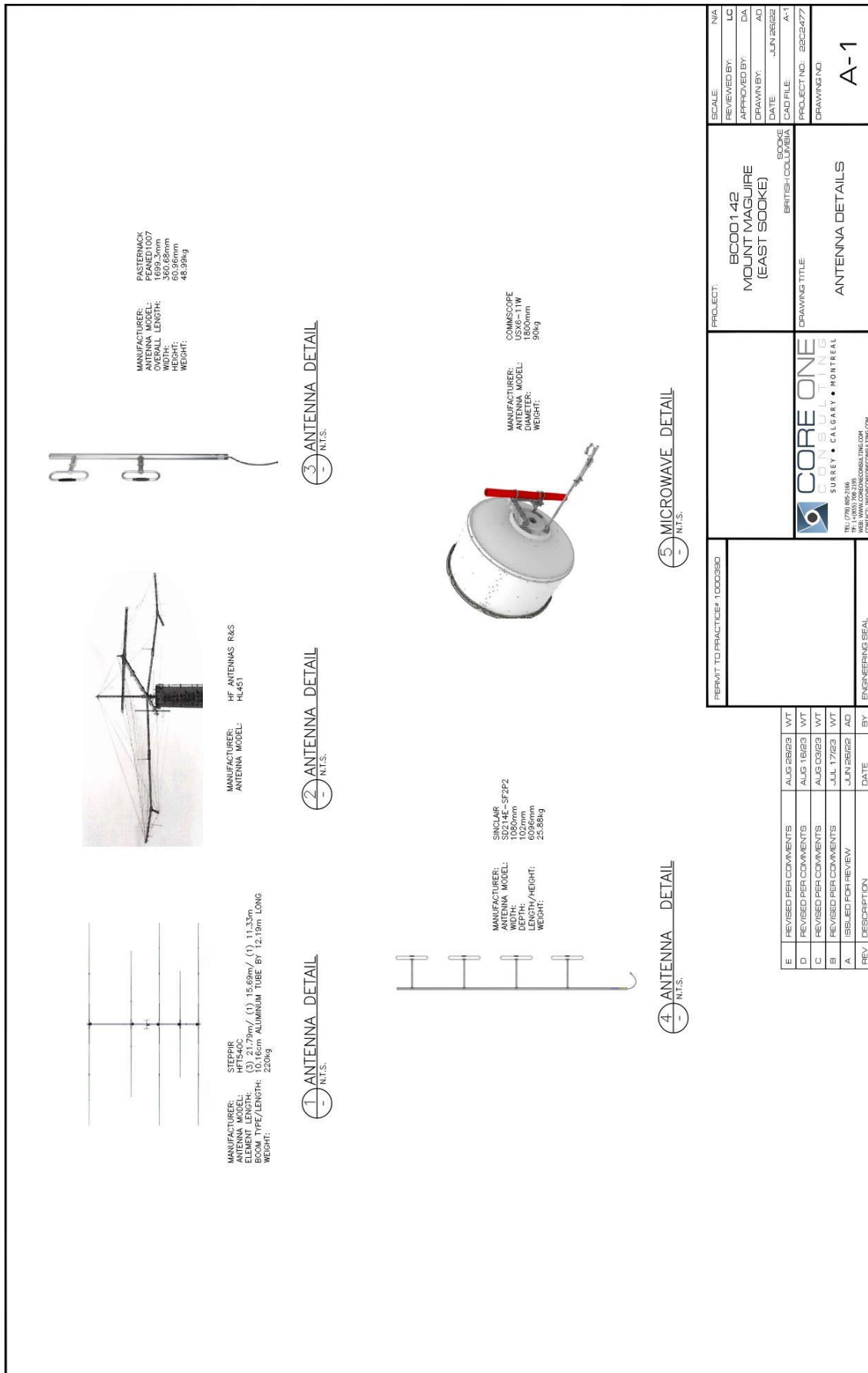


*Add N5 Air Quality Index Here*



## **Annex F: Site Plans**


DRAWING INDEX		
DWG NO	DRAWING TITLE	REV
T-1	TITLE SHEET	E
A-1	ANTENNA DETAILS	E
A-2	ANTENNA LOADING CHARTS	E
A-3	SITE PLAN	E
A-4	ENLARGED SITE PLAN	E
A-5	ANTENNA LAYOUTS	E
A-6	EAST ELEVATION	E



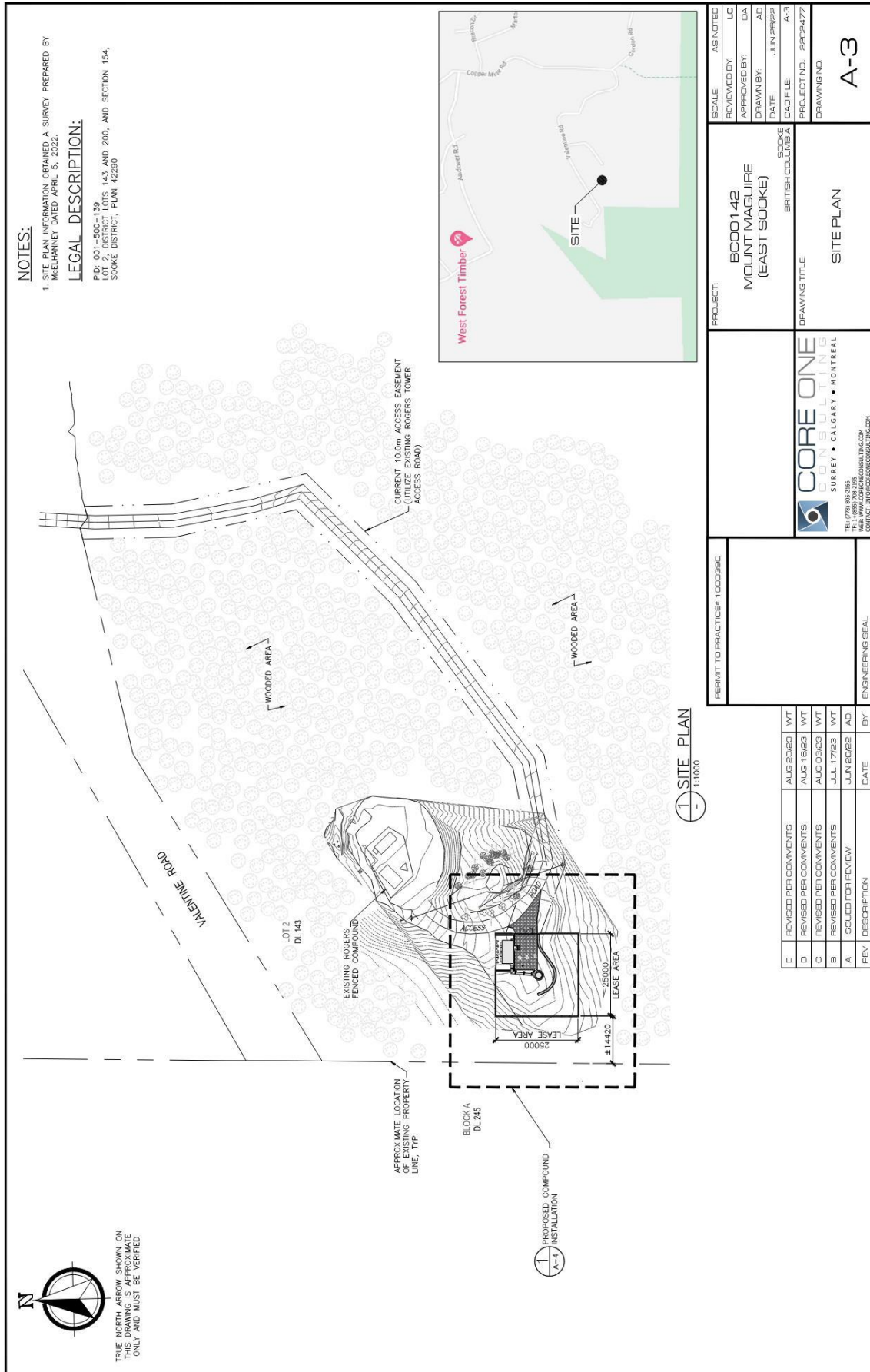
PI

ANTENNA LOADING CHART					
#	ANTENNA ID	ANTENNA TYPE	HEIGHT (AGL)	AZMUTH (°)	STATUS
1	TOP MONOPOLE	HF ANTENNAS R&S HL451	±45.0m	TOP TOWER	INITIAL
2	TOP MONOPOLE	COMMSCOPE USX6-11W 11GHz MW	±43.0m	±180°	INITIAL
3	FACING CLOSEST TOWER IN THE MALHAAT MOUNTAINS: N48.900834, W123.846414	PEAKED 1007 UHF COPLANAR ANTENNA	±40.0m	±350°	INITIAL ISLAND TRUNK SYSTEM (CO-LOCATION)
4	FACING CLOSEST TOWER IN THE MALHAAT MOUNTAINS: N48.900834, W123.846414	SD214E VHF COPLANAR ANTENNA	±40.0m	±350°	INITIAL ISLAND TRUNK SYSTEM (CO-LOCATION)
5	MID MONOPOLE	STEPPER HT1040C	±25.0m	MID TOWER	INITIAL

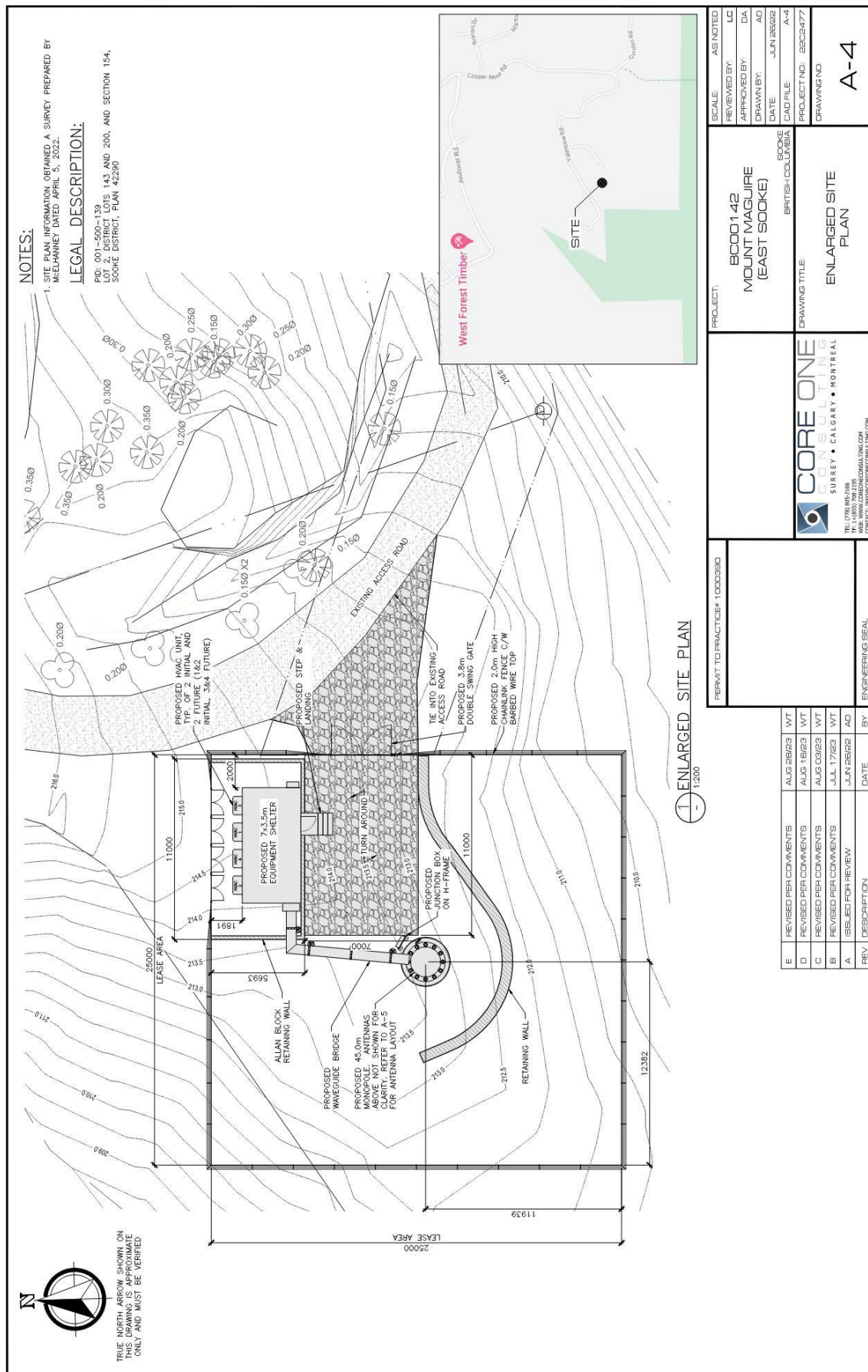
E	REVISED PER COMMENTS	AUG 28/23	WT
D	REVISED PER COMMENTS	AUG 16/23	WT
C	REVISED PER COMMENTS	AUG 09/23	WT
B	REVISED PER COMMENTS	JUL 17/23	WT
A	ISSUED FOR REVIEW	JUN 26/22	AD
REV	DESCRIPTION	DATE	BY
ENGINEERING SEAL			

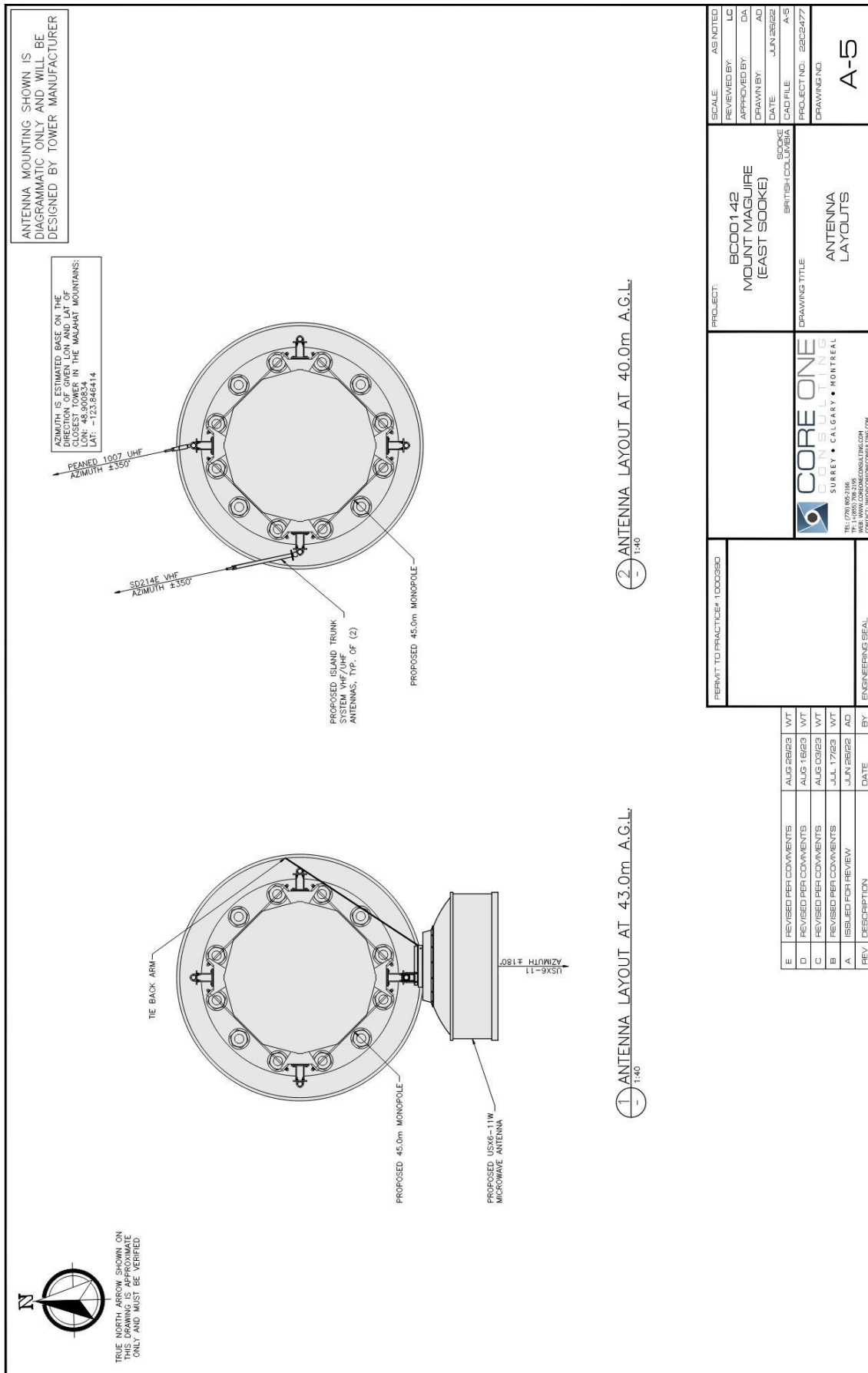
PERMIT TO PRACTICE # 1000390		PROJECT: BC00142 MOUNT MAGUIRE (EAST SOOKE) BRITISH COLUMBIA	SCALE: N/A REVIEWED BY: LG APPROVED BY: DA DRAWN BY: AD DATE: JUN 26/22 CAD FILE: A-2 PROJECT NO: 25C2477 DRAWING NO: A-2
		DRAWING TITLE: ANTENNA LOADING CHART	
 SURREY • CALGARY • MONTREAL TEL: (778) 809-3186 WWW.COREONECONSULTING.COM CONTACT: INFO@COREONECONSULTING.COM			

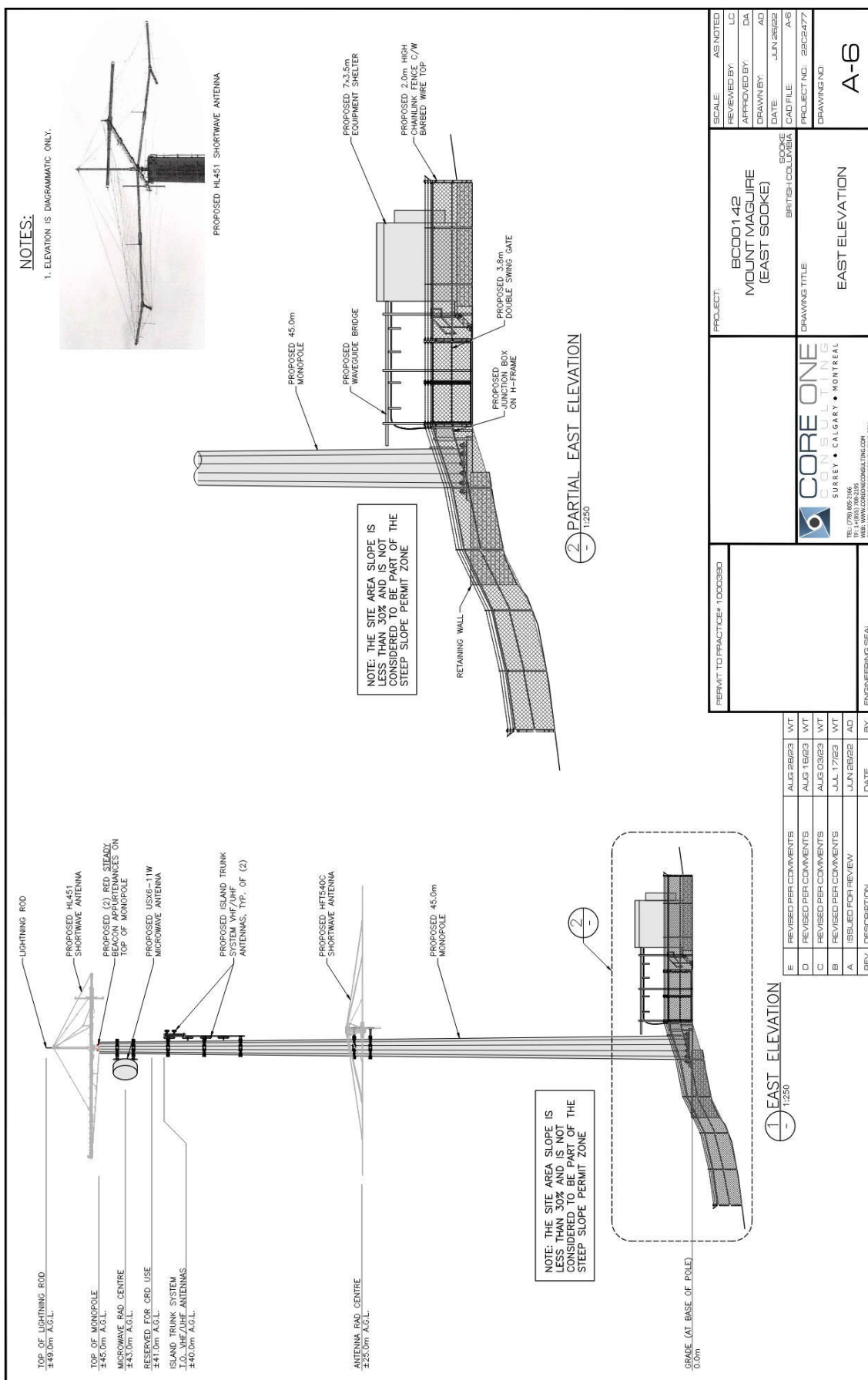
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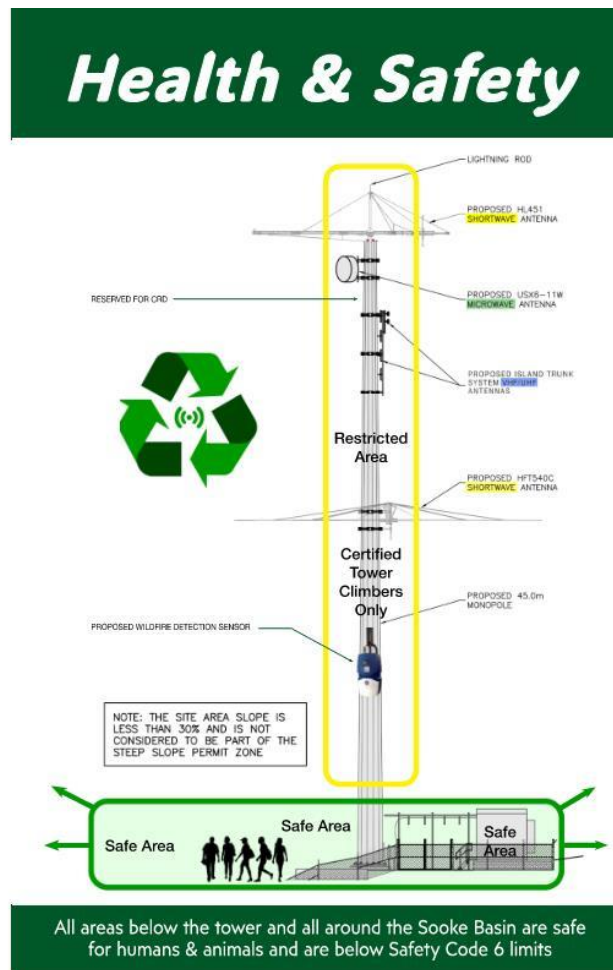
### **Annex G: Health & Safety**

Greenwave Radio has commissioned an updated and expanded Safety Code 6 Compliance Review for our proposed tower. The calculations included in this report were performed by a professional engineering firm, Yves R. Hamel and Associates. They used worst-case parameters, the highest frequency, power output and antenna factor, for the safest results. In all cases, that is to say at all distances outside of the perimeter security fence, and at all frequencies and utilized power levels, this proposed antenna system is below the safe threshold of risk to human health allowed by Health Canada under Safety Code 6.

Greenwave Radio also commissioned a review and presentation of our Safety Code 6 Compliance by an independent radiofrequency safety expert and East Sooke resident named Jay Vinden. Jay's assignment was to convert the Safety Code 6 report into common language and to explain it to residents at our open house and at our upcoming land use committee meeting. Jay has concluded that he is safe living just below the tower in East Sooke and that his fellow neighbours are also safe, as he explained to them at our recent open house (see Health & Safety Banners from the open house below).


The Safety Code 6 Compliance report is attached hereto and, in the pages following the report, per the CRD Staff's request, we have converted the measurements and numbers into a diagram showing the absolute physical separation between the nearby residential areas and any restricted areas on or near the proposed tower.





In compliance with Canada's extremely strict Safety Code 6 standards, there is no unsafe area near the tower that a human can access, even if they trespass into the compound and walk beneath the tower. This is because our shortwave antennas are low-powered and pointed at distant receivers over the horizon. Our Safety Code 6 compliance requires periodic safety testing after tower installation to ensure long-term compliance.

There are no cellular antennas on this tower, nor do we have any plans to ever collocate cellular antennas of any type on our tower (including 5G). Furthermore, there is no room for cellular antennas at the heights they would require. Greenwave Radio is exempt from mandatory tower sharing pursuant to Industry Canada CPC-2-0-17 as we are a private company and not defined as a common telecommunications carrier.



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## Health & Safety

- ✓ Does not pose any health impact on the surrounding community
- ✓ Complies with all local and international guidelines and standards.
- ✓ Committed to the highest levels of long-term health and safety.

This is not an experimental cell tower. This is a shortwave radio tower that also incorporates emergency response support systems and wildfire detection technology. Greenwave Radio has a developmental license because we are recycling and improving old shortwave technology to create alternative network routes which will be supplemental to existing infrastructure while also reducing risk when one or more network circuits fail.



Emissions are well within Health Canada SC 6 limits right below the tower.

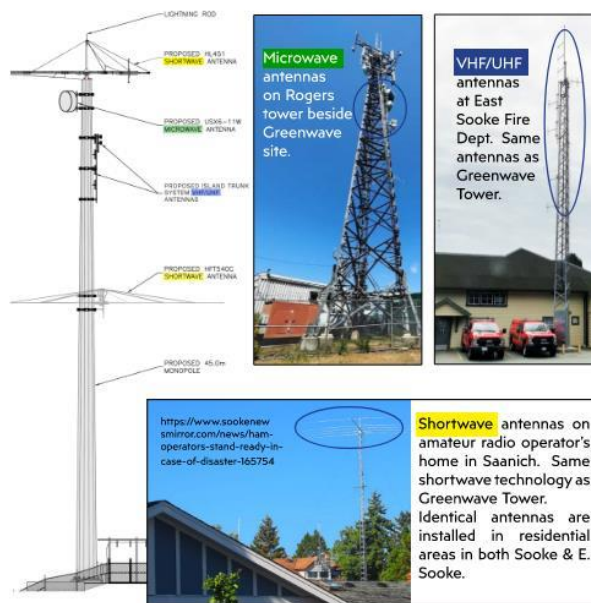


Greenwave Radio's tower has received NAV Canada land use approval file #22-4607.



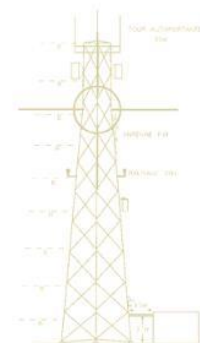
Greenwave Radio's tower has received Transport Canada approval file #ATS-22-23-00044520.

There are no new antenna or radio technologies coming into the area via our tower. These same 3 antenna types have existed in East Sooke for decades



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**SAFETY CODE 6 COMPLIANCE  
REVIEW  
(UPDATED)  
FOR SITE BC00142  
Sooke, BC – SEPTEMBER 2023**



Prepared for



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Safety Code 6 – BC00142 – Sooke, BC

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Analysis prepared by:

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## Introduction

YRH Inc. was mandated by Core One Consulting to evaluate the levels of RF energy near a HF installation located near Sooke, BC. The purpose of this evaluation is to verify compliance with Safety Code 6 limits and to recommend corrective measures if necessary.

## Site Description

The site is located at the following coordinates:

<b>Latitude :</b>	48.357778 North
<b>Longitude :</b>	123.684167 West
<b>Address :</b>	6246 Gordon Rd, Sooke, BC

The site consists of a 45 m monopole where several antennas are located

## Systems description

The main contributors of RF energy at this site are two HF band antennas. The table below contains the list of the relevant characteristics for these antennas.

	Model	Height (m AGL)	Frequency (MHz)	P <sub>TX</sub> (W)	Gain (dBi)
<b>1</b>	HL451	45	7.5 to 23.5	1 000	6 to 12
<b>2</b>	HFT540C	25	7.5 to 23.5	1 000	13.5 to 16.6

Besides the two antennas listed above, several microwave link antennas are also located on this tower.

N. Ant.	Antenna Model	Aperture (ft)	Antenna height (m)	Az. (°)
MW1	USX6-11W	6	43	180°
MW2	AF60-XR	2.5	41	TBD
MW3	AF60-XR	2.5	41	TBD

They will not be included in this analysis as the energy for this type of antennas is concentrated in the main beam and does not contribute to exposure incurred at ground level.

Two other radiocommunication antennas are also located on this tower, as described below. Their contribution will be evaluated using EMF Visual simulation software

Site ID.:	BC00142	Lat:	48.35778		Long:	-123.68417		
Site name:	Sooke	Address:			Sooke, BC			
N. Ant.	Tech	Operator	Antenna Model	Antenna height (m)	Az. (°)	tilt E/M (°)	Freq. (MHz)	P <sub>TX</sub> (W)
1	UHF	Island Trunk	Peaned 1007	40	350°	0°/0°	380-470	5
2	VHF	Island Trunk	SD214E	40	350°	0°/0°	138-174	20

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There is a Rogers cellular base station located some 50 m North-East of the site. A summary analysis of the contribution shows that it will generate at most 2% of the UE limit, in the vicinity of this installation. This contribution will be added to the results obtained for this site to evaluate total exposure levels on the ground.

No broadcasting facilities are located within 1 km of this site.

The analysis will use uncontrolled environment limits since the area around the tower is publicly accessible, with the exception of a 25 m x 25 m fence around the tower base.

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## Health Canada's Safety Code 6

Health Canada publishes a document called "Safety Code 6" where the limits of human exposure to RF energy are detailed, for frequencies between 3 kHz and 300 GHz. The exposure limits specified in Safety Code 6 have been established based upon a thorough evaluation of scientific literature related to thermal and non-thermal effects of RF fields, using a weight-of-evidence approach. The limits in Safety Code 6 are based on the lowest exposure levels at which any scientifically established adverse health effect occur. Furthermore, safety margins are incorporated into these exposure limits to ensure that even the worst-case exposure remain far below the established thresholds. Finally, the scientific approach used to establish the exposure limits in Safety Code 6 is comparable to that employed by other science-based international bodies such as the World Health Organisation (WHO) or the International Commission for Non Ionising Radiation Protection (ICNIRP)

Safety Code 6 limits are set for two types of environments, called Controlled and Uncontrolled environment. These two types of environments are defined as follows:

- **Controlled Environment:** An area where the RF field intensities have been adequately characterised by means of measurements or calculations and exposure is incurred by persons who are: aware of the potential for RF field exposure, cognizant of the intensity of the RF fields in their environment, aware of the potential health risks associated with RF field exposure and able to control their risk using mitigation strategies.
- **Uncontrolled Environment:** An area where any of the criteria defining the controlled environment are not met.

The standard used to perform this survey is based on the most recent Safety Code 6 2015 recommendations. The figure below illustrates the power density limits for Controlled and Uncontrolled Environments for the 2015 standards.

Furthermore, all our results are expressed as a percentage of Safety Code 6 limit, which is the usual representation for multi-frequency environments. In this representation, all values below 100% represent exposures compliant with Safety Code 6 limits while values above 100% represent exposures exceeding those limits.

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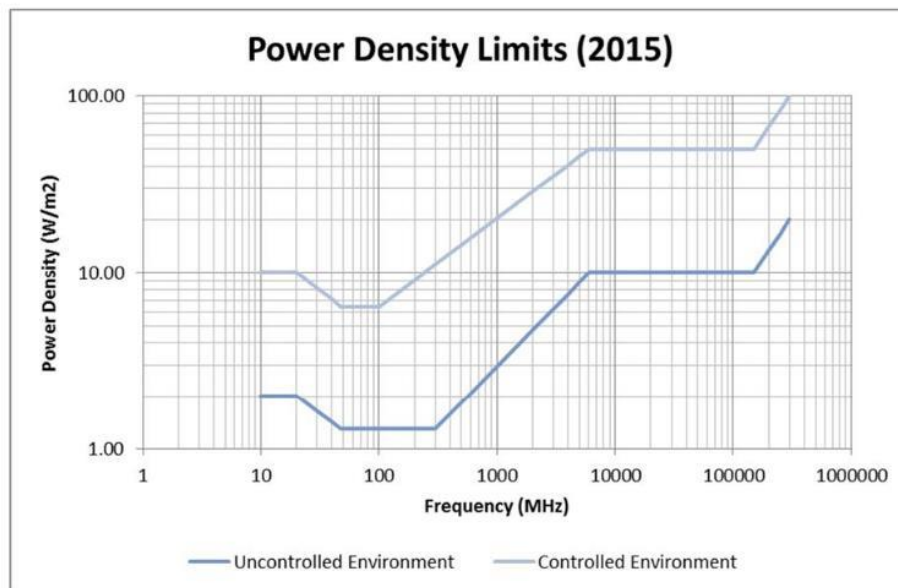


Figure 1 –Safety Code 6 Power Density Limits (2015)

## References

The survey and the resulting document have been prepared in compliance with the applicable reference documents:

- Safety Code 6 (2015) « Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz » Health Canada
- GL-01 « Guidelines for the Measurement of Radio Frequency Fields at Frequencies from 3 kHz to 300 GHz » Industry Canada
- GL-08 « Guidelines for the Preparation of Radio Frequency (RF) Exposure Compliance Reports for Radiocommunication and Broadcasting Antenna Systems » Industry Canada
- CPC-2-0-20 « Radio Frequency (RF) Fields — Signs and Access Control » Industry Canada



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## Methodology

### HF antennas

The commercially available simulation tools are not well suited for the evaluation of Safety Code 6 compliance at HF frequencies. We will therefore execute simplified analysis that will evaluate the levels of RF energy in the worst azimuth, using maximum parameters. This will allow us to estimate a worst-case situation for exposure at ground level.

Our analysis will assume both antennas operating simultaneously, at the highest of the frequency range. The highest frequency was chosen because it both has the highest gain for both antennas, resulting in higher radiated power, but also the Safety Code 6 limits are strictest at the higher end of the frequency band.

We will therefore use the following characteristics:

	Model	Height (m AGL)	Frequency (MHz)	P <sub>TX</sub> (W)	Gain (dBi)	EIRP (W)
1	HL451	45	23.5	1 000	12.0	15 848
2	HFT540C	25	23.5	1 000	16.6	45 708

The calculation will use the parameters above to calculate the exposure at ground level, individually for each antenna. The resulting power density level will be compared to the Safety Code 6 maximum permitted exposure for uncontrolled environment. The contributions of both antennas will be summed up and expressed in terms of percentage of this limit. In this format, any value below 100% represents an acceptable level of exposure while any value exceeding 100% represents exposure exceeding Safety Code 6 limits.

The calculation will use the following equation:

$$PD_{\%} = \frac{EIRP * AF}{4\pi r^2} * \frac{100\%}{PD_{max}}$$

Where;

- PD<sub>%</sub>** is Resulting exposure in terms of Power Density (% of Safety Code 6 Limit)
- EIRP** is Effective Isotropic Radiated Power (W)
- AF** is Antenna Pattern Factor
- r** is Distance to the antenna (m)
- PD<sub>max</sub>** is Maximum permitted exposure in terms of Power Density (W/m<sup>2</sup>)

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### UHF and VHF Antennas

The analysis of the effect of the VHF/UHF antennas has been completed using the Visual EMF software. This software simulates the distribution of energy in the near and far field of the antenna and gives with great precision the area of exposure by the standards of Health Canada (Safety Code 6) levels.



Figure 2 - EMF Visual

The simulation is performed by constructing a three-dimensional model of the site and then adding all transmitting antennas. Some antenna models are provided with the software, others had to be created from the radiation patterns that may be available on Industry Canada or on manufacturers' web sites. Antenna characteristics, such as frequency, radiated power and position are then entered into the software. The simulation then gives a representation of the radiation for each antenna and the size of the zones which require restricted access.

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## Results

### HF Antennas

The figures below shows the levels of RF energy along a line moving away from the tower. This represents the levels in the maximum azimuth of the antennas, at 2 m and 3 m above ground respectively.

At 2 m above ground, the antenna HL451, because of its location at the top of the tower and because of its lower gain, contributes at most 8% of the SC6 limit for Uncontrolled environment. Antenna HFT540C, located closer to the ground, contributes up to 81%. When both antennas operate simultaneously, exposure levels will reach up to 88% of the Safety Code 6 maximum permitted exposure for uncontrolled environment. This maximum value of 88% occurs at a distance of approximately 17 m from the base of the tower.

When evaluated 3 m above ground, antenna HL451 contributes approximately 8.5% of the SC6 limit for Uncontrolled environment. Antenna HFT540C contributes up to 88%. When both antennas operate simultaneously, exposure levels will reach up to 95% of the Safety Code 6 maximum permitted exposure for uncontrolled environment. This maximum value of 95% occurs at a distance of approximately 18 m from the base of the tower.

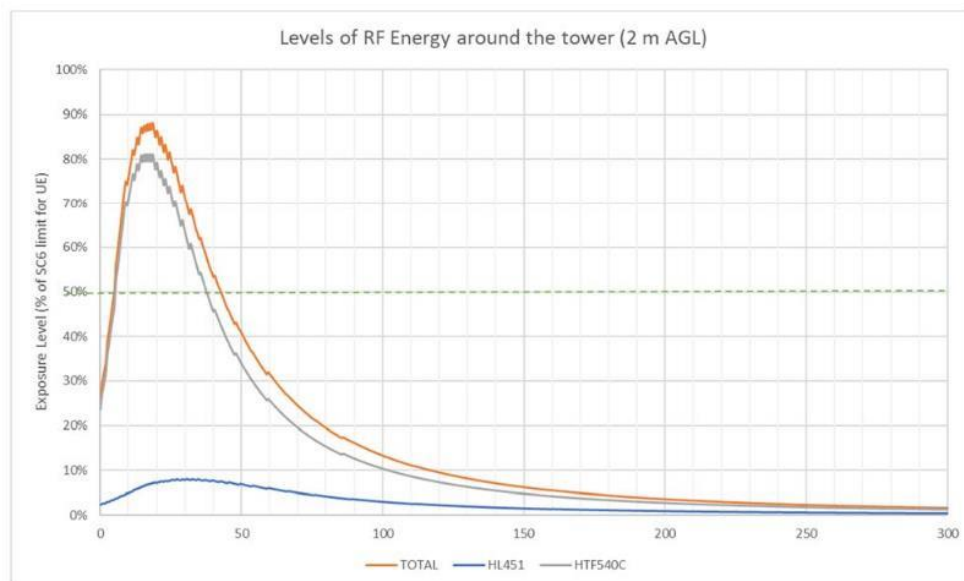
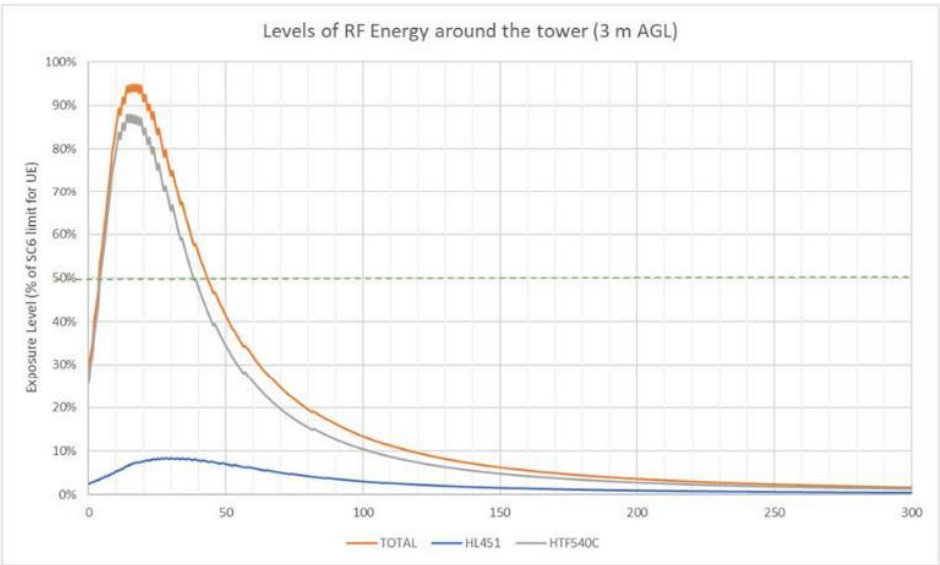


Figure 3 - Energy Levels at 2 m above the ground (as % of Safety Code 6 limit for UE)

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UHF and VHF Antennas

The figures below show the levels of RF energy at 2 m and 3 m above ground. In both cases, the levels are extremely low, not exceeding 0.03% (or 3/10000<sup>th</sup>) of the permitted exposure for uncontrolled environments.

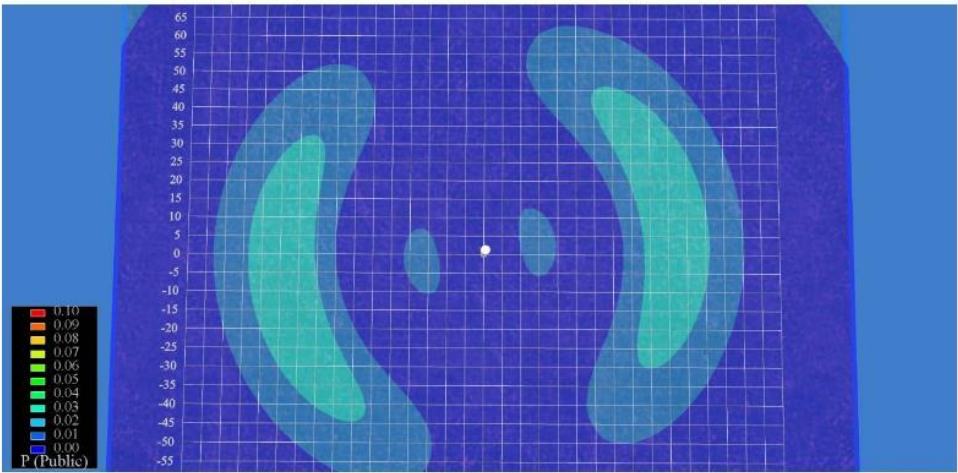


Figure 4 - Levels of R Energy from UHF and VHF antennas at 2 m above ground (as % of Safety Code 6 limit for UE)

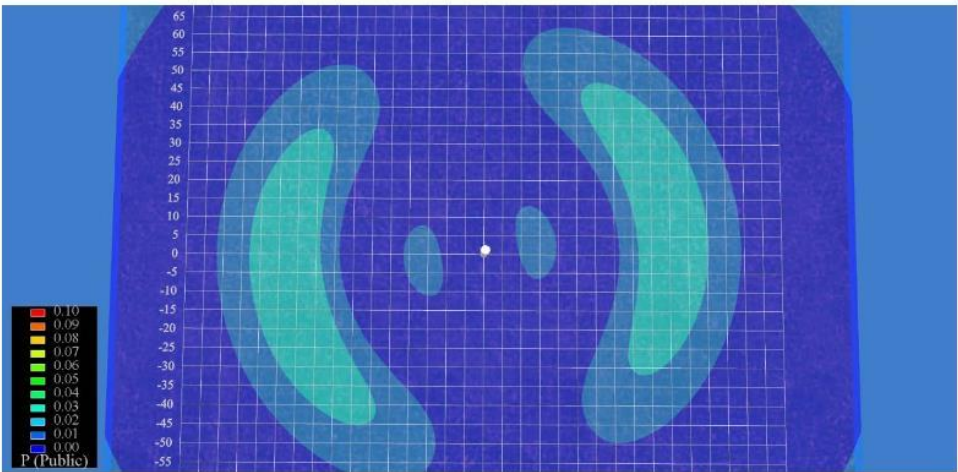


Figure 5 - Levels of R Energy from UHF and VHF antennas at 3 m above ground (as % of Safety Code 6 limit for UE)

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## Conclusion and recommendations

When all the sources are taken into account their contributions at ground level can be summarised as follows:

Source	Contribution 2 m AGL	Contribution 3 m AGL
<b>HL451</b>	8.1%	8.5%
<b>HFT540C</b>	81.1%	88.0%
<b>VHF and UHF</b>	0.03%	0.03%
<b>Microwave</b>	0.0%	0.0%
<b>Rogers</b>	2.0%	2.0%
<b>TOTAL</b>	<b>91.23%</b>	<b>98.53%</b>

Figure 6 - Contributions from various sources to the total exposure levels (% of Safety Code 6 limit for UE)

Our analysis shows that no location will exceed 100% of the limit, and the entire area around the tower is compliant.

However, when theoretically evaluated exposure exceeds 50% of the limit for Uncontrolled Environment in areas accessible to the general public, ISED may request a confirmation by on site measurements. Measurements are likely to yield a lower value since this theoretical evaluation made several assumptions for the purpose of obtaining a worst-case result.

The area where exposure exceeds 50% extends up to 43 m from the tower. Since the proposed fence around the compound is planned to be approximately 25 m by 25 m, it will not be sufficient to enclose all locations exceeding 50%. Measurements would not be required if the fence extended to at least 45 m from the base of the tower, to account for the contribution from Rogers antennas.

The RF Energy graph below from our Safety Code 6 (SC6) Compliance report illustrates the progressive decline in RF Energy while moving away from the antenna system. An important conclusion that can be drawn from analyzing this graph, is that there is nowhere at ground level that RF Energy exceeds SC6 limits. As of 100 meters away from the tower, the levels start to quickly drop towards 0%.

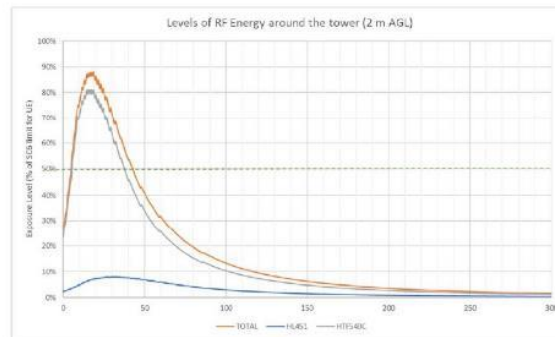


Figure 3 - Energy Levels at 2 m above the ground (as % of Safety Code 6 limit for UE)

We have created a visual map of this graph below. Please note that **all areas at ground level around the tower are within SC6 limits**, the concentric rings are only illustrating the **small percentage** of the limits the calculation yields for each distance threshold. As illustrated above, RF energy steadily approaches 0% after 100 meters away, therefore at 300 meters away, the residual RF energy is lower than ambient and household generated signals. Furthermore, please note in the below image that the closest residences all exceed 300 meters from the proposed site.

