

**Harbour East-Marine Drive Community Council
February 13, 2014**

TO: Chair and Members of Harbour East-Marine Drive Community Council

Original signed

SUBMITTED BY:

Brad Anguish, Director of Community and Recreation Services

DATE: February 3, 2014

SUBJECT: Case 18497: Telecommunication Tower - 341 Cherry Brook Road,
Lake Loon

ORIGIN

Application by Halifax Water (Halifax Regional Water Commission)

LEGISLATIVE AUTHORITY

The Federal Radiocommunication Act; HRM has no jurisdiction to regulate telecommunications towers, however, Industry Canada requires that proponents consult with local land use authorities to address reasonable and relevant concerns on any proposed antenna system.

RECOMMENDATION

It is recommended that Harbour East Marine Drive Community Council:

1. Inform Industry Canada that they have no policy-based objection to the proposal by Halifax Water to erect a new 50 metre (164 foot), self-supporting telecommunication tower at 341 Cherry Brook Road, Lake Loon; and
2. Forward a copy of this report to Industry Canada for background purposes.

BACKGROUND

Halifax Water has submitted an application to locate a new 50 metre (164 feet) free standing self-supporting telecommunications tower at 341 Cherry Brook Road in Lake Loon. The tower is proposed within a portion of Halifax Water lands at their Lake Major Water Treatment Facility, as shown on Maps 1 and 2 and Attachments A and B.

The proposed tower:

- is located on the western side of the subject property, approximately 35 metres (115 feet) from the Lake Major Water Treatment Facility structure;
- will be free standing, self-supporting and 50 metres (164 feet) in height measured from ground level;
- is not required by Transport Canada to have lighting and painting at this location;
- will be located approximately 1,425 metres (4,675 feet) from Cherry Brook Road;
- will be located within the existing treatment facility grounds, which is a fenced compound with secure gated access and 24 hour staff presence; and
- will be equipped with anti-climb apparatus.

Site Features and Surrounding Land Use

The subject property is:

- approximately 111.7 hectares (276.6 acres) in area;
- located on the west side of Cherry Brook Road and is relatively distant (approx. 750 metres) to residentially developed areas;
- designated WS (Watershed) under the Cole Harbour/Westphal Municipal Planning Strategy (MPS) (Map 1);
- zoned PWS (Public Water Supply) Zone under the Cole Harbour/Westphal Land Use By-law (LUB) (Map 2); and
- bound by lands zoned RA (Residential) to the east and south, and some lands zoned R-7 (Rural Estate) to the west.

Municipal Process

The federal government has jurisdiction over all forms of radio communication (radio and television broadcasting, microwave communication, private radio transmissions, etc.). Provincial and Municipal governments have little jurisdiction to interfere with or impair communication facilities licensed under federal law. Industry Canada is the federal agency which licenses and regulates these facilities under the provisions of the Telecommunications Act (S.C. 1993, c.38).

The federal government, however, has recognized that municipal authorities may have an interest in the location of antenna structures and this should be considered in the exercise of its authority. A consultation policy has therefore been instituted and this process is followed by HRM. The policy requires that an applicant notify the appropriate municipality of its intentions and the municipality is then given an opportunity to review the proposal and provide comment. If any objections arise, the municipality is to provide written notice to the local office of Industry

Canada. The submissions will be reviewed by Industry Canada, who will then determine whether or not a license is to be granted and/or upon what conditions such license is granted.

Telecommunications Tower Functional Plan

The Regional Municipal Planning Strategy (RMPS) acknowledges the federal policy encouraging municipal consultation when dealing with antenna towers and associated structures and recognizes that the means of consultation is to be determined by the Municipality. Policy SU-31 of the Regional MPS directs HRM, in cooperation with Industry Canada and industry stakeholders, to prepare a functional plan to address community concerns regarding aesthetic and environmental impacts of telecommunication structures and facilities. Staff is currently working toward a proposed functional plan for Regional Council's consideration, however, until such time as a functional plan is adopted, the interim approach, as described above will be followed.

DISCUSSION

The Cole Harbour/Westphal Municipal Planning Strategy (MPS) does not contain specific policies regarding the siting of telecommunications facilities. Instead, staff utilizes the general evaluative criteria for development proposals of the MPS (IM-11) (Attachment C) when reviewing such facilities and these criteria provide relevant guidance to Council and staff. Of the criteria outlined, staff has identified the following matters for specific discussion.

Physical Proximity

As there is no formal policy in the MPS to guide the location of telecommunications towers to ensure adequate setbacks or separation distances, it is prudent to evaluate the potential risk should the tower experience structural failure. In the absence of a telecommunication functional plan and policies regarding the proximity of a telecommunication tower, staff has employed best practices found in established functional plans from other jurisdictions throughout Canada, including the City of Toronto and City of Hamilton. In brief, the practice encourages proponents to locate telecommunication towers with a minimum setback to all property lines and to all adjacent buildings of a distance equivalent to the height of the tower (measured from grade), whenever possible. The tower poses limited risk to adjacent properties, as it is located approximately 745 metres (2,444 feet) from the nearest residential dwelling.

The proximity of the tower to the water treatment plant building represents a potential concern to staff as it does not meet the recommended minimum setback. Halifax Water has provided staff with a written response (Attachment F) regarding the proximity of the proposed antenna tower installation to the treatment facility. Their response gave consideration to the potential negative impacts including structural failure and ice falling off the tower, along with many positive aspects such as minimizing cable length, equipment location, topography, etc. The applicant maintains that with proper management of the tower, the negative aspects can be minimized or eliminated completely.

Visual Impact

From a community perspective, it is anticipated that the proposed tower will generate limited visual impact. As communicated by Transport Canada, the proposed telecommunications tower will not require lighting or painting (Attachment D).

From a more localized perspective, there are several locations where the proposed antenna tower may be visible from Old German Road off Lake Major Road, Bundy Lane off Cherry Brook Lane and portions of Cherry Brook Road itself. Staff is of the opinion that the proposed tower will not dominate the landscape, nor will it have significant adverse visual effects on the residents located in these specific areas as the tower is set back 740 meters (2,428 feet), 780 meters (2,559 feet) and 1,425 metres (4,675 feet) respectively, from its nearest viewpoints on Bundy Lane, Old German Road and Cherry Brook Road.

Health and Safety

Aside from land use issues, there are often concerns about potential health risks from the placement of telecommunication towers. Industry Canada requires that such systems are operated in accordance with the safety guidelines established by Health Canada in their document entitled *Limits of Human Exposure to Radiofrequency Electromagnetic fields in the Frequency Range from 3kHz to 300GHz*, commonly referred to as *Safety Code 6*. This document specifies the maximum recommended human exposure levels to radiofrequency energy from radiation emitting devices. The safety of wireless communication devices such as Wi-Fi equipment, cell phones, smart phones and their infrastructures, including base stations, is an area of ongoing study for Health Canada.

Prior to receiving a licence from Industry Canada, the operator must submit the calculations on the intensity of the radiofrequency fields to ensure that this installation does not exceed the maximum levels contained in *Safety Code 6* requirements. Information submitted in support of this proposal indicates no concerns in relation to *Safety Code 6* (Attachment E).

Summary

Staff anticipate the tower will have insignificant adverse visual effects on the community. Staff recommend that Harbour East-Marine Drive Community Council advise Industry Canada that they have no policy-based objection to the proposed 50 metre (164 feet) tower at the Lake Major Treatment Facility at 341 Cherry Brook Road.

FINANCIAL IMPLICATIONS

The HRM costs associated with processing this planning application can be accommodated within the approved 2013/14 operating budget for C310 Planning & Applications.

COMMUNITY ENGAGEMENT

The community engagement process is consistent with the intent of the HRM Community Engagement Strategy.

The level of community engagement was consultation, achieved through a Public Information Meeting (PIM) held on July 25, 2013. No members of the community attended the meeting. Notices were posted on the HRM website, in the newspaper and mailed to property owners within the notification area as shown on Map 2.

A Public Hearing is not included in the telecommunication tower application process, Community Council simply forwards a recommendation to Industry Canada.

The location of the proposed tower would potentially impact the following stakeholders: local residents; property owners; and Halifax Water.

ENVIRONMENTAL IMPLICATIONS

No implications have been identified.

ALTERNATIVES

1. Inform Industry Canada that they have no policy-based objection to the proposal by Halifax Water to erect a new 50 metre (164 foot), self-supporting telecommunication tower at 341 Cherry Brook Road, Lake Loon. This is the staff recommendation.
2. Inform Industry Canada that they have a policy-based objection to the proposal by Halifax Water to erect a new 50 metre (164 foot), self-supporting telecommunication tower at 341 Cherry Brook Road, Lake Loon, as shown on Attachment A of this report. This is not recommended due to the reasons outlined in this report.
3. Inform Industry Canada that they have additional comments or recommendations with respect to the proposed tower. In this event, staff will notify the local office of Industry Canada of Council's recommendations.

ATTACHMENTS

Map 1	Generalized Future Land Use
Map 2	Location and Zoning
Attachment A	Site Plan
Attachment B	Aerial View
Attachment C	Excerpts from the Cole Harbour/Westphal MPS
Attachment D	Aeronautical Obstruction Clearance Form
Attachment E	Safety Code 6 Attestation
Attachment F	Applicant Response re: Physical Proximity

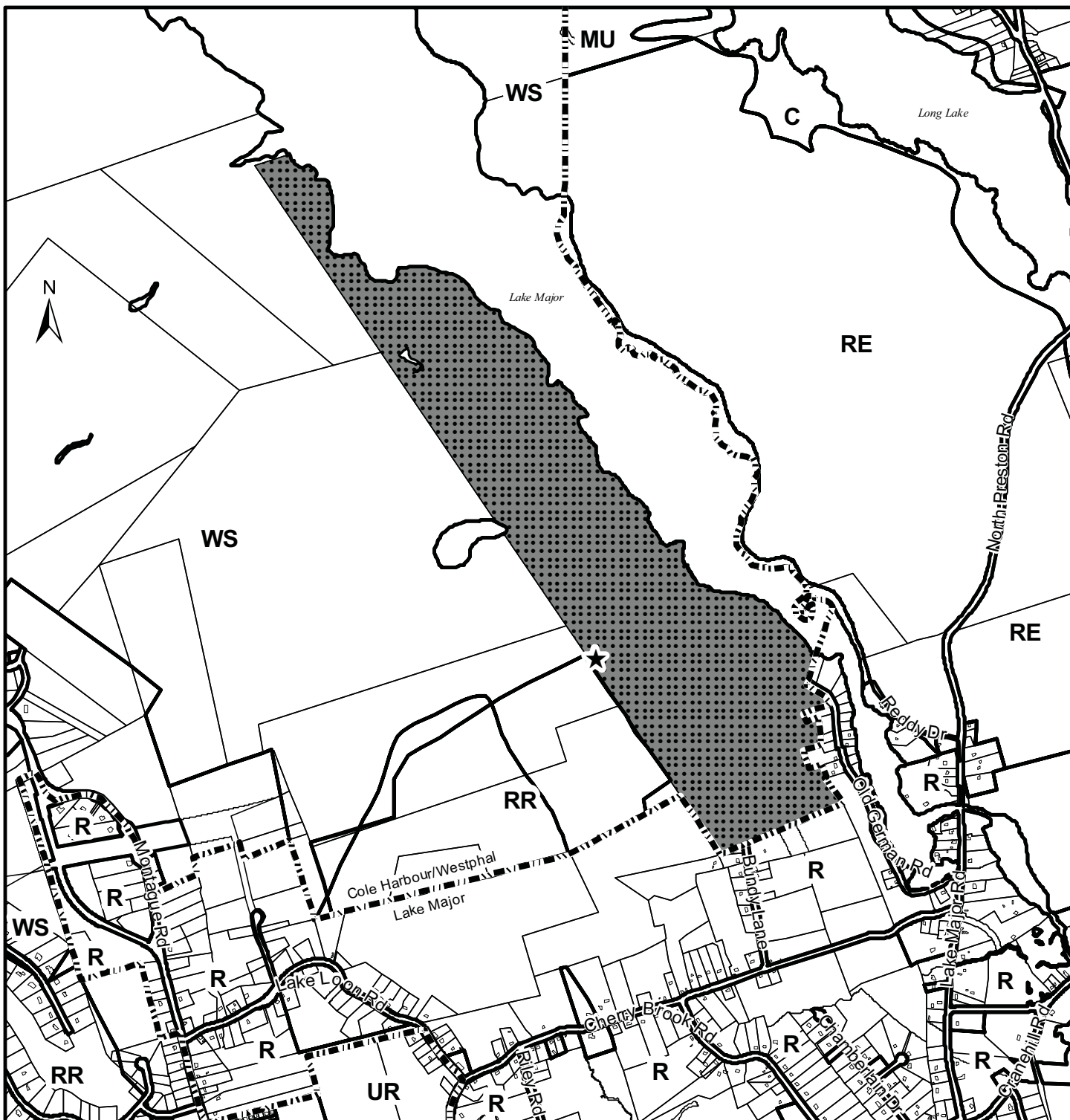
A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/cc.html> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Darrell Joudrey, Planner, Development Approvals, 490-4181

Original signed




Report Approved by:

Kelly Denty, Manager of Development Approvals 490-4800



Map 1 - Generalized Future Land Use

341 Cherry Brook Road,
Lake Loon

-  Subject area
-  Plan Area Boundary
-  Proposed Tower Location

Cole Harbour/Westphal

- UR Urban Residential
- RR Rural Residential
- WS Watershed

Lake Major

- MU Mixed Use
- R Residential
- RE Resource
- C Conservation

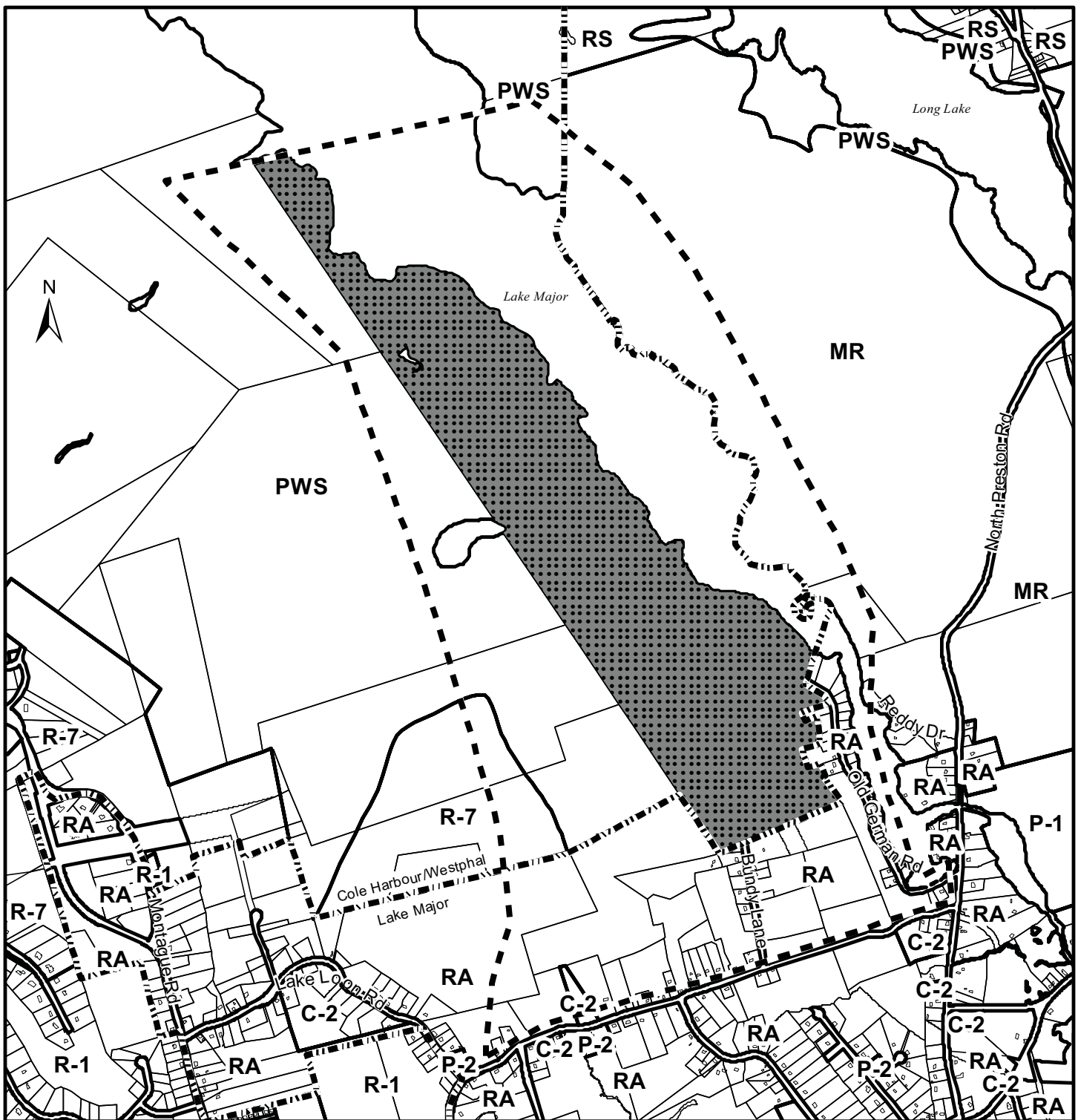
HALIFAX
REGIONAL MUNICIPALITY
DEVELOPMENT APPROVALS

0 65 130 260 390 520 Meters

This map is an unofficial reproduction of a portion of the Generalized Future Land Use Map for the plan area indicated.




HRM does not guarantee the accuracy of any representation on this plan.

Cole Harbour/Westphal &
Lake Major Plan Area



Map 2 - Zoning and Notification

341 Cherry Brook Road,
Lake Loon

-  Subject area
-  Plan Area Boundary
-  Notification Area

Cole Harbour/Westphal &
Lake Major Plan Area

Cole Harbour/Westphal

- R-1 Single Unit Dwelling
- R-7 Rural Estate
- PWS Public Water Supply

Lake Major

- RS Rural Settlement
- RA Residential
- C-2 General Commercial
- P-1 Recreation-Open Space
- P-2 Community Facility
- PWS Protected Water Supply
- MR Mixed Resource

HALIFAX
REGIONAL MUNICIPALITY
DEVELOPMENT APPROVALS

0 65 130 260 390 520 Meters

This map is an unofficial reproduction of
a portion of the Zoning Map for the plan
area indicated.

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"To provide world class services for our customers and our environment"



COMMUNICATIONS/SCADA TOWER LOCATION LAKE MAJOR WATER TREATMENT PLANT

Drawn By: G. Methrau
Data Source: Halifax Water / HRM
Date: Thursday, April 04, 2013
The information contained on this map may not be complete
and is for informational purposes only. For more information
and confirmation of completeness be required, please contact the
Engineering Department of Halifax Water, Halifax Water will



COMMUNICATIONS/SCADA TOWER LOCATION
LAKE MAJOR WATER TREATMENT PLANT

Drawn By: G. Methneau
Data Source: Halifax Water / HRM
Date: Friday, April 05, 2013

Attachment C: Relevant Excerpts from Cole Harbour/Westphal MPS

IM-11 In considering amendments to the land use by-law or development agreements, in addition to all other criteria as set out in various policies of this planning strategy, Cole Harbour/Westphal Community Council shall have appropriate regard to the following matters:

- (a) that the proposal is in conformity with the intent of this planning strategy and with the requirements of all other municipal by-laws and regulations;
- (b) that the proposal is not premature or inappropriate by reason of:
 - (i) the financial capability of the Municipality to absorb any costs relating to the development;
 - (ii) the adequacy of sewer and water services;
 - (iii) the adequacy or proximity of school, recreation and other community facilities;
 - (iv) the adequacy of road networks leading or adjacent to or within the development; and
 - (v) the potential for damage to or destruction of designated historic buildings and sites.
- (c) that controls are placed on the proposed development so as to reduce conflict with any adjacent or nearby land uses by reason of:
 - (i) type of use;
 - (ii) height, bulk and lot coverage of any proposed building;
 - (iii) traffic generation, access to and egress from the site, and parking;
 - (iv) open storage;
 - (v) signs; and
 - (vi) any other relevant matter of planning concern.
- (d) that the proposed site is suitable in terms of steepness of grades, soil and geological conditions, locations of watercourses, potable water supplies, marshes or bogs and susceptibility to flooding; and
- (e) any other relevant matter of planning concern.
- (f) **Within any designation, where a holding zone has been established pursuant to “Infrastructure Charges - Policy IC-6”, Subdivision Approval shall be subject to the provisions of the Subdivision By-law respecting the maximum number of lots created per year, except in accordance with the development agreement provisions of the MGA and the “Infrastructure Charges” Policies of this MPS. (RC-Jul 2/02;E-Aug 17/02)**

Attachment D



Transport
Canada

Transports
Canada

APPENDIX C TO CAR 621.19 - ANNEXE C RAC 621.19

TC File No./Ref No. - TC n° du dossier/N° de réf.

AERONAUTICAL OBSTRUCTION CLEARANCE FORM

FORMULAIRE D'AUTORISATION D'OBSTACLE AÉRIEN

TO BE COMPLETED BY APPLICANT - À REMPLIR PAR LE REQUÉRANT

Operator's Name - Nom de l'opérateur Halifax Regional Water Commission															
Operator's Address - Adresse de l'opérateur 450 Cowie Hill Rd, Halifax Nova Scotia, B3P 2V3															
Operator's Contact - Agent de liaison de l'opérateur Graham MacDonald															
Contact's Telephone No. - N° de téléphone de liaison 902-869-4268		Contact's FAX No. - N° de télécopieur de liaison 902-869-4319	Contact's Email Address - Adresse électronique de liaison grahamm@halifaxwater.ca												
Applicant's Name - Nom du requérant Mark Feener		Address - Adresse 200 Bluewater Rd													
City - Ville Bedford		Province/Territory - Province/Territoire Nova Scotia	Postal - Code - postal B3K 5M1												
Applicant's Telephone No. - N° de téléphone du requérant 902-490-4837		Applicant's FAX No. - N° de télécopieur du requérant 902-490-1584	Applicant's Email Address - Adresse électronique du requérant markf@halifaxwater.ca												
Nearest city / town to proposed facility Ville la plus proche de la structure proposée Dartmouth, NS	Geographic coordinates of structure - coordonnées géographiques de la structure <table border="1"> <tr> <td>44°</td> <td>43'</td> <td>12"</td> <td>N Latitude Latitude N</td> <td>63°</td> <td>28'</td> <td>57"</td> <td>W Longitude Longitude O</td> </tr> </table> <input type="checkbox"/> NAD27 <input type="checkbox"/> NAD83 <input checked="" type="checkbox"/> WGS84			44°	43'	12"	N Latitude Latitude N	63°	28'	57"	W Longitude Longitude O				
44°	43'	12"	N Latitude Latitude N	63°	28'	57"	W Longitude Longitude O								
TOWERS / ANTENNAS TOURS / ANTENNES 		BUILDING OR OTHER STRUCTURE BÂTIMENT OU AUTRE STRUCTURE 													
		<table border="1"> <thead> <tr> <th></th> <th>Feet - Pieds</th> <th>Meters - Mètres</th> </tr> </thead> <tbody> <tr> <td>A Height above ground Hauteur au-dessus du sol</td> <td>164</td> <td>50</td> </tr> <tr> <td>B Building height Hauteur du bâtiment</td> <td></td> <td></td> </tr> <tr> <td>C Ground elevation above sea level Hauteur du sol au-dessus du niveau de la mer</td> <td>230</td> <td>70</td> </tr> </tbody> </table>			Feet - Pieds	Meters - Mètres	A Height above ground Hauteur au-dessus du sol	164	50	B Building height Hauteur du bâtiment			C Ground elevation above sea level Hauteur du sol au-dessus du niveau de la mer	230	70
	Feet - Pieds	Meters - Mètres													
A Height above ground Hauteur au-dessus du sol	164	50													
B Building height Hauteur du bâtiment															
C Ground elevation above sea level Hauteur du sol au-dessus du niveau de la mer	230	70													
List any tall adjacent buildings and structures which may shield the proposed structure (Attach sketch) Faire une liste indiquant les structures et bâtiments avoisinants plus haut que le bâtiment projeté (Inclure un diagramme)															
New struc. - Nouv. struc. <input checked="" type="checkbox"/> Yes Oul <input type="checkbox"/> No Non		Add. to exist. struc. incl. total hght. - Ajout à un bâti. exis. incl. hauteur total													
Proposed Construction - Date - de construction proposée															
TYPE OF STRUCTURE (narrative description and function) - GENRE DE STRUCTURE (description narrative et fonction) 50 metre self support tower to improve Halifax Water's SCADA (supervisory control and data acquisition) systems with remote areas of Halifax Regional Municipality. Request assessment for the requirements of lighting and paint as per TP382 on the new tower.															
Signature (of applicant) (du requérant)		Date (yyyy-mm-dd / aaaa-mm-jj)													

TRANSPORT CANADA USE ONLY - À L'USAGE DE TRANSPORTS CANADA

AERONAUTICAL ASSESSMENT - ÉVALUATION AÉRONAUTIQUE

Site acceptable - Emplacement acceptable <input type="checkbox"/> Yes Oul <input type="checkbox"/> No (if no, reason) Non (si non, pourquoi)			
Lighting as per (TP382) required - Balisage lumineux tel que demandé au (TP382) <input type="checkbox"/> Yes Oul <input type="checkbox"/> No or Non ou			
Painting as per (TP382) required - Balisage peint tel que demandé au (TP382) <input type="checkbox"/> Yes Oul <input type="checkbox"/> No or Non ou			
Temporary lighting required - Nécessité d'un balisage lumineux temporaire <input type="checkbox"/> Yes Oul <input type="checkbox"/> No (if yes, type) Non (si oui, de quel genre)			
Advise Transport Canada in writing 90 days before construction Avertir Transports Canada par écrit 90 jours avant la construction		<input type="checkbox"/> when construction starts au commencement de la construction	
		<input type="checkbox"/> and on completion et à la fin des travaux	
		<input type="checkbox"/> Valid to Valide jusqu'au	
Civil Aviation Inspector (as required) - Inspecteur Aviation Civile (si nécessaire)			
Comments - Commentaires			
		(yyyy-mm-dd / aaaa-mm-jj)	
		Signature	
		Date	
Regional Manager Aerodrome Safety Gestionnaire Régional Sécurité des aéroports		Signature	
		Date (yyyy-mm-dd / aaaa-mm-jj)	

Attachment E



Halifax Regional Water Commission

450 Cowie Hill Road, P.O. Box 8388 RPO CSC, Halifax, Nova Scotia B3K 5M1 phone 902 490-4820 fax 902 490-4808

April 16, 2013

SCADA Tower - Health Canada's Safety Code 6

General Information	
Site Name	Lake Major Treatment Facility
Latitude	44°43'12"
Longitude	63°28'58"
Tower Height	50 metres
Tower Type	Self Support
Number of Antennas	4

Halifax Regional Water Commission (Halifax Water) has reviewed the proposed communication tower located at our Lake Major Water Treatment Facility for compliance with Health Canada's Safety Code 6 (SC6) limits to radio frequency exposure. At this time we confirm that the proposed installation is in compliance with these regulations

Should at any time Halifax Water change communication equipment including antenna quantity, location and transmitter power, Halifax water will review such changes and ensure that it falls within Health Canada's safety code 6.

Attachment F: Applicant Response - Physical Proximity



Halifax Regional Water Commission

450 Cowie Hill Road, P.O. Box 8388 RPO CSC, Halifax, Nova Scotia B3K 5M1 phone 902 490-1820 fax 902 490-1808

August 14, 2013

Halifax Regional Municipality
P.O. Box 1749
Halifax, NS
B3J 3A5

Attention: Tyson Simms, MPlan.

**Re: SCADA Tower Applications
J.D. Kline WSP and Lake Major WSP**

Halifax Water has plans to construct 50 metre tall communication towers at its water supply plants in order to improve our region-wide SCADA communications network.

Further to our recent applications to HRM, we understand that the North West Planning Advisory Committee expressed concerns with respect to the proximity of the proposed tower location to the existing J.D. Kline WSP building. The proposed position of the 50 metre tower is approximate 25 meters from the building. It was suggested that a minimum 50 metre separation is preferred.

It is our understanding that similar comments were expressed regarding the proximity of the proposed tower to the Lake Major WSP building. In that case, the proposed position of the tower is approximate 35 metres from the building.

The tower design and siting process noted that Industry Canada does not have a specific minimum separation distance to nearby structures and that all installations will respect good engineering practices.

Halifax Water has reviewed the siting criteria for the towers and has the following to report.

With respect to the J. D. Kline site, the positioning of the tower is critical and reflects a range of factors.

Halifax Water is in the process of developing the Pockwock wind farm in conjunction with its partner, JUWI Wind LLC. JUWI Wind has completed its turbine siting study based on the identified location of the proposed communications tower. Repositioning the tower from its current alignment could potentially result in communication interference with the blades of the

turbines. A copy of the Fresnel Zone setback mapping which identifies the limitation on the tower position is attached to this letter.

There is an existing NSP power transmission line that passes to the southeast of the WSP building. Moving the tower further from the building would potentially encroach on the power corridor. Moving the tower further away from the building would also mean that the tower will be on lower land, meaning that a taller tower may be required. The preferred location of the tower is on open ground within the existing fenced compound near the building and is the best available site given the controlling criteria. The design and construction of the tower will be undertaken in accordance with good engineering practices which will mitigate the concerns expressed regarding proximity to the building. On the basis of the above, our preference is to hold the tower siting as currently indicated.

Similarly, with respect to the Lake Major site, we are satisfied that the design and construction of the tower in accordance with good engineering practices will address the concerns expressed regarding proximity to the building.

In addition, it is important to note that based on Halifax Water's physical security plan for protection of critical infrastructure, both WSPs are secured with fencing and access control gates to eliminate any public access to the sites.

We would welcome an opportunity to discuss the details of these towers with you and any members of the review committee prior to any final decisions.

ORIGINAL SIGNED

Jamie Hannam, MBA., P. Eng.
Director, Engineering & Information Services

Encl.