HALIFAX
REGIONAL MUNICIPALITY

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Item No. 10.1.6 (i)
Halifax Regional Council
May 24, 2011

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY: Original signed by

Richard Butts, Chief Administrative Officer

Original Signed by

Mike Labrecque, Deputy Chief Administrative Officer, Operations

DATE: April 11, 2011

SUBJECT: Project 00953: Wind Energy Facilities in HRM

ORIGIN

1. November 21, 2006 - Regional Council initiated a planning process to prepare policy and land use regulations for the location and siting of wind turbines in HRM.

2. January 23, 2007 - an information report was tabled outlining the community consultation process for Phase 1 of the Wind Energy Project.

3. October 24, 2007 – a motion was passed by the Regional Planning Advisory Committee to begin community consultation for Phase II of the Wind Energy Project.

4. July 2, 2009 - staff presented recommendations and proposed policy direction to the Energy and Underground Services Committee. Committee members requested additional community consultation.

5. July 15, 2009 – staff presented recommendations to RPAC indicating an additional round of community consultation would be undertaken in the fall of 2009.

6. September 29, 2009 Committee of the Whole - staff was requested to undertake a final round of community consultation, which was completed in February 2010.

7. August 18, 2010 Committee of the Whole - staff presented the recommended policy direction and the time line to bring the project for decision. At the August 18, 2010 Council session, the following motion was approved: Moved by Councilor Smith, seconded by Councilor Sloane, "that the Halifax Regional Council direct staff to proceed to draft the Land use By-law for consideration of the siting of wind turbines in accordance with the direction outline in the presentation, including as-of-right development (within the designated zones as identified)." Motion Put and Passed.

RECOMMENDATIONS ON PAGE 2

8. March 3, 2011 Environment and Sustainability Standing Committee meeting - staff presented the staff report dated February 2, 2011. The following recommendation was approved: Moved by Councilor Dalrymple, seconded by Councilor Nicoll, "that the Environment and Sustainability Standing Committee recommend that Halifax Regional Council:

    1. Give First Reading and set a public hearing date to consider amendments to the Regional MPS and the Community LUBs to create policy and regulations (typical examples are set out in Attachments A and B of the staff report dated February 2, 2011) for the purpose of regulating Wind Turbines in the Halifax Regional Municipality.

    2. Adopt the amendments to the Regional MPS and Community LUBs as provided in Attachments A and B respectively of the staff report dated February 2, 2011." Motion Put and Passed.

9. March 2 and March 16, 2011 Regional Planning Advisory Committee meetings, staff presented the staff report dated February 2, 2011. The following recommendation was approved: MOVED BY Mr. Pettipas, seconded by Mr. Dykeman, "that the Regional Plan Advisory Committee recommend that Halifax Regional Council:

    1. Give First Reading and set a public hearing date to consider amendments to the Regional MPS and the Community LUBs to create policy and regulations (typical examples are set out in Attachments "A and B" of the February 2, 2011 staff report) for the purpose of regulating Wind Turbines in the Halifax Regional Municipality.

    2. Adopt the amendments to the Regional MPS and Community LUBs as provided in Attachments A and B respectively of the February 2, 2011 staff report." Motion Put and Passed.

RECOMMENDATION

It is recommended that Halifax Regional Council:

1. Give First Reading and set a public hearing date to consider amendments to the Regional Municipal Planning Strategy (RMPS) and the Community Land Use By-laws (LUBs) to create policy and regulations (set out in Attachments A and B) for the purpose of regulating Wind Turbines in the Halifax Regional Municipality; and

2. Adopt the amendments to the RMPS and LUBs as provided in Attachments A and B respectively of this report.

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EXECUTIVE SUMMARY

The February 2, 2011 staff report entitled Project 00953: Wind Energy Facilities in HRM (Attachment C, p. 4 – 1) was presented to the Environment and Sustainability Standing Committee on March 3, 2011 and the Regional Planning Advisory Committee on March 2 and March 16, 2011. While clarification of a few outstanding issues were identified and are addressed in this report, both Committees passed motions to advance the matter to Regional Council for consideration.

In accordance with the February 2, 2011 staff report, this report contains, in its Executive Summary, a synopsis of the planning process and the recommended regulations for the siting of wind turbines in HRM. The full suite of amendments to the Regional Municipal Planning Strategy and the specified Community Land Use By-laws are attached as Attachments A and B on Pages 2 – 1 and 3 – 2, respectively. In addition, this report also addresses the following:

1. **Requests for Clarification**

   Requests for clarification were received at the Environment and Sustainability Standing Committee and the Regional Plan Advisory Committee as follows:

   A. Micro Wind Turbine setbacks and separation distances for urban and rural areas and inspections of roof mounted wind turbines;
   B. Establishing a 550 metre buffer area adjacent to Restricted Zone areas to reduce impacts of wind turbines on the lands within restricted zones;
   C. Consideration of turbines for open space design subdivisions in rural areas; and
   D. Providing greater opportunities for utility scale wind turbines which propose to locate close to the power grid in rural locations.

2. **A Correction in the February 2, 2011 Staff Report** -- Regarding a heading in one of the columns on Table 2.0 Proposed Distance Separation and Setbacks Requirements for Wind Turbines in the Rural Wind (RW-2) Zone. The heading of Column #3 was mistakenly labeled "All Adjacent Buildings", when it fact it should have read "Adjacent Habitable Buildings".

3. **Exclusion of Certain MPS Plan Areas/LUBs (Downtown Areas)** -- That wind turbines are not recommended for consideration in the Downtown Halifax, Downtown Dartmouth, and the Sackville Drive Plan Areas/Land Use By-laws at this time.

SYNOPISIS OF PLANNING PROCESS AND RECOMMENDED REGULATIONS FOR THE SITING OF WIND TURBINES IN HRM

On November 21, 2006 Regional Council, citing an increasing demand for wind power and under the strategic direction of the Community Energy Functional Plan, initiated a planning process for the purpose of creating policy and regulations for the siting of wind turbines in HRM. After the HRM initiation of the wind energy project planning process, the Province also commenced a series of initiatives intended to address the increased demand for alternative energy sources. While HRM was in the process of completing an enhanced round of community consultation in April of 2007, it was becoming evident that the results of the Provincial initiatives were interrelated to the municipal process to such an extent that these results would ultimately inform the staff recommendations. Accordingly, the HRM planning process was put into abeyance at that time until the completion of the provincial studies could be completed. These processes include completion of the following:

- the Guidelines for Provincial Environmental Assessment for Wind Turbine Siting;
- the Nova Scotia Wind Atlas; and
- the UNSM (partnered with the Dept. of Energy) Model Wind Turbine By-laws and Best Practices for Nova Scotia Municipalities.

Ultimately, it was determined that the results of these studies were integral to ensuring that HRM not require undue regulatory duplication in its own set of recommendations which lead to the adoption of an alternative direction for staff recommendations. This amended approach was then presented as an update to Regional Council, the RPAC, the EUGs Committee, and ultimately to Committee of the Whole (COW), where staff was instructed to commence an additional round of community consultation. Once that round of consultation was completed, staff then brought back a detailed outline of the proposed recommendations for wind turbine siting to COW where a motion was passed directing staff to prepare the new Policies and Land Use By-law amendments in final form for public hearing and the consideration of Regional Council.

Community Consultation

Through two rounds of community consultation, the first commencing in March of 2007 and the 2nd round commencing in November of 2009, a total of 18 public meetings were held across HRM. Three additional meetings were also held with the Greater Burnside Business Association and the Bayer's Lake Business Association to discuss the proposed regulations for the siting of wind turbines in HRM.

The generalized findings of this extensive public consultation are as follows:

1. HRM should encourage and support wind energy;
2. Adequate measures need to be enacted to minimize the impacts of wind turbines on surrounding residential land uses; and
3. Mixed opinions as to whether wind turbines should proceed on an as-of-right basis or by discretionary approval (consideration by Council on a case by case basis).

PROPOSED REGULATIONS FOR WIND TURBINES IN HRM

Recommended Approval Procedure for Wind Turbines in HRM

Staff recommendations support processing wind turbines on an as-of-right basis and to apply appropriate setbacks and distance separation criteria that work in tandem with the Provincial Environmental Assessment (EA) process for the siting of wind turbines in Nova Scotia. The EA process applies to all wind project exceeding 2 megawatts of power.

URBAN HRM

Suitable Locations for Urban Wind Turbines

The new regulations seek to establish suitable sizes, locations, and setback regulations for wind turbines in all areas of HRM. In the urban area, it is recommended that a range of wind turbines (micro, small and medium) be permitted in select locations within the urban boundary (defined for this project to include the urban service boundary and designated areas identified in the Regional Plan for future residential growth). Wind turbines outside of the selected areas that include Business Parks and some select Marine Industrial waterfront locations would be prohibited. Permitted locations for micro, small and medium size turbines include Business Parks and certain Marine Industrial waterfront locations. Large scale wind turbines are not permitted within the Urban Area. In all areas of urban HRM (e.g. residential neighbourhoods), no turbines of any size are permitted. It is recommended that wind turbines in the urban areas be permitted only in the following locations.

1. Business Parks, and
2. Select Marine Industrial Locations.

- *All other areas are in the Restricted Zone (wind turbines are not permitted)*

Maximum Heights and Power Ranges of URBAN AREA Wind Turbines (Business Parks and Marine Industrial Locations)

- Micro 23 metres (75 feet) and 10 kilowatts
- Small 35 metres (115 feet) and 50 kilowatts
- Medium 60 metres (197 feet) and 300 kilowatts
- *Large Wind turbines are not permitted*

Setbacks from Property Lines and Non Sensitive Land Uses (i.e Commercial and Industrial Office) -- Micro, Small and Medium Wind Turbines:

- Property Lines -- *1.0 times the height of the Turbine*, and
- Adjacent Non Sensitive Buildings – *1.5 times the height of the Turbine.*

Setbacks from Wind Turbines to Adjacent Sensitive Buildings (i.e., Residences and hospitals, etc.)

- Micro -- 3.0 times the height of the Turbine
- Small -- 180 metres (590 feet) from the Turbine
- Medium -- 250 metres (820 feet) from the Turbine

Large wind turbines are not recommended in the Urban area.

RURAL HRM

Suitable Locations for Rural Wind Turbines
Unlike the Urban area, it is recommended that the full range of wind turbines categories be permitted. This includes micro, small, medium, and large scale turbines, including potential wind farms. Rural wind turbines would be permitted everywhere provided that:

1. Defined setbacks and separation distances can be met, and
2. Turbines are not permitted in any Restricted Zone.

The Restricted Zone is comprised of Conservation Areas, Protected Areas, the Western Commons, and Regional Parks. The following is a synopsis of the proposed recommendations for rural wind turbines:

Areas of Restriction – All Rural Wind Turbines

- Regional Parks
- Protected Areas
- Conservation Areas
- Western Commons

Maximum Heights and Power Ranges of Rural Wind Turbines

- Micro -- 23 metres (75 feet) and 10 kilowatts
- Small -- 35 metres (115 feet) and 50 kilowatts
- Medium -- 60 metres (197 feet) and 300 kilowatts
- Large -- 60 metres plus (197 feet +) and greater than 300 kilowatts

Setback Regulations

a) From a micro wind turbine to:
   1. a property line – *2.0 times the height of the Turbine, and*
   2. a habitable building on an Adjacent Lot (residence, hospital, etc) – *3.0 times the height of the Turbine.*

b) From a small wind turbine to:
   1. a property line -- *2.0 times the height of the Turbine*, and
   2. a habitable building on an adjacent lot -- *180 metres (590 feet) from the Turbine.*

c) From a medium wind turbine to:
   1. a property line -- *1.5 times the height of the Turbine, and*
   2. a habitable building on an adjacent lot -- *250 metres (820 feet) from the Turbine.*

d) From a large wind turbine to:
   1. a property line -- *1.5 times the height of the Turbine, and*
   2. a habitable building on an adjacent lot -- *550 metres (1805 feet) from the Turbine.*

Waiver of Setback to Property lines for Wind Farms Utilizing More than One Property
It is also recommended that a waiver of the setback to property line requirement be included where large wind turbines on abutting property (s) that connects to the same array to form a wind farm. This recommendation is intended to remove artificial constraints where the property line setback does not form a specific function.

BACKGROUND AND DISCUSSION OF REQUESTED CLARIFICATIONS

As outlined in the February 2, 2011 staff report entitled Project 00953: Wind Energy Facilities in HRM, this report include the full package of proposed amendments to the Regional Municipal Planning Strategy (RMPS) and the Community Land Use By-laws for the siting of Wind Energy Facilities in HRM. These amendments have been included as Attachments A and B on Pages 2 – 1 and 3 – 1 of this report.

Each of the changes to the Community LUBs which implement new polices set out in Chapter 7, Section 7.6 of the RMPS, appears as a single section in the General Provisions of the LUBs. While many of the land use regulations appear to be similar, there are regulatory wording differences required for each document.

1. Requests for Clarification

Requests for clarification were received from the Environment and Sustainability Standing Committee and the Regional Plan Advisory Committee concerning the following:

A. Micro Wind Turbine setbacks and separation distances for urban and rural areas and inspections of roof mounted wind turbines;
B. Establishing a 550 metre buffer around Restricted Zone areas to reduce impacts of wind turbines on the lands within restricted zones;
C. Consideration of turbines for open space design subdivisions in rural areas; and
D. Providing greater accessibility for utility scale wind turbines to the power grid in rural locations.

A. Micro Wind Turbine setbacks and separation distances for urban and rural areas and inspections of roof mounted wind turbines

There are two fundamental principles that underlay the basis for the proposed setback and separation distances for all wind turbines in HRM:

a) That greater distances should be provided from turbines to "Sensitive" buildings on properties adjacent to the proposed turbine, otherwise defined as "Habitable" buildings (where people live and sleep); and
b) That it is possible that a turbine could fail and that adequate safety through a setback from the turbine to a property line should be maintained.

Urban Areas

Under the proposed recommendations, micro wind turbines in the urban area would only be permitted in locations deemed to be "non-sensitive" such as a Business Park and select Marine Industrial locations. The setback and separation distance measures were created with the knowledge that characteristics in these areas would reflect the following:

- Primarily areas where people do not sleep, and
- Where there is high ambient daytime noise that would mask turbine operational sounds.

Where there is a sensitive use in some of HRM business parks, such as a building that contains overnight accommodations like a hotel or motel, there is a larger separation distance required for the siting of a wind turbine. Where there is a non-sensitive building, such as a manufacturing operation or office building, a more moderate distance measure should be employed.

To provide an example, the following setbacks and separation distances, as set out in Table 1.0 below, apply to all micro wind turbines whether the unit is stand alone (with a foundation or guy wired) or is attached to a building.

Table 1.0 -- Proposed Setbacks and Distance Separation Requirements for URBAN Wind Turbines in the URBAN Wind (UW-1) Zone at the Micro Scale

Wind Turbine Type ***(max. height)***	**Setbacks from Turbine -- URBAN Wind Zone (Selected Areas Only include Business Parks and Commercial Campuses and selected Marine Industrial Locations.)**		
	Property Boundary Lines	**Adjacent Non – Sensitive Buildings**	**Adjacent Sensitive Buildings**
Micro 23 metres *(75 feet)*	1.0 times height	1.5 times height	3.0 times height

Rural Areas

In the rural areas, the setback to property line is intended to serve a number of functions, keeping in mind that unlike the urban area, wind turbines at all scales, including the micro scale, are recommended for all areas except the proposed Restricted Zone areas. This means that wind turbines would be permitted in all rural residential neighbourhoods, provided that there is enough land area to meet the setbacks to property line and the separation distance to adjacent habitable buildings (for example residential uses).

The following is an example of the proposed setback and separation requirements at the micro scale in Rural HRM.

Table 2.0 -- Proposed Distance Separation and Setbacks Requirements for Wind Turbines in the RURALWind (RW-2) Zone

Wind Turbine Type (*maximum height*)	**Setbacks from Turbine—RURAL Wind (RW-2) Zone (Restricted from Regional Parks, Protected Areas, Conservation areas and the Western Commons)**	
	Property Lines	**Adjacent Habitable Buildings**
Micro *23 metres (75 feet)*	2.0 times height	3.0 times height

Explanation

There are other important distinctions between urban and rural contexts concerning micro wind turbines and the setback to property line. The following are "rationales" considered when creating the setback to property line regulation:

a) Zoning in Rural LUBs - Currently many of the LUBs in the rural locations are worded in such a way that there is are long list of permitted uses with many potential "habitable" and "non-habitable" uses that would be permitted on vacant adjacent lands within close proximity to residential uses. By increasing the setback to property boundaries, greater distances achieve greater impact mitigation in the event that a Habitable building is constructed on an adjacent vacant lot.

b) Lot sizes in rural areas larger by design – Enables a greater setback to property line so that the turbine will be more centrally located to the middle of the property.

c) The smaller the lot the smaller the wind turbine - Lands with greater land area have distinct advantages for wind turbine siting, specifically in the micro category. Since the setback and separation distances are both functions of the height of the turbine, a larger property has the potential to accommodate a larger wind turbine, while still maintaining adequate impact mitigation from adjacent uses.

However, whether in the Rural or Urban areas, the separation distance (that distance between a micro turbine and an adjacent Habitable or "Sensitive" building) is the same at 3.0 times the height of the wind turbine. This applies no matter if the turbine is a stand alone model with a foundation (or with guy wires), or if it is attached to a building.

Building Code Inspections

All wind turbines attached to a building are required to undergo a building inspection.

B. Establishing a 550 metre buffer around Restricted Zone areas.

The proposed regulations prohibit wind turbine development in all Restricted Zone areas, namely Regional Parks, Protected Areas, Conservation Areas, and the Western Commons. The suggestion was made that consideration be given to establishing a buffer area surrounding these areas in order to further mitigate the impact of wind turbines (for example visual impacts) on the intrinsic qualities of the lands within in the Restricted Zone areas.

The protection of views is not only a contentious issue for residents but is also a concern to the municipality. As stated in the February 2nd staff report, the nature of wind turbine development is such that the machines are highly visible on high points of land and are very difficult to hide from view. Concern has been raised that wind turbine development could impact the recreational enjoyment of some protected areas. For example, areas have been identified containing views from the Western Common. The presence of wind turbines that might be sited just outside the Western Common boundary may be considered a potential disruption to the natural setting preferred by enthusiasts that would utilize the area as a wilderness experience. This issue may also be similar for other proposed Restricted Zone locations throughout HRM.

Fundamentally, the creation of a 550 metre buffer surrounding all Restricted Zone areas would not necessarily ensure that a large scale wind turbine (120 metre [400 ft.] in height) high would be screened from views from locations within the protected areas. In addition, it might be assumed that as part of the process in establishing Protected Areas and Regional Parks, the designating agencies would have incorporated a sufficient "buffer area" in order to protect the intrinsic assets of the lands being designated.

It is also worth noting that for any utility-scale wind turbines (those projects over 2 megawatts in size), a Provincial Environmental Assessment process is required. This process would necessarily include a thorough analysis of all potential impacts, including any potential affects on Restricted Zone areas.

Given the analysis that staff has undertaken, it is recommended that no wind turbines of any size be permitted *within* any Regional Park, Protected Area, Conservation Area or the Western Commons (known collectively in the rural area as the Restricted Zone). However, for reasons described above, staff does not recommend imposing a 550 M buffer area on lands abutting the Restricted Zone areas.

C. Consideration of turbines for open space design subdivisions in rural areas

Under the proposed recommendations for rural areas, wind turbines will have to meet setback requirements from the property boundary as well as a distance separation from adjacent habitable buildings. Upon meeting these requirements, a development permit would then be issued to erect a wind turbine. However, satisfying these municipal regulations may not be sufficient to meet the requirements of an interconnection agreement with NSPI or for entry into the COMFIT program and thus, would not necessarily facilitate an entitlement on the part of residents to attach to the electrical grid. It should be noted that these issues are not under the jurisdiction of the municipality.

D. Providing greater opportunities for utility scale wind turbines which propose to locate close to the power grid in rural locations.

The suggestion has been made that staff should consider easing the proposed regulations in locations that are adjacent to NSPI's major electrical grid. Staff advises that the primary intent of the wind turbine siting regulations is to encourage this form of alternative energy production, provided that adequate impact mitigation measures (setbacks and separation distances) from "sensitive uses" (i.e. residential uses) are maintained. This premise should be maintained, irrespective of the proximity of the proposed turbine(s) to the electrical grid.

2. Correction in the Feb 2nd Staff Report

A correction is required on Page 18 of the February 2, 2011 staff report. On the Table 2.0 – entitled Proposed Distance Separation and Setbacks Requirements for Wind Turbines in the Rural Wind (RW-2) Zone, the heading of Colum #3 should read *"*Adjacent Habitable Buildings*"* instead of "All Adjacent Buildings". The following Table 2.0 has been adjusted to reflect this change.

Table 2.0 -- Proposed Distance Separation and Setbacks Requirements for Wind turbines in the Rural Wind (RW-2) Zone

Wind Turbine Type (maximum height)	Setbacks from Turbine - Rural Wind (RW-2) Zone (Restricted from Regional Parks, Protected Areas, Conservation areas and the Western Commons)	
	Property Lines	**Adjacent Habitable Buildings**
Micro 23 metres (75 feet)	2.0 times height	3.0 times height
Small *35 metres (115 feet)*	2.0 times height	180 metres (590 feet)
Medium *60 metres (197 feet)*	1.5 times height	250 metres (820 feet)

Large *60 metres (197 feet) plus*	1.5 times height	550 (1805 feet)

3. Exclusion of Certain MPS Plan Areas/LUB (Downtown Areas)

There are three areas where amendments to the LUBs are not required:

1. Downtown Halifax LUB,
2. Downtown Dartmouth LUB, and
3. Sackville Drive LUB

In these areas, the current LUBs prohibit wind turbine development. This is consistent with the Regional Plan policies being proposed herein for these areas, with the result that no regulatory amendments are necessary at this time.

BUDGET IMPLICATIONS

There are no budget implications associated with this report.

FINANCIAL MANAGEMENT POLICIES/BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Project and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Project and Operating reserves, as well as any relevant legislation.

COMMUNITY ENGAGEMENT

For the community engagement program undertaken for the wind turbine process, and the synopsis of input received from the numerous public information session held, please refer to the February 2, 2011 staff report.

ATTACHMENTS

Attachment A: Proposed Amendments to the Regional Municipal Planning Strategy
Attachment B: Proposed Amendments to the Community Land Use By-laws of the Halifax Regional Municipality for the purpose of siting Wind Energy Facilities

A copy of this report can be obtained online at http://www.halifax.ca/council/agendasc/cagenda.html then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Shayne Vipond, Senior Planner, 490- 4335

Report Approved by: Original Signed
Paul Dunphy, Director, Community Development

Financial Approval by:
Bruce Fisher, MPA, CMA, A/Director of Finance/CFO, 490-6308

ATTACHMENT A

AMENDMENTS TO THE REGIONAL MUNICIPAL PLANNING STRATEGY FOR THE SITING OF WIND TURBINES IN HRM

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Regional Municipal Planning Strategy is hereby amended by:

1. Inserting in "CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE" pursuant to section "7.5.4.5. Community Energy Functional Plan" the new section 7.6 entitled "Wind Energy" as follows:

"7.6 Wind Energy

WIND ENERGY IN NOVA SCOTIA

Demand for wind energy in Canada is growing at a rapid pace. Nova Scotia has one of the best documented wind resources in Canada. Wind energy is considered an abundant, renewable and nonpolluting energy resource in Nova Scotia. The use of wind turbines or wind energy facilities is considered by many to be a sustainable conversion of kinetic energy into electricity. The conversion of wind energy to electricity may reduce dependence on non-renewable energy sources and decrease the air and water pollution that results from the use of conventional energy sources. Wind energy is considered an important alternative source of sustainable and secure energy that has the potential to replace a measure of dependence on fossil fuels.

With the passage of The Electricity Act (May 2010), Nova Scotia has adopted aggressive renewable energy targets setting out a requirement that 25% of its total electrical power must be achieved through renewable energy technology by the year 2015. This is likely to be achieved in large part through the use of wind energy.

WIND ENERGY IN HRM

Wind Energy Facilities

Through the adoption of the Regional Plan and the Community Energy Functional Plan, HRM has recognized the need for alternative sustainable energy and more specifically, the creation of new policies for the siting of wind energy facilities in HRM. Wind energy facilities (otherwise known as wind turbines) can be of various heights and blade lengths (rotor diameters). These machines can be interconnected with other machines to form a wind farm, may be single stand alone machines, or may also be of roof mounted design.

Due to the various heights and scales wind energy facilities should be regulated to reflect these differences.

Within the applicable Regional Plan policy designations, three new energy overlay zones have been created to reflect how wind energy facilities should be treated differently between the urban and rural areas of HRM. The new energy zones in the urban and rural areas permit a range of wind energy facilities including micro, small, medium and large scale machines which have been classified based on different heights and levels of power generation. These range for large wind farms to smaller machines used as supplemental power sources for businesses and residences.

Urban HRM

Wind energy facilities are regulated differently between urban and rural locations. Sensitive land uses such as dwelling units and hospitals and other buildings where people sleep should be sufficiently separated to mitigate impacts from wind energy facilities. Accordingly in the Urban HRM area, wind energy facilities will be restricted to selected areas only. These areas include designated business parks and commercial campuses, and some marine industrial locations. These areas are considered suitable for wind energy facilities based on the ability to provide adequate separation distance from the machines to more sensitive land uses such as residences and hospitals, and other places where persons sleep. In these designated areas, micro, small, and medium wind energy facilities are permitted. Large Utility scale wind energy facilities will not be permitted in the Urban HRM area, due primarily to the proximity of densely populated residential neighbourhood.

Rural HRM

Unlike urban HRM where wind energy facilities are permitted only in selected locations, wind energy facilities in rural HRM have the potential to locate in many areas provided that the facility is not proposed to be sited in the Restriction (R) Zone. In addition, the wind energy facility must meet distance requirements and all Provincial and Federal regulations were applicable. Areas within the Restricted (R) Zone that have been identified as environmentally sensitive and are therefore excluded from wind energy facility development include: provincially protected wilderness areas, Regional and Provincial Parks and the Western Commons.

These machines can be highly visible and are considered controversial, generating conflicting opinion and strong points of view. The Municipality recognizes that a large portion of the public are predisposed to considering wind energy facilities in a negative light given the obtrusive nature of the technology. However the regulatory tools such as a Development Agreement and Site Plan approval, tools currently used extensively for

other forms of development, cannot be utilized adequately to address issues of visual and sound impact mitigation. Accordingly wind energy facilities will be processed on an as of right basis.

Policy SU- 32

Within all Regional Plan Designations, HRM shall establish three overlay zones including an Urban Wind (UW-1) Zone, a Rural Wind (RE-2) Zone and a Restricted (R) Zone within the Land Use By-law to regulate wind energy facilities. These regulations will be implemented through the community land use by-laws. The Urban Wind Energy (UW-1) zone and the Rural Wind Energy (RE-2) Zone shall be applied to those areas where various categories of wind energy facilities shall be permitted in urban and rural areas. The Restricted (R) Wind Energy Zone shall be applied to the those areas where wind energy faculties shall be prohibited including Regional Parks, Conservation Areas, Protected Areas and the Western Commons and areas within Urban HRM not suitable for wind energy facilities.

Policy SU- 33

HRM shall establish application requirements within the applicable Land Use By-laws wind energy performance standards and regulations to control height, scale, access, setback and separation distances of such facilities in order to adequately address operational needs, safety concerns and the mitigation of impacts to adjacent properties

Expansion of Wind Energy Facilities

Wind turbines should be permitted in HRM without placing a limit on the number of wind turbines within a particular location provided that distance separation requirements can be met. However where a property abuts another or where a number of properties are contiguous and are intended to be used to connect into the same large wind energy facility, the setback requirement from the property boundary may be waived where the adjoining property forms part of the same wind farm.

Policy SU- 34

HRM seeks to encourage the development of large scale wind energy facilities in rural areas by permitting the expansion of wind farms in suitable locations. Accordingly, where a large scale wind turbine is proposed to connect to a wind energy facility on an adjacent lot, the setback requirement from the property boundary may be waived where the adjoining property forms part of the same wind farm.

Future Amendments

At present, a wind energy facility producing 2 Megawatts of power or more is required to undergo a Provincial Environmental Assessment in Nova Scotia. The Municipality recognizes that municipal regulations duplicating Provincial and/or Federal requirements should be minimized so as not to unduly hinder wind energy development.

The Municipality further recognizes that the Provincial Environmental Assessment process guidelines may change over time which could necessitate changes to municipal regulations in order to remain both consistent and complimentary. Accordingly, the Municipality may seek to amend the municipal regulations to ensure that future requirements are adequate to regulate wind energy facilities in HRM.

Policy SU –35

HRM shall seek to ensure that Federal and Provincial processes comply with municipal requirements for large scale wind energy facility development. Where Federal and Provincial regulations have been amended, HRM may also amend municipal land use by-law regulations to remain consistent with these changes.

A similar rationale is used for the rapid advancement of wind energy technology. Such advancements could necessitate an amendment to the municipal regulations. If it is deemed appropriate the Municipality may seek to amend the municipal regulations to ensure that requirements are adequate to regulate wind energy facilities in HRM.

Policy SU- 36

HRM shall seek to recognize advances in wind energy technology and wind energy standards and may amend wind turbine municipal land use by-law regulations to reflect these changes."

ATTACHMENT B

AMENDMENTS TO THE COMMUNITY LAND USE BY-LAWS FOR THE SITING OF WIND TURBINES IN HRM

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**AMENDMENTS TO THE
LAND USE BY-LAW FOR BEDFORD**

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Bedford is hereby amended by:

1. Inserting into PART 5: GENERAL PROVISIONS FOR ALL ZONES, the new section "39. GENERAL PROVISIONS: WIND ENERGY FACILITIES" as follows:

   "39. GENERAL PROVISIONS: WIND ENERGY FACILITIES

   (Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Bedford Land Use By-law:

   a. RPK (Regional Park) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

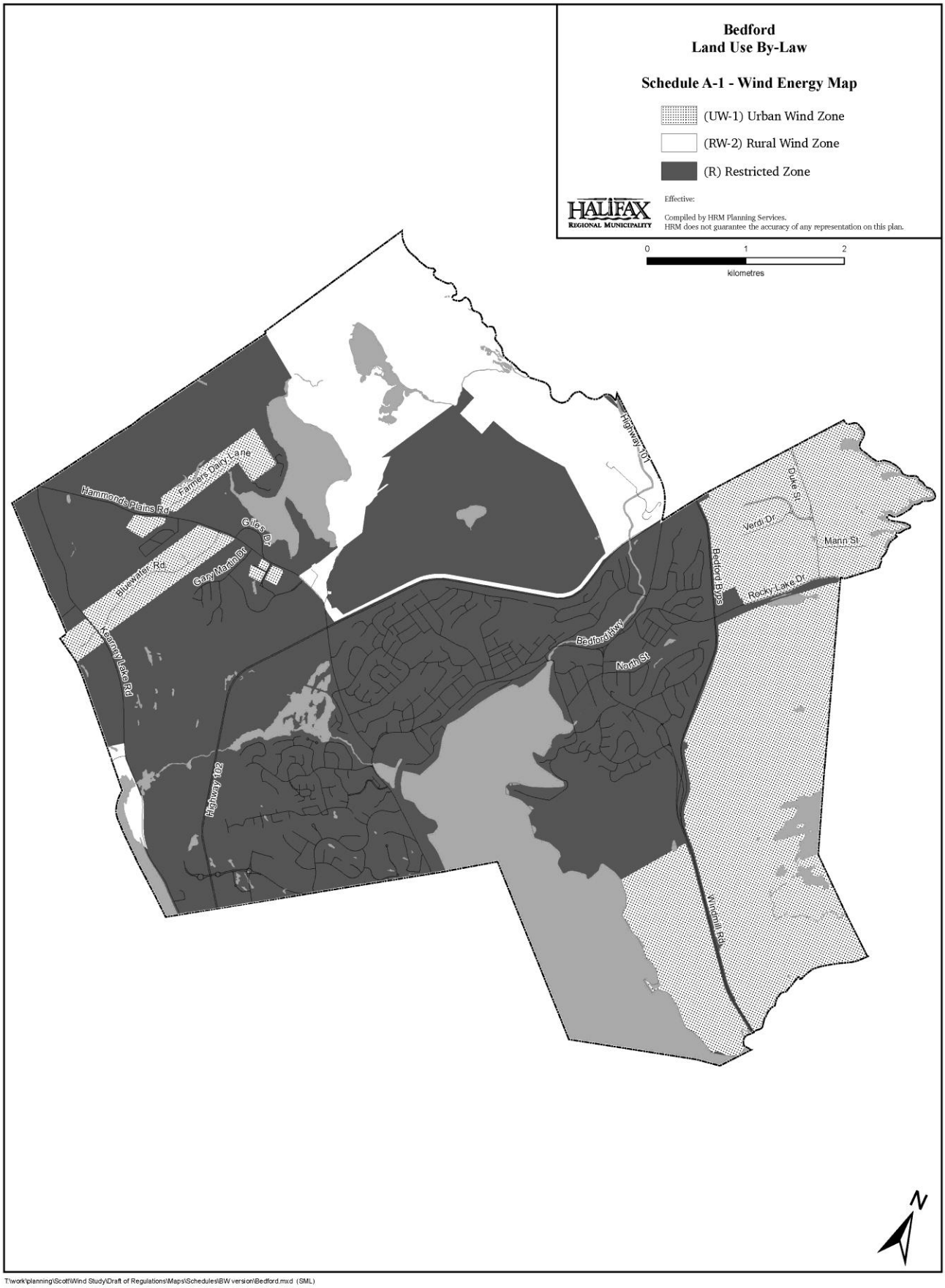
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Bedford
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
Effective:
HALIFAX
REGIONAL MUNICIPALITY
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0
1
2
kilometres
Hammonds Plains Rd
Farmers Daisy Lane
Giles Dr
Blueberry Rd
Gary Martin Dr
Kearney Lake Rd
Highway 102
Highway 101
Duke St
Verdi Dr
Mann St
Bedford Bypass
Rocky Lake Dr
Bedford Hwy
North St
Windmill Rd
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\Bedford.mxd (SML)

**AMENDMENTS TO THE LAND USE BY-LAW
FOR COLE HARBOUR/WESTPHAL**

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Cole Harbour/ Westphal is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.16.
2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.32 WIND ENERGY FACILITIES" as follows:

"4.32 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Cole Harbour/ Westphal Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. P4 (Conservation) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   iv) be a non-obtrusive colour such as white, off-white or gray;

v) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

vi) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

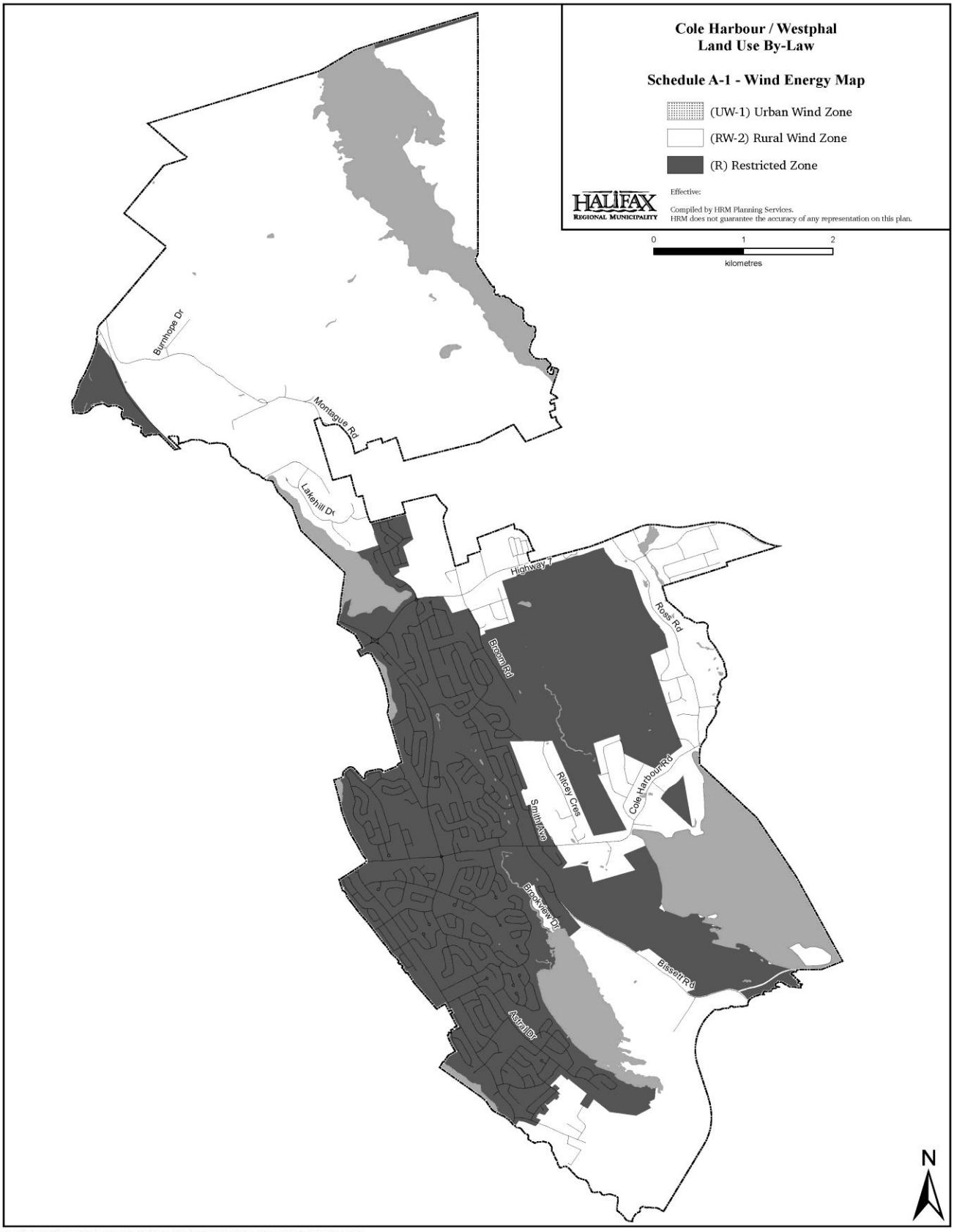
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map.


Cole Harbour / Westphal
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0
1
2
kilometres
Burnhope Dr
Montague Rd
Lakehill Dr
Highway 7
Ross Rd
Bissett Rd
Ridley Cres
Cole Harbour Rd
Smiley Ave
Brookview Dr
Bissett Rd
Astral Dr
N
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AMENDMENTS TO THE
LAND USE BY-LAW FOR DARTMOUTH

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Dartmouth is hereby amended by:

1. Inserting in "Section 2 General Provisions", a new subsection "32 G WIND ENERGY FACILITIES" as follows:

"32G WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or

turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) **URBAN WIND ZONE (UW-1)**

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable

agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

b) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s)are sufficient where a wind turbine is:

a. not attached to a building and is not connected to the power grid and,

b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Dartmouth Land Use By-law:

a. RPK (Regional Park) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

vii) be a non-obtrusive colour such as white, off-white or gray;

viii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

ix) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

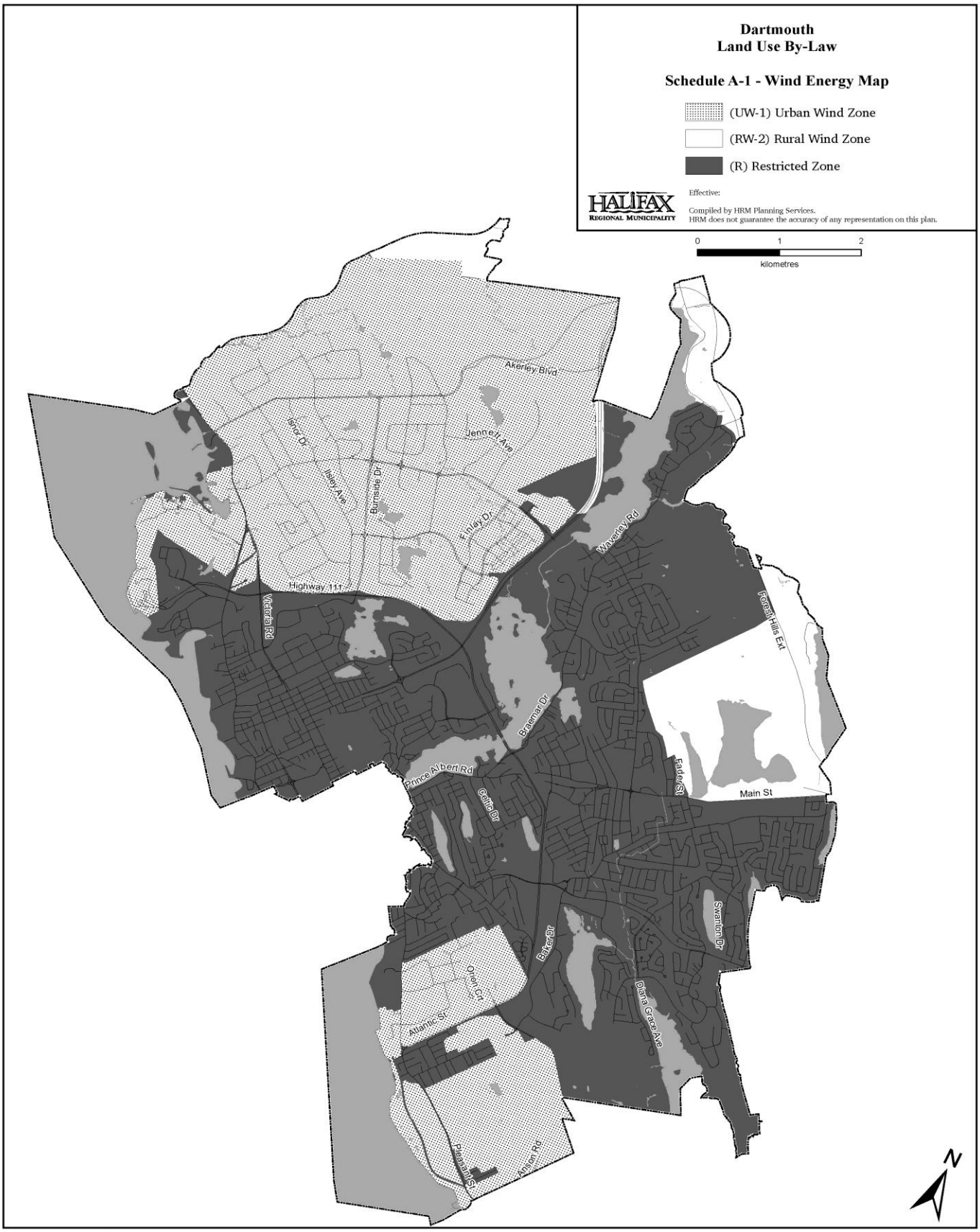
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map



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AMENDMENTS TO THE
LAND USE BY-LAW FOR EASTERN PASSAGE/COW BAY

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Eastern Passage/Cow Bay is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.17.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.32 WIND ENERGY FACILITIES" as follows:

"4.32 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Eastern Passage/Cow Bay Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone; and,

   c. EC (Environmental Conservation) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

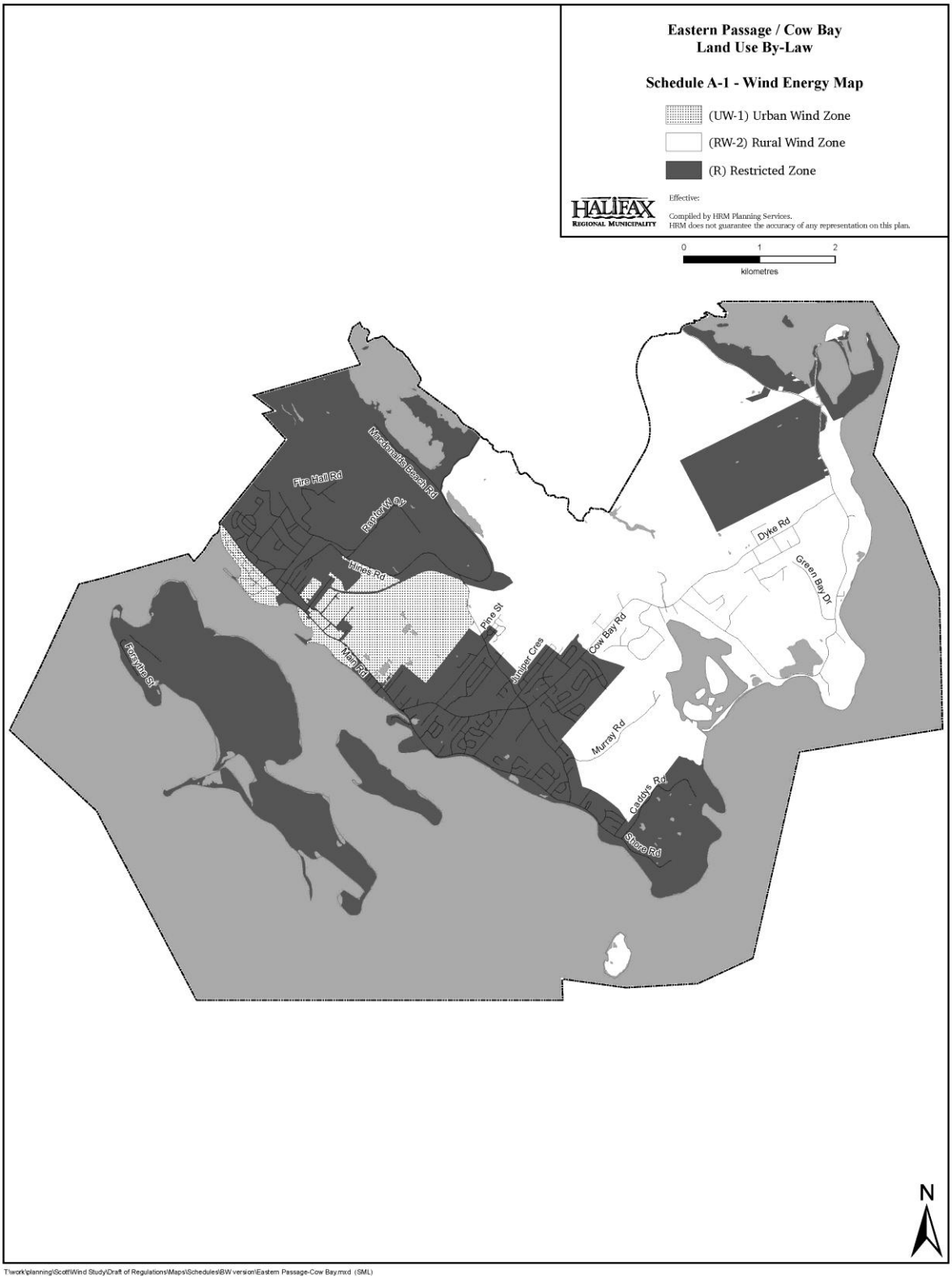
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Eastern Passage / Cow Bay
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0
1
2
kilometres
Meadowvale Beach Rd
Fire Hall Rd
Raptor View Dr
Hines Rd
Pine St
Juniper Cres
Cow Bay Rd
Dyke Rd
Green Bay Dr
Forrester St
Mary Rd
Murray Rd
Caddys Rd
Shore Rd
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\Eastern Passage-Cow Bay.mxd (SML)

AMENDMENTS TO THE
LAND USE BY-LAW FOR EASTERN SHORE (EAST)

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Eastern Shore (East) is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.17.
2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.33 WIND ENERGY FACILITIES" as follows:

"4.33 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Eastern Shore (East) Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and, not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

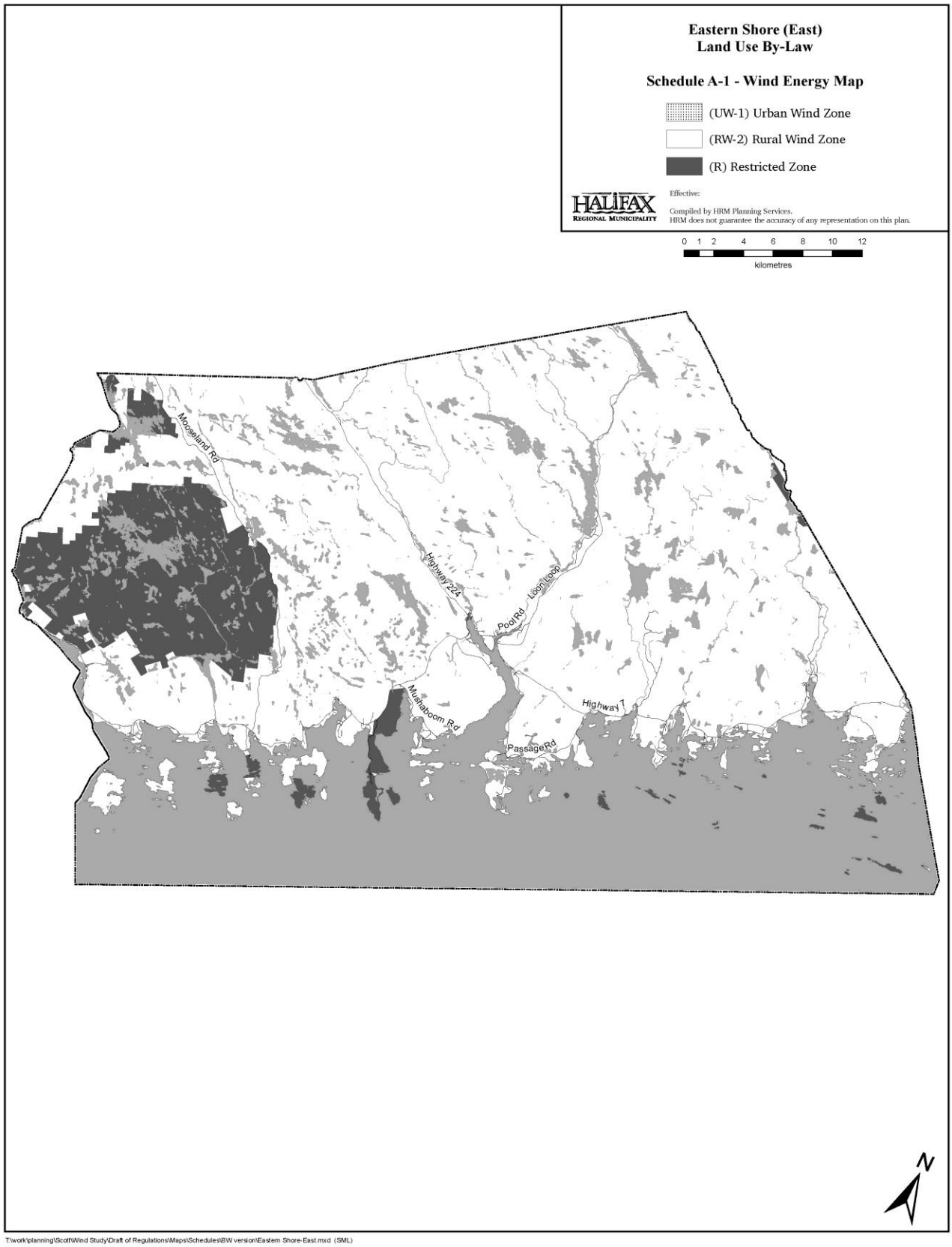
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Eastern Shore (East)
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4 6 8 10 12
kilometres
Moosland Rd
Highway 224
Pool Rd
Loon Loop
Musquodoboit Rd
Highway 7
Passage Rd
N
T:\work\planning\ScottWind Study\Draft of Regulations\Maps\Schedules\BW version\Eastern Shore-East.mxd (SML)

**AMENDMENTS TO THE
LAND USE BY-LAW FOR EASTERN SHORE (WEST)**

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Eastern Shore (West) is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.17.
2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.30 WIND ENERGY FACILITIES" as follows:

"4.30 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Eastern Shore (West) Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

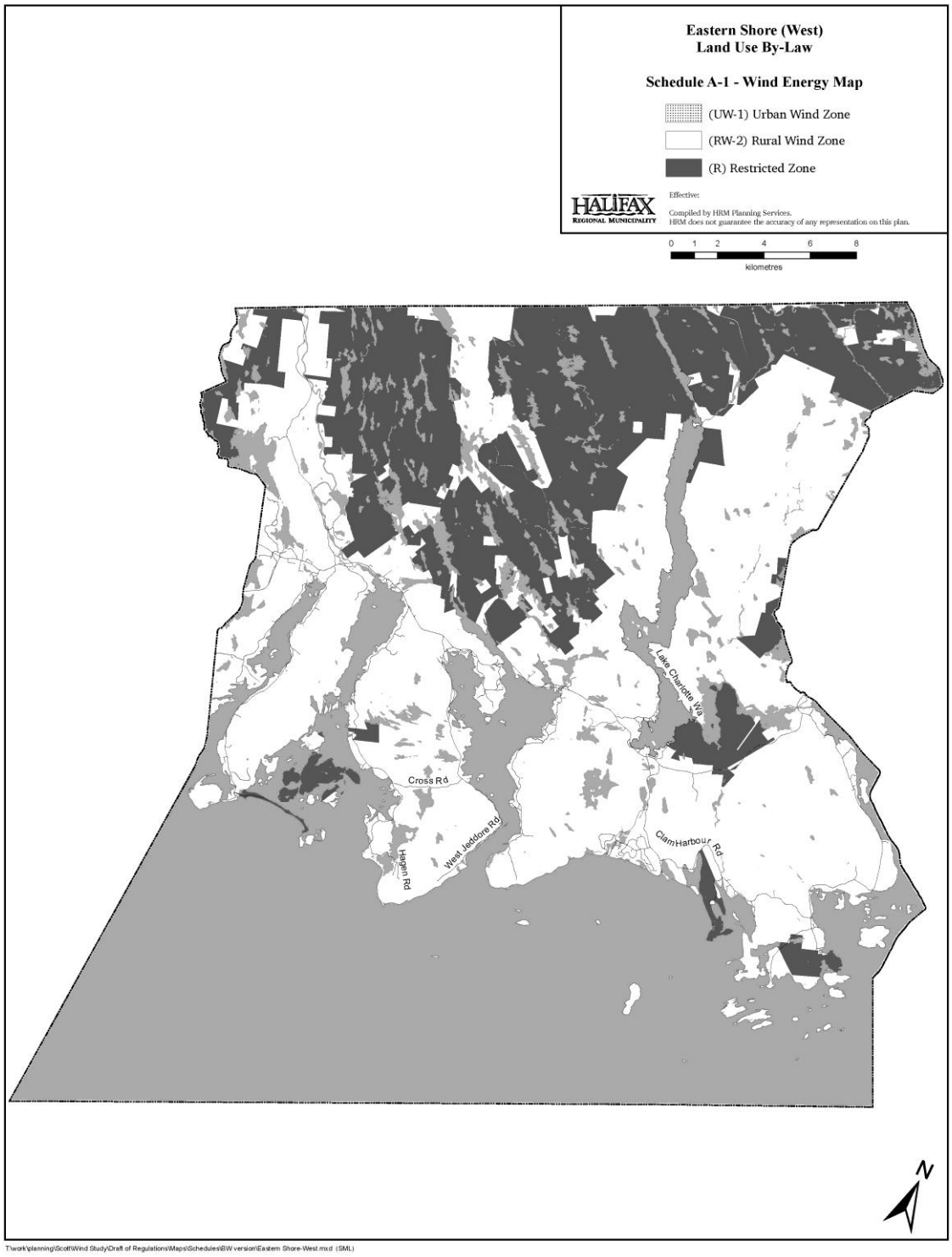
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Eastern Shore (West)
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4 6 8
kilometres
Lake Charlotte Rd
Cross Rd
West Jeddore Rd
Higgins Rd
Clam Harbour Rd
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AMENDMENTS TO THE
LAND USE BY-LAW FOR HALIFAX MAINLAND

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Halifax Mainland is hereby amended by:

1. Inserting into PART 14: GENERAL PROVISIONS, the new section "14W WIND ENERGY FACILITIES" as follows:

"14W WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or

turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable

agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Halifax Mainland Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

   ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map.


Halifax Mainland
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
Effective:
HALIFAX
REGIONAL MUNICIPALITY
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
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AMENDMENTS TO THE
LAND USE BY-LAW FOR HALIFAX PENINSULA

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Halifax Peninsula is hereby amended by:

1. Inserting into GENERAL PROVISIONS, the new section "16N WIND ENERGY FACILITIES" as follows:

"16N WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or

turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable

agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Halifax Peninsula Land Use By-law:

   a. RPK (Regional Park) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

   ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

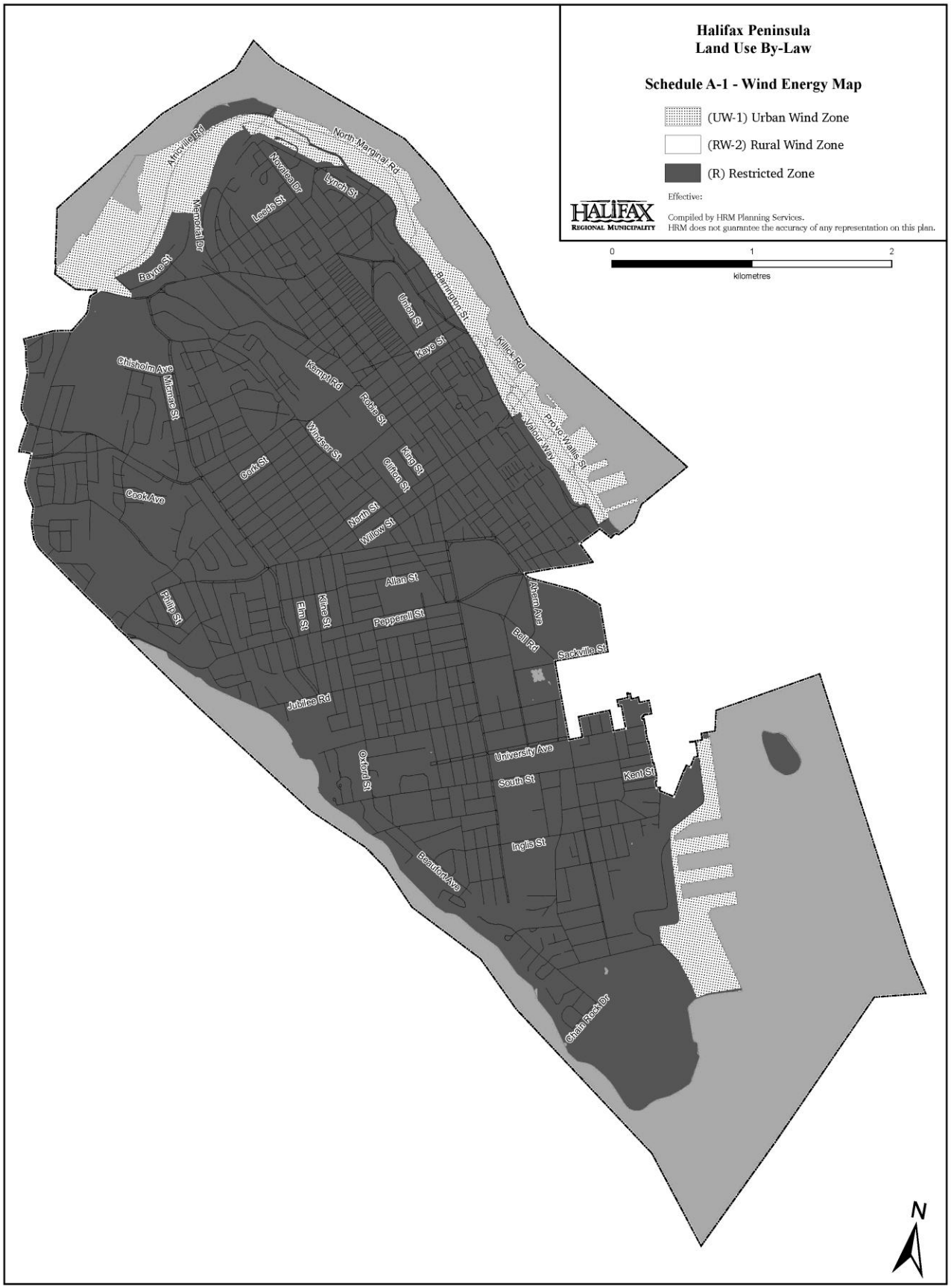
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map.



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AMENDMENTS TO THE
LAND USE BY-LAW FOR LAWRENCETOWN

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Lawrencetown is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.18.
2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.31 WIND ENERGY FACILITIES" as follows:

"4.31 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Lawrencetown Land Use By-law:

   a. RPK (Regional Park) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

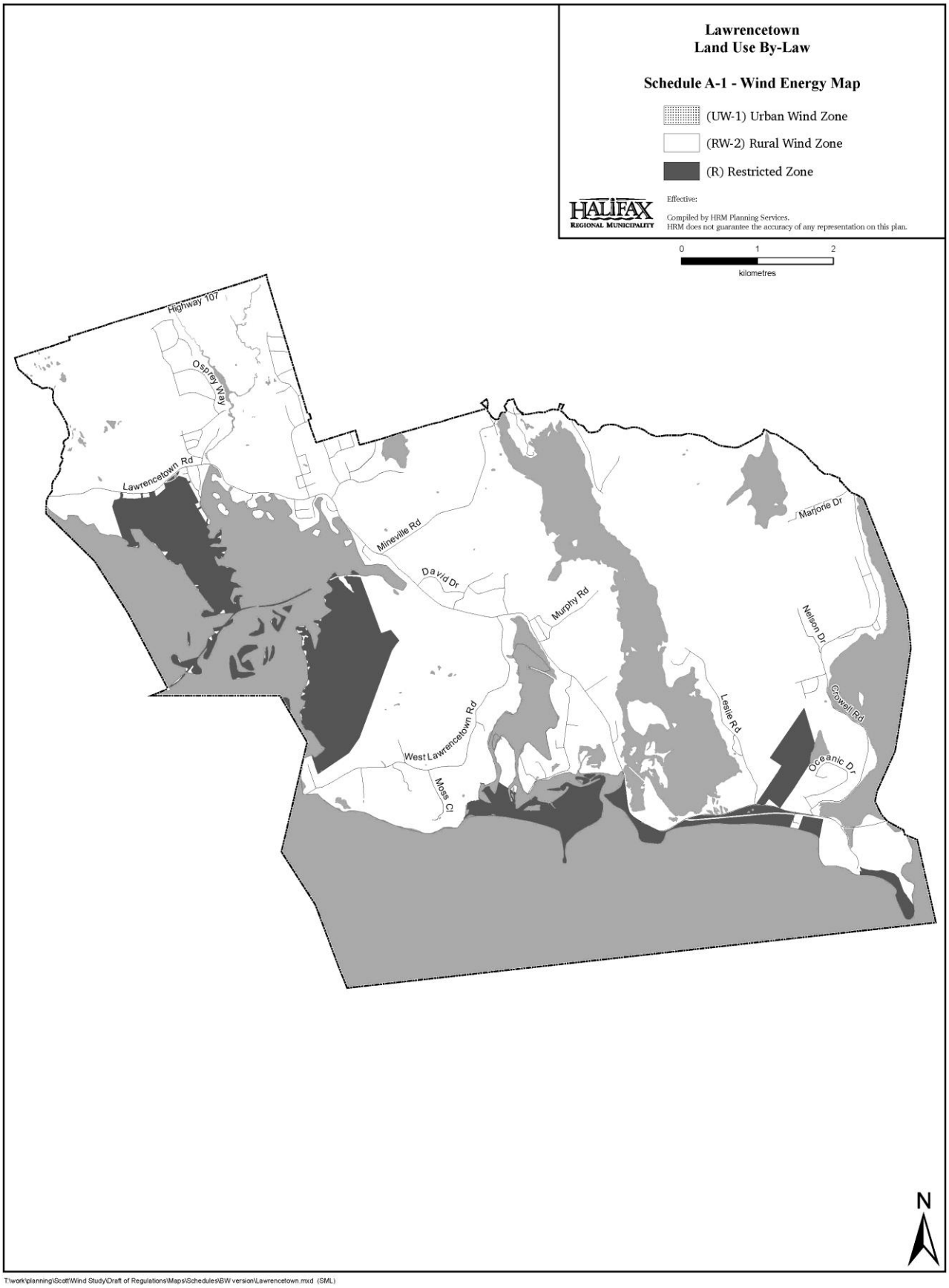
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Lawrencetown
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0
1
2
kilometres
Highway 107
Osprey Way
Lawrencetown Rd
Mineville Rd
David Dr
Murphy Rd
Marjorie Dr
Nelson Dr
Crowell Rd
Leslie Rd
Oceanic Dr
West Lawrencetown Rd
Moss Ct
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\Lawrencetown.mxd (SML)

AMENDMENTS TO THE
LAND USE BY-LAW FOR MUSQUODOBOIT VALLEY & DUTCH SETTLEMENT

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Musquodoboit Valley & Dutch Settlement is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.18.
2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.31 WIND ENERGY FACILITIES" as follows:

"4.31 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Musquodoboit Valley & Dutch Settlement Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

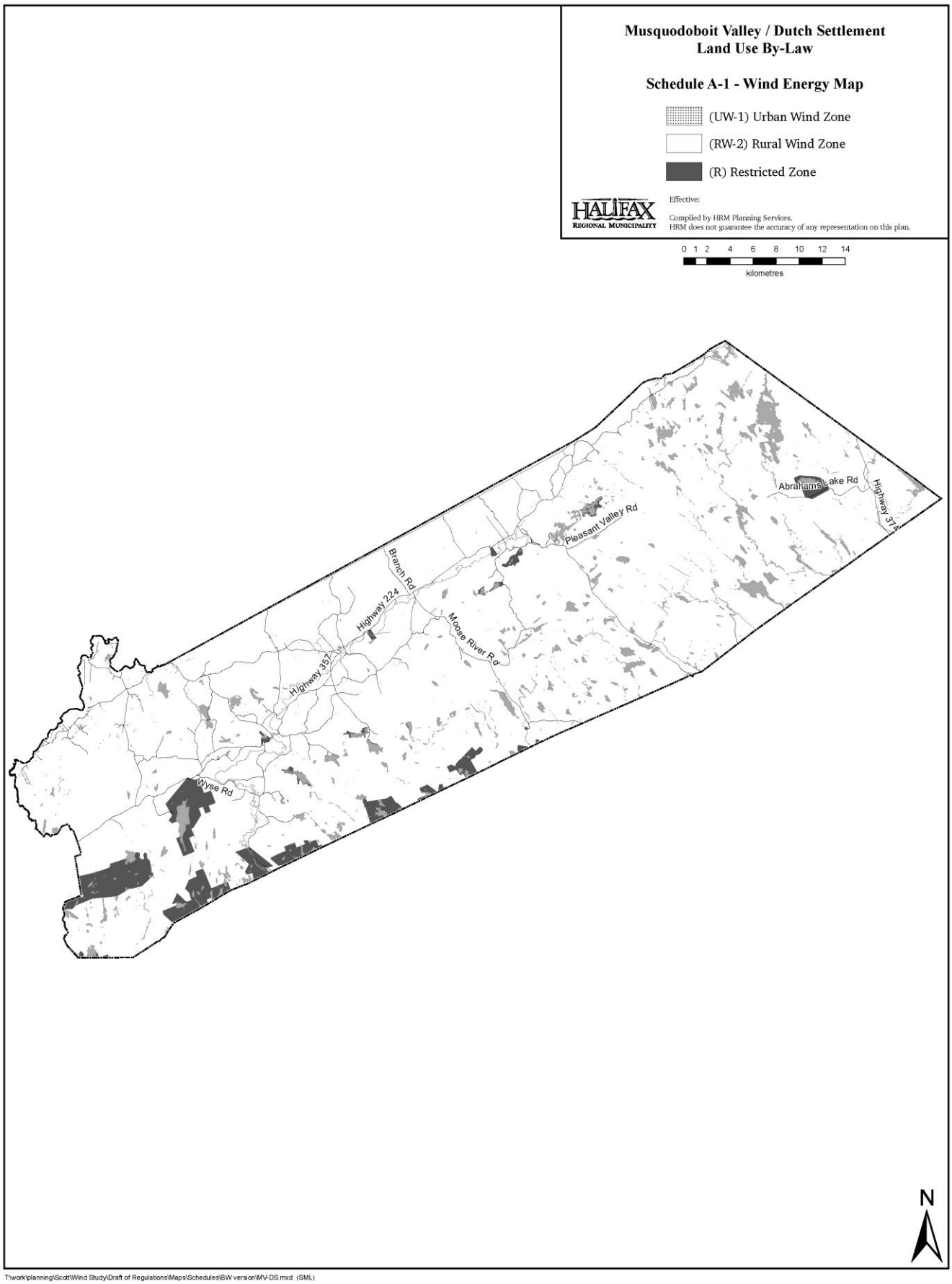
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Musquodoboit Valley / Dutch Settlement
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
Effective:
HALIFAX
REGIONAL MUNICIPALITY
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4 6 8 10 12 14
kilometres
Abrahams Lake Rd
Highway 374
Pleasant Valley Rd
Branch Rd
Highway 224
Moose River Rd
Highway 357
Wyse Rd
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\MV-DS.mxd (SML)

AMENDMENTS TO THE
LAND USE BY-LAW FOR NORTH PRESTON, LAKE MAJOR, LAKE LOON, CHERRY BROOK AND EAST PRESTON

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for North Preston, Cherry Brook and East Preston is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.19.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.29 WIND ENERGY FACILITIES" as follows:

"4.29 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the North Preston, Cherry Brook and East Preston Land Use By-law:

   a. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

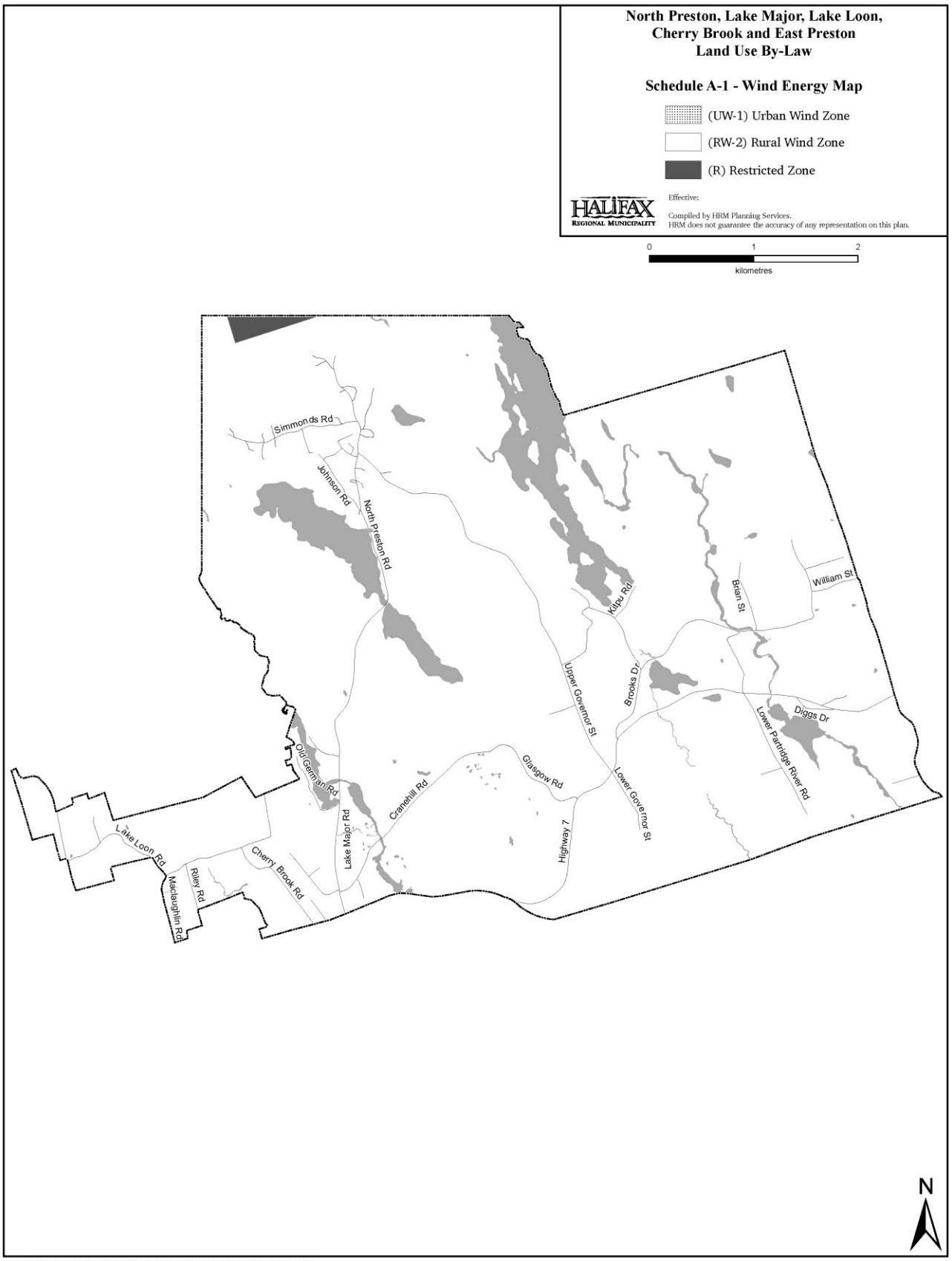
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


North Preston, Lake Major, Lake Loon,
Cherry Brook and East Preston
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0
1
2
kilometres
Simmonds Rd
Johnson Rd
North Preston Rd
Kipu Rd
Brian St
William St
Upper Governor St
Brooks Dr
Diggs Dr
Lower Partridge River Rd
Old Germain Rd
Cranehill Rd
Glasgow Rd
Lower Governor St
Highway 7
Lake Major Rd
Lake Loon Rd
Cherry Brook Rd
Riley Rd
Maclaughlin Rd
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\NPLM.mxd (SML)

AMENDMENTS TO THE
LAND USE BY-LAW FOR PLANNING DISTRICTS 1 AND 3

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Planning Districts 1 and 3 is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.18.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.33 WIND ENERGY FACILITIES" as follows:

"4.33 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) **URBAN WIND ZONE (UW-1)**

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Planning Districts 1 and 3 Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

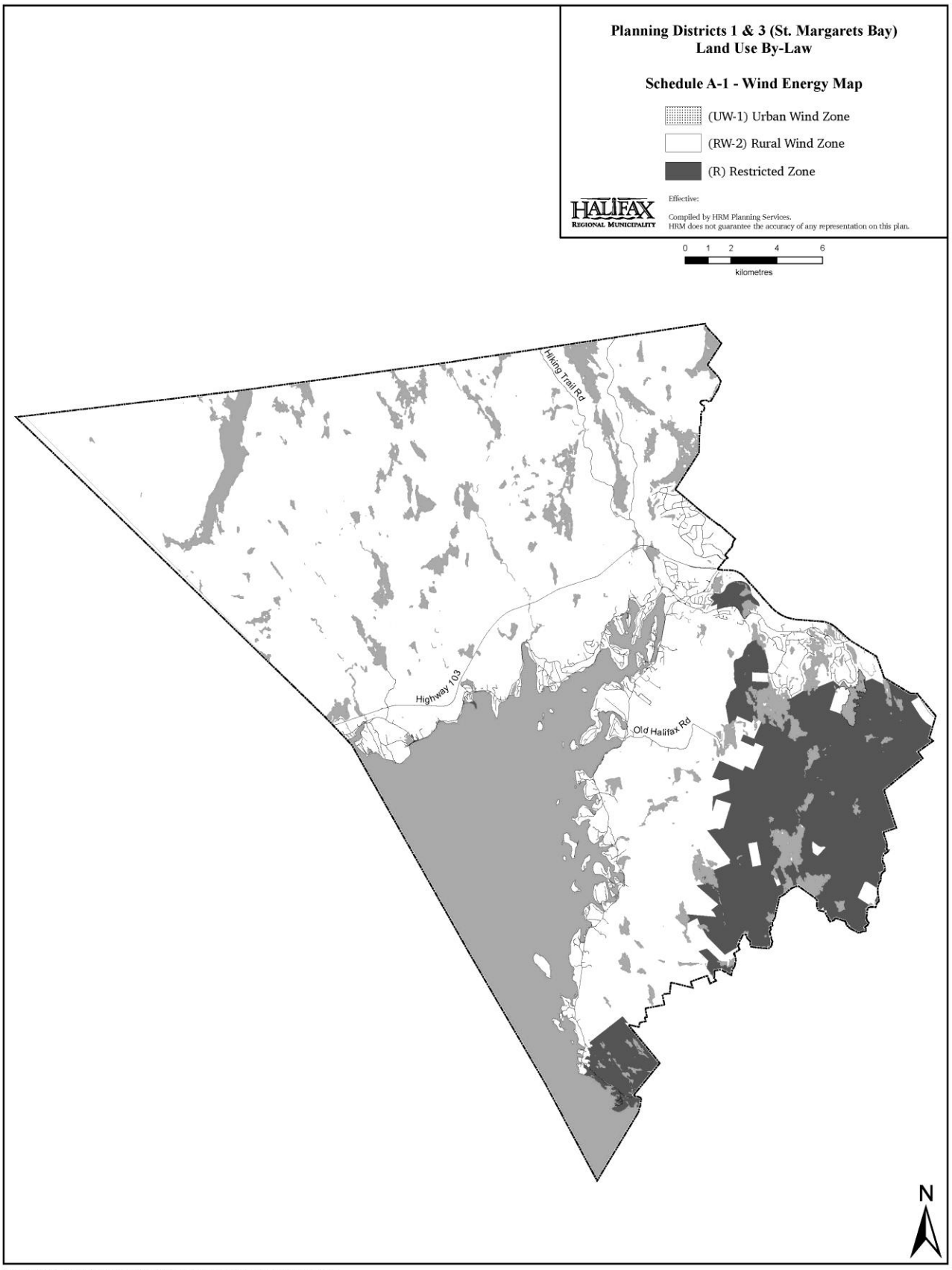
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Planning Districts 1 & 3 (St. Margarets Bay)
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4 6
kilometres
Hiking Trail Rd
Highway 103
Old Halifax Rd
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\Districts 1 & 3.mxd (SML)

AMENDMENTS TO THE
LAND USE BY-LAW FOR PLANNING DISTRICT 4

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Planning District 4 is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.18.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.32 WIND ENERGY FACILITIES" as follows:

"4.32 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) **URBAN WIND ZONE (UW-1)**

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Planning District 4 Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone

   c. P-3 (Conservation) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

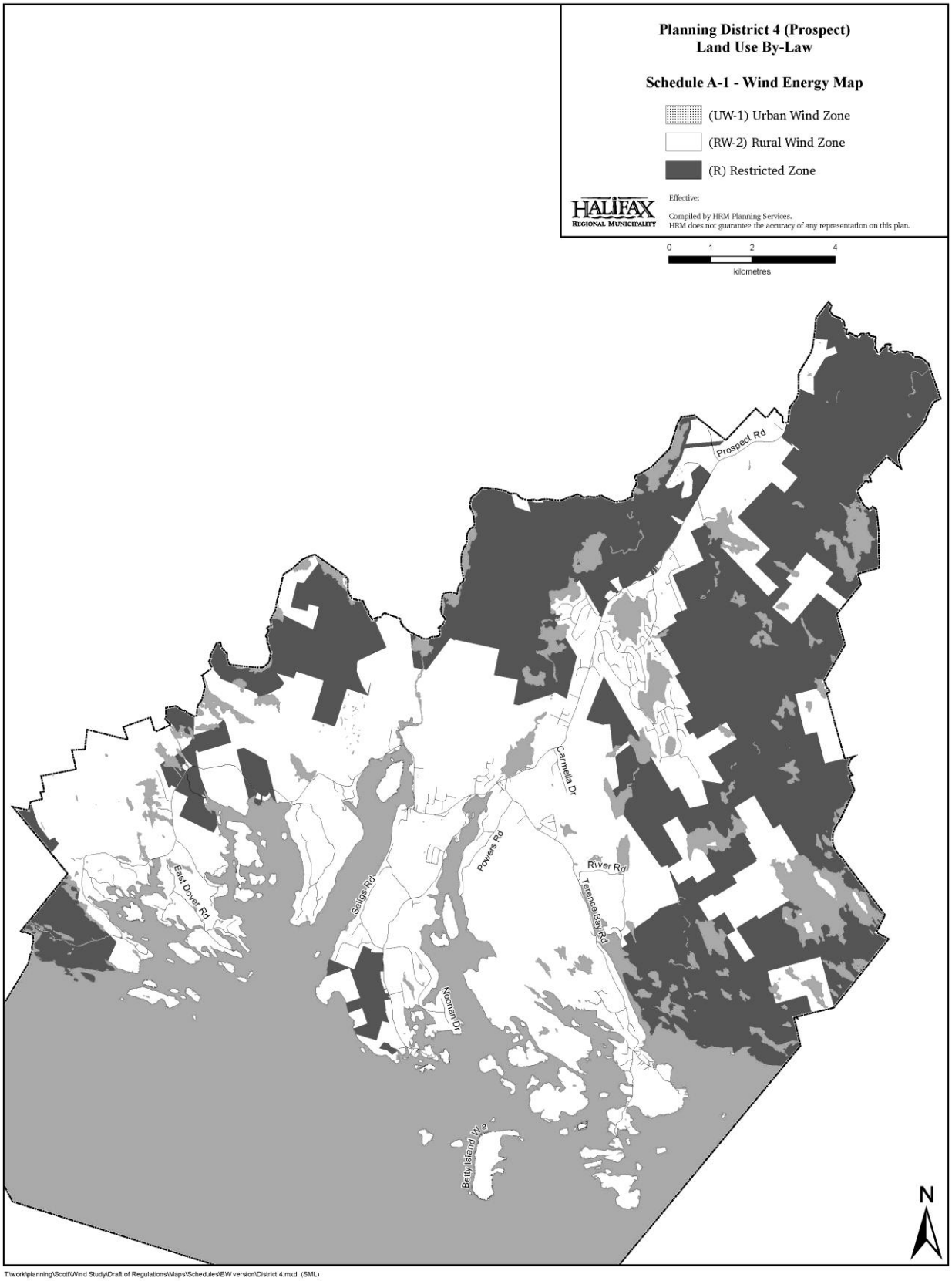
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Planning District 4 (Prospect)
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4
kilometres
Prospect Rd
Carmella Dr
Powers Rd
River Rd
Terence Bay Rd
Selligs Rd
East Dover Rd
Noonan Dr
Betty Island Ln
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\District 4.mxd (SML)

**PROPOSED AMENDMENTS TO THE
LAND USE BY-LAW FOR PLANNING DISTRICT 5 (CHEBUCTO PENINSULA)**

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Planning District 5 (Chebucto Peninsula) is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.19.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.33 WIND ENERGY FACILITIES" as follows:

"4.33 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Planning District 5 Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

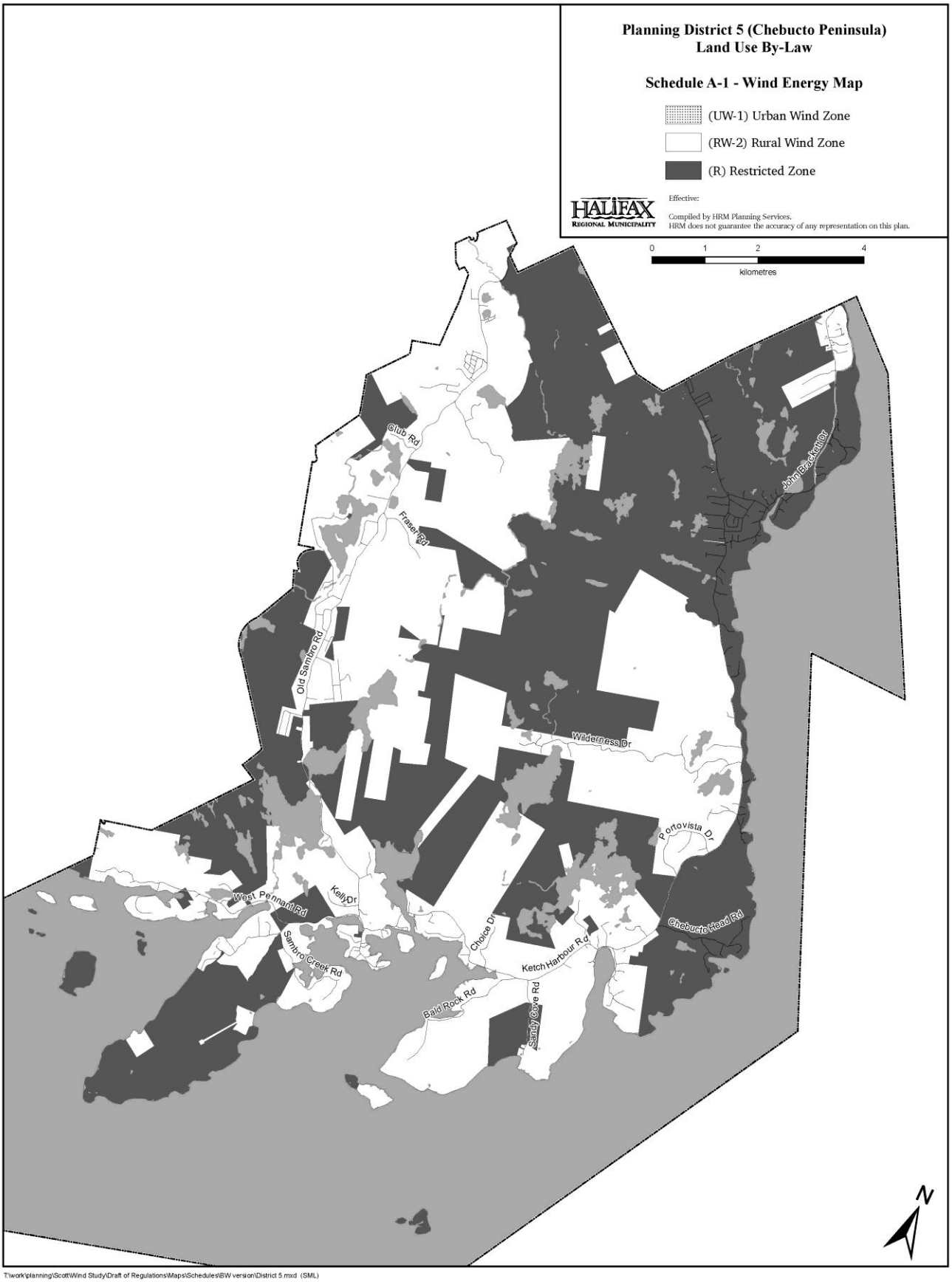
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Planning District 5 (Chebucto Peninsula)
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
Effective:
HALIFAX
REGIONAL MUNICIPALITY
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4
kilometres
Club Rd
Fraser Rd
John Backett Dr
Old Sambro Rd
Wilderness Dr
Portovista Dr
West Pennant Rd
Kelly Dr
Sambro Creek Rd
Choice Dr
Ketch Harbour Rd
Chebucto Head Rd
Bald Rock Rd
Sandy Cove Rd
N
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AMENDMENTS TO THE
LAND USE BY-LAW FOR PLANNING DISTRICTS 14/17

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Planning Districts 14/17 is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.16.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.34 WIND ENERGY FACILITIES" as follows:

"4.34 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Planning Districts 14/17 Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

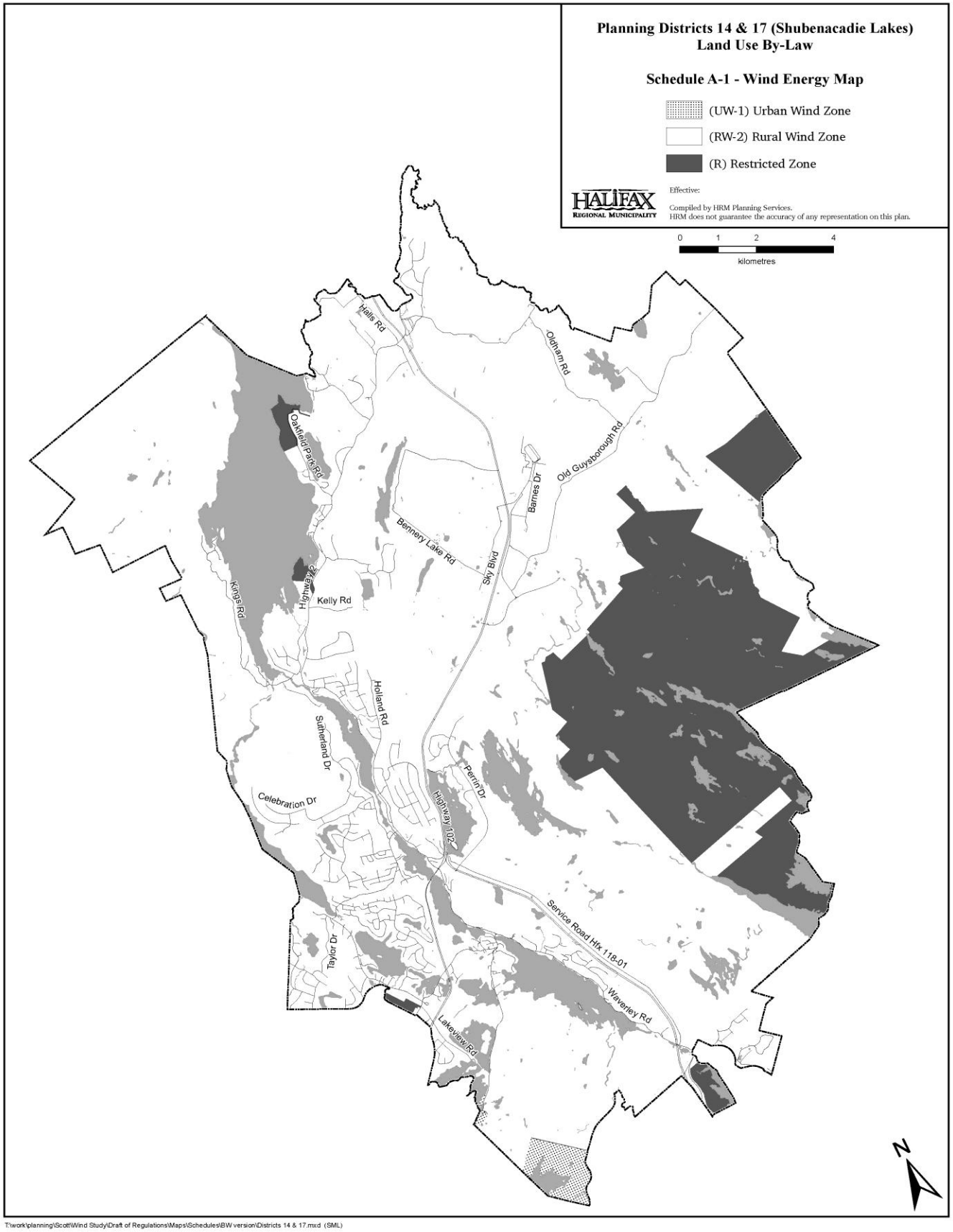
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Planning Districts 14 & 17 (Shubenacadie Lakes)
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4
kilometres
Halls Rd
Oldham Rd
Oakfield Park Rd
Old Guysborough Rd
Barnes Dr
Bennery Lake Rd
Sky Blvd
Highway 102
Kelly Rd
Kings Rd
Holland Rd
Sutherland Dr
Celebration Dr
Perrin Dr
Service Road Hfx 118-01
Taylor Dr
Waverley Rd
Lakeview Rd
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\Districts 14 & 17.mxd (SML)

AMENDMENTS TO THE
LAND USE BY-LAW FOR DISTRICTS 8 & 9 (LAKE ECHO/PORTER'S LAKE)

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Planning Districts 8 & 9 is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.17.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.29 WIND ENERGY FACILITIES" as follows:

"4.29 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s)are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid and,

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Districts 8 & 9 Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. PA (Protected Area) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

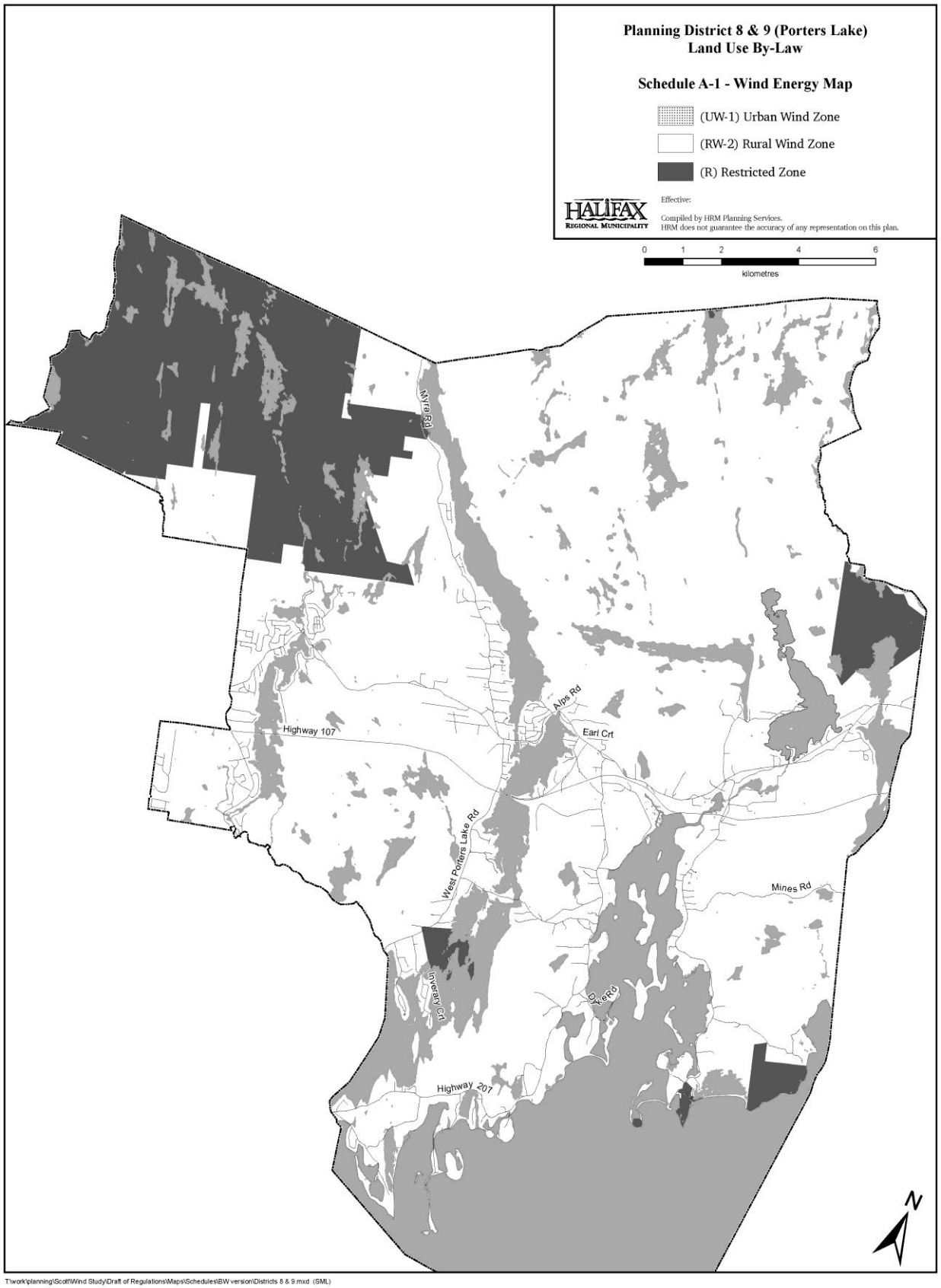
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Planning District 8 & 9 (Porters Lake)
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4 6
kilometres
Myra Rd
Alps Rd
Earl Crt
Highway 107
West Porters Lake Rd
Mines Rd
Inverary Crt
Dyke Rd
Highway 207
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\Districts 8 & 9.mxd (SML)

AMENDMENTS TO THE LAND USE BY-LAW FOR BEAVER BANK, HAMMONDS PLAINS AND UPPER SACKVILLE

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Beaver Bank, Hammond Plains and Upper Sackville is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.17.
2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.32 WIND ENERGY FACILITIES" as follows:

"4.32 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Beaver Bank, Hammond Plains and Upper Sackville Land Use By-law:

   a. RPK (Regional Park) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

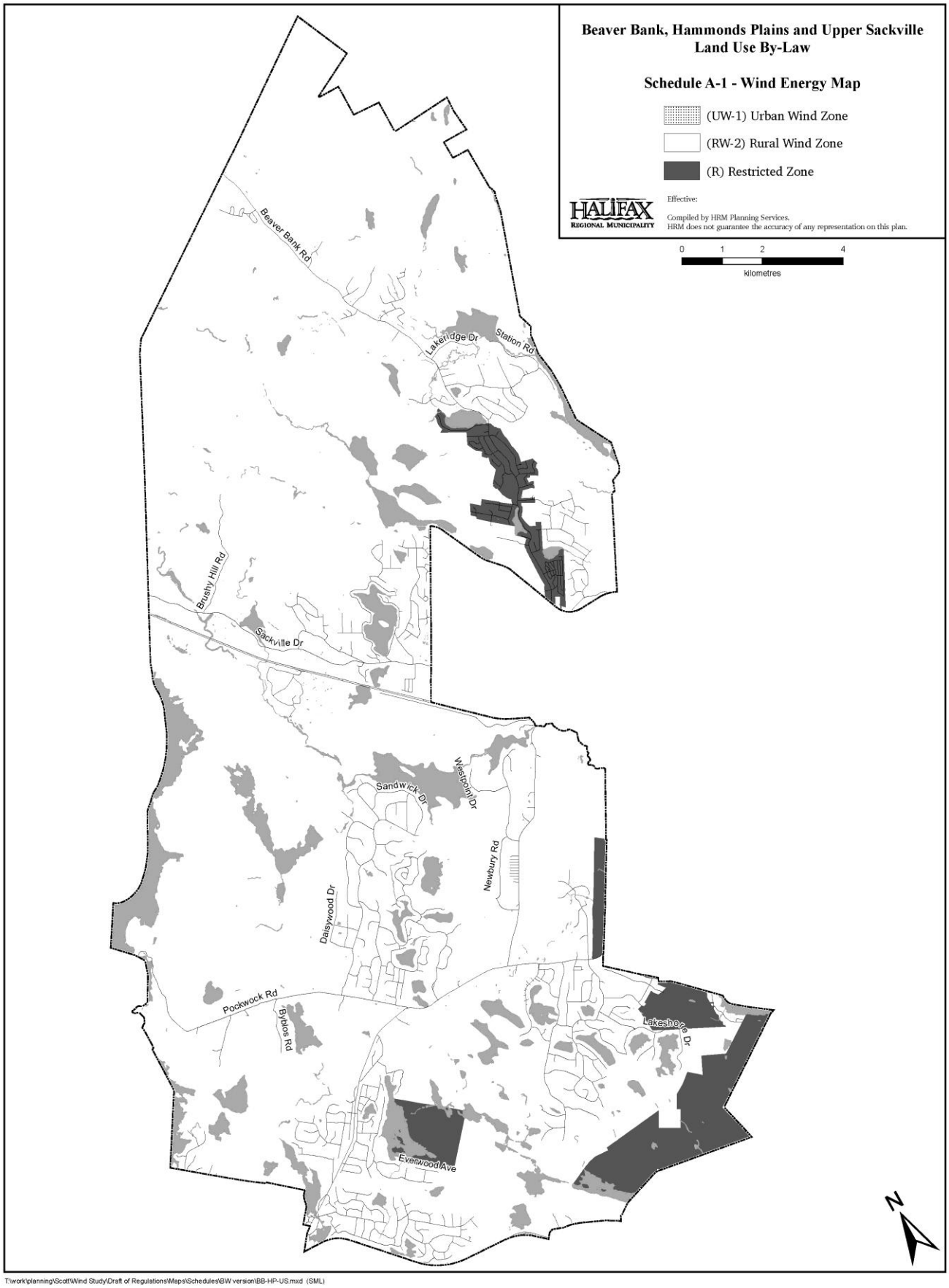
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Beaver Bank, Hammonds Plains and Upper Sackville
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0 1 2 4
kilometres
Beaver Bank Rd
Lakeridge Dr
Station Rd
Brushy Hill Rd
Sackville Dr
Sandwick Dr
Westpoint Dr
Newbury Rd
Daisywood Dr
Pockwock Rd
Byblos Rd
Lakeshore Dr
Evenwood Ave
N
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AMENDMENTS TO THE
LAND USE BY-LAW FOR SACKVILLE

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Sackville is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.16.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.33 WIND ENERGY FACILITIES" as follows:

"4.33 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Sackville Land Use By-law:

   a. RPK (Regional Park) Zone;

   b. P4 (Park Reserve) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

   i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

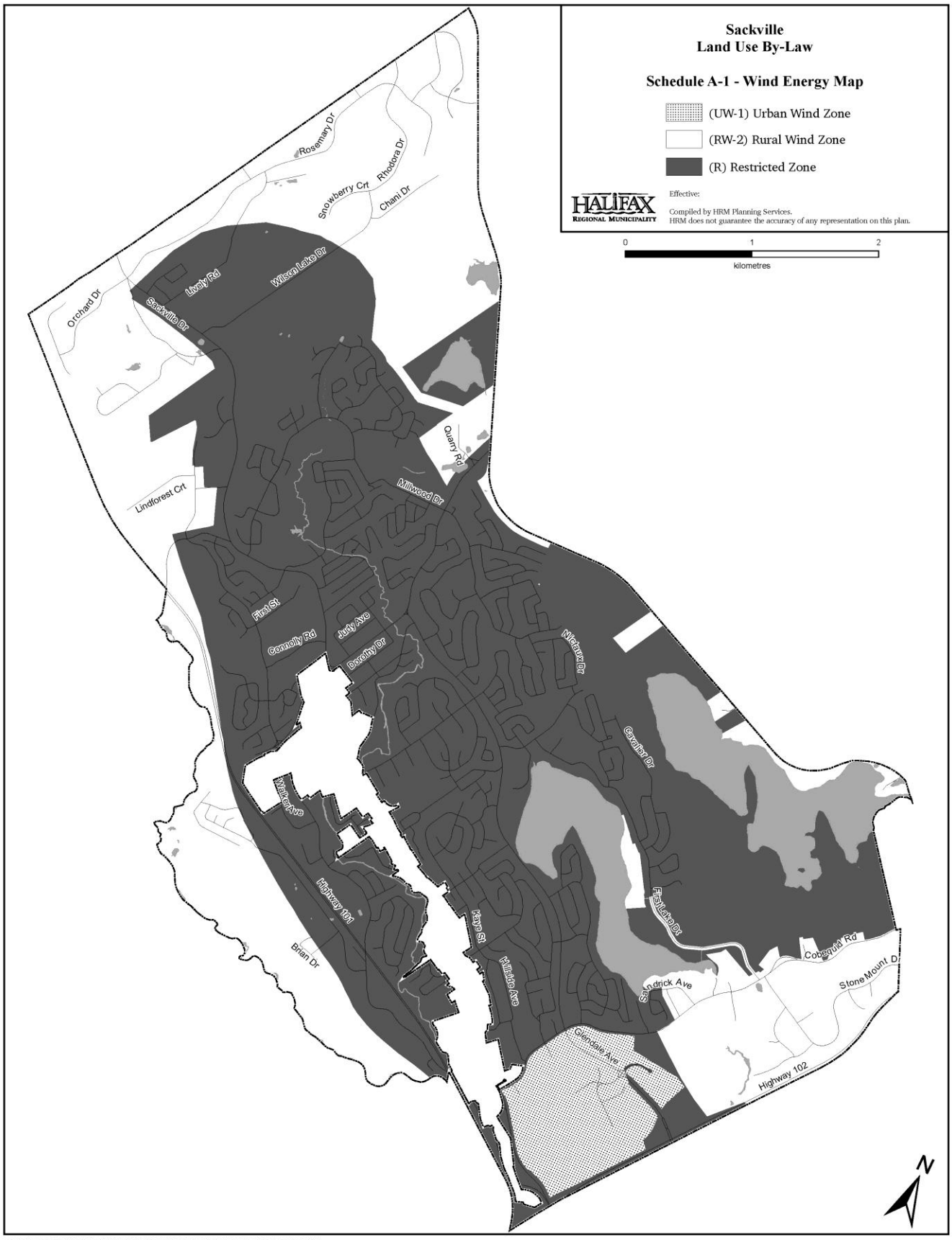
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map.


Sackville
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0
1
2
kilometres
Rosemary Dr
Snowberry Crt
Rhodora Dr
Chani Dr
Orchard Dr
Sackville Dr
Lively Rd
Wilson Lake Dr
Quarry Rd
Lindforest Crt
Milkweed Dr
First St
Connolly Rd
Judy Ave
Dorothy Dr
Nielsen Dr
Gordon Dr
Walker Ave
Highway 101
Brian Dr
Kaye St
Hillside Ave
Fleming Dr
Cobequid Rd
Sandrick Ave
Stone Mount Dr
Glendale Ave
Highway 102
N
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AMENDMENTS TO THE
LAND USE BY-LAW FOR TIMBERLEA/LAKESIDE/BEECHVILLE

BE IT ENACTED by the Halifax Regional Council of the Halifax Regional Municipality that the Land Use By-law for Timberlea/Lakeside/Beechville is hereby amended by:

1. Deleting reference to the word "windmills" in section 4.18.

2. Inserting into PART 4: GENERAL PROVISIONS FOR ALL ZONES, the new section "4.34 WIND ENERGY FACILITIES" as follows:

"4.34 WIND ENERGY FACILITIES

(Refer to CHAPTER 7: WATER, WASTEWATER, UTILITIES AND SOLID WASTE section 7.6 Wind Energy of the Regional Municipal Planning Strategy)

The use of windmills or wind turbines to produce electricity or for any other purpose shall be regulated in accordance with the provisions of this Section.

I DEFINITIONS

For the purposes of this Section, certain terms are defined as follows:

a) "Habitable Building" means a dwelling unit, hospital, hotel, motel, nursing home or other building where a person lives or which contains overnight accommodations.

b) "Nacelle" means the frame and housing at the top of the tower that encloses the gearbox and generator.

c) "Nameplate Capacity" means the manufacturer's maximum rated output of the electrical generator found in the nacelle of the wind turbine;

d) "Total Rated Capacity" means the maximum rated output of all the electrical generators found in the nacelles of the wind turbines used to form a wind energy facility;

e) "Tower Height" means the distance measured from grade at the established grade of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation, or in the case of a roof mounted wind turbine the distance measured from the lowest point of established grade at the building's foundation to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation;

f) "Turbine" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of rotor blades, associated control or conversion electronics, and other accessory structures.

g) "Wind Energy Facility" means a wind energy conversion system, the purpose of which is to produce electricity, consisting of one or more roof mounted turbines or turbine towers, with rotor blades, associated control or conversion electronics, and other accessory structures including substations, meteorological towers, electrical infrastructure and transmission lines;

i) "Micro Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of 10 kW or less, and is not more than 23 metres (75 feet) in height.

ii) "Small Facility" means a wind energy facility consisting of a single turbine designed to supplement other electricity sources as an accessory use to existing buildings or facilities and has a total rated capacity of more than 10 kW but not greater than 50 kW. A Small Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the tower of which is not more than 35 metres (115 feet) in height.

iii) "Medium Facility" means a wind energy facility which has a total rated capacity of more than 50 kW but not greater than 300 kW. A Medium Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are not more than 60 metres (197 feet) in height.

iv) "Large Facility" means a wind energy facility which has a total rated capacity of more than 300 kW. A Large Facility has a stand alone design, on its own foundation, or may be supported by guy wires, is not roof mounted, and the towers of which are greater than 60 metres (197 feet) in height.

II ZONES

For the purpose of this section the following zones apply as shown on the attached Schedule A-1 - Wind Energy Zoning Map. Such zones are:

(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone

a) URBAN WIND ZONE (UW-1)

i) All Wind Energy Facilities, except Large Facilities, are permitted in the Urban Wind Zone (UW-1).

ii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property,

and shall have a minimum distance between turbines equal to the height of the tallest tower

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property,

iii) All turbine towers in the UW-1 Zone shall be set back a minimum distance of 1.0 times the tower height from any adjacent property boundary,

iv) Turbine towers of Micro Facilities in the UW-1 Zone shall be set back a minimum distance of 3.0 times the tower height from any habitable building on an adjacent property.

v) Turbine towers of Small Facilities in the UW-1 Zone shall be set back a minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property.

vi) Turbine towers of Medium Facilities in the UW-1 Zone shall be set back a minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property.

b) **RURAL WIND ZONE (RW-2)**

i) All Wind Energy Facilities are permitted in the Rural Wind Zone (RW-2).

ii) All turbine towers in the RW-2 Zone shall be set back a minimum distance of 1.5 times the tower height from any building on an adjacent property, and shall have a minimum distance between turbines equal to the height of the tallest tower,

1. However the minimum setback shall not apply from the turbine tower to an accessory building on an adjacent property.

iii) Turbines towers of Micro Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 3.0 times the tower height form any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

iv) Turbines towers of Small Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 180 metres (590 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 2.0 times the tower height from any adjacent property boundary.

v) Turbines towers of Medium Facilities in the RW-2 Zone shall have the following set back requirements:

(1) A minimum distance of 250 metres (820 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

vi) Turbines towers of Large Facilities in the RW-2 zone shall have the following set back requirements:

(1) A minimum distance of 550 metres (1805 feet) from any habitable building on an adjacent property;

(2) A minimum distance of 1.5 times the tower height from any adjacent property boundary.

c) **RESTRICTED ZONE (R)**

i) Wind Energy Facilities shall not be permitted in the Restricted Zone.

III PERMIT APPLICATION REQUIREMENTS

All Wind Energy Facilities require a development permit. The permit application shall contain the following:

a) a description of the proposed Wind Energy Facility, including an overview of the project; the proposed total rated capacity of the Wind Energy Facility;

b) the proposed number, representative types, and height or range of heights of wind turbines towers to be constructed, including their generating capacity, dimensions, respective manufacturers, and a description of accessory facilities;

c) identification and location of the properties on which the proposed Wind Energy Facility will be located;

d) at the discretion of the Development Officer, a survey prepared by a Nova Scotia Land Surveyor, a surveyor's certificate, or a site plan showing the planned location of all wind turbines towers, property lines, setback lines, access roads, turnout locations, substation(s), electrical cabling from the Wind Energy Facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and land parcels, demonstrating compliance with the setbacks and separation distance where applicable;

e) at the discretion of the Development Officer, proof of notification to the Department of National Defense, NAV Canada, Natural Resources Canada and other applicable agencies regarding potential radio, telecommunications, radar and seismoacoustic interference, if applicable, to Transport Canada and the *Aviation Act;* and,

f) any other relevant information as may be requested by the Halifax Regional Municipality to ensure compliance with the requirements of this By-law.

IV ADDITIONAL PERMIT REQUIREMENTS

a) The Development Permit application shall be reviewed by a Municipal Building Official to determine if design submissions are required from a Professional Engineer to ensure that the wind turbine base, foundation, or guy wired anchors required to maintain the structural stability of the wind turbine tower(s) are sufficient where a wind turbine is:

   a. not attached to a building and is not connected to the power grid;

   b. attached to an accessory building in excess of 215 square feet and is not connected to the power grid.

V EXCEPTIONS

Notwithstanding Section II a) and II b) the setback requirements from any Wind Energy Facility to a property boundary may be waived where the adjoining property is part of and forms the same Wind Energy Facility. All other setback provisions shall apply.

a) Wind Energy Facilities shall not be permitted in the following zones of the Timberlea/Lakeside/Beechville Land Use By-law:

   a. WCRPK (Western Common Regional Park) Zone;

   b. P-4 (Conservation) Zone.

VII INSTALLATION AND DESIGN

a) The installation and design of a Wind Energy Facility shall conform to applicable industry standards.

b) All structural, electrical and mechanical components of the Wind Energy Facility shall conform to relevant and applicable local, provincial and national codes.

c) All electrical wires shall, to the maximum extent possible, be placed underground.

d) The visual appearance of the Wind Energy Facility shall at a minimum:

i) be a non-obtrusive colour such as white, off-white or gray;

ii) not be artificially lit, except to the extent required by the *Federal Aviation Act* or other applicable authority that regulates air safety; and,

iii) not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.

VIII MISCELLANEOUS

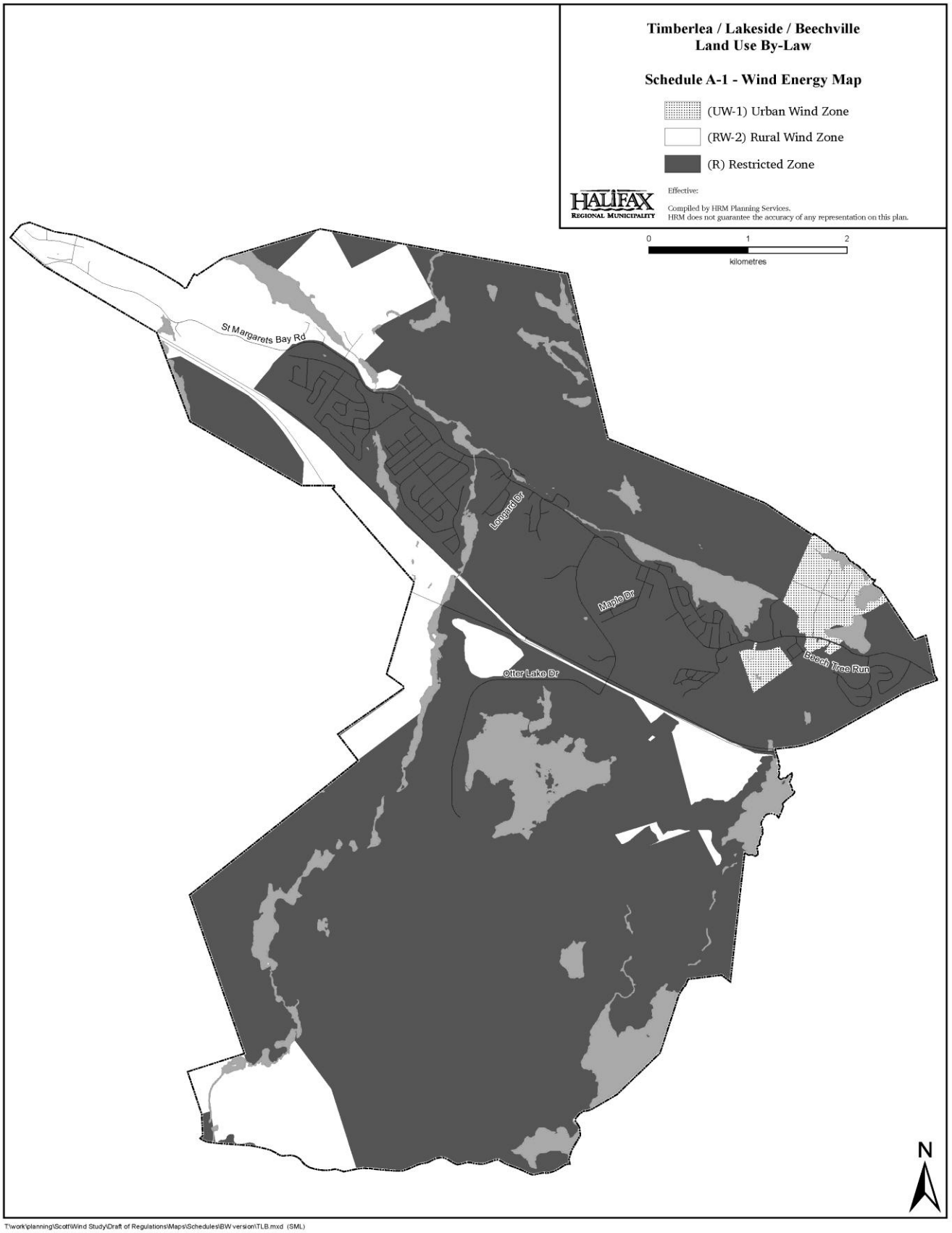
a) Micro Wind Facilities shall be permitted on buildings subject the requirements in Section II a) Urban Wind Requirements and Section II b) Rural Wind Requirements.

b) The siting of Wind Energy Facilities is subject to the requirements for Watercourse Setbacks and Buffers as set out in the Land Use By-law.

c) The siting of all accessory buildings are subject to the general set back provisions for buildings under this By-law

VIIII SCHEDULES

a) Schedule - Map A-1 – Wind Energy Zoning Map


Timberlea / Lakeside / Beechville
Land Use By-Law
Schedule A-1 - Wind Energy Map
(UW-1) Urban Wind Zone
(RW-2) Rural Wind Zone
(R) Restricted Zone
HALIFAX
REGIONAL MUNICIPALITY
Effective:
Compiled by HRM Planning Services.
HRM does not guarantee the accuracy of any representation on this plan.
0
1
2
kilometres
St Margarets Bay Rd
Longard Dr
Maple Dr
Otter Lake Dr
Beech Tree Run
N
T:\work\planning\Scott\Wind Study\Draft of Regulations\Maps\Schedules\BW version\TLB.mxd (SML)