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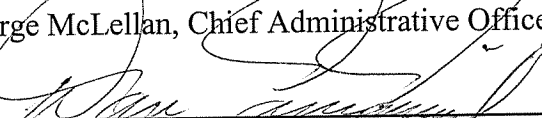
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**Halifax Regional Council**  
**February 22, 2005**

**TO:** Mayor Kelly and Members of Halifax Regional Council

**SUBMITTED BY:**

  
George McLellan, Chief Administrative Officer

  
Dan English, Deputy Chief Administrative Officer

**DATE:** February 8, 2005

**SUBJECT:** Morris-Russell Lake Secondary Planning Strategy

### ORIGIN

- At the December 1, 1998 Regional Council meeting, Morris-Russell Lake was selected as one of four master plan study areas to determine the feasibility of developing a new suburban community.
- At the February 3, 2005 meeting of Harbour East Community Council, a motion was approved to recommend to Regional Council that a revised Secondary Planning Strategy for the Morris/Russell Lake area be approved.

### RECOMMENDATIONS

It is recommended that Regional Council:

1. As recommended by Harbour East Community Council, give First Reading to proposed amendments to the Municipal Planning Strategies for Dartmouth, Cole Harbour/Westphal, and Eastern Passage/Cow Bay, and the Land Use By-laws for Dartmouth and Cole Harbour Westphal, and schedule a public hearing;
2. Approve the proposed amendments to the Dartmouth Municipal Planning Strategy and Land Use By-law presented in Attachments I and II;
3. Approve the proposed amendments to the Municipal Planning Strategy and Land Use By-law for Cole Harbour/Westphal presented as Attachments III and IV; and
4. Approve the proposed amendments to the Municipal Planning Strategy for Eastern Passage/Cow Bay presented as Attachment V.

## BACKGROUND

- In a report to Harbour East Community Council, dated 22 December 2004, the Morris-Russell Lake Public Participation Committee (“the PPC”) presented revised policies for the Morris-Russell Lake master plan area for adoption under the Municipal Planning Strategies and Land Use By-laws for Dartmouth, Cole Harbour/Westphal, and Eastern Passage/Cow Bay. The PPC recommended that the Community Council forward the amendments to Regional Council with a recommendation of approval.
- At the February 3, 2005 meeting of the Community Council, the following motions were passed:
  1. *Halifax Regional Council approve the revised Morris-Russell Lake Secondary Planning Strategy recommended by the Public Participation Committee;*
  2. *The Public Participation Committee’s recommendations be amended to include the amendments outlined by staff in the discussion portion of the staff report dated January 26, 2005; and*
  3. *Further, Caldwell Road be maintained with the section from Altholea Drive to Portland Street remaining a minor collector and from Altholea Drive to Eastern Passage being a major collector.*

## DISCUSSION

The amendments needed to implement the Community Council recommendations are presented in Attachments I to V. As stated in the January 26, 2005 report to the Community Council:

*Staff supports the proposed Morris-Russell Lake Secondary Planning Strategy. The proposed plan represents a significant contribution to municipal planning by the Public Participation Committee and a substantial amount of public consultation and input. The Plan contains appropriate policies to guide future development of this area in a manner which will create a well planned mixed use community. The plan takes a comprehensive approach to planning the area’s settlement pattern, public open spaces and environmental protection. This planning is also integrated with infrastructure services such as transportation, public transit, storm/sanitary sewers and water supply.*

Regional Council is also advised that

- this master planning exercise was one of four initiated at the December 1, 1998 session of Regional Council.

- In a report to Regional Council, dated 19 October 2004, staff recommended that the Municipality continue to negotiate policy and regulatory amendments needed to allow for development of Morris-Russell Lake area. This recommendation was approved at the October 19, 2004 meeting of Regional.
- Under the Regional Greenfield Study<sup>1</sup>, the Morris-Russell Lake master plan area was included in a larger study area which was identified as a low cost area for development with minimal constraints. Staff further advised Council that the infrastructure needed to support this development could help resolve traffic issues throughout the surrounding communities and could further municipal efforts to improve transit provision. The potential to better utilize the Woodside-Halifax ferry service was specifically noted.
- The master plan area encompasses over 1,000 acres of land with the potential to develop housing for 10,000 to 15,000 people, as well as new commercial areas. Future redevelopment of surplus land to the DND Shearwater base could potentially increase land available for further development by up to 600 acres.
- This new community would be in close proximity to existing retail and services on Portland Street and places of employment in the Woodside and Eastern Passage areas.
- Financial assistance for a new interchange which is to service this area has been received under the Canada - Nova Scotia Infrastructure Agreement and Council has approved funding under the 2004/05 with the remaining funding proposed under the 2005/06 capital budget. The project is expected to start this summer and be completed by the fall of next year.

### **BUDGET IMPLICATIONS**

The cost implications to implement a number of these policies was raised at the January 6<sup>th</sup> meeting of Harbour East Community Council and it was suggested that estimates be provided. At this point, it is not possible to provide estimates for several reasons. Firstly, the costs of upgrading service systems will not be known until studies are completed. For example, the costs of transportation upgrades around Portland Street and Norman Newman Boulevard cannot be determined until the study called for under policy ML-9 is undertaken. Similarly, the costs of sewer system upgrades cannot be determined until the waste water management plans referenced under policy ML-12 are completed (a waste water management study for the Ellenvale Run sewershed is near completion and calls for proposals have been made for a study of the Eastern Passage sewershed).

A capital cost contribution study is currently being prepared for the Morris-Russell Lake area in accordance with policies adopted by the Municipality. Further implications regarding capital

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<sup>1</sup> CBCL Ltd. & Associates. *Final Report: Greenfield Areas Servicing Analysis*. July 2004.

costs will be made available once this study is completed. This analysis will be brought before Council before any development can occur on the site.

### FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

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

### ALTERNATIVES

1. Approve the amendments as recommended by the Harbour East Community Council.
2. Refer the amendment package back to Harbour East Community Council for further consideration of alternative amendments as directed by Regional Council.
3. Reject the amendment package without further consideration. This option is not recommended as this area offers opportunities to further municipal objectives of developing new communities at locations where services can be provided at affordable costs. Furthermore, financial commitments have been made by the Municipality, the Province and the Federal Government towards the new Highway 111 interchange.

### ATTACHMENTS

- I Amendments to the Municipal Planning Strategy for Dartmouth
- II Amendments to the Land Use By-law for Dartmouth
- III Amendments to the Municipal Planning Strategy for Cole Harbour/Westphal
- IV Amendments to the Land Use By-law for Cole Harbour/Westphal
- V Amendments to the Municipal Planning Strategy for Eastern Passage/Cow Bay

Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Paul Morgan, Planner, Regional Planning, 490-4482

Report Approved by:



Paul Dunphy, Director of Planning & Development Services

**A BY-LAW TO AMEND THE MUNICIPAL PLANNING  
STRATEGY FOR DARTMOUTH (Case 00586)**

The Municipal Planning Strategy for Dartmouth is hereby amended by:

1. replacing the sentence of clause (b), policy H-3B with the following:

**“Such figure may be increased to a maximum of 50% provided clear advantages are gained within the CDD by means of increased parkland or open space, increased areas of undisturbed terrain and vegetation, decreased amount of impermeable surfaces and/or improved environmental protection or an improved transportation system.”**

2. replacing the subsection entitled “Morris-Russell Lake Area” under Chapter 4: Housing with the following:

**MORRIS-RUSSELL LAKE SECONDARY PLANNING STRATEGY**

**In 1997, Council retained Griffiths Muecke Associates to conduct a Watershed Management Study for Morris Lake. The purpose of the study was to establish a management framework by which to guide future development within the Morris Lake Watershed. The study focussed on determining the existing trophic status of Morris Lake as well as establishing criteria to control phosphorous and sediments from entering the lake and watershed. Although the terms of reference for the study focuses on Morris Lake, many of the recommendations refer to Russell Lake as well because water quality in Morris Lake is intimately linked to the nature of development activities in the Russell Lake sub-watershed. Therefore, recommendations should be considered applicable to the extended watershed that includes both lakes.**

**The study indicates that Morris Lake, while still in a relatively “healthy” condition, is in danger of becoming eutrophic if development in the watershed proceeds in an environmentally insensitive manner. To prevent Morris Lake from becoming eutrophic, the Morris Lake Watershed Management Plan recommended that a Master Plan be prepared for this area to ensure development occurs in an environmentally sensitive and comprehensive manner. The Master Plan was to address the key issues and constraints to future development within the area such as transportation, municipal services, land use, major recreation lands and linkages, potential school locations, environmental constraints and opportunities and so on.**

**To develop a Master Plan for the Morris-Russell Lake secondary plan area, property owners, local area residents, the Dartmouth Lakes Advisory Board, and the general public**

worked together and a public participation committee was established to coordinate and develop the Master Plan. This Committee or a Sub-Committee thereof, would also be responsible for the evaluation of the detailed CDD approval process.

To ensure development within the Morris-Russell Lake area occurs in an environmentally sensitive and comprehensively planned manner, the Morris Lake Watershed Management Plan recommendations should be applied to all undeveloped lands within the area. To prevent the area from developing in an ad-hoc, uncoordinated fashion, a comprehensive development district (CDD) zone will be applied to all undeveloped lands within the Morris Lake watershed and to lands abutting the Highway 111 interchange, acquired by Clayton Developments Limited from Irving Oil Limited, where a new interchange is proposed.

**ML-1 A Comprehensive Development District (CDD) Zone shall be applied to certain undeveloped lands within the Morris-Russell Lake secondary plan area and to a parcel of land abutting Highway 111, illustrated on Map 9M, to ensure development proceeds in a comprehensive manner and to enable implementation of the Morris Lake Watershed Management policies.**

#### **FUTURE DEVELOPMENT WITHIN THE MORRIS-RUSSELL LAKE AREA**

Most of the undeveloped parcels of land within the Morris-Russell area could not be immediately developed given existing constraints in various infrastructure systems (transportation system, water distribution system, sanitary sewer system).

Through the Master Development Plan process, existing infrastructure deficiencies were investigated and alternatives proposed. Transportation, environmental protection, land use, and central services (sewer and water) were key issues to be addressed.

#### **Transportation**

To address existing and future transportation issues within the Morris-Russell Lake area, the Master Development Plan process first identified the existing transportation issues/concerns and secondly, determined alternatives/solutions to improving the overall transportation network in the Morris-Russell Lake area.

Without improvements to the area transportation network, Portland Street was at or near capacity. To allow for further development around Morris and Russell Lakes either Portland Street needed to be upgraded or modified to handle the additional traffic or alternative routes to the Circumferential Highway were required.

Plan  
 Morris - Russell Lake Secondary  
 Morris Lake Watershed Boundary



Map 9M



Morris-Russell Lake Secondary Plan

July 8, 1998 Last Update: December 9, 2004

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A Traffic Impact Study, conducted by Streetwise Traffic Engineering, for Clayton Developments Limited lands on the east side of Morris Lake concluded that “there are limited opportunities to increase capacity on Portland Street without a major impact on abutting residential and commercial development”. Therefore, the long term development of these lands required alternative routes to Highway No. 111. The study recommended that a new interchange on Highway No. 111 (Circumferential) be established which is supported by Dartmouth’s Municipal Planning Strategy. Policy T-6 supports the identification and protection of a right-of-way for an interchange off the Circumferential connecting it with the Russell Lake area.

In 2002, the Municipality identified the Highway 111 interchange as the highest priority for transportation infrastructure financing under the Canada-Nova Scotia Infrastructure Program. Funding was subsequently approved and a functional design study for the interchange undertaken<sup>1</sup>. The Province stipulated the interchange location to allow for access to both the Morris-Russell Lake lands and the Woodside Industrial Park via an extension of the Mount Hope Avenue (referenced in this document as “the Caldwell Road Connector”).

The study envisioned that, initially, the interchange would provide access from Highway 111 to Woodside Industrial Park and lands between the highway and Russell Lake by an extension of Baker Drive. Over the longer term, the Caldwell Road Connector would be extended eastward over portions of the Department of National Defense Shearwater Base to Caldwell Road, thereby providing an alternative access to Highway 111 for residential subdivisions around Caldwell Road, as well as residents of Eastern Passage.

A diamond interchange was deemed the most economic design for the Municipality but the consultant established estimates of the maximum traffic loading which could be accommodated while maintaining a satisfactory service level. The consultant stated that the number of vehicles using the interchange could be reduced substantially from typical expectations by including transportation demand reduction measures such as mixed land use developments, improved transit services and walking or bicycle trips.

**ML-2** Except as otherwise permitted by policy ML-17, no development shall be permitted within the Morris-Russell Lake secondary plan area unless a new interchange is constructed on Highway 111 and Baker Drive is connected to the interchange or financing for these projects secured and a time frame for completion established. Over the longer term, the Municipality shall work with property owners to extend the Caldwell Road Connector from the new interchange to Caldwell Road. The

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<sup>1</sup>Atlantic Road & Traffic Management. *Final Report: Highway 111 - Cole Harbour Arterial Access Options Study*. July 2004. Prepared for Halifax Regional Municipality.



locations of the interchange, Baker Drive extension and the Caldwell Road Connector shall be as generally shown on Map 9N: Future Land Use and Transportation Plan.

**ML-3** The Municipality shall prepare a public transit routing plan for the secondary plan area which reflects the connection established between Baker Drive and the new interchange. The Municipality may require transit related facilities, such as bus bays and transit shelters, be provided on transit routes as a condition of development approvals. In accordance with the draft regional plan, the transit plan should consider establishing a transit hub in the vicinity of Baker Drive and the connector road proposed between Baker Drive and Portland Estatic Boulevard West in consultation with the property owners.

**ML-4** A series of trails for pedestrians and cyclists shall be established within the secondary plan area which link residents with commercial, employment and other activity centers and to public transit facilities and, where feasible, to regional trail systems which are developed or planned. Without limiting the foregoing, the Municipality shall establish a multi-use trail between the secondary plan area and the Woodside Ferry Terminal.

During the course of preparing the master plan, concerns were heard from area residents about excessive traffic levels on Portland Street and Caldwell Road, as well as short-cutting on local streets. In response, a road hierarchy and phasing plan has been developed and commitments made to undertake various studies.

**ML-5** The following road classification shall be applied within the secondary plan area:

**Arterials:** Caldwell Road Connector (Hwy. 111 interchange to Caldwell Road)

**Major**

**Collectors:** Baker Drive, Eisener Boulevard, Norman Newman Boulevard, Caldwell Road from Atholea Drive to Caldwell Road Connector

**Minor**

**Collectors:** Portland Estates Boulevard, Portland Estates Boulevard West, Portland Hills Drive, Caldwell Road from Atholea Drive to Portland Street/Cole Harbour Road and the proposed connector road between Portland Estates Boulevard West and Baker Drive

**ML-6** No street connection shall be established between Caldwell Road and the Portland Hills subdivision.

# RUSSELL LAKE / MORRIS LAKE

MAP 9N : FUTURE LAND USE AND TRANSPORTATION PLAN

Scale: NTS

February, 2005



- SINGLE FAMILY
- SEMI / TOWNHOUSE
- MULTIPLE / TOWNHOUSE
- CDD RESIDENTIAL MIX
- CDD (Holding)
- HRM PARKLAND/PRIVATE OPEN SPACE
- ACTIVE HRM PARKLAND
- COMMUNITY COMMERCIAL
- GENERAL COMMERCIAL / HIGH DENSITY RESIDENTIAL
- EXISTING COMMERCIAL
- INSTITUTIONAL
- LAKEFRONT PROTECTION ZONE
- INDUSTRIAL LANDS
- WETLANDS
- ENVIRONMENTALLY SENSITIVE
- CALDWELL ROAD CONNECTOR
- NEW INTERCHANGE

- ML-7 Access from Alpine Drive to Portland Street shall be restricted to right-out movement.**
- ML-8 Upon satisfying the requirements to allow for development stipulated under policy ML-2, development shall be permitted on parcels 1 to 13 (as shown on Map 9N) except that no road connection shall be established with Portland Estates Boulevard West until the Caldwell Road Connector has been constructed to Caldwell Road. No further development shall be permitted within the Morris - Russell Lake Secondary Plan Area until the Caldwell Road Connector has been constructed to Caldwell Road unless a traffic study has been undertaken by a qualified consultant which demonstrates that the level of service on Portland Street and Caldwell Road conforms with the performance criteria established under the Municipality's Guidelines for Preparation of Traffic Impact Studies and the road classification established under policy ML-5.**
- ML-9 The Municipality shall undertake studies and implementation plans prior to the completion of the new Highway 111 interchange to address the following matters:**
- (a) Municipal/Provincial initiative to address transportation issues for the Harbour East area;**
  - (b) the extent to which shortcutting is taking place on streets north of Portland Street, and where appropriate, implement traffic calming measures to mitigate impacts within the affected neighbourhoods;**
  - (c) potential upgrades to Norman Newman Blvd. to accommodate traffic between Baker Drive and the new Hwy. 111 interchange, while keeping in mind the sensitivity of Russell Lake;**
  - (d) extending the left hand turning lane from Portland Street onto Eisener Blvd. in order to facilitate additional traffic to Baker Drive via Norman Newman Blvd;**
  - (e) preparation of a comprehensive transit plan that capitalizes on the new interchange and park and ride facility at Portland Hills Blvd. and Portland St. and the potential for a new transit hub in the vicinity of Baker Drive and the connector road proposed between Baker Drive and Portland Estatic Boulevard.**

**The Caldwell Road connector will traverse lands owned by Imperial Oil Limited where various activities associated with the company's refinery operations have taken place over the years and continue at the time of adoption of this secondary planning strategy. The Municipality acknowledges responsibility for ensuring that the road alignment and design does not adversely affect the operations of Imperial Oil.**

**ML-10 The Municipality shall prepare an alignment and design of the Caldwell Road connector in consultation with Imperial Oil Limited. Specific consideration shall be given to:**

- (a) measures needed to prevent unauthorized access to the property from the roadway or adjacent lands while allowing the company access to the water main and pumping station which provide water supply from Morris Lake; and**
- (b) the road alignment in relation to industrial fill and disposal areas on the property.**

**Central Services (Sewer & Water)**

**Many of the undeveloped parcels of land within the Morris-Russell Lake area are situated within a municipal servicing boundary, where development can only occur based upon central sewer and water services. The Morris Lake Watershed Management Study recommends that future development within the Morris-Russell Lake area should not proceed by on-site septic systems due to the potential negative impact such systems can have on the lakes. Thus, all new development within the area should be connected to central services (water & sewer).**

**ML-11 Within the Morris-Russell Lake secondary plan area, it shall be the intention of Council not to consider any new development on lands zoned CDD unless serviced with both central sewer and water services. It shall be the intention of Council to include all undeveloped lands within the Morris-Russell Lake secondary plan area within a municipal development (service) boundary (Map 9O).**

**Within the Morris-Russell Lake area, there are constraints in the existing sewer and water infrastructure systems, yet these deficiencies do not affect all of the undeveloped lands in the same manner. The undeveloped lands on the west side of Morris Lake and the lands adjacent to Russell Lake, are situated within the existing Dartmouth Development Boundary. Lands on the east side of Morris Lake have been included within the Dartmouth Plan Area and Development Boundary as development of these lands can proceed by means of gravity flow to the Dartmouth sanitary sewer system.**

**The Municipality is currently preparing a wastewater management plan for the Eastern Passage Wastewater Treatment Plant Sewershed. Upon completion of this study and upgrades to the treatment plant, the Municipality should undertake a review of the sanitary sewer service boundary established for this sewershed, particularly in the vicinity of Caldwell Road.**

In addition, the Water Commission has indicated that water can be provided to the existing serviceable areas at this time, but not to the entire Morris-Russell Lake area due to pressure levels and water line capacities. Thus, development should not proceed until the necessary upgrades are identified and completed.

The Municipality has undertaken an Integrated Servicing Strategy which identified servicing deficiencies, including central water and sewer services. The Strategy has also identified upgrades or modifications needed in the long term to develop the undeveloped lands within the Morris-Russell Lake secondary plan area. Until such new systems, upgrades or modifications are complete (water distribution system and sanitary sewer system) development within the area should be restricted.

**ML-12** It shall be the intention of Council to restrict development on lands zoned CDD within the Morris - Russell Lake secondary plan area, shown on Map 9M, until all infrastructure deficiencies (i.e. water and sewer) are resolved and development can proceed without exceeding the capacity of municipal infrastructure.

**ML-13** The Municipality shall prepare and implement a wastewater management plan for the sewersheds that contain Morris and Russell Lakes. Subject to the availability of funding, the plan shall:

- (a) improve wastewater system operation and management including safety, regulatory compliance, system capacity both existing and future, physical condition, system reliability and optimization;
- (b) address specific issues of wastewater treatment plant capacity both existing and future, wet weather overflows, odour control, inflow/infiltration remediation, back up power systems, optimizing system performance and making maximum use of available capacity;
- (c) include a prioritized list of actions for implementation, having particular regard for health and safety concerns;
- (d) consider the above recommendations within the context of existing standards, procedures, regulations and compliance requirements, projects, initiatives and priorities, including any adopted under a regional plan.

**ML-14** Commencing on May 25, 2000, new development which is to be served by the Caldwell Road water distribution system shall be limited to two hundred

(200) new building lots until system upgrades to the Innishowen Subdivision have been completed. If upgrades are not completed by May 1, 2005, no further development served by the Caldwell Road water distribution system shall be permitted until the system upgrades have been completed.

- ML-15** Upon completion of a wastewater management plan for the Eastern Passage Wastewater Treatment Plant Sewershed and upgrades to the treatment plant, the Municipality shall undertake a review of the sanitary sewer service boundary established for this plant.

### Infrastructure Charges

Following provincial adoption of legislation which allows for the impositions of infrastructure charges to recoup the costs of oversized infrastructure, the Municipality adopted a capital cost contribution policy. The policy applies to all new major areas in the Municipality proposed for new development and shall apply to lands within this secondary plan area.

- ML-16** The Municipality shall implement infrastructure charges to this secondary plan area under the Subdivision By-law in accordance with the policies for infrastructure charges established under the capital cost contribution subsection of the implementation section of this Municipal Planning Strategy.

### Immediate Development Potential

Prior to completing the master planning process, Clayton Developments Limited had existing development rights on approximately 131 acres of its land holding for serviced residential lots. In recognition of these existing rights, the Municipality adopted interim policy provisions and entered into a development agreement with Clayton Developments Limited to permit development over 131 acres. The Municipality will continue to honor this agreement. Any further amendments will be subject to any applicable policies adopted for this secondary plan area as well as the entire community.

- ML-17** The Municipality will honour all commitments made under a development agreement for Portland Hills on 131 acres of land adjacent to Portland Street and Innishowen Subdivision. Any further amendments to this agreement shall only be considered where such amendments conform with all applicable provisions adopted under this secondary planing strategy and any general provisions applicable under this municipal planning strategy.

Future Land Uses

**ML-18** The Future Land Use and Transportation Plan, presented as Map 9N, shall provide overall guidance for land use allocation within this secondary plan area and the following guidelines shall be adhered to in any development agreement application:

- (a) **Parcel 1:** This parcel may be developed with an apartment building not exceeding 84 dwelling units or four stories in height and a commercial building not exceeding 14,000 square feet. Commercial occupancies shall be restricted to local commercial uses, as defined by the Land Use By-law, except that drive through restaurants shall not be permitted. The site design shall give consideration to environmental and aesthetic impacts, as well as the safety and efficiency of traffic movements between the site and Baker Drive. Impervious surfaces shall not exceed 40 percent of the lot;
- (b) **Parcel 2:** This property may be developed for both multiple-unit buildings not exceeding six habitable floors above underground parking, townhouses or a combination thereof. Provisions shall be made to ensure adequate landscaping, an architectural design that is visually interesting and compatible with the surrounding natural environment, on-site circulation and private amenity spaces. Most of the land along the shoreline shall be maintained in a natural state in accordance with applicable municipal policies;
- (c) **Parcel 3:** This property may be developed for a variety of higher-density residential developments including but not limited to multiple-unit buildings, seniors accommodations, and townhouses. Multiple unit buildings shall adhere to the same height restrictions imposed on Parcel 2;

Commercial uses which serve the broader communities around Morris and Russell Lake shall be permitted. Except for retail food stores, the size of any single commercial use (store or business) shall not exceed 25,000 square feet of floor area. Car dealerships or other outdoor display courts shall not be permitted;

- (d) **Parcel 4:** On the west side of Baker Drive, this parcel serves to convey storm water flows originating from the west side of the Circumferential Highway. The area has been expanded to include additional lands that will be used to control and treat post-development storm water. The area will be conveyed to the Municipality upon completion and acceptance of approved storm water management systems;

- (e) **Parcel 4A:** A small watercourse is found on these lands which conveys storm water from parcel 4 through to a larger brook to the east of the NSPI power line right-of-way. The area has been expanded to provide for active park facilities. The design of the park shall be confirmed by development agreement and shall have frontage on both Baker Drive extension and the minor collector road. This area shall also serve as a separation between the commercial uses within Parcel 6 and the residential uses contained within Parcel 5;
  
- (f) **Parcel 5:** A mix of single-unit, semi-detached, townhouses, and multiple-unit dwellings will be permitted. Multiple-unit buildings shall be restricted to lands abutting Baker Drive and any such buildings shall not exceed four floors of habitable space above underground parking. Due to areas of steep topography, careful design of the local streets network and land uses is required to minimize terrain disturbance and protect Russell Lake;

Local commercial uses, as defined by the Land Use By-law, may also be permitted on properties abutting Baker Drive Extension and the proposed local collector road. Such uses shall be limited to a total of 20,000 sq. ft. of floor area at any one location. Only one such location shall be permitted along Baker Drive and the local collector road. Sites shall be selected which offer strong opportunities for pedestrian access from surrounding residential neighbourhoods;

- (g) **Parcel 6:** Major commercial and high-density residential developments shall be encouraged over these lands. Consideration shall be given to providing safe and efficient access between developments and the transportation system for private vehicles, public transit, cyclists and pedestrians. Consideration will also be given to architectural design, landscaping measures, signage, lighting and environmental protection measures needed to produce an attractive and safe environment for a mixed use development that might be considered a gateway to the community. Clause (e) of policy ML-24 shall not be applied to this parcel but any federal restrictions or guidelines imposed to protect the Department of National Defence Shearwater Air Base shall be adhered to as this area is within close proximity;
  
- (h) **Parcel 6A:** Major commercial developments shall be supported over these lands but not residential developments. Consideration shall be given to the same matters identified for commercial developments under clause (g);



- (i) **Parcel 7: A mixture of residential developments shall be supported provided that higher density development is located adjacent to the Caldwell Road Connector but no driveway access is permitted to this road;**
- (j) **Parcel 8: This parcel is reserved for a school site until the greater of 500 residential units have been constructed along the west side of Russell Lake or once five years have past from the date of approval of this Secondary Planning Strategy by Regional Council. As an alternative to a school site, the parcel may be developed for either medium or high-density residential developments to a density not exceeding 15 units per acre and five habitable floors above underground parking;**
- (k) **Parcel 9: This parcel is reserved for local commercial uses. Driveway access shall only be permitted to the minor collector extending between Baker Drive and Portland Estates Boulevard West. Consideration shall be given to architectural design, landscaping measures, signage and site access so as to achieve an attractive development within a suburban context which can be safely accessed by motorists, cyclists and pedestrians;**
- (l) **Parcels 10 and 11: The areas immediately adjacent to the established residential neighbourhoods of Portland Estates shall be limited to single-unit dwellings. Areas closer to the Parcel 9 and Parcel 12 may be considered for a wider variety of residential uses. Steep slopes adjacent to Russell Lake shall not be developed;**
- (m) **Parcel 12: This parcel has a relatively flat terrain with little or no standing timber. Its proximity to the major transportation corridors and residential areas suggests that the parcel would be ideally suited for major recreation uses. Any use of this property, however, may be contingent upon future operational needs of CFB Shearwater;**
- (n) **Parcel 13: Due to the poorly drained soils and proximity to Morris Lake, this area is reserved for passive open-space purposes;**
- (o) **Parcels 18 and MLE-2: These parcels may be developed with a mixture of residential uses. Consideration is to be given to the steep grades over these lands when siting roads and development;**
- (p) **Parcels PH4 and PH5: These parcels may be developed with a mixture of residential uses consistent with the established pattern of development elsewhere throughout the Portland Hills subdivision;**

- (q) **Parcels 20, 21 and 22:** These parcels house an oil refinery operation with activities predominantly located on parcel 20. Parcels 21 and 22 remain undeveloped with the exception of a water main and pumping station which draws water from Morris Lake for use in the refinery operations.

**With the exception of the proposed Caldwell Road Connector, Parcels 21 and 22 shall be retained as a natural buffer from the refinery operation unless an environmental suitability study is undertaken.**

### Density

**ML-19** The allowable density on parcel 1 shall conform with the requirements of clause (a) of policy ML-18 and the allowable density on parcel 8 shall conform with the requirements of clause (i) of policy ML-18. The density limitation established under clause (d) of policy H-3B shall be applied to the following aggregated parcels:

1. parcels 2, 3, 4, 4a, 5, 7 and 8;
2. parcels 9, 10, 11, 12 and 13;
3. parcels 20, 21 and 22;
4. parcels MLE1, MLE2 and 18;
5. parcels PH4 and PH5.

**ML-20** On parcel 6, a maximum population of 4,200 persons equivalent and a maximum of 950 apartment units shall be permitted. For the purpose of determining persons equivalent, a gross density of 40 persons per acre shall be assumed for all commercial developments and 2.25 persons per apartment shall be assumed.

**ML-21** Incentives may be introduced in support of affordable housing. Without limiting the generality of this statement, bonus densities might be considered for properties on transit routes and near employment centres provided that such incentive is voluntary and does not result in excessive concentration of housing or housing types in any area.

### Parkland and Open Space

**In addition to parcels identified for recreational purposes under policy ML-18, lands are to be acquired for trail development, particularly along lake shores and watercourses. Lake shore buffer areas will be sought throughout the secondary plan area with emphasis placed on securing public ownership. The Municipality shall also encourage developers to assist in the development of active recreation parks by undertaking site preparation and installation**

of recreation equipment. In exchange, the normal land dedication requirements may be reduced.

**ML-22** The Municipality shall acquire lands for public trails with emphasis on locations adjacent to lakes and watercourses. The following specific criterion shall be applied to any development agreement application:

- (a) no more than 50 percent of the lakeshore within each development agreement application shall be privately owned;
- (b) where private lakefront ownership is proposed, adequate alternative pedestrian links are provided from the publically-owned lake front buffer area through a street or walkway system and back to the lakefront;
- (c) the determination of private versus public lake front ownership shall be negotiated through each development agreement application on a case-by-case basis;
- (d) stormwater treatment facilities may be located on municipal lands but shall not be located on municipal parkland;
- (e) lands which face severe topographical constraints or contain severe environmental characteristics may be considered for public parkland dedication in accordance with municipal parkland guidelines.

### **ENVIRONMENTAL PROTECTION MECHANISMS**

As development occurs within the Morris-Russell Lake secondary plan area, all new development must adhere to specific environmental protection measures if both Morris and Russell Lakes are to be protected. The Morris Lake Watershed Management Plan made a number of recommendations on a management framework by which to guide future development within the area. To ensure the recommendations are implemented, all new development must adhere to the following requirements.

#### **Design and Development Controls**

The design adopted for a subdivision fundamentally affects the hydrology of the site and the quality of the stormwater. Good environmental planning integrates site design and

stormwater quality management into one process<sup>2</sup>. If environmentally responsible watershed policies are not supported by environmentally responsible design at a subdivision and site level, the whole endeavor may ultimately fail. The Morris Lake Watershed Management Plan recommends that all development adhere to environmental standards designed specifically to protect Morris Lake and its watershed.

**ML-23** It shall be the intention of Council to encourage all new development within the Morris-Russell Lake secondary plan area to meet certain basic design objectives as follows:

- (a) to reproduce the pre-development hydrological conditions;
- (b) confine development and construction activities to the least critical areas of the site and consider clustered development to minimize land disturbance;
- (c) maintain the overall desired density of development by allocating higher densities to areas most suitable for development;
- (d) minimize changes to the existing topography; and
- (e) preserve and utilize the natural drainage system.

**ML-24** It shall be the intention of Council to require all new development situated on lands zoned CDD within the Morris-Russell Lake secondary plan area to incorporate specific design standards which maximize the protection of water quality in Morris and Russell Lakes. The following shall be used as guidelines:

- (a) all lands with slopes of 15% or greater should not be developed unless additional environmental control measures are implemented to minimize the amount of erosion generated from the site;
- (b) all wetlands (as defined by the presence of characteristic wetland vegetation) should be excluded from development;
- (c) all shorelines should be protected by a 100 foot buffer zone except that the width of the buffer zone may be decreased to 75 feet if, through detailed study, the topography and vegetation conditions warrant the reduction. Within the buffer zone, no vegetation or soil shall be removed or altered unless under a

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<sup>2</sup> *Stormwater Management Practices Planning and Design Manual*, Ontario Ministry of Environment and Energy, 1994

management plan has been approved to provide for restoration of vegetation, shoreline access paths, view corridors, habitat management, safety and welfare or shoreline recreation where such provisions may be made without adversely affecting the primary purpose of preserving water quality in the lake. Any study or management plan submitted pursuant to this clause shall be prepared by a person qualified to make the required determinations and an approval procedure shall be established under the terms of a development agreement;

- (d) all wetlands and watercourses should be protected with a buffer strip within which no vegetation or soil should be removed or altered unless approved under a management plan approved pursuant to the provisions of clause (c). For wetlands, the buffer strip should be at least 25 feet in width for wetlands less than 0.5 acres in size and 50 feet for wetlands over 0.5 acres. All streams shall have a minimum 50 foot buffer strip on each side;
- (e) the amount of impermeable surfaces created should not exceed 25% of the gross area of the proposed development. Minor increases in this figure may be considered provided the amount of proposed undisturbed land substantially exceeds the guideline described in section ML-11(f) and such undisturbed lands are incorporated into the final drainage plan;
- (f) a minimum of 25% of the natural vegetation on the site should be retained in an undisturbed state and incorporated into the final drainage plan;
- (g) the public, landowners, developers and the Municipality are encouraged to maximize phosphorous reduction to the fullest extent possible through the use of best management practices as recommended by the Morris Lake Stormwater Management Plan (Jacques Whitford, 2004); and
- (h) no development shall be permitted on septic systems.

Erosion and sedimentation control is a critical element in good site design. In order to control the adverse effects of sediment (and attached phosphorus), it will be essential to strictly control erosion. This means that development will have to be designed and implemented with erosion minimization as a primary criterion.

**ML-25** Within the Morris-Russell Lake secondary plan area, it shall be the intention of Council to require all developers to prepare and receive Municipal approval for an Erosion and Sediment Minimization Plan prior to any clearing or grubbing occurring on a site, and the plan shall contain the following:

- (a) how ground disturbance will be restricted to areas where structures, roads etc. will exist when construction is complete;
- (b) indicate which vegetation will be protected, marked, and preserved through construction techniques that minimize soil compaction and damage to tree roots;
- (c) how the construction project will be phased to minimize the extent and length of soil exposure – this includes phasing by drainage area;
- (d) how the opportunity for erosion will be limited through sequencing of construction activities; and
- (e) indicate which erosion and sediment controls will be used, where they will be located, the timing of installation (before construction begins), the inclusion of drainage controls up-slope of the construction site; inspection and monitoring, and timing of removal (after the entire site has been stabilized).

#### **Public Awareness and Education Programs**

If the recommendations contained within the Morris Lake Watershed Management Study are to be successfully implemented there needs to be active involvement of both individual land owners and the general public. The involvement of the public should not just be limited to the residents of Morris-Russell Lake area but to existing developed areas within the entire Morris Lake Watershed, such as the existing development throughout Woodlawn.

**ML-26** It shall be the intention of Council to establish a Public Awareness and Education program for the general public which emphasizes the protection of Morris and Russell Lakes. The programs should at least incorporate the following:

- (a) information programs for land owners on buffer zone management and the use of fertilizers;
- (b) a program for local schools;
- (c) application of an Animal Defecation By-law throughout the entire watershed area and actively enforce it;
- (d) encourage local property owners to hold “Cleanup” days for litter collection in public areas; and

- (e) establish a stormwater wetland as an educational demonstration site on the importance of protecting lakes.

### Stormwater Management

As the Morris-Russell Lake area is developed, there will be a need for stormwater to be controlled to remove sediments and phosphorous. The Municipality commissioned a stormwater management plan for Morris and Russell Lakes<sup>3</sup>. The plan contained recommendations regarding structural and non-structural approaches for stormwater management and implementation strategies for both new and existing development.

- ML-27 Any development agreement application within the Morris-Russell Lake secondary plan area shall adhere to the recommendations of the Morris Lake Stormwater Management Plan (Jacques Whitford, 2004). All government works within the Morris Lake Watershed shall also adhere to the recommendations of this plan and, where feasible, the plan recommendations shall be applied to existing development within the watershed.
- ML-28 Within the Morris Lake Watershed, as illustrated on Map 9M, where applications are received for the expansion of existing or new commercial, institutional and multiple unit residential buildings, or for proposed grade alterations on such properties, it shall be the intention of Council to require the developer, where possible, to prepare and implement stormwater remediation measures to improve water quality entering the Morris Lake system.
- ML-29 Where deemed appropriate, the Municipality shall undertake stormwater wetland projects in the waters of Ellenvale Run and at appropriate locations throughout the watershed area. Also, Council shall, through the CDD approval process, negotiate with applicable land owners to establish similar wetland projects at appropriate locations within the watershed.

### Monitoring

The eutrophication process is gradual and takes place over many years. Its progress will be seen in the extension of vegetation in shallow areas and the seasonal occurrence of algae. In the Morris Lake Watershed Study, a Phosphorous Loading Model was used to determine the relationship of the lake phosphorous inputs to trophic status.

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<sup>3</sup> Jacques Whitford Environmental Ltd. & Associates. *Morris Lake Stormwater Management Plan: Final Report to Halifax Regional Municipality*. March 2004.

The Model determined that Morris Lake is currently mesotrophic and is within 10 to 15 percent of the eutrophic boundary. Thus, the amount of land developed within the watershed should be controlled to prevent Morris Lake from reaching a borderline eutrophic state. The actual amount of land that can be developed can only be determined by undertaking a well designed lake monitoring program and adopting a preset maximum permissible limit for total phosphorous. If the results indicate that Total Phosphorus continues to increase, the watershed management plan will have to be revised and development controls strengthened.

**ML-30** A water quality monitoring program shall be undertaken for Morris and Russell Lakes to track the eutrophication process. The program is to be designed and undertaken by qualified persons financed in whole or in part by developers within the secondary plan area. Specifics of the program are to be negotiated under the terms of a development agreement in consultation with the Dartmouth Lakes Advisory Board. The monitoring program shall:

- (a) specify the duration of monitoring for the pre-construction, construction and post-construction phases of development;
- (b) specify the physical and chemical water quality indicators to be measured, the location and frequency of testing and the format of submissions to the Municipality in each phase referenced under clause (a);
- (c) establish eutrophication threshold levels for the lakes which would be used as a basis for reevaluating watershed management controls and future development potential within the area;
- (d) conform with all water quality policies, specifications, protocols and review and approval procedures approved by Regional Council.

**ML-31** Pursuant to policy ML-30, in the event the critical water quality threshold levels for Morris or Russell Lakes are reached, it shall be the intention of Council to immediately undertake a review of existing plan policies contained herein and determine an appropriate course of action respecting watershed management and future land use development in the area. Critical water quality thresholds shall be made available to the public.

**ML-32** It shall be the intention of Council to undertake a study of habitats and species within the Morris-Russell Lake area.



### Maintaining Water Levels on Morris Lake

The water level of Morris Lake should be maintained at a level sufficient for recreational use and to prevent development of excessive shoreline vegetation. In the near future, two possible events may take place that could negatively impact upon water levels on Morris Lake. The first is the decommissioning of Lamont and Topsail Lakes as a source of water supply and secondly, a change in the amount of water extracted from the lake by Imperial Oil.

Presently, Imperial Oil extracts water from Morris Lake to use in its refinery, in the amount of 3.27 billion liters per year which is 20% of its total surplus of water. In the future, Imperial Oil could either increase the amount of water extracted from the lake or the plant could close and no water would be removed. If Imperial Oil removes too much water, this would promote the development of shoreline vegetation which in turn speeds up the eutrophication process in the shallow parts of the lake. If pumping were stopped, the volume of water entering Cow Bay River on an annual basis would increase by 24%. In combination with the additional flow from Lamont and Topsail Lakes, this represents a significant change in hydrology from current conditions and has long term implications for the lake level, at the outlet and Cow Bay River. The impact of these changes are not clearly understood at present. Therefore, a study should be undertaken to determine the types of impacts the above scenarios may have on Morris Lake and Cow Bay River.

**ML-33** It shall be the intention of Council, in association with Imperial Oil Limited and the Provincial Department of the Environment, to undertake a study to determine the impacts of potential changes in the volume of water extracted from Morris Lake (increase or cessation) by Imperial Oil Limited on lake water quality and the impact on the hydrology of the lake and its inflow and outflow systems.

**ML-34** It shall be the intention of Council to monitor the water level of Morris Lake to maintain it at a level sufficient for recreational use and to prevent further eutrophication of the lake.

**ML-35 It shall be the intention of Council to retain all lands in the sub-watershed of Lamont and Topsail Lakes as a conservation area in perpetuity.**

THIS IS TO CERTIFY that the by-law of which this is a true copy was duly passed at a duly called meeting of the Halifax Regional Council of Halifax Regional Municipality held on the \_\_th day of \_\_\_ A.D. 2005.

GIVEN under the hand of the Acting Municipal Clerk and under the corporate seal of the said Municipality this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 2005.

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Jan Gibson  
Municipal Clerk

**A BY-LAW TO AMEND THE LAND USE  
BY-LAW FOR DARTMOUTH (Case 00586)**

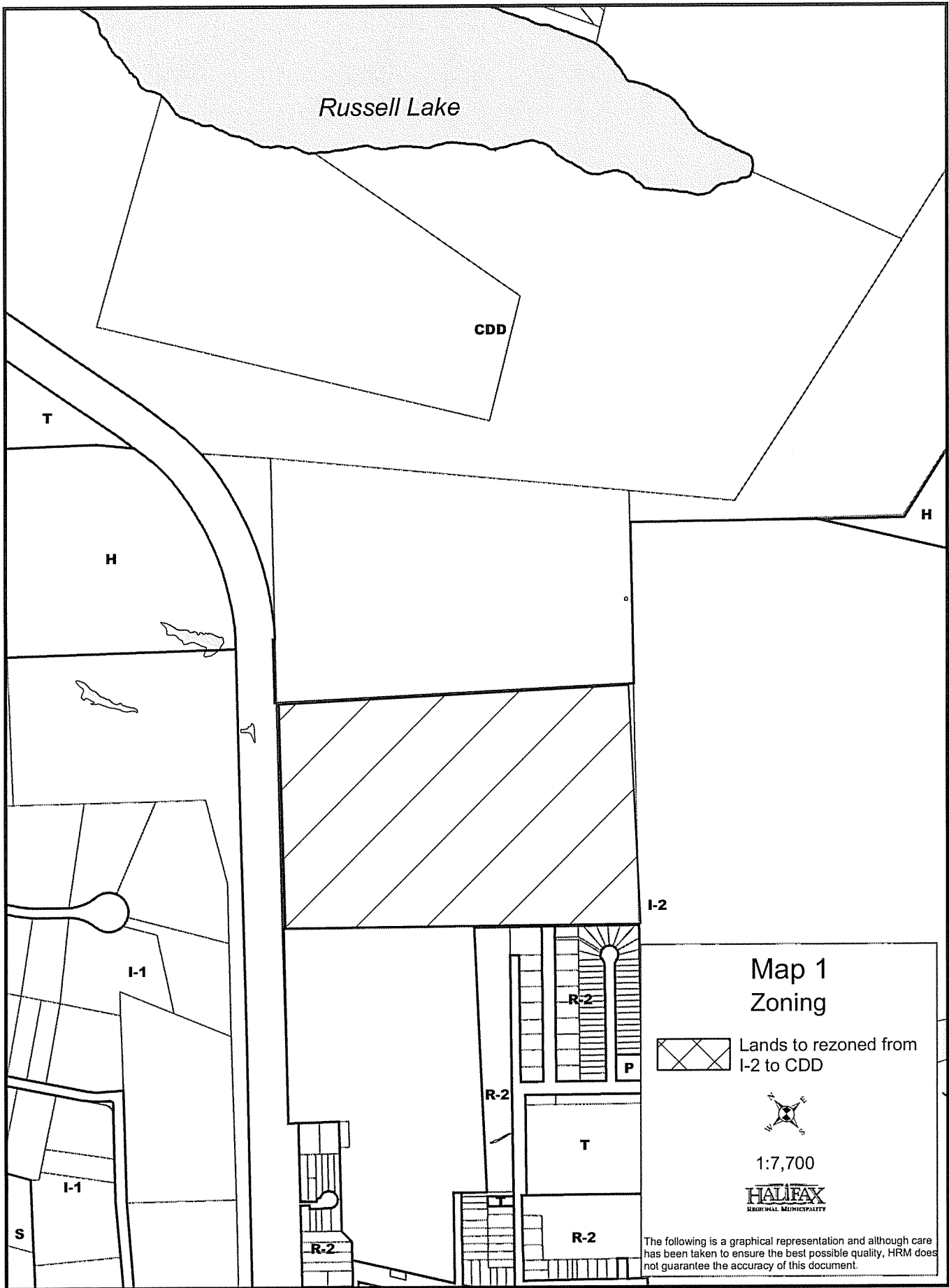
The Land Use By-law for Dartmouth is hereby amended by:

1. rezoning the lands illustrated on map 1 from I-2 (General Industrial) to CDD (Comprehensive Development District) Zone on Schedule "S" of the Land Use By-law and on the Dartmouth Zoning Map.
2. Adding the following clause to Section 1 of Part 47 (Holding Zone):  
  
**(c) All equipment, structures and buildings associated with extracting water from Morris Lake in association with an existing oil refinery operation.**
3. Adding the following clause to Section (a) of Part 53A (Comprehensive Development District) Zone:  
  
**(iii) All equipment, structures and buildings associated with extracting water from Morris Lake in association with an existing oil refinery operation.**

THIS IS TO CERTIFY that the by-law of which this is a true copy was duly passed at a duly called meeting of the Halifax Regional Council of Halifax Regional Municipality held on the \_\_\_th day of \_\_\_ A.D. 2005.

GIVEN under the hand of the Acting Municipal Clerk and under the corporate seal of the said Municipality this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 2005.

\_\_\_\_\_  
Jan Gibson  
Municipal Clerk



**A BY-LAW TO AMEND THE MUNICIPAL PLANNING  
STRATEGY FOR COLE HARBOUR/WESTPHAL (Case 00586)**

The Municipal Planning Strategy for Cole Harbour/Westphal is hereby amended by replacing the subsection entitled “Morris-Russell Lake Area” under Section III with the following:

**MORRIS-RUSSELL LAKE SECONDARY PLANNING STRATEGY**

**In 1997, Council retained Griffiths Muecke Associates to conduct a Watershed Management Study for Morris Lake. The purpose of the study was to establish a management framework by which to guide future development within the Morris Lake Watershed. The study focussed on determining the existing trophic status of Morris Lake as well as establishing criteria to control phosphorous and sediments from entering the lake and watershed. Although the terms of reference for the study focuses on Morris Lake, many of the recommendations refer to Russell Lake as well because water quality in Morris Lake is intimately linked to the nature of development activities in the Russell Lake sub-watershed. Therefore, recommendations should be considered applicable to the extended watershed that includes both lakes.**

**The study indicates that Morris Lake, while still in a relatively “healthy” condition, is in danger of becoming eutrophic if development in the watershed proceeds in an environmentally insensitive manner. To prevent Morris Lake from becoming eutrophic, the Morris Lake Watershed Management Plan recommended that a Master Plan be prepared for this area to ensure development occurs in an environmentally sensitive and comprehensive manner. The Master Plan was to address the key issues and constraints to future development within the area such as transportation, municipal services, land use, major recreation lands and linkages, potential school locations, environmental constraints and opportunities and so on.**

**To develop a Master Plan for the Morris-Russell Lake secondary plan area, property owners, local area residents, the Dartmouth Lakes Advisory Board, and the general public worked together and a public participation committee was established to coordinate and develop the Master Plan. This Committee or a Sub-Committee thereof, would also be responsible for the evaluation of the detailed CDD approval process.**

**To ensure development within the Morris-Russell Lake secondary plan area occurs in an environmentally sensitive and comprehensively planned manner, the Morris Lake Watershed Management Plan recommendations should be applied to all undeveloped lands within the area. To prevent the area from developing in an ad-hoc, uncoordinated**

**fashion, a comprehensive development district (CDD) zone will be applied to all undeveloped lands within the Morris Lake watershed and to lands abutting the Highway 111 interchange, acquired by Clayton Developments Limited from Irving Oil Limited, where a new interchange is proposed.**

**ML-1 A Comprehensive Development District (CDD) Zone shall be applied to certain undeveloped lands within the Morris-Russell Lake secondary plan area and to a parcel of land abutting Highway 111, illustrated on Map 4, to ensure development proceeds in a comprehensive manner and to enable implementation of the Morris Lake Watershed Management policies.**

**Within the Cole Harbour/Westphal plan area, only the Native Reserve on Caldwell Road has unserviced development potential within the Morris Lake Watershed. However, Native Reserves are not required to adhere to municipal land use requirements, but Council should encourage the Reserve to adhere to the Morris Lake Watershed Study recommendations in order to protect Morris Lake.**

**ML-2 It shall be the intention of Council to encourage the Native Reserve on Caldwell Road to consider all policies relevant to the protection of Morris Lake for any new development or re-development plans on the Reserve within the Morris Lake Watershed.**

#### **FUTURE DEVELOPMENT WITHIN THE MORRIS-RUSSELL LAKE AREA**

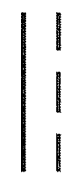
**Most of the undeveloped parcels of land within the Morris-Russell secondary plan area could not be immediately developed given existing constraints in various infrastructure systems (transportation system, water distribution system, sanitary sewer system).**

**Through the Master Development Plan process, existing infrastructure deficiencies were investigated and alternatives proposed. Transportation, environmental protection, land use, and central services (sewer and water) were key issues to be addressed.**

#### **Transportation**

**To address existing and future transportation issues within the Morris-Russell Lake secondary plan area, the Master Development Plan process first identified the existing transportation issues/concerns and secondly, determined alternatives/solutions to improving the overall transportation network in the Morris-Russell Lake secondary plan area.**

Plan  
 Morris - Russell Lake Secondary  
 Morris Lake Watershed Boundary



Map 4



Morris-Russell Lake Secondary Plan

July 8, 1998 Last Update: December 9, 2004

F:\planmaps\Darlington\Schedule\_9M.dwg (DB)

Without improvements to the area transportation network, Portland Street was at or near capacity. To allow for further development around Morris and Russell Lakes either Portland Street needed to be upgraded or modified to handle the additional traffic or alternative routes to the Circumferential Highway were required.

A Traffic Impact Study, conducted by Streetwise Traffic Engineering, for Clayton Developments Limited lands on the east side of Morris Lake concluded that “there are limited opportunities to increase capacity on Portland Street without a major impact on abutting residential and commercial development”. Therefore, the long term development of these lands required alternative routes to Highway No. 111. The study recommended that a new interchange on Highway No. 111 (Circumferential) be established which is supported by Dartmouth’s Municipal Planning Strategy.

In 2002, the Municipality identified the Highway 111 interchange as the highest priority for transportation infrastructure financing under the Canada-Nova Scotia Infrastructure Program. Funding was subsequently approved and a functional design study for the interchange undertaken<sup>1</sup>. The Province stipulated the interchange location to allow for access to both the Morris-Russell Lake lands and the Woodside Industrial Park via an extension of the Mount Hope Avenue (referenced in this document as “the Caldwell Road Connector”).

The study envisioned that, initially, the interchange would provide access from Highway 111 to Woodside Industrial Park and lands between the highway and Russell Lake by an extension of Baker Drive. Over the longer term, the Caldwell Road Connector would be extended eastward over portions of the Department of National Defense Shearwater Base to Caldwell Road, thereby providing an alternative access to Highway 111 for residential subdivisions around Caldwell Road, as well as residents of Eastern Passage.

A diamond interchange was deemed the most economic design for the Municipality but the consultant established estimates of the maximum traffic loading which could be accommodated while maintaining a satisfactory service level. The consultant stated that the number of vehicles using the interchange could be reduced substantially from typical expectations by including transportation demand reduction measures such as mixed land use developments, improved transit services and walking or bicycle trips.

**ML-3 No development shall be permitted within the Morris-Russell Lake secondary plan area unless a new interchange is constructed on Highway 111 and Baker Drive is**

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<sup>1</sup>Atlantic Road & Traffic Management. *Final Report: Highway 111 - Cole Harbour Arterial Access Options Study*. July 2004. Prepared for Halifax Regional Municipality.



# RUSSELL LAKE / MORRIS LAKE

MAP 5 : FUTURE LAND USE AND TRANSPORTATION PLAN

Scale: NTS  
February, 2005



- SINGLE FAMILY
- SEMI / TOWNHOUSE
- MULTIPLE / TOWNHOUSE
- CDD RESIDENTIAL MIX
- CDD (Holding)
- HRM PARKLAND/PRIVATE OPEN SPACE
- ACTIVE HRM PARKLAND
- COMMUNITY COMMERCIAL
- GENERAL COMMERCIAL / HIGH DENSITY RESIDENTIAL
- EXISTING COMMERCIAL
- INSTITUTIONAL
- LAKEFRONT PROTECTION ZONE
- INDUSTRIAL LANDS
- WETLANDS
- ENVIRONMENTALLY SENSITIVE
- CALDWELL ROAD CONNECTOR
- NEW INTERCHANGE

connected to the interchange or financing for these projects secured and a time frame for completion established. Over the longer term, the Municipality shall work with property owners to extend the Caldwell Road Connector from the new interchange to Caldwell Road. The locations of the interchange, Baker Drive extension and the Caldwell Road Connector shall be as generally shown on Map 5 Future Land Use and Transportation Plan.

**ML-4** The Municipality shall prepare a public transit routing plan for the secondary plan area which reflects the connection established between Baker Drive and the new interchange. The Municipality may require transit related facilities, such as bus bays and transit shelters, be provided on transit routes as a condition of development approvals. In accordance with the draft regional plan, the transit plan should consider establishing a transit hub in the vicinity of Baker Drive and the connector road proposed between Baker Drive and Portland Estatic Boulevard West in consultation with the property owners.

**ML-5** A series of trails for pedestrians and cyclists shall be established within the secondary plan area which link residents with commercial, employment and other activity centers and to public transit facilities and, where feasible, to regional trail systems which are developed or planned. Without limiting the foregoing, the Municipality shall establish a multi-use trail between the secondary plan area and the Woodside Ferry Terminal.

During the course of preparing the master plan, concerns were heard from area residents about excessive traffic levels on Portland Street and Caldwell Road, as well as short-cutting on local streets. In response, a road hierarchy and phasing plan has been developed and commitments made to undertake various studies.

**ML-6** The following road classification shall be applied within the secondary plan area:

**Arterials:** Caldwell Road Connector (Hwy. 111 interchange to Caldwell Road)

**Major**

**Collectors:** Caldwell Road from Atholea Drive to Caldwell Road Connector

**Minor**

**Collectors:** Caldwell Road from Atholea Drive to Portland Street/Cole Harbour Road

**ML-7** No street connection shall be established between Caldwell Road and the Portland Hills subdivision.

**ML-8** Upon satisfying the requirements to allow for development stipulated under policy ML-2, development shall be permitted on parcels 1 to 13 (as shown on Map 5) except that no road connection shall be established with Portland Estates Boulevard West until the Caldwell Road Connector has been constructed to Caldwell Road. No further development shall be permitted within the Morris - Russell Lake Secondary Plan Area until the Caldwell Road Connector has been constructed to Caldwell Road unless a traffic study has been undertaken by a qualified consultant which demonstrates that the level of service on Portland Street and Caldwell Road conforms with the performance criteria established under the Municipality's Guidelines for Preparation of Traffic Impact Studies and the road classification established under policy ML-6.

#### **Central Services (Sewer & Water)**

Many of the undeveloped parcels of land within the Morris-Russell Lake area are situated within a municipal servicing boundary, where development can only occur based upon central sewer and water services. The Morris Lake Watershed Management Study recommends that future development within the Morris-Russell Lake area should not proceed by on-site septic systems due to the potential negative impact such systems can have on the lakes. Thus, all new development within the area should be connected to central services (water & sewer).

**ML-9** Within the Morris-Russell Lake secondary plan area, it shall be the intention of Council not to consider any new development on lands zoned CDD unless serviced with both central sewer and water services. It shall be the intention of Council to include all undeveloped lands within the Morris-Russell Lake secondary plan area within a municipal development (service) boundary. Council shall also negotiate with the Native Reserve on native reserve on Caldwell Road to require unserviced lands of the Reserve be included within a municipal development (service) boundary.

Within the Morris-Russell Lake area, there are constraints in the existing sewer and water infrastructure systems, yet these deficiencies do not affect all of the undeveloped lands in the same manner. The Municipality is currently preparing a wastewater management plan for the Eastern Passage Wastewater Treatment Plant Sewershed. Upon completion of this study and upgrades to the treatment plant, the Municipality should undertake a review of the sanitary sewer service boundary established for this sewershed, particularly in the vicinity of Caldwell Road.

In addition, the Water Commission has indicated that water can be provided to the existing serviceable areas at this time, but not to the entire Morris-Russell Lake area due to pressure levels and water line capacities. Thus, development should not proceed until the necessary upgrades are identified and completed.

The Municipality has undertaken an Integrated Servicing Strategy which identified servicing deficiencies, including central water and sewer services. The Strategy has also identified upgrades or modifications needed in the long term to develop the undeveloped lands within the Morris-Russell Lake secondary plan area. Until such new systems, upgrades or modifications are complete (water distribution system and sanitary sewer system) development within the area should be restricted.

- ML-10** It shall be the intention of Council to restrict development on lands zoned CDD within the Morris - Russell Lake secondary plan area until all infrastructure deficiencies (i.e. water and sewer) are resolved and development can proceed without exceeding the capacity of municipal infrastructure.
- ML-11** The Municipality shall prepare and implement a wastewater management plan for the sewersheds that contain Morris and Russell Lakes. Subject to the availability of funding, the plan shall:
- (a) improve wastewater system operation and management including safety, regulatory compliance, system capacity both existing and future, physical condition, system reliability and optimization;
  - (b) address specific issues of wastewater treatment plant capacity both existing and future, wet weather overflows, odour control, inflow/infiltration remediation, back up power systems, optimizing system performance and making maximum use of available capacity;
  - (c) include a prioritized list of actions for implementation, having particular regard for health and safety concerns;
  - (d) consider the above recommendations within the context of existing standards, procedures, regulations and compliance requirements, projects, initiatives and priorities, including the regional plan.
- ML-12** Commencing on May 25, 2000, new development which is to be served by the Caldwell Road water distribution system shall be limited to two hundred (200) new building lots until system upgrades to the Innishowen Subdivision have been completed. If upgrades are not completed by May 1, 2005, no further

development served by the Caldwell Road water distribution system shall be permitted until the system upgrades have been completed.

- ML-13** Upon completion of a wastewater management plan for the Eastern Passage Wastewater Treatment Plant Sewershed and upgrades to the treatment plant, the Municipality shall undertake a review of the sanitary sewer service boundary established for this plant.

### Infrastructure Charges

Following provincial adoption of legislation which allows for the impositions of infrastructure charges to recoup the costs of oversized infrastructure, the Municipality adopted a capital cost contribution policy. The policy applies to all new major areas in the Municipality proposed for new development and shall apply to lands within this secondary plan area.

- ML-14** The Municipality shall implement infrastructure charges to this secondary plan area under the Subdivision By-law in accordance with the policies for infrastructure charges established under Section II of this Municipal Planning Strategy.

### Future Land Uses

- ML-15** The Future Land Use and Transportation Plan, presented as Map 5 shall provide overall guidance for land use allocation within this secondary plan area and the following guidelines shall be adhered to in any development agreement application:
- (a) **Parcels 18, MLE-1 and MLE-2:** These parcels may be developed with a mixture of residential uses. Consideration is to be given to the steep grades over these lands when siting roads and development;
  - (b) **Parcel 23:** This parcel is owned by Kiwanis Club and is being developed for various recreational uses. A community centre is also proposed. The R-1 zone will be applied to this property which permits open space uses. Due to various site constraints, development of a community centre may only be considered by development agreement. Consideration will be given to the adequacy of central sewer and water services, potential for flooding, and the safety of driveway access;

- (c) **Parcel 24:** A number of existing single unit dwellings are located on these lands. The R-1 (Single Unit Dwelling) Zone shall continue to be applied to reflect these uses. No provisions for alternative uses shall be made; and
- (d) **Parcel 25:** This property is owned by the First Nations Millbrook Band which is not subject to municipal regulations. In preparing any future development plans for these lands, the Municipality will encourage the Band to take into consideration the surrounding environment as envisioned by this secondary planning strategy. The CDD (Comprehensive Development District) Zone shall be applied to these lands.

### Density

**ML-16** A maximum density of eight residential units per acre shall be applied to the following aggregated parcels:

- (a) Parcel 25; and
- (b) Parcels MLE1, MLE2 and 18.

**ML-17** Incentives may be introduced in support of affordable housing. Without limiting the generality of this statement, bonus densities might be considered for properties on transit routes and near employment centres provided that such incentive is voluntary and does not result in excessive concentration of housing or housing types in any area.

### Parkland and Open Space

Lands are to be acquired for trail development, particularly along lake shores and watercourses. Lake shore buffer areas will be sought throughout the secondary plan area with emphasis placed on securing public ownership. The Municipality shall also encourage developers to assist in the development of active recreation parks by undertaking site preparation and installation of recreation equipment. In exchange, the normal land dedication requirements may be reduced.

**ML-18** The Municipality shall acquire lands for public trails with emphasis on locations adjacent to lakes and watercourses. The following specific criterion shall be applied to any development agreement application:

- (a) no more than 50 percent of the lakeshore within each development agreement application shall be privately owned;

- (b) where private lakefront ownership is proposed, adequate alternative pedestrian links are provided from the publically-owned lake front buffer area through a street or walkway system and back to the lakefront;
- (c) the determination of private versus public lake front ownership shall be negotiated through each development agreement application on a case-by-case basis;
- (d) stormwater treatment facilities may be located on municipal lands but shall not be located on municipal parkland;
- (e) lands which face severe topographical constraints or contain severe environmental characteristics may be considered for public parkland dedication in accordance with municipal parkland guidelines.

### **ENVIRONMENTAL PROTECTION MECHANISMS**

As development occurs within the Morris-Russell Lake secondary plan area, all new development must adhere to specific environmental protection measures if both Morris and Russell Lakes are to be protected. The Morris Lake Watershed Management Plan made a number of recommendations on a management framework by which to guide future development within the area. To ensure the recommendations are implemented, all new development must adhere to the following requirements.

#### **Design and Development Controls**

The design adopted for a subdivision fundamentally affects the hydrology of the site and the quality of the stormwater. Good environmental planning integrates site design and stormwater quality management into one process<sup>2</sup>. If environmentally responsible watershed policies are not supported by environmentally responsible design at a subdivision and site level, the whole endeavor may ultimately fail. The Morris Lake Watershed Management Plan recommends that all development adhere to environmental standards designed specifically to protect Morris Lake and its watershed.

**ML-19** It shall be the intention of Council to encourage all new development within the Morris-Russell Lake secondary plan area to meet certain basic design objectives as follows:

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<sup>2</sup> *Stormwater Management Practices Planning and Design Manual*, Ontario Ministry of Environment and Energy, 1994

- (a) to reproduce the pre-development hydrological conditions;
- (b) confine development and construction activities to the least critical areas of the site and consider clustered development to minimize land disturbance;
- (c) maintain the overall desired density of development by allocating higher densities to areas most suitable for development;
- (d) minimize changes to the existing topography; and
- (e) preserve and utilize the natural drainage system.

**ML-20** It shall be the intention of Council to require all new development situated on lands zoned CDD within the Morris-Russell Lake secondary plan area to incorporate specific design standards which maximize the protection of water quality in Morris and Russell Lakes. The following shall be used as guidelines:

- (a) all lands with slopes of 15% or greater should not be developed unless additional environmental control measures are implemented to minimize the amount of erosion generated from the site;
- (b) all wetlands (as defined by the presence of characteristic wetland vegetation) should be excluded from development;
- (c) all shorelines should be protected by a 100 foot buffer zone except that the width of the buffer zone may be decreased to 75 feet if, through detailed study, the topography and vegetation conditions warrant the reduction. Within the buffer zone, no vegetation or soil shall be removed or altered unless under a management plan has been approved to provide for restoration of vegetation, shoreline access paths, view corridors, habitat management, safety and welfare or shoreline recreation where such provisions may be made without adversely affecting the primary purpose of preserving water quality in the lake. Any study or management plan submitted pursuant to this clause shall be prepared by a person qualified to make the required determinations and an approval procedure shall be established under the terms of a development agreement;
- (d) all wetlands and watercourses should be protected with a buffer strip within which no vegetation or soil should be removed or altered unless approved under a management plan approved pursuant to the provisions of clause (c). For wetlands, the buffer strip should be at least 25 feet in width for wetlands less than 0.5 acres in size and 50 feet for wetlands over 0.5 acres. All streams shall have a minimum 50 foot buffer strip on each side;



- (e) the amount of impermeable surfaces created should not exceed 25% of the gross area of the proposed development. Minor increases in this figure may be considered provided the amount of proposed undisturbed land substantially exceeds the guideline described in clause (f) and such undisturbed lands are incorporated into the final drainage plan;
- (f) a minimum of 25% of the natural vegetation on the site should be retained in an undisturbed state and incorporated into the final drainage plan;
- (g) the public, landowners, developers and the Municipality are encouraged to maximize phosphorous reduction to the fullest extent possible through the use of best management practices as recommended by the Morris Lake Stormwater Management Plan (Jacques Whitford, 2004); and
- (h) no development shall be permitted on septic systems.

Erosion and sedimentation control is a critical element in good site design. In order to control the adverse effects of sediment (and attached phosphorus), it will be essential to strictly control erosion. This means that development will have to be designed and implemented with erosion minimization as a primary criterion.

**ML-21** Within the Morris-Russell Lake secondary plan area, it shall be the intention of Council to require all developers to prepare and receive Municipal approval for an Erosion and Sediment Minimization Plan prior to any clearing or grubbing occurring on a site, and the plan shall contain the following:

- (a) how ground disturbance will be restricted to areas where structures, roads etc. will exist when construction is complete;
- (b) indicate which vegetation will be protected, marked, and preserved through construction techniques that minimize soil compaction and damage to tree roots;
- (c) how the construction project will be phased to minimize the extent and length of soil exposure – this includes phasing by drainage area;
- (d) how the opportunity for erosion will be limited through sequencing of construction activities; and

- (e) indicate which erosion and sediment controls will be used, where they will be located, the timing of installation (before construction begins), the inclusion of drainage controls up-slope of the construction site; inspection and monitoring, and timing of removal (after the entire site has been stabilized).

### **Public Awareness and Education Programs**

If the recommendations contained within the Morris Lake Watershed Management Study are to be successfully implemented there needs to be active involvement of both individual land owners and the general public. The involvement of the public should not just be limited to the residents of Morris-Russell Lake area but to existing developed areas within the entire Morris Lake Watershed, such as the existing development throughout Woodlawn, Inishowen and lands abutting Caldwell Road.

**ML-22** It shall be the intention of Council to establish a Public Awareness and Education program for the general public which emphasizes the protection of Morris and Russell Lakes. The programs should at least incorporate the following:

- (a) information programs for land owners on buffer zone management and the use of fertilizers;
- (b) a program for local schools;
- (c) application of an Animal Defecation By-law throughout the entire watershed area and actively enforce it;
- (d) encourage local property owners to hold “Cleanup” days for litter collection in public areas; and
- (e) establish a stormwater wetland as an educational demonstration site on the importance of protecting lakes.

### **Stormwater Management**

As the Morris-Russell Lake area is developed, there will be a need for stormwater to be controlled to remove sediments and phosphorous. The Municipality commissioned a stormwater management plan for Morris and Russell Lakes<sup>3</sup>. The plan contained

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<sup>3</sup> Jacques Whitford Environmental Ltd. & Associates. *Morris Lake Stormwater Management Plan: Final Report to Halifax Regional Municipality*. March 2004.

recommendations regarding structural and non-structural approaches for stormwater management and implementation strategies for both new and existing development.

**ML-23** Any development agreement application within the Morris-Russell Lake secondary plan area shall adhere to the recommendations of the Morris Lake Stormwater Management Plan (Jacques Whitford, 2004). All government works within the Morris Lake Watershed shall also adhere to the recommendations of this plan and, where feasible, the plan recommendations shall be applied to existing development within the watershed.

**ML-24** Within the Morris Lake Watershed, as illustrated on Map 4, where applications are received for the expansion of existing or new commercial, institutional and multiple unit residential buildings, or for proposed grade alterations on such properties, it shall be the intention of Council to require the developer, where possible, to prepare and implement stormwater remediation measures to improve water quality entering the Morris Lake system.

**ML-25** Where deemed appropriate, the Municipality shall undertake stormwater wetland projects in the waters of Ellenvale Run and at appropriate locations throughout the watershed area. Also, Council shall, through the CDD approval process, negotiate with applicable land owners to establish similar wetland projects at appropriate locations within the watershed.

**ML-26** It shall be the intention of Council to undertake a review of the drainage channel that crosses the Native Reserve on Caldwell Road and in consultation with the Band Council, investigate and implement measures to provide stormwater detention and cleanup and investigate the opportunities to improve the cattail marsh that has developed at the shoreline.

### Monitoring

The eutrophication process is gradual and takes place over many years. Its progress will be seen in the extension of vegetation in shallow areas and the seasonal occurrence of algae. In the Morris Lake Watershed Study, a Phosphorous Loading Model was used to determine the relationship of the lake phosphorous inputs to trophic status.

The Model determined that Morris Lake is currently mesotrophic and is within 10 to 15 percent of the eutrophic boundary. Thus, the amount of land developed within the watershed should be controlled to prevent Morris Lake from reaching a borderline eutrophic state. The actual amount of land that can be developed can only be determined by undertaking a well designed lake monitoring program and adopting a preset maximum

permissible limit for total phosphorous. If the results indicate that Total Phosphorus continues to increase, the watershed management plan will have to be revised and development controls strengthened.

**ML-27** A water quality monitoring program shall be undertaken for Morris and Russell Lakes to track the eutrophication process. The program is to be designed and undertaken by qualified persons financed in whole or in part by developers within the secondary plan area. Specifics of the program are to be negotiated under the terms of a development agreement in consultation with the Dartmouth Lakes Advisory Board. The monitoring program shall:

- (a) specify the duration of monitoring for the pre-construction, construction and post-construction phases of development;
- (b) specify the physical and chemical water quality indicators to be measured, the location and frequency of testing and the format of submissions to the Municipality in each phase referenced under clause (a);
- (c) establish eutrophication threshold levels for the lakes which would be used as a basis for reevaluating watershed management controls and future development potential within the area;
- (d) conform with all water quality policies, specifications, protocols and review and approval procedures approved by Regional Council.

**ML-28** Pursuant to policy ML-27, in the event the critical water quality threshold levels for Morris or Russell Lakes are reached, it shall be the intention of Council to immediately undertake a review of existing plan policies contained herein and determine an appropriate course of action respecting watershed management and future land use development in the area. Critical water quality thresholds shall be made available to the public.

**ML-29** It shall be the intention of Council to undertake a study of habitats and species within the Morris-Russell Lake area.

#### Maintaining Water Levels on Morris Lake

The water level of Morris Lake should be maintained at a level sufficient for recreational use and to prevent development of excessive shoreline vegetation. In the near future, two possible events may take place that could negatively impact upon water levels on Morris Lake. The first is the decommissioning of Lamont and Topsail Lakes as a source of water

supply and secondly, a change in the amount of water extracted from the lake by Imperial Oil.

Presently, Imperial Oil extracts water from Morris Lake to use in its refinery, in the amount of 3.27 billion liters per year which is 20% of its total surplus of water. In the future, Imperial Oil could either increase the amount of water extracted from the lake or the plant could close and no water would be removed. If Imperial Oil removes too much water, this would promote the development of shoreline vegetation which in turn speeds up the eutrophication process in the shallow parts of the lake. If pumping were stopped, the volume of water entering Cow Bay River on an annual basis would increase by 24%. In combination with the additional flow from Lamont and Topsail Lakes, this represents a significant change in hydrology from current conditions and has long term implications for the lake level, at the outlet and Cow Bay River. The impact of these changes are not clearly understood at present. Therefore, a study should be undertaken to determine the types of impacts the above scenarios may have on Morris Lake and Cow Bay River.

The impact of these changes are not clearly understood at present but there are implications for the culvert at Caldwell Road, the Kiwanis Park, and flood-prone areas along Cow Bay River. Until engineering studies have been completed on the impact of such changes any proposed building in potential flood prone areas, including the Kiwanis property at the lake outlet should be carefully examined. In the case of the Kiwanis property, the owners have been advised that the water level for Morris Lake may rise in the future and they are investigating measures to minimize the impact of such a change within their development.

**ML-30** It shall be the intention of Council, in association with Imperial Oil Limited and the Provincial Department of the Environment, to undertake a study to determine the impacts of potential changes in the volume of water extracted from Morris Lake (increase or cessation) by Imperial Oil Limited on lake water quality and the impact on the hydrology of the lake and its inflow and outflow systems.

**ML-31** Pursuant to Policy ML-30, until such time as the results of the study are determined, any proposed building construction on the Kiwanis property (LIMS#40110181) and other flood prone areas downstream, should incorporate floodproofing measures to minimize the potential impacts of a higher water level for Morris Lake.

**ML-32** It shall be the intention of Council to monitor the water level of Morris Lake to maintain it at a level sufficient for recreational use and to prevent further eutrophication of the lake.”

THIS IS TO CERTIFY that the by-law of which this is a true copy was duly passed at a duly called meeting of the Halifax Regional Council of Halifax Regional Municipality held on the \_\_th day of \_\_\_\_ A.D. 2005.

GIVEN under the hand of the Acting Municipal Clerk and under the corporate seal of the said Municipality this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 2005.

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Jan Gibson  
Municipal Clerk

**A BY-LAW TO AMEND THE LAND USE  
BY-LAW FOR COLE HARBOUR/WESTPHAL (Case 00586)**

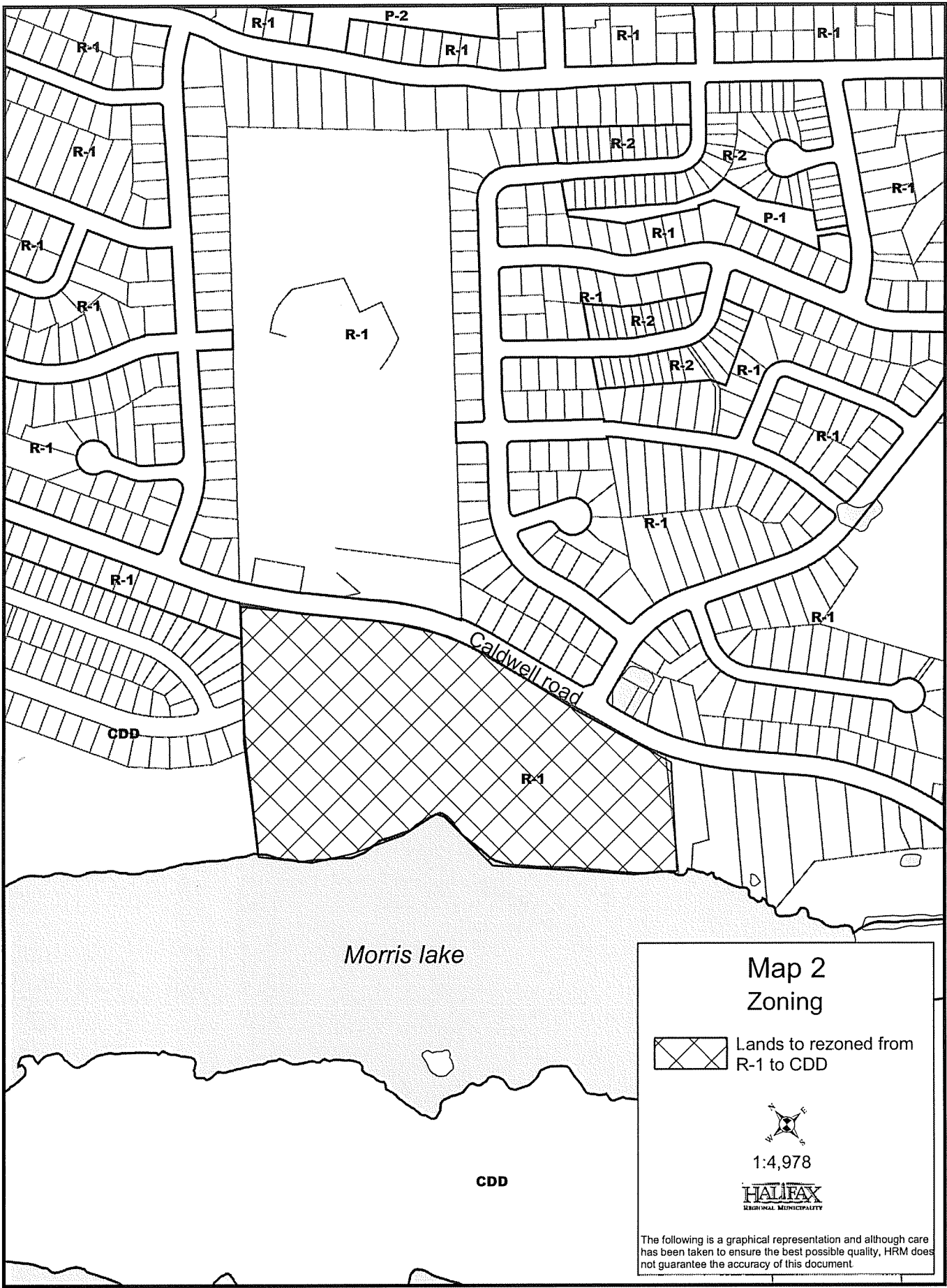
The Land Use By-law for Cole Harbour/Westphal is hereby amended by rezoning certain lands illustrated on Map 2 from R-1 (Single Unit Dwelling) Zone to CDD (Comprehensive Development District) Zone.

THIS IS TO CERTIFY that the by-law of which this is a true copy was duly passed at a duly called meeting of the Halifax Regional Council of Halifax Regional Municipality held on the \_\_th day of \_\_\_\_ A.D. 2005.


GIVEN under the hand of the Acting Municipal Clerk and under the corporate seal of the said Municipality this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 2005.

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Jan Gibson  
Municipal Clerk



## Map 2 Zoning

 Lands to rezoned from  
R-1 to CDD



1:4,978

**HALIFAX**  
REGIONAL MUNICIPALITY

The following is a graphical representation and although care has been taken to ensure the best possible quality, HRM does not guarantee the accuracy of this document.



**A BY-LAW TO AMEND THE MUNICIPAL PLANNING  
STRATEGY FOR EASTERN PASSAGE/COW BAY (Case 00586)**

The Municipal Planning Strategy for Eastern Passage/Cow Bay is hereby amended by replacing the subsection entitled "Morris-Russell Lake Area" under Section III with the following:

**MORRIS-RUSSELL LAKE SECONDARY PLANNING STRATEGY**

**In 1997, Council retained Griffiths Muecke Associates to conduct a Watershed Management Study for Morris Lake. The purpose of the study was to establish a management framework by which to guide future development within the Morris Lake Watershed. The study focussed on determining the existing trophic status of Morris Lake as well as establishing criteria to control phosphorous and sediments from entering the lake and watershed. Although the terms of reference for the study focuses on Morris Lake, many of the recommendations refer to Russell Lake as well because water quality in Morris Lake is intimately linked to the nature of development activities in the Russell Lake sub-watershed. Therefore, recommendations should be considered applicable to the extended watershed that includes both lakes.**

**The study indicates that Morris Lake, while still in a relatively "healthy" condition, is in danger of becoming eutrophic if development in the watershed proceeds in an environmentally insensitive manner. To prevent Morris Lake from becoming eutrophic, the Morris Lake Watershed Management Plan recommended that a Master Plan be prepared for this area to ensure development occurs in an environmentally sensitive and comprehensive manner. The Master Plan was to address the key issues and constraints to future development within the area such as transportation, municipal services, land use, major recreation lands and linkages, potential school locations, environmental constraints and opportunities and so on.**

**To develop a Master Plan for the Morris-Russell Lake secondary plan area, property owners, local area residents, the Dartmouth Lakes Advisory Board, and the general public worked together and a public participation committee was established to coordinate and develop the Master Plan. This Committee or a Sub-Committee thereof, would also be responsible for the evaluation of the detailed CDD approval process.**

**To ensure development within the Morris-Russell Lake secondary plan area occurs in an environmentally sensitive and comprehensively planned manner, the Morris Lake Watershed Management Plan recommendations should be applied to all undeveloped lands within the area. To prevent the area from developing in an ad-hoc, uncoordinated fashion, a comprehensive development district (CDD) zone will be applied to all**

undeveloped lands within the Morris Lake watershed and to lands abutting the Highway 111 interchange, acquired by Clayton Developments Limited from Irving Oil Limited, where a new interchange is proposed.

**ML-1 A Comprehensive Development District (CDD) Zone shall be applied to certain undeveloped lands within the Morris-Russell Lake secondary plan area and to a parcel of land abutting Highway 111, illustrated on Map 5, to ensure development proceeds in a comprehensive manner and to enable implementation of the Morris Lake Watershed Management policies.**

### **FUTURE DEVELOPMENT WITHIN THE MORRIS-RUSSELL LAKE AREA**

Most of the undeveloped parcels of land within the Morris-Russell area could not be immediately developed given existing constraints in various infrastructure systems (transportation system, water distribution system, sanitary sewer system).

Through the Master Development Plan process, existing infrastructure deficiencies were investigated and alternatives proposed. Transportation, environmental protection, land use, and central services (sewer and water) were key issues to be addressed.

#### **Transportation**

To address existing and future transportation issues within the Morris-Russell Lake area, the Master Development Plan process first identified the existing transportation issues/concerns and secondly, determined alternatives/solutions to improving the overall transportation network in the Morris-Russell Lake area.

Without improvements to the area transportation network, Portland Street was at or near capacity. To allow for further development around Morris and Russell Lakes either Portland Street needed to be upgraded or modified to handle the additional traffic or alternative routes to the Circumferential Highway were required.

A Traffic Impact Study, conducted by Streetwise Traffic Engineering, for Clayton Developments Limited lands on the east side of Morris Lake concluded that “there are limited opportunities to increase capacity on Portland Street without a major impact on abutting residential and commercial development”. Therefore, the long term development of these lands required alternative routes to Highway No. 111. The study recommended that a new interchange on Highway No. 111 (Circumferential) be established which is supported by Dartmouth’s Municipal Planning Strategy. Policy T-6 supports the identification and protection of a right-of-way for an interchange off the Circumferential connecting it with the Russell Lake area.

Plan  
 Secondary Watershed Boundary



Map 5



Morris-Russell Lake Secondary Plan

In 2002, the Municipality identified the Highway 111 interchange as the highest priority for transportation infrastructure financing under the Canada-Nova Scotia Infrastructure Program. Funding was subsequently approved and a functional design study for the interchange undertaken<sup>1</sup>. The Province stipulated the interchange location to allow for access to both the Morris-Russell Lake lands and the Woodside Industrial Park via an extension of the Mount Hope Avenue (referenced in this document as “the Caldwell Road Connector”).

The study envisioned that, initially, the interchange would provide access from Highway 111 to Woodside Industrial Park and lands between the highway and Russell Lake by an extension of Baker Drive. Over the longer term, the Caldwell Road Connector would be extended eastward over portions of the Department of National Defense Shearwater Base to Caldwell Road, thereby providing an alternative access to Highway 111 for residential subdivisions around Caldwell Road, as well as residents of Eastern Passage.

A diamond interchange was deemed the most economic design for the Municipality but the consultant established estimates of the maximum traffic loading which could be accommodated while maintaining a satisfactory service level. The consultant stated that the number of vehicles using the interchange could be reduced substantially from typical expectations by including transportation demand reduction measures such as mixed land use developments, improved transit services and walking or bicycle trips.

**ML-2** No development shall be permitted within the Morris-Russell Lake secondary plan area unless a new interchange is constructed on Highway 111 and Baker Drive is connected to the interchange or financing for these projects secured and a time frame for completion established. Over the longer term, the Municipality shall work with property owners to extend the Caldwell Road Connector from the new interchange to Caldwell Road. The locations of the interchange, Baker Drive extension and the Caldwell Road Connector shall be as generally shown on Map 6: Future Land Use and Transportation Plan.

**ML-3** The Municipality shall prepare a public transit routing plan for the secondary plan area which reflects the connection established between Baker Drive and the new interchange. The Municipality may require transit related facilities, such as bus bays and transit shelters, be provided on transit routes as a condition of development approvals. In accordance with the draft regional plan, the transit plan should consider establishing a transit hub in the vicinity of Baker Drive and the connector road proposed between Baker Drive and Portland Estatic Boulevard West in consultation with the property owners.

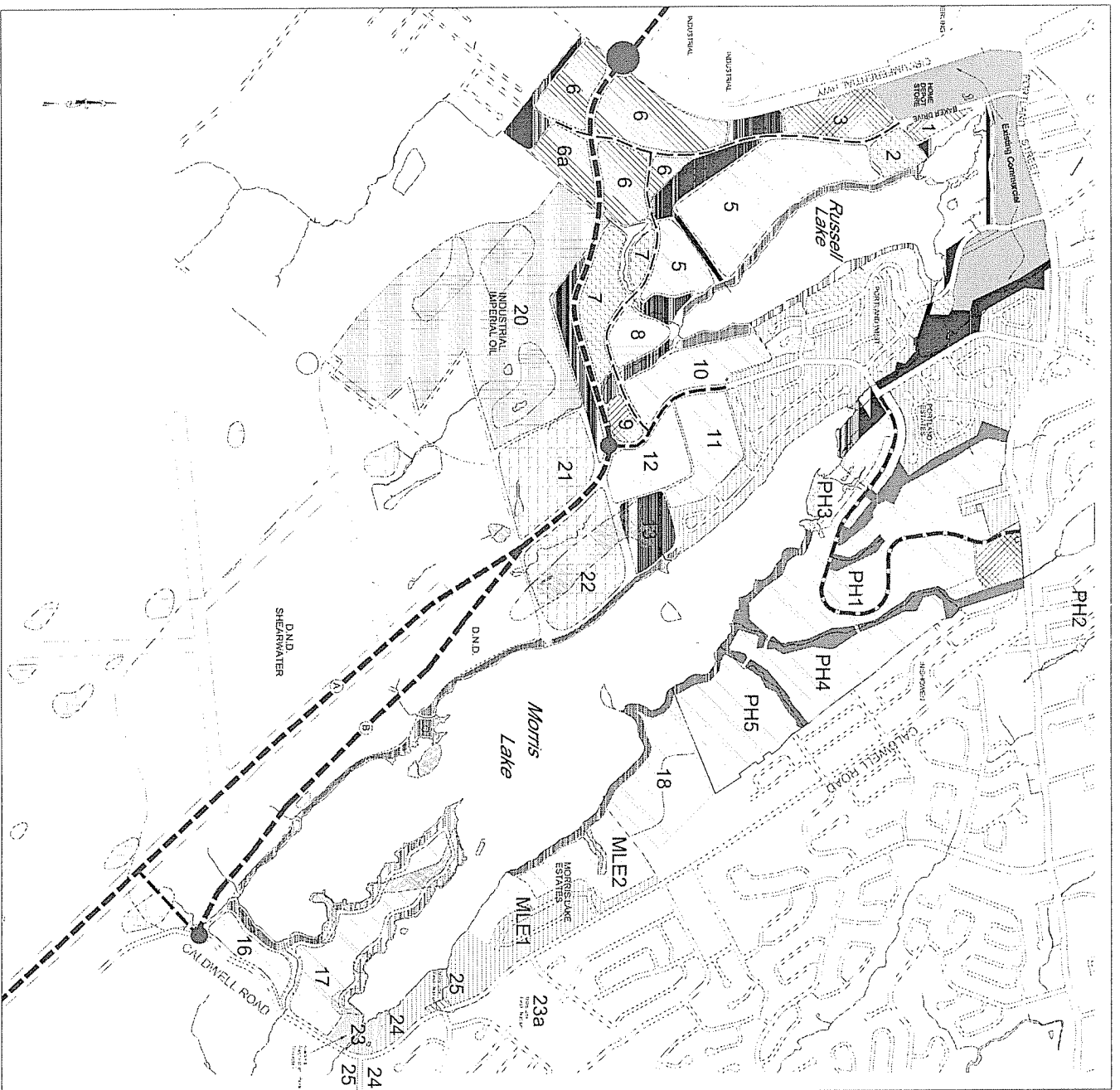
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<sup>1</sup>Atlantic Road & Traffic Management. *Final Report: Highway 111 - Cole Harbour Arterial Access Options Study*. July 2004. Prepared for Halifax Regional Municipality.

# RUSSELL LAKE / MORRIS LAKE

MAP 6 : FUTURE LAND USE AND TRANSPORTATION PLAN

Scale: NTS  
February, 2005



- SINGLE FAMILY
- SEMI / TOWNHOUSE
- MULTIPLE / TOWNHOUSE
- CDD RESIDENTIAL MIX
- CDD (Holding)
- HRM PARKLAND/PRIVATE OPEN SPACE
- ACTIVE HRM PARKLAND
- COMMUNITY COMMERCIAL
- GENERAL COMMERCIAL / HIGH DENSITY RESIDENTIAL
- EXISTING COMMERCIAL
- INSTITUTIONAL
- LAKEFRONT PROTECTION ZONE
- INDUSTRIAL LANDS
- WETLANDS
- ENVIRONMENTALLY SENSITIVE
- CALDWELL ROAD CONNECTOR
- NEW INTERCHANGE

**ML-4** A series of trails for pedestrians and cyclists shall be established within the secondary plan area which link residents with commercial, employment and other activity centers and to public transit facilities and, where feasible, to regional trail systems which are developed or planned. Without limiting the foregoing, the Municipality shall establish a multi-use trail between the secondary plan area and the Woodside Ferry Terminal.

During the course of preparing the master plan, concerns were heard from area residents about excessive traffic levels on Portland Street and Caldwell Road, as well as short-cutting on local streets. In response, a road hierarchy and phasing plan has been developed and commitments made to undertake various studies.

**ML-5** The following road classification shall be applied within the secondary plan area:

**Arterials:** Caldwell Road Connector (Hwy. 111 interchange to Caldwell Road)

**Major**

**Collectors:** Atholea Drive to Caldwell Road Connector

**ML-6** Upon satisfying the requirements to allow for development stipulated under policy ML-2, development shall be permitted on parcels 1 to 13 (as shown on Map 6) except that no road connection shall be established with Portland Estates Boulevard West until the Caldwell Road Connector has been constructed to Caldwell Road. No further development shall be permitted within the Morris - Russell Lake Secondary Plan Area until the Caldwell Road Connector has been constructed to Caldwell Road unless a traffic study has been undertaken by a qualified consultant which demonstrates that the level of service on Portland Street and Caldwell Road conforms with the performance criteria established under the Municipality's Guidelines for Preparation of Traffic Impact Studies and the road classification established under policy ML-5.

#### Central Services (Sewer & Water)

Many of the undeveloped parcels of land within the Morris-Russell Lake area are situated within a municipal servicing boundary, where development can only occur based upon central sewer and water services. The Morris Lake Watershed Management Study recommends that future development within the Morris-Russell Lake area should not proceed by on-site septic systems due to the potential negative impact such systems can have on the lakes. Thus, all new development within the area should be connected to central services (water & sewer).

**ML-7** Within the Morris-Russell Lake secondary plan area, it shall be the intention of Council not to consider any new development on lands zoned CDD unless serviced with both central sewer and water services. It shall be the intention of Council to include all undeveloped lands within the Morris-Russell Lake secondary plan area within a municipal development (service) boundary.

Within the Morris-Russell Lake area, there are constraints in the existing sewer and water infrastructure systems, yet these deficiencies do not affect all of the undeveloped lands in the same manner. The undeveloped lands on the west side of Morris Lake and the lands adjacent to Russell Lake, are situated within the existing Dartmouth Development Boundary. Lands on the east side of Morris Lake have been included within the Dartmouth Plan Area and Development Boundary as development of these lands can proceed by means of gravity flow to the Dartmouth sanitary sewer system.

The Municipality is currently preparing a wastewater management plan for the Eastern Passage Wastewater Treatment Plant Sewershed. Upon completion of this study and upgrades to the treatment plant, the Municipality should undertake a review of the sanitary sewer service boundary established for this sewershed, particularly in the vicinity of Caldwell Road.

In addition, the Water Commission has indicated that water can be provided to the existing serviceable areas at this time, but not to the entire Morris-Russell Lake area due to pressure levels and water line capacities. Thus, development should not proceed until the necessary upgrades are identified and completed.

The Municipality has undertaken an Integrated Servicing Strategy which identified servicing deficiencies, including central water and sewer services. The Strategy has also identified upgrades or modifications needed in the long term to develop the undeveloped lands within the Morris-Russell Lake secondary plan area. Until such new systems, upgrades or modifications are complete (water distribution system and sanitary sewer system) development within the area should be restricted.

**ML-8** It shall be the intention of Council to restrict development on lands zoned CDD within the Morris - Russell Lake secondary plan area (shown on Map 9M) until all infrastructure deficiencies (i.e. water and sewer) are resolved and development can proceed without exceeding the capacity of municipal infrastructure.

**ML-9** The Municipality shall prepare and implement a wastewater management plan for the sewersheds that contain Morris and Russell Lakes. Subject to the availability of funding, the plan shall:

- (a) improve wastewater system operation and management including safety, regulatory compliance, system capacity both existing and future, physical condition, system reliability and optimization;
- (b) address specific issues of wastewater treatment plant capacity both existing and future, wet weather overflows, odour control, inflow/infiltration remediation, back up power systems, optimizing system performance and making maximum use of available capacity;
- (c) include a prioritized list of actions for implementation, having particular regard for health and safety concerns;
- (d) consider the above recommendations within the context of existing standards, procedures, regulations and compliance requirements, projects, initiatives and priorities, including the regional plan.

**ML-10** Commencing on May 25, 2000, new development which is to be served by the Caldwell Road water distribution system shall be limited to two hundred (200) new building lots until system upgrades to the Innishowen Subdivision have been completed. If upgrades are not completed by May 1, 2005, no further development served by the Caldwell Road water distribution system shall be permitted until system upgrades have been completed.

**ML-11** Upon completion of a wastewater management plan for the Eastern Passage Wastewater Treatment Plant Sewershed and upgrades to the treatment plant, the Municipality shall undertake a review of the sanitary sewer service boundary established for this plant.

### Infrastructure Charges

Following provincial adoption of legislation which allows for the impositions of infrastructure charges to recoup the costs of oversized infrastructure, the Municipality adopted a capital cost contribution policy. The policy applies to all new major areas in the Municipality proposed for new development and shall apply to lands within this secondary plan area.

**ML-12** The Municipality shall implement infrastructure charges to this secondary plan area under the Subdivision By-law in accordance with the policies for infrastructure charges established under the infrastructure charges subsection of section II of this Municipal Planning Strategy.



### Future Land Uses

- ML-13** The Future Land Use and Transportation Plan, presented as Map 6, shall provide overall guidance for land use allocation within this secondary plan area and the following guidelines shall be adhered to in any development agreement application:
- (a) **Parcels 16 and 17:** Development of these parcels will be restricted to single unit dwellings on central sewer and water services due to the environmental sensitivity of these lands;
  - (b) **Parcel 23:** This parcel is owned by Kiwanis Club and is being developed for various recreational uses. A community centre is also proposed. The R-1 zone will be applied to this property which permits open space uses. Due to various site constraints, development of a community centre may only be considered by development agreement. Consideration will be given to the adequacy of central sewer and water services, potential for flooding, and the safety of driveway access.

### Density

- ML-14** A density limitation of eight units per acre shall be applied to parcels 16 and 17.
- ML-15** Incentives may be introduced in support of affordable housing. Without limiting the generality of this statement, bonus densities might be considered for properties on transit routes and near employment centres provided that such incentive is voluntary and does not result in excessive concentration of housing or housing types in any area.

### Parkland and Open Space

Lands are to be acquired for trail development, particularly along lake shores and watercourses. Lake shore buffer areas will be sought throughout the secondary plan area with emphasis placed on securing public ownership. The Municipality shall also encourage developers to assist in the development of active recreation parks by undertaking site preparation and installation of recreation equipment. In exchange, the normal land dedication requirements may be reduced.

- ML-16** The Municipality shall acquire lands for public trails with emphasis on locations adjacent to lakes and watercourses. The following specific criterion shall be applied to any development agreement application:

- (a) no more than 50 percent of the lakeshore within each development agreement application shall be privately owned;
- (b) where private lakefront ownership is proposed, adequate alternative pedestrian links are provided from the publically-owned lake front buffer area through a street or walkway system and back to the lakefront;
- (c) the determination of private versus public lake front ownership shall be negotiated through each development agreement application on a case-by-case basis;
- (d) stormwater treatment facilities may be located on municipal lands but shall not be located on municipal parkland;
- (e) lands which face severe topographical constraints or contain severe environmental characteristics may be considered for public parkland dedication in accordance with municipal parkland guidelines.

### **ENVIRONMENTAL PROTECTION MECHANISMS**

As development occurs within the Morris-Russell Lake secondary plan area, all new development must adhere to specific environmental protection measures if both Morris and Russell Lakes are to be protected. The Morris Lake Watershed Management Plan made a number of recommendations on a management framework by which to guide future development within the area. To ensure the recommendations are implemented, all new development must adhere to the following requirements.

#### **Design and Development Controls**

The design adopted for a subdivision fundamentally affects the hydrology of the site and the quality of the stormwater. Good environmental planning integrates site design and stormwater quality management into one process<sup>2</sup>. If environmentally responsible watershed policies are not supported by environmentally responsible design at a subdivision and site level, the whole endeavor may ultimately fail. The Morris Lake Watershed Management Plan recommends that all development adhere to environmental standards designed specifically to protect Morris Lake and its watershed.

**ML-17** It shall be the intention of Council to encourage all new development within the Morris-Russell Lake secondary plan area to meet certain basic design objectives as follows:

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<sup>2</sup> *Stormwater Management Practices Planning and Design Manual*, Ontario Ministry of Environment and Energy, 1994

- (a) to reproduce the pre-development hydrological conditions;
- (b) confine development and construction activities to the least critical areas of the site and consider clustered development to minimize land disturbance;
- (c) maintain the overall desired density of development by allocating higher densities to areas most suitable for development;
- (d) minimize changes to the existing topography; and
- (e) preserve and utilize the natural drainage system.

**ML-18** It shall be the intention of Council to require all new development situated on lands zoned CDD within the Morris-Russell Lake secondary plan area to incorporate specific design standards which maximize the protection of water quality in Morris and Russell Lakes. The following shall be used as guidelines:

- (a) all lands with slopes of 15% or greater should not be developed unless additional environmental control measures are implemented to minimize the amount of erosion generated from the site;
- (b) all wetlands (as defined by the presence of characteristic wetland vegetation) should be excluded from development;
- (c) all shorelines should be protected by a 100 foot buffer zone except that the width of the buffer zone may be decreased to 75 feet if, through detailed study, the topography and vegetation conditions warrant the reduction. Within the buffer zone, no vegetation or soil shall be removed or altered unless under a management plan has been approved to provide for restoration of vegetation, shoreline access paths, view corridors, habitat management, safety and welfare or shoreline recreation where such provisions may be made without adversely affecting the primary purpose of preserving water quality in the lake. Any study or management plan submitted pursuant to this clause shall be prepared by a person qualified to make the required determinations and an approval procedure shall be established under the terms of a development agreement;
- (d) all wetlands and watercourses should be protected with a buffer strip within which no vegetation or soil should be removed or altered unless approved under a management plan approved pursuant to the provisions of clause (c). For wetlands, the buffer strip should be at least 25 feet in width for wetlands less than 0.5 acres in size and 50 feet for wetlands over 0.5 acres. All streams shall have a minimum 50 foot buffer strip on each side;

- (e) the amount of impermeable surfaces created should not exceed 25% of the gross area of the proposed development. Minor increases in this figure may be considered provided the amount of proposed undisturbed land substantially exceeds the guideline described in section ML-11(f) and such undisturbed lands are incorporated into the final drainage plan;
- (f) a minimum of 25% of the natural vegetation on the site should be retained in an undisturbed state and incorporated into the final drainage plan;
- (g) the public, landowners, developers and the Municipality are encouraged to maximize phosphorous reduction to the fullest extent possible through the use of best management practices as recommended by the Morris Lake Stormwater Management Plan (Jacques Whitford, 2004); and
- (h) no development shall be permitted on septic systems.

Erosion and sedimentation control is a critical element in good site design. In order to control the adverse effects of sediment (and attached phosphorus), it will be essential to strictly control erosion. This means that development will have to be designed and implemented with erosion minimization as a primary criterion.

**ML-19** Within the Morris-Russell Lake secondary plan area, it shall be the intention of Council to require all developers to prepare and receive Municipal approval for an Erosion and Sediment Minimization Plan prior to any clearing or grubbing occurring on a site, and the plan shall contain the following:

- (a) how ground disturbance will be restricted to areas where structures, roads etc. will exist when construction is complete;
- (b) indicate which vegetation will be protected, marked, and preserved through construction techniques that minimize soil compaction and damage to tree roots;
- (c) how the construction project will be phased to minimize the extent and length of soil exposure – this includes phasing by drainage area;
- (d) how the opportunity for erosion will be limited through sequencing of construction activities; and
- (e) indicate which erosion and sediment controls will be used, where they will be located, the timing of installation (before construction begins), the inclusion of

**drainage controls up-slope of the construction site; inspection and monitoring, and timing of removal (after the entire site has been stabilized).**

### **Public Awareness and Education Programs**

**If the recommendations contained within the Morris Lake Watershed Management Study are to be successfully implemented there needs to be active involvement of both individual land owners and the general public. The involvement of the public should not just be limited to the residents of Morris-Russell Lake area but to existing developed areas within the entire Morris Lake Watershed, such as the existing development throughout Woodlawn.**

**ML-20 It shall be the intention of Council to establish a Public Awareness and Education program for the general public which emphasizes the protection of Morris and Russell Lakes. The programs should at least incorporate the following:**

- (a) information programs for land owners on buffer zone management and the use of fertilizers;**
- (b) a program for local schools;**
- (c) application of an Animal Defecation By-law throughout the entire watershed area and actively enforce it;**
- (d) encourage local property owners to hold “Cleanup” days for litter collection in public areas; and**
- (e) establish a stormwater wetland as an educational demonstration site on the importance of protecting lakes.**

### **Stormwater Management**

**As the Morris-Russell Lake area is developed, there will be a need for stormwater to be controlled to remove sediments and phosphorous. The Municipality commissioned a stormwater management plan for Morris and Russell Lakes<sup>3</sup>. The plan contained recommendations regarding structural and non-structural approaches for stormwater management and implementation strategies for both new and existing development.**

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<sup>3</sup> Jacques Whitford Environmental Ltd. & Associates. *Morris Lake Stormwater Management Plan: Final Report to Halifax Regional Municipality*. March 2004.

- ML-21** Any development agreement application within the Morris-Russell Lake secondary plan area shall adhere to the recommendations of the Morris Lake Stormwater Management Plan (Jacques Whitford, 2004). All government works within the Morris Lake Watershed shall also adhere to the recommendations of this plan and, where feasible, the plan recommendations shall be applied to existing development within the watershed.
- ML-22** Within the Morris Lake Watershed, as illustrated on Map 6, where applications are received for the expansion of existing or new commercial, institutional and multiple unit residential buildings, or for proposed grade alterations on such properties, it shall be the intention of Council to require the developer, where possible, to prepare and implement stormwater remediation measures to improve water quality entering the Morris Lake system.

Recently, the Department of National Defense (DND) has been assessing its future land needs for CFB Shearwater. If portions of Shearwater are considered surplus, the redevelopment of those lands adjacent to Morris Lake will impact upon the lake. The lands adjacent to Morris Lake are relatively flat and drain into the lake. Re-development of these

lands should only be permitted in accordance with the Morris Lake Watershed Study recommendations. However, DND is not required to adhere to municipal requirements on their own land, but Council should encourage DND to adhere to the Morris Lake Watershed Study recommendations in order to protect Morris Lake.

In addition, alternative ways to limit the impact of development on Morris Lake should be investigated. Some alternatives are to alter the grade of the land on portions of Shearwater lands so surface water flows towards Halifax Harbour, establish engineered wetlands to enhanced stormwater treatment, and lower stormwater manholes to a point that water can flow towards the Harbour. A study should be under taken to determine the feasibility and the environmental impact of changing the direction of surface water towards Halifax Harbour.

- ML-23** It shall be the intention of Council to encourage the Department of National Defense, or subsequent land owners, to consider all policies relevant to the protection of Morris Lake for any re-development plan for lands of CFB Shearwater within the Morris Lake Watershed.
- ML-24** Further to Policy ML-23, it shall be the intention of Council to request DND, and any subsequent land owners of CFB Shearwater, to investigate and implement alternative methods for stormwater management on those lands that presently drain to Morris Lake. Such investigation should include the re-directing of surface

runoff to the Halifax Harbour watershed and the construction of engineered wetlands to improve the quality of stormwater entering the lakes.

Within the Morris Lake Watershed, there are two contaminated sites on CFB Shearwater that drain into Morris Lake. One site was formerly used as a landfill, adjacent to MacDonald Lake and the other site is an old underground fuel tank site. At present, there is no evidence that indicates either site is contaminating Morris Lake. Prior to these lands being re-developed, both sites must be remediated to prevent any future environmental concerns.

**ML-25** It shall be the intention of Council to limit the re-development of surplus lands on CFB Shearwater until all contaminated sites within the Morris-Russell Lake sub-watershed are properly remediated.

### Monitoring

The eutrophication process is gradual and takes place over many years. Its progress will be seen in the extension of vegetation in shallow areas and the seasonal occurrence of algae. In the Morris Lake Watershed Study, a Phosphorous Loading Model was used to determine the relationship of the lake phosphorous inputs to trophic status.

The Model determined that Morris Lake is currently mesotrophic and is within 10 to 15 percent of the eutrophic boundary. Thus, the amount of land developed within the watershed should be controlled to prevent Morris Lake from reaching a borderline eutrophic state. The actual amount of land that can be developed can only be determined by undertaking a well designed lake monitoring program and adopting a preset maximum permissible limit for total phosphorous. If the results indicate that Total Phosphorus continues to increase, the watershed management plan will have to be revised and development controls strengthened.

**ML-26** A water quality monitoring program shall be undertaken for Morris and Russell Lakes to track the eutrophication process. The program is to be designed and undertaken by qualified persons financed in whole or in part by developers within the secondary plan area. Specifics of the program are to be negotiated under the terms of a development agreement in consultation with the Dartmouth Lakes Advisory Board. The monitoring program shall:

- (a) specify the duration of monitoring for the pre-construction, construction and post-construction phases of development;

- (b) specify the physical and chemical water quality indicators to be measured, the location and frequency of testing and the format of submissions to the Municipality in each phase referenced under clause (a);
- (c) establish eutrophication threshold levels for the lakes which would be used as a basis for reevaluating watershed management controls and future development potential within the area;
- (d) conform with all water quality policies, specifications, protocols and review and approval procedures approved by Regional Council.

**ML-27** Pursuant to policy ML-26, in the event the critical water quality threshold levels for Morris or Russell Lakes are reached, it shall be the intention of Council to immediately undertake a review of existing plan policies contained herein and determine an appropriate course of action respecting watershed management and future land use development in the area. Critical water quality thresholds shall be made available to the public.

**ML-28** It shall be the intention of Council to undertake a study of habitats and species within the Morris-Russell Lake area.

#### Maintaining Water Levels on Morris Lake

The water level of Morris Lake should be maintained at a level sufficient for recreational use and to prevent development of excessive shoreline vegetation. In the near future, two possible events may take place that could negatively impact upon water levels on Morris Lake. The first is the decommissioning of Lamont and Topsail Lakes as a source of water supply and secondly, a change in the amount of water extracted from the lake by Imperial Oil.

Presently, Imperial Oil extracts water from Morris Lake to use in its refinery, in the amount of 3.27 billion liters per year which is 20% of its total surplus of water. In the future, Imperial Oil could either increase the amount of water extracted from the lake or the plant could close and no water would be removed. If Imperial Oil removes too much water, this would promote the development of shoreline vegetation which in turn speeds up the eutrophication process in the shallow parts of the lake. If pumping were stopped, the volume of water entering Cow Bay River on an annual basis would increase by 24%. In combination with the additional flow from Lamont and Topsail Lakes, this represents a significant change in hydrology from current conditions and has long term implications for the lake level, at the outlet and Cow Bay River. The impact of these changes are not clearly understood at present. Therefore, a study should be undertaken to determine the types of impacts the above scenarios may have on Morris Lake and Cow Bay River.



**The impact of these changes are not clearly understood at present but there are implications for the culvert at Caldwell Road, the Kiwanis Park, and flood-prone areas along Cow Bay River. Until engineering studies have been completed on the impact of such changes, any proposed building in potential flood prone areas, including the Kiwanis property at the lake outlet, should be carefully examined. In the case of the Kiwanis property, the owners have been advised that the water level for Morris Lake may rise in the future and they are investigating measures to minimize the impact of such a change within their development.**

**ML-29 It shall be the intention of Council, in association with Imperial Oil Limited and the Provincial Department of the Environment, to undertake a study to determine the impacts of potential changes in the volume of water extracted from Morris Lake (increase or cessation) by Imperial Oil Limited on lake water quality and the impact on the hydrology of the lake and its inflow and outflow systems.**

**ML-30 Pursuant to Policy ML-29, until such time as the results of the study are determined, any proposed building construction on the Kiwanis property (LIMS#40110181) and other flood prone areas downstream, should incorporate floodproofing measures to minimize the potential impacts of a higher water level for Morris Lake.**

**ML-31 It shall be the intention of Council to monitor the water level of Morris Lake to maintain it at a level sufficient for recreational use and to prevent further eutrophication of the lake.**

THIS IS TO CERTIFY that the by-law of which this is a true copy was duly passed at a duly called meeting of the Halifax Regional Council of Halifax Regional Municipality held on the \_\_\_th day of \_\_\_ A.D. 2005.

GIVEN under the hand of the Acting Municipal Clerk and under the corporate seal of the said Municipality this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 2005.

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Jan Gibson  
Municipal Clerk