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Halifax Regional Council  
April 2, 2002

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

**SUBMITTED BY:**

  
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Geri Kaiser, Director of Shared Services

  
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Donna Davis, Project Manager- Civic Address Data Project

**DATE:** March 11, 2002

**SUBJECT:** Civic Address Corrections

### INFORMATION REPORT

#### ORIGIN

A project to build an accurate and current civic address database to support the implementation of a new integrated Police & Fire CAD/RMS (Computer Aided Dispatch/ Record Management System) was approved on July 20, 2000. The database was completed on January 31, 2002 and is currently in the process of being deployed.

One of the deliverables of the Civic Address Data Project- Phase I is a report identifying civic address problems in HRM. This report provides a preliminary statistical analysis of the quality of the existing civic addressing system in HRM but does not address priorities in fixing the problems identified.

As part of Phase II of the Civic Address Data Project, staff will be working with the Civic Address Public Safety Committee to prioritize the correction of civic address problems. It is anticipated the recommendations from the Committee will be presented to Regional Council within six to eight months. In the interim, Civic Address Project staff will be proceeding to correct previously identified civic addressing problems (see Attachment A), with top priority being given to resolving the Joseph Howe Drive/ Dutch Village Road issue.

## **BACKGROUND**

In November 1999 a report on the state of civic addressing in HRM was tabled with Regional Council. Staff indicated that the introduction of the E911 Service brought into focus shortcomings in the existing civic address database including community and street names, the signage of communities and streets, and the posting of civic numbers. A review of Nova Scotia's E911 Service, conducted in 1999 by DMR Consulting Group, revealed similar concerns. Emergency service providers and other stakeholders interviewed concluded that some of the weaknesses of the E911 Service were directly related to civic addressing, in particular, poor visibility of numbers, lack of signage standardization, road naming inconsistencies, and problems with community names.

In July 2000, a Civic Address Data project was commenced to build an accurate civic address database to support implementation of a new Fire/ Police Computer Aided Dispatch (CAD) System. From November 27, 2000 to May 30, 2001, the Civic Address Project team field verified civic numbers and street names across the municipality and flagged any problems associated with both. The data was subsequently inputted into a geo-referenced database to form a new corporate wide civic address database. The database was completed on January 31, 2002 and reflects the current state of addressing in the municipality.

Prior to the Civic Address Data Project, the HRM corporate database contained approximately 36,000 civic numbers and 4800 streets. Through the project, over 85,000 numbers and 170 streets were added. The new database contains approximately 121,000 civic numbers and more than 5000 streets.

The Civic Address Data project has enabled the identification and subsequent quantification of civic addressing problems. For the first time, Civic Addressing staff now know the magnitude of the problems which exist within our civic addressing system. The purpose of this report is to provide a high level overview of the type and quantity of the problems which exist.

## DISCUSSION

Analysis of the civic address database has revealed a variety of problems in the current addressing system. This report categorizes the problems as follows:

- A Civic Numbers - Posting and Visibility
- B Civic Numbers - Unknown Civic Numbers
- C Civic Numbers - Errors
- D Street Network - Duplicate Street Names
- E Street Network - Un-named or Unknown Streets/Private Road Names
- F Street Network - Errors
- G Street Network - Street Sign Posting

For the purpose of statistical analysis of the civic address problems, HRM has been divided into standard geographic settlement areas<sup>1</sup>. Although problems have been uncovered in most communities, these areas provide an appropriate level of generalization for HRM. A map illustrating the settlement areas has been included as Attachment B. Work is continuing on analysing address problems by polling district and should be available to Councillors, on request, in the near future.

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<sup>1</sup>Standard Geographic Settlement Areas were first defined in HRM Population and Employment Trends 1971-1996 as follows:

- Urban Core:** peninsular Halifax and the older developed areas of Dartmouth within the Circumferential Highway
- Suburbs:** the built up areas abutting or adjacent to the Urban Core that are serviced by central water and sewer
- Rural-Urban Fringe:** a transitional area impacted by suburban style subdivision development and land uses that serve urban area but cannot locate in urban areas due to space requirements. For these areas some aspects of the formal rural economy and lifestyle remain.
- Rural:** areas with no piped services, not influenced by significant suburban style development, and highly dependent on resource activities.

**A. Civic Numbers - Posting and Visibility**

Analysis of the new database has revealed a multitude of problems relating to the posting of civic numbers and the visibility of those numbers:

- 12,100 properties with no civic number posted, and
- 4,500 properties with civic numbers that are posted but that cannot be seen from the street or have poor visibility.

These numbers suggest there are over 16,000 properties in HRM that emergency services may have difficulty locating. Although the majority of these visibility issues are located in the rural-urban fringe and suburbs (shown in Figure 1 and 2), it is important to note that the urban core has a significant portion of the problems, particularly in terms of posted numbers with poor visibility.

Figure 1: Distribution of Civic Numbers Not Posted

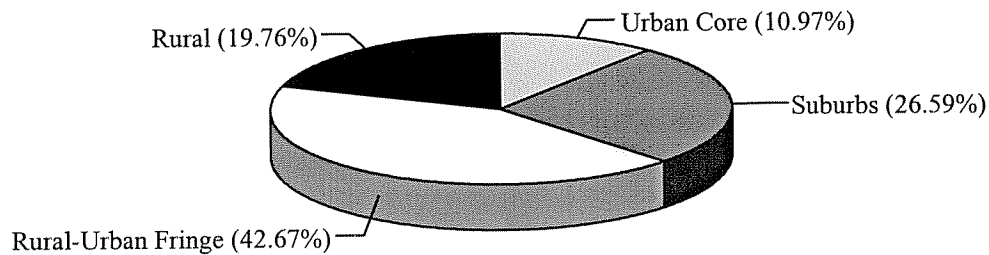
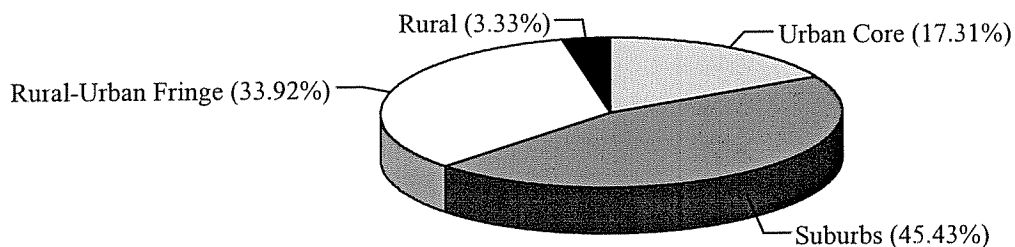


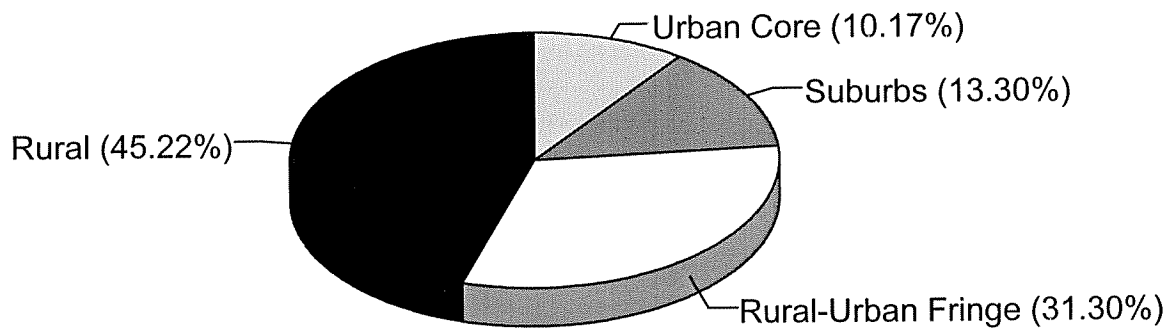
Figure 2: Distribution of Civic Numbers with Poor Visibility



**B. Civic Numbers - Unknown Civic Numbers**

The project has identified approximately 3,900 properties that do not have a civic number in the new database. These unknown civic numbers could impede emergency service providers from locating properties in an emergency situation. The majority of the unknowns are located in the rural area, as shown by Figure 3. Although considerably less prominent, the number of unknown civic numbers in the urban core and the suburbs is still significant.

Figure 3: Distribution of Unknown Civic Numbers



*C. Civic Number - Errors*

There are a number of other problems related to civic numbers that could cause delays to the delivery of emergency services;

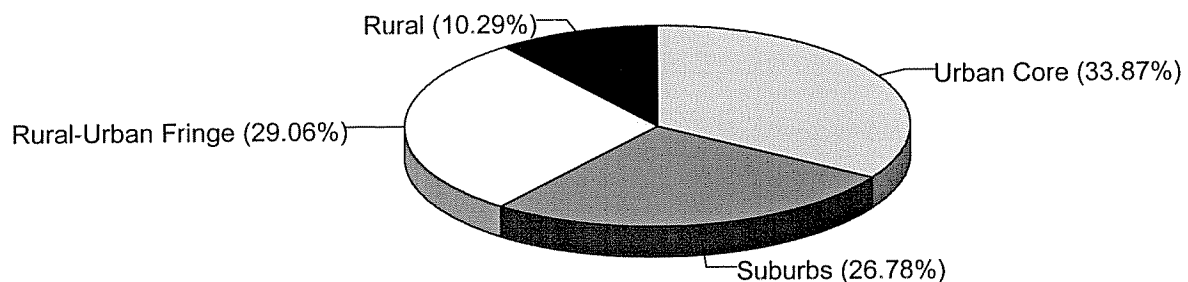
- odd/even errors (i.e. odd and even numbers posted on the same side of a street),
- posted civic numbers out of sequence,
- buildings numbered to one street but accessed off another (i.e. corner lots),
- multi building complexes (i.e universities)
- duplicate numbers on the same street.

These problems are coded in the database according to the nature of the error. There are approximately 8,500 civic numbers with at least one error and the majority relate to:

- building numbered to one street but accessed off another,
- odd/even errors (i.e. odd and even numbers posted on the same side of a street), and
- posted civic numbers out of sequence.

These errors indicate that further investigation is required which may or may not result in a renumbering exercise. It is important to note that although only one number may be problematic, its resolution may affect other civic numbers on the street. The errors appear to be fairly evenly distributed between the urban core, the suburbs and the rural-urban fringe (see Figure 4).

Figure 4: Distribution of Civic Number Errors



#### *D. Street Network - Duplicate Street Names*

Duplicate street names have the potential to cause confusion for emergency responders, particularly where a 911 caller is uncertain or confused as to the name of the community in which they are located. There are two types of duplicate street names:

- exact duplicates where street name and street type are identical (i.e. Church Road and Church Road)
- exact street name matches with different street types (i.e. Maple Drive and Maple Street)

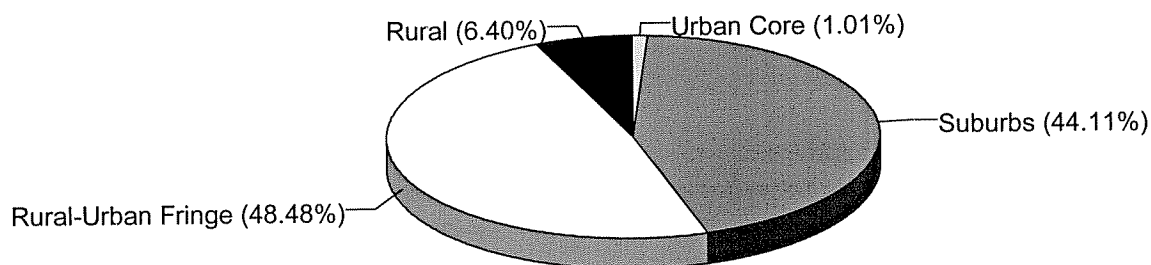
There are approximately 700 streets with exact duplicate names in the database. Some names are used many times throughout HRM. *Government Wharf Road* and *Second Street*, for example, are both found in seven different locations throughout the municipality. Approximately 1800 streets share duplicate names but differing street types. For example the name *River* appears ten times and the name *Jubilee* appears three times.

It is important to note that the duplicate name statistics do not include street names that sound alike but have different spellings (for e.g. Ashley and Ashlea). This is another form of potential problem which may impact emergency response times.

*E. Street Network - Un-named or Unknown Street/Private Road Names*

Although the project uncovered many previously unknown street names, there still remain approximately 300 street names in HRM that are unknown and require resolution. Approximately 100 of the unknown street names are located on Department of National Defence lands. Of the remaining 200 streets, the majority are private driveways/roads that require naming and signing under the Civic Addressing By-law (By-law C-300).<sup>2</sup> The majority of the unknown street names are located in the suburbs and the rural-urban fringe areas and, in many cases are indicative of flag lot development (see Figure 5).

Figure 5: Distribution of Un-named or Unknown Street Names



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<sup>2</sup> By-law C-300 Respecting Civic Addressing

3. (h) "private road" means any street, road or travel way which serves three or more structures or facilities and is not owned by Halifax Regional Municipality or the Province of Nova Scotia



*F. Street Network - Errors*

In addition to the problems associated with duplicate and unknown street names there are other errors in the civic addressing system which may cause delays to the dispatch and delivery of emergency services. The main problems include;

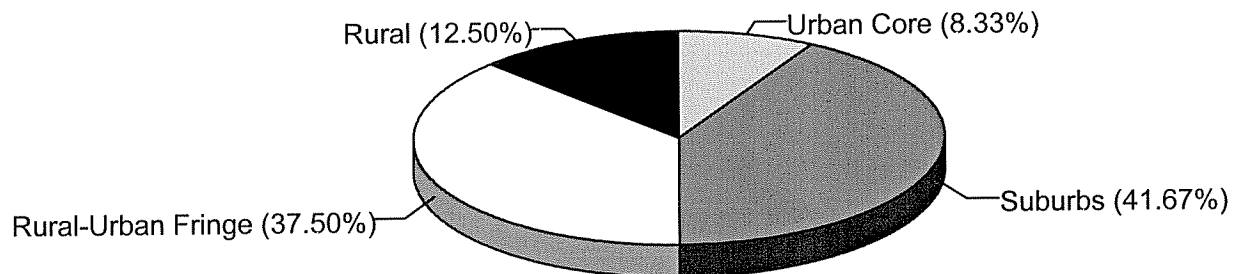
- non intersectional street name changes,
- general numbering problems, and
- interrupted or discontinuous streets.

Non intersectional street name changes include streets that do not change name at an intersection. There are 24 instances where two streets meet in this way (i.e. Joseph Howe Drive and Dutch Village Road).

General numbering problems are errors that are not identified in the civic number database and can affect an entire street or a portion of it. There are 77 streets in HRM that have at least one general numbering problem; the majority of these are in the rural-urban fringe and suburbs.

Interrupted or discontinuous streets are streets that a) have been segmented due to development and are no longer continuous (i.e. Tower Road, Halifax, which is interrupted by the VG Hospital), b) streets that were intended to join but were never completed, or c) streets that are not continuous and have many branches. These situations are not included in the duplicate street name or exact duplicate street name statistics listed in Section D. These streets are fairly evenly distributed between the urban core, suburbs and the rural-urban fringe.

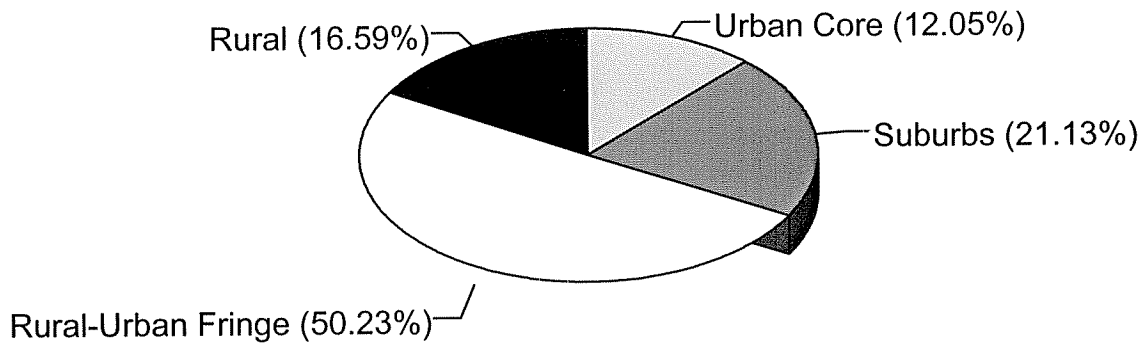
Figure 6: Distribution of Non Intersectional Street Name Changes



*G. Street Network - Street Sign Posting*

The project has identified a total of 5,083 streets in HRM and the location and name on each street sign has been recorded in the database. There are approximately 650 streets without street signs posted. The majority of these are in the rural-urban fringe (Figure 7). To address this issue, Civic Addressing staff will need to coordinate efforts between the HRM and Nova Scotia Department of Transportation and Public Works sign divisions.

Figure 7: Distribution of Street Signs Not Posted



### *Civic Address Data Project Phase II- The Next Step*

The correction of civic address problems has been identified and approved as Phase II of the Civic Address Data Project. There are two components to the 2002/2003 project work plan. One component is the corrections pilot project currently underway in the St. Margaret's Bay area. In 2002, Canada Post are intending to replace rural route postal delivery service with civic address based delivery in the Tantallon Postal Service area (Hubbards to Blind Bay) and are looking to HRM to supply them with the correct civic address data for this area, including community names and boundaries. The pilot project will involve verifying, through public consultation, community names and boundaries as well as correcting street name and civic number issues which are of a public safety concern. It will address the posting of civic address numbers as well as ensuring the assignment of numbers where there is no record of a number being issued.

The second component of the project work plan involves correction of addressing problems previously identified by members of Regional Council (listed in Attachment A), along with the prioritization of other addressing issues requiring remedial action. To complete this component, Civic Addressing staff will work with the Civic Address Public Safety Committee (CAPSC) to prioritize the corrections identified in this report in terms of public safety and develop a detailed multi-year corrections work plan. Once CAPSC has determined which corrections are public safety concerns, a report will be presented to Council identifying, by priority, the problems that require correcting to ensure the efficient and effective delivery of emergency services.

### **BUDGET IMPLICATIONS**

Monies have been approved within the 2002/2003 capital budget to complete one year of correction activity within Phase II of the Civic Address Project. This will enable completion of the corrections pilot project in the St. Margaret's Bay area and correction of numerous high priority corrections elsewhere in the municipality.

Staff are not recommending that compensation be paid for civic address changes required to address public safety concerns. Within the pilot project area, Canada Post will provide mail redirect service for a period of 6 months. A nominal amount for new civic number plates has been included in the Phase II Civic Address Project budget.

### **FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN**

Phase II of the Civic Address Project has multi-year financial implications. The exact magnitude of this impact is not known at present. Staff will be in a better position to provide Regional Council with a projection of the capital commitment required to complete Phase II (i.e. all prioritized corrections) in October/November of 2002 following completion of the St. Margaret's Bay area pilot project. With a more accurate estimate of the total costs, Council then can decide on the time frame over which the balance of the corrections project is to be funded.

ALTERNATIVES

N/A

ATTACHMENTS

Attachment A: Civic Address problems previously identified by Councillors  
Attachment B: Map - Standard Geographic Settlement Areas

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.

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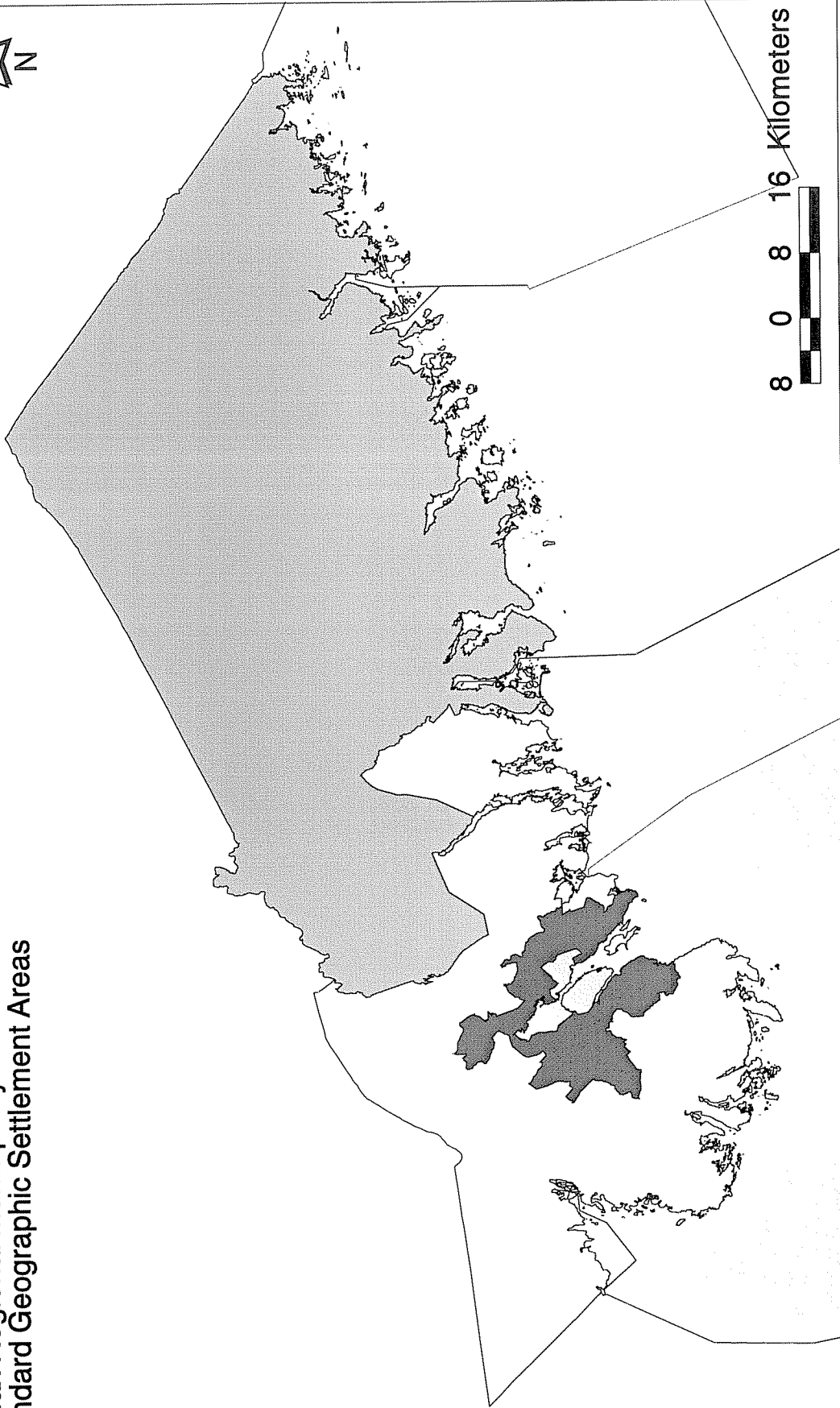
Report Approved by: Donna Davis, Project/Program Manager- Civic Addressing,, Phone 490-4417

**ATTACHMENT A**





Civic address problems previously identified by members of Regional Council:

- District 1      Smith Cove Road - Mitchell Bay/Necum Teuch- GSA & street name issues
- District 2      Oldham Road, Goffs- civic numbering problem
- District 4      Cherry Brook Road, Cole Harbour-
- District 8      High Street, Dartmouth- civic numbering problem
- District 17     Joseph Howe Drive/ Dutch Village Road, Halifax- street name issue

**Attachment B:  
Halifax Regional Municipality  
Standard Geographic Settlement Areas**



**LEGEND**

-  Urban Core
-  Suburbs
-  Rural/Urban Fringe
-  Rural