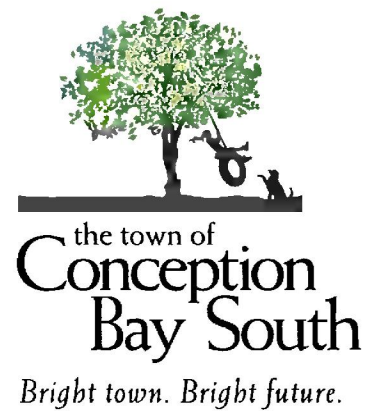


Response to Applicant
Form 4A

January 15, 2019



Attention: [Redacted]

Dear [Redacted]

Re: Your request for access to information under Part II of the Access to Information and Protection of Privacy Act [Our File #:18-15]

On December 17, 2018, the Town of Conception Bay South received your request for access to the following records:

Any records including public notices, emails, minutes of town meetings, minutes of council meetings etc. in relation to the 2011 Report on Vulnerability to Geological Hazards in the Town of Conception Bay South and the Town's adoption of the recommendations made in the report.

I am pleased to inform you that a decision has been made by the Chief Administrative Officer for Town of Conception Bay South to provide access to the requested information.

In accordance with your request for a copy of the records, the appropriate copies have been enclosed.

The report referenced was not commissioned by the Town of Conception Bay South but rather a project completed by the Department of Natural Resources, therefore the Town would not have any minutes or recommendations or other information on the completion of the report.

In conducting our search the Town reached out to a former employee to ensure there was no involvement in the completion of this document, searches were also completed on the email system and electronic records management systems as well as through remaining paper files.

The Town did incorporate portions of the 2011 Report on Vulnerability to Geological Hazards, into its Municipal Plan and Development Regulations for 2011 – 2021, sections of both plan and regulations included for your review.

Also included are minutes of Council for the preparation and adopting of the Municipal Plan and Development Regulations 2011 – 2021 as well as an example of a proposed development which included a Lands Use Assessment Report, public notice, and resulting amendments to the Municipal Plan and Development Regulations.

Please be advised that you may ask the Information and Privacy Commissioner to review the processing of your access request, as set out in section 42 of the *Access to Information and Protection of Privacy Act* (the *Act*). A request to the Commissioner must be made in writing within 15 business days of the date of this letter or within a longer period that may be allowed by the Commissioner.

The address and contact information of the Information and Privacy Commissioner is as follows:

Office of the Information and Privacy Commissioner
2 Canada Drive
P. O. Box 13004, Stn. A
St. John's, NL. A1B 3V8

Telephone: (709) 729-6309
Toll-Free: 1-877-729-6309
Facsimile: (709) 729-6500

You may also appeal directly to the Supreme Court Trial Division within 15 business days after you receive the decision of the public body, pursuant to section 52 of the *Act*.

If you have any further questions, please contact me by telephone at 834-6500 ext 104 or by email at jody.fifield@conceptionbaysouth.ca

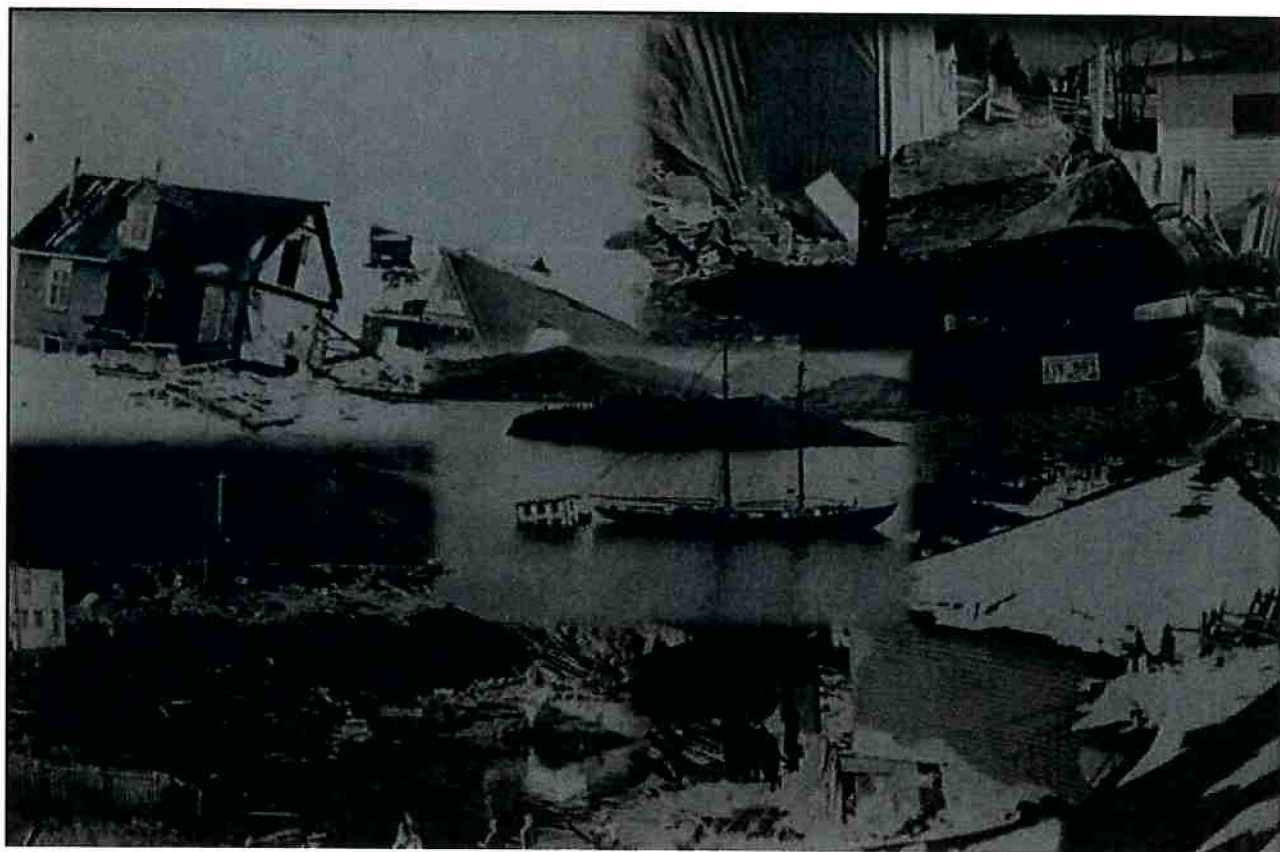
Sincerely,

TOWN OF CONCEPTION BAY SOUTH



Jody Fifield
ATIPP Coordinator

**REPORT ON VULNERABILITY TO
GEOLOGICAL HAZARDS IN THE
TOWN OF CONCEPTION BAY SOUTH**
Geological Hazards Series, Report No. 1



M.J. Batterson P. Geo. and N. Stapleton
Geological Survey

Open File 001N/0884

St. John's, Newfoundland
November 2011



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St. John's, Newfoundland
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Recommended Citation:

Batterson, M.J. and Stapleton, N.

2011: Report on vulnerability to geological hazards in the town of Conception Bay South. Newfoundland Department of Natural Resources, Geological Survey, Geological Hazards Series, Report No. 1, Open File 001N/0884, 24 pages.

Cover photo: Composite photo illustrating the after-effects of geological hazards within the Province of Newfoundland and Labrador; these events have occurred over a hundred-year period.

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ABSTRACT

This report provides data on vulnerability to geological hazards within the town of Conception Bay South; it also includes a hazard vulnerability map. This multi-hazard map combines a slope model generated from a DEM with a 5 m resolution, a set back of 15 m from the top of unconsolidated cliffs, the identification of areas of low slope adjacent to streams, of areas below 2 m asl, of areas between 2 m and 4 m asl, and sites of historical incidences of landslide, avalanche, rockfall or flooding. Data are combined to generate a preliminary vulnerability map, which is verified by field data and by overlaying mapping on georeferenced orthophotographs of the area. The map has a simple 'traffic-light' zonation to identify areas of high, moderate and low vulnerability to geological hazards. Recommendations for development within these zones are also provided.

INTRODUCTION

The aim of the provincial hazards-mapping program is to reduce the loss of life, property, and infrastructure, plus the protection of environmental and cultural resources in the Province that result from damage caused by natural disasters. The program provides information on geological hazards to all municipalities within the Province, which will assist municipal councils in developing a plan to mitigate the effects to such hazards.

This report identifies localities within Conception Bay South (CBS), Avalon Peninsula (Figure 1) that are vulnerable to natural geological hazards (mass movement - landslide, rockfall, avalanche), coastal and river flooding, and the potential effects of sea-level rise. The report and associated maps are intended for general information only, such as land-use and emergency management planning, and should not be used for site-specific evaluations. The report does not include vulnerability from meteorological events, although the trigger for mass movements and floods is commonly weather-related. However, a slope-aspect map is provided, which may aid in developing further criteria that may enhance the mapping defined in this report.

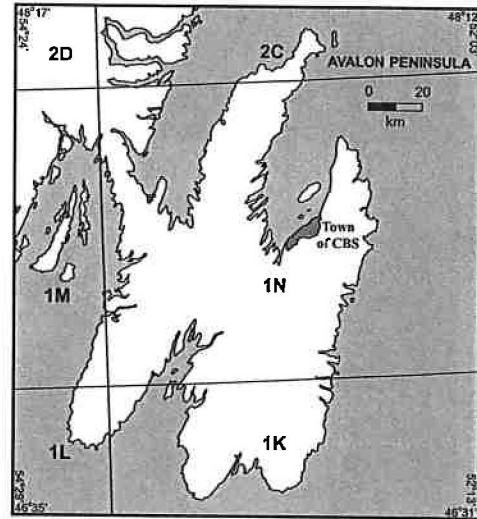


Figure 1. Location of Conception Bay South (CBS).

The study area was mapped using protocols developed by the Geological Survey that were incorporated into ArcGIS to generate a hazard vulnerability map. This is an unsophisticated multi-hazard approach that primarily focuses on slope, adjacency to the coast, potential flood risk, and areas of known hazard. The resultant map was overlain on an orthophoto mosaic of the study area, partially as verification of the computer-generated mapping, and partially to guide final definition of polygons to ensure hazard zones are appropriately delineated.

For the purposes of this report, geological hazards are defined as those hazards that have a geological component and include flooding (because they occur on flood plains or low slopes adjacent to coastlines) and mass movements, commonly on steep ($>20^\circ$) slopes.

Mass movement (mass wasting) is the downslope movement of material under the direct influence of gravity, and generally the steeper the slope the greater the risk of mass movement. Mass movement includes a variety of terminology, including landslide, rockfall, debris flow, solifluction, and avalanche (Figure 2). The material moves at rates ranging from very slow (soil creep, solifluction) to extremely fast (rockfall, debris flow). Rapid mass movements are potentially dangerous and frequently result in property damage and loss of life. Most rapid mass movements occur on relatively steep slopes and can involve rock, soil, or debris. Although water is commonly a critical factor, gravity is the major force behind mass wasting.

Mass movement occurs simply enough; when the gravitational force (shear stress) acting on a slope exceeds its resisting force (shear strength; Figure 3). The shear strength of a slope includes

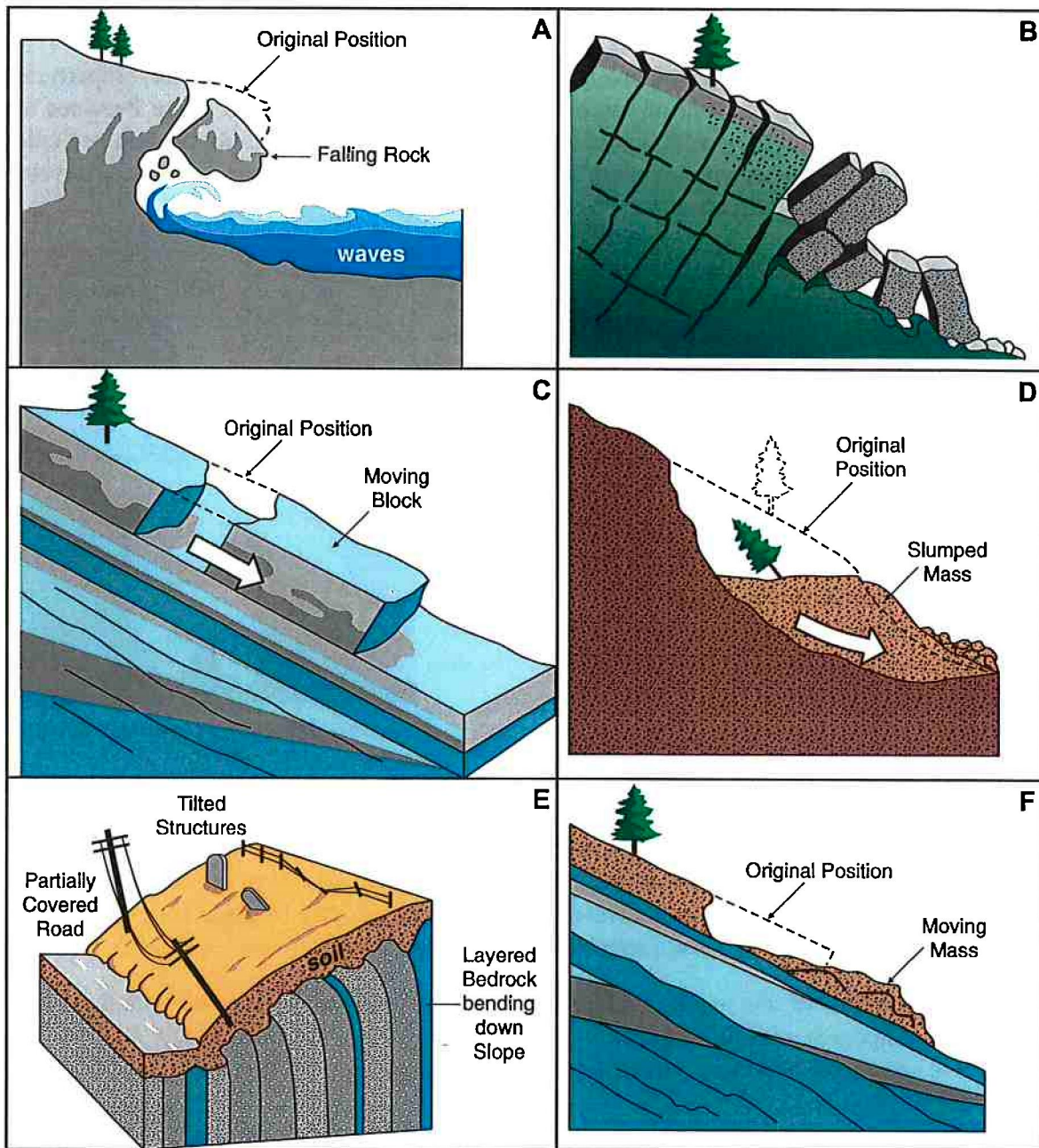
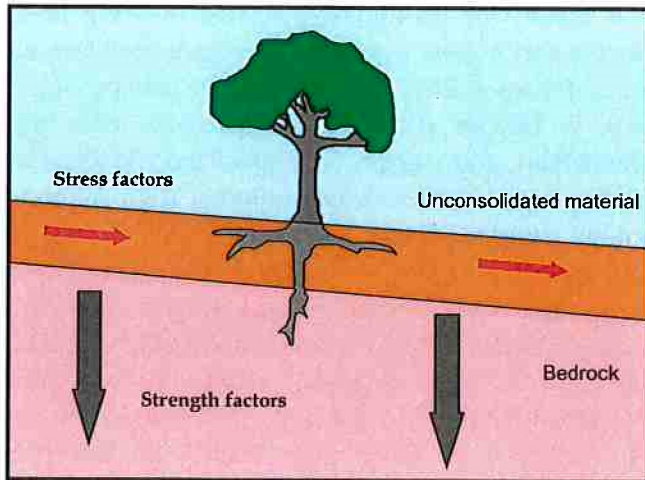


Figure 2. Types of slope movement. A. Rockfall. Commonly caused by wave action and/or freeze-thaw; B. Rockfall produced by toppling of blocks in well jointed rocks; C. Rockfall produced by movement along a bedding plane; D. Rotational slump in unconsolidated sediment; E. Soil creep. Slow continuous movement; F. Landslide caused by failure of unconsolidated sediment. (Source: Government of British Columbia).



Generally stable slope - the strength factors (low slope angle, supporting vegetation, soil cohesion) are much greater than the stress factors (primarily gravity).

Potentially unstable slope. The stress factors (high slope angle, gravity) are almost as great as the strength factors (vegetation, soil cohesion). Small cracks developing on the surface are indications of slope instability. Slope failure will commonly occur along the boundary between the bedrock and the overlying unconsolidated material.

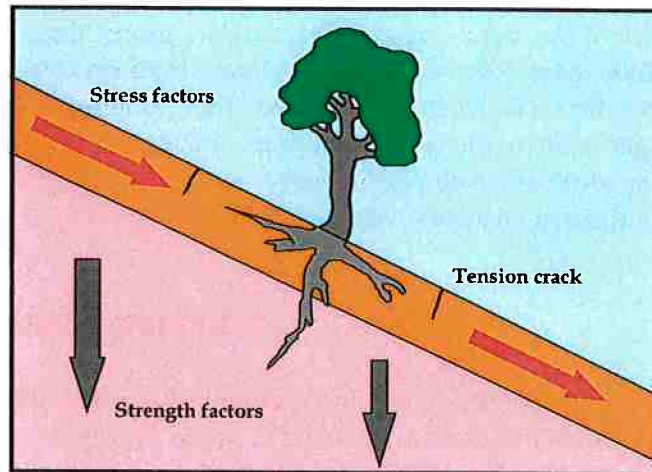


Figure 3. Diagram showing forces acting on a slope.

the slope material's strength and cohesion, the amount of internal friction between grains, and any external support of the slope. Opposing a slope's shear strength is gravity, which operates vertically but also has a component acting parallel to slope, thereby causing instability. Generally, the greater a slope's angle, the greater is the chance for mass wasting, although mass wasting can occur on very low slope angles, *e.g.*, in marine clays. The steepest angle that a slope can maintain without collapsing is its 'angle of repose'. At this angle, the shear strength of the slope's material exactly counterbalances the force of gravity. For unconsolidated material (sediment overlying bedrock), the angle of repose normally ranges from 25 to 40°. Slopes are in a state of dynamic equilibrium; they constantly adjust to forces acting on the slope. Because of this, most slope movements in surface sediment (including snow) occur on angles between 20 and 45°. Slopes steeper than 40° usually consist of unweathered solid rock, although rock fall is a common hazard on such slopes. The potential triggers for mass movement are varied, and include heavy rainfall events, rain on snow events, undercutting of sediment banks by rivers or waves, and freeze-thaw activity on bedrock.

There has been a considerable recorded history of geologically related disasters in the Province, extending back over 200 years. During that period, over 170 lives have been lost, and the economic cost has been equally enormous. Between 2000 and the time of publication, the Province has experienced significant events in Badger (flooding), Stephenville (flooding), Daniel's Harbour (landslide), Trout River (landslide), and eastern Newfoundland (flooding and landslides). In the same period, there have also been smaller events reported from Admiral's Beach, Bay Roberts, Beaches, Blue Mountains, Burgeo, Burin Peninsula, Burin, Burlington, Capstan Island (Labrador), Carbonear, Conception Bay South, Corner Brook, Cox's Cove, Curling, Daniel's Harbour, Deer Lake, Duntara, eastern Newfoundland, Englee, Ferryland, Flatrock, Fleur de Lys, Fogo Island, Forteau, Gambo, George's Lake, Glenwood-Appleton, Hampden, Hermitage, Indian Bay, Labrador City, Lamaline, Lewis Hills, Mount Carmel/Salmonier Line, Nain, northeast Newfoundland, Pinchgut Lake, Placentia, Port aux Basques, Raleigh, Reidville, Southport, St. Anthony, St. Bride's, St. John's, St. Lawrence, Stephenville – Port au Port, Stephenville Crossing, Trepassey, Trout River, western Avalon Peninsula, Whitbourne, and Witless Bay. The total economic cost of these events is difficult to determine, but a conservative estimate places the cost at over \$250 000 000. Two events since 2000 were responsible for fatalities; from an avalanche in the Blue Mountains on the Great Northern Peninsula in 2007, and from flooding at Britannia, Random Island, during Hurricane Igor in 2010. Many of the impacts of these events are arguably unavoidable, but some are clearly the result of development in areas susceptible to geological hazards, and where no, or inadequate, mitigation measures were employed.

REPORT STRUCTURE

This report provides background information on the development of the map. More detailed, technical information is provided in the Appendix. A CD providing all the data used to generate the map in an ArcGIS format (geodatabase files), data preloaded into ArcGIS Explorer for easy viewing (see Appendix for link to download free ArcGIS Explorer software), and a pdf version of this report can be made available upon request.

COMPONENTS OF THE MAP

The map combines topographic data, slope models, surficial geology, flood-risk mapping, and historical incidents to produce a 'vulnerability score' of multi-hazard potential. Areas of high, moderate or low vulnerability are subsequently defined based on this score. The components of the map are discussed in detail.

1. TOPOGRAPHY

The acquisition of detailed topographic data is a critical component of the hazards-mapping process. Wherever possible, data were obtained from publicly available sources at the Surveys and Mapping Division of the provincial Department of Environment and Conservation. Many communities are mapped at a scale of 1:2500, which is made available digitally with a 2-m contour

interval; many other areas are only mapped at a scale of 1:50 000. The scale at which an area is mapped has a direct impact on the detail of the Digital Elevation Model (DEM) produced, and thus the quality of the slope model derived from it. As mapping scales improve, existing maps can be refined to better identify areas vulnerable to geological hazards. The town of Conception Bay South has high-resolution data.

Beyond the issue of map scale, the basis on which sea level is defined requires discussion. From simple observation, it is obvious that sea level is difficult to define in absolute terms. We are all familiar with the astronomical forcing that produce the tides, but even on short time scales (minutes to days) climatic factors, including wind stress, hurricanes, and tropical storms can produce water levels far in excess of the tidal range. Similarly, the coastal geology (including tectonic influences) and morphology, and the near-shore bathymetry, all influence water level. Defining the position of the mean sea level (*i.e.*, the location of the 0 m contour) is difficult!

For the purposes of this project, the contours (and thus the definition of mean sea level) defined on publicly available topographic community maps are used. A more detailed discussion on defining mean sea level is found in the Appendix.

2. CREATING A DIGITAL ELEVATION MODEL (DEM) FROM 2-M CONTOUR LINES

A DEM with a resolution of 5 m (*i.e.*, individual pixels are 5 by 5 m) was created from 2-m contour lines using an ArcGIS interpolation method specifically designed for the creation of hydrologically correct digital elevation models (Figure 4). This resolution was selected because it closely reflects the resolution of the topographic map data that has a resolution of +/- 2 m.

The DEM was checked against the topographic data to ensure that it accurately reflected the field area.

3. CREATING A SLOPE MODEL FROM THE DEM

A slope model with a 5 m resolution was created in ArcGIS from the DEM and the output calculated as degrees of slope (Figure 5). The slope model is classified into four categories; 0-1°, 1-19.9°, 20-45°, and >45°.

Slope (°)	Slope (%)	Rationale
0-1°	0-1.75%	If adjacent to streams or coastline, these areas could be vulnerable to flooding.
1-19.9°	1.75-36.4%	Low vulnerability slopes, although vulnerability increases as slope angle approaches 20° (36.4% grade).
20-45°	36.4-100%	Slope angles on which most mass movements (except rockfall) occur.
> 45°	> 100%	Generally bedrock-dominated slopes. Vulnerability to rockfall may be high, depending on rock type.

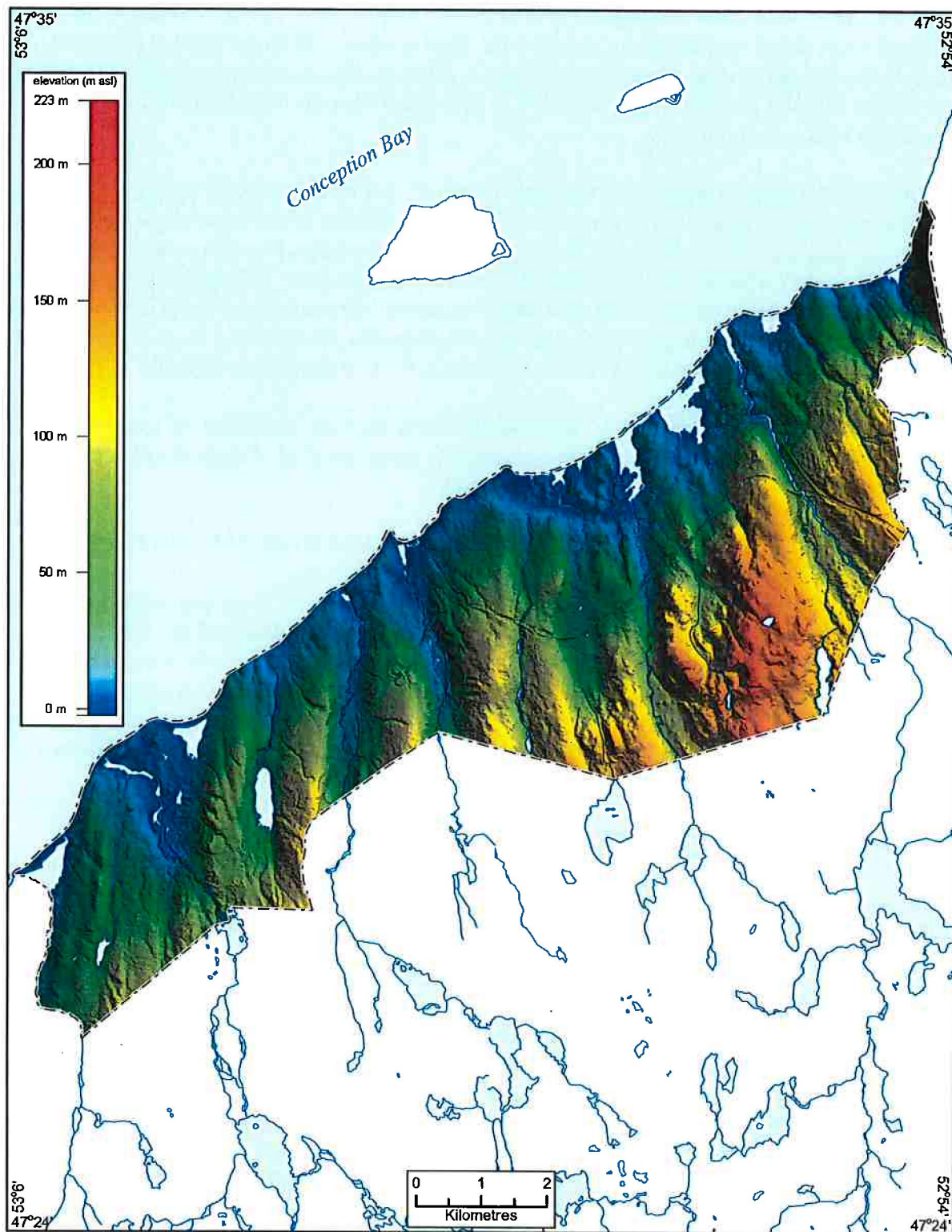


Figure 4. Digital Elevation Model for CBS interpolated from the 2-m contour data.

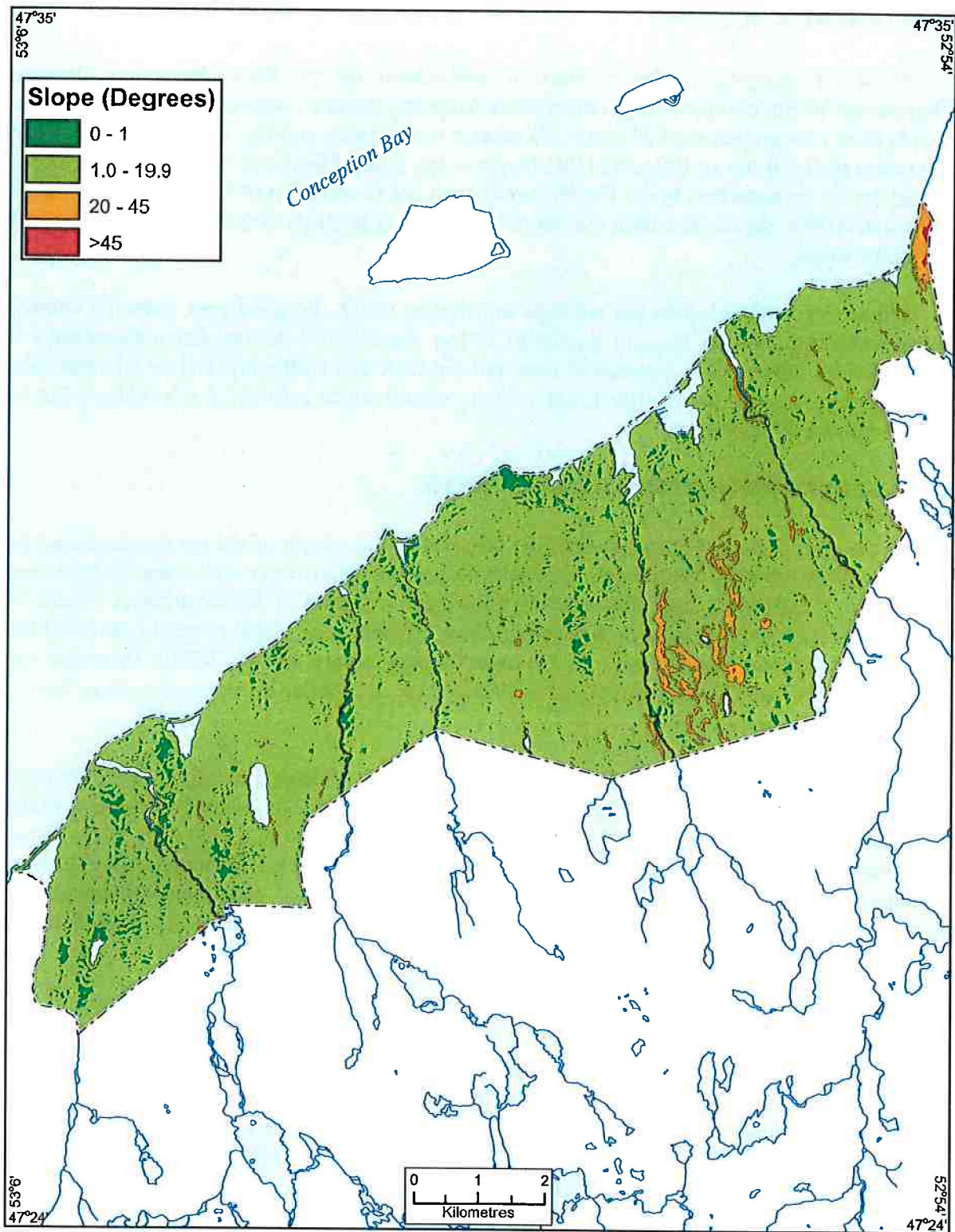


Figure 5. Slope model for CBS generated from the Digital Elevation Model. The maximum slope in this area is 82.04° (715.54%).

4. FLOOD-RISK MAPPING

Flood-risk mapping in the Province is undertaken by the Water Resources Division, Department of Environment and Conservation. Mapping defines 2 zones; the 'floodway' where floods have a return period of 20 years (5% chance in any year), and the 'floodway fringe' where the return period is one in 100 years (1% chance in any year). Flood-risk mapping has been completed for 38 communities in the Province, although not in the town of Conception Bay South. Where available, digital data from the flood-risk mapping program is incorporated into the vulnerability maps.

Where flood-risk mapping has not been undertaken within the study area, potential vulnerability was defined on the basis of proximity of low slopes ($<1^\circ$) on transects perpendicular to streams. This vulnerability assessment does not consider any hydrographical or climatological analysis of a stream or its watershed, and as such, should not be considered as a replacement for formal flood-risk mapping.

5. SEA-LEVEL RISE/ STORM-SURGE EVENTS

At the end of the last glacial period, the removal of the weight of the ice sheets caused the Earth's crust to rebound. This process continues throughout the Province with some land areas rising (most of Labrador), and others falling (most of the Island of Newfoundland; Figure 6); Conception Bay South is in an area of subsidence. Coupled with global trends of sea-level rise (see the Intergovernmental Panel of Climate Change report (IPCC, 2007); Batterson and Liverman, 2010), a relative sea-level rise of over 100 cm is expected in eastern Newfoundland by the end of this century.

In addition to a relative sea-level rise, historical records of coastal flooding, likely the result of storm surge (Figure 7), record inundation of areas below the 2 m contour. Inundation to this elevation likely occurred when the storm surge was coincidental with a high tide. These factors combined indicate that areas of potential inundation are up to 3 m asl. Communicating this area of risk is a challenge because mapped contours have a 2 m interval. Interpolation between contours assumes a linear increase in slope, which may not be the case, and therefore areas at risk from coastal flooding are based on the 2 and 4 m contours (Figure 8).

6. GEOLOGICAL DISASTERS

A geological disaster occurs when natural geological processes impact on our activities, either through loss of life, injury, or economic loss. The Geological Survey has compiled a historical record of geological disasters from a wide range of sources over several years of research (Batterson and Liverman, 2006; http://www.nr.gov.nl.ca/nr/mines/outreach/geological_hazard.html). Events recorded in the database include earthquake, tsunami, landslide, rockfall, avalanche and flooding. Within CBS, flooding is common along the Conception Bay shoreline (Figure 9). Storms and storm surges were reported in 1917, 1921, 1961, 1992 and 2011, although this likely under represents the frequency of storm activity, with many smaller events likely going unreported.

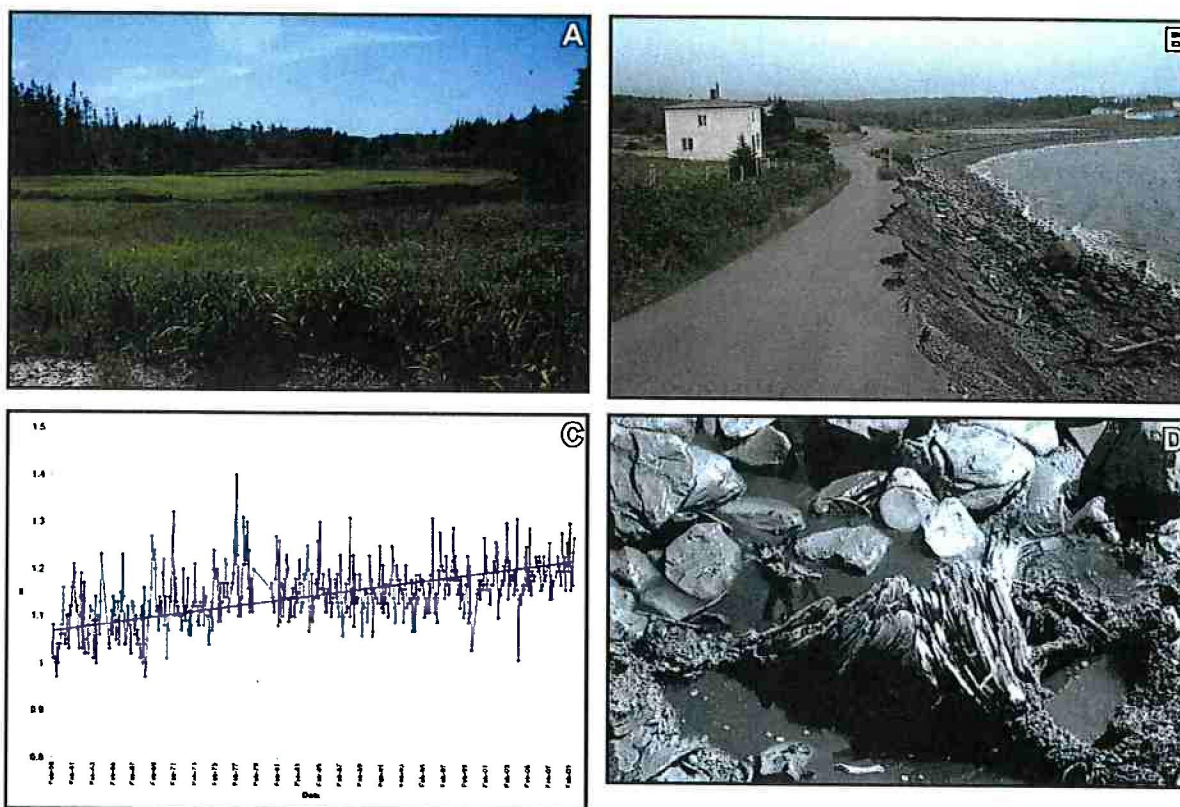


Figure 6. Evidence of sea-level rise in the Province. A. Salt marsh development on the west coast; B. Coastal erosion at Admiral's Beach; C. Tide gauge record from Port aux Basques; D. Spruce stump dated at about 2300 years old found below high tide line at Big Seal Cove (from Catto et al., 2000).



Figure 7. Storm-surge damage. Left - in CBS from a surge in January 2011; right - at the Battery, St. John's from a surge in December 2009.

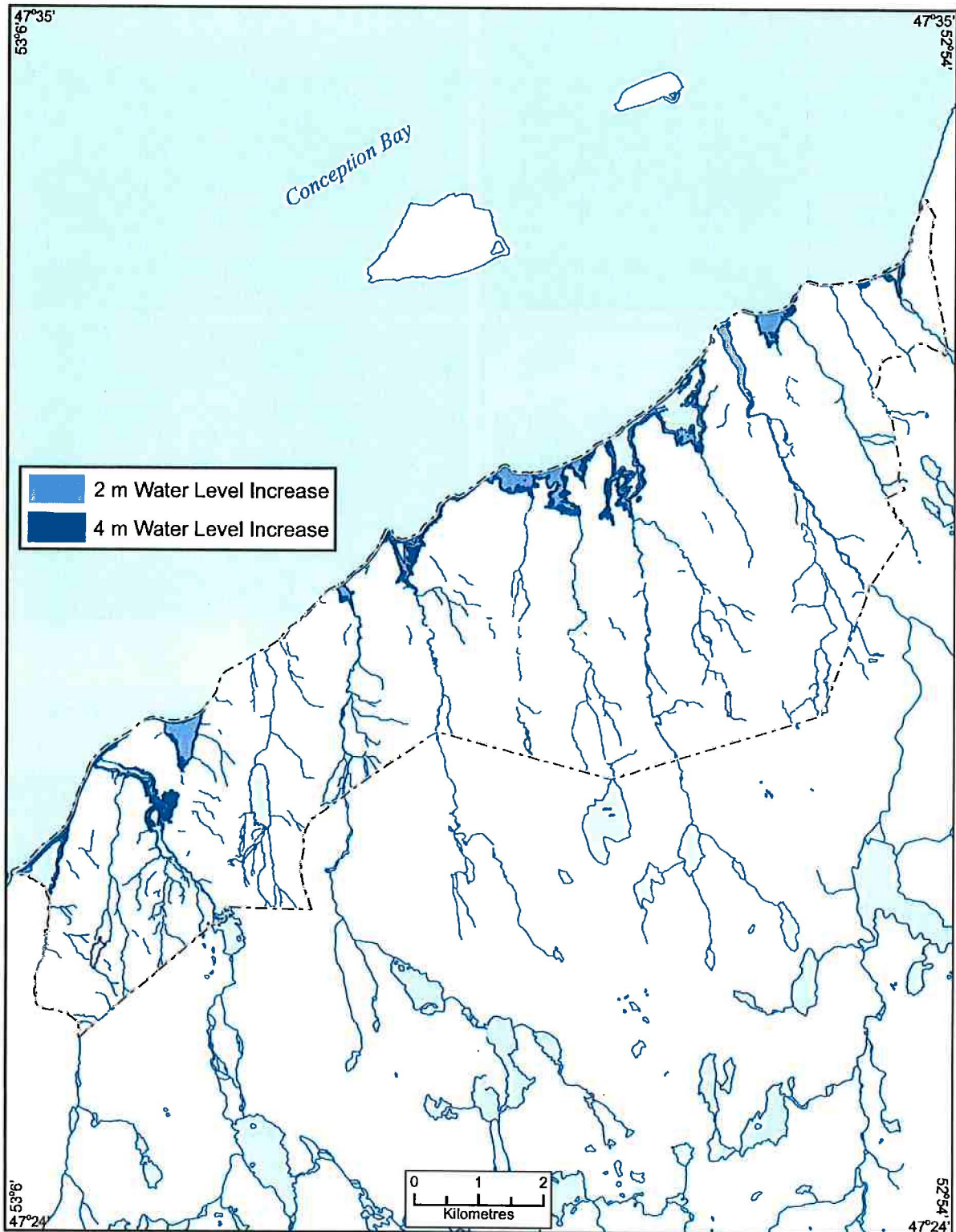


Figure 8. Map showing the effects of increasing water levels (combination of sea-level rise and storm surge) by the identification of the 2 and 4 m contours.

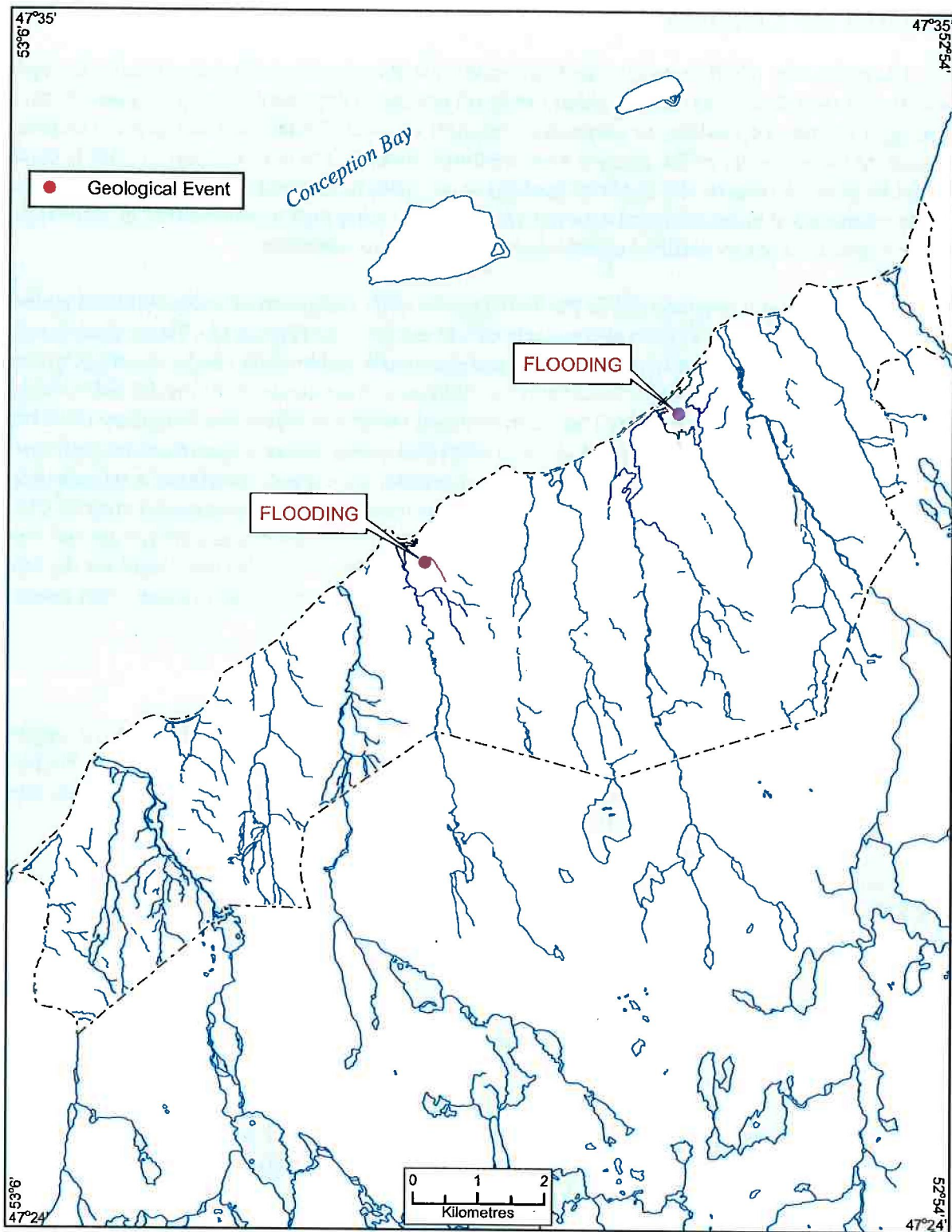


Figure 9. Map showing documented historical geological incidences within CBS (data from <http://www.nr.gov.nl.ca/nr/mines/outreach/geologicalhazard.html>). Locations indicating flooding are only general because flooding commonly impacts a wide area.

7. SURFICIAL GEOLOGY

The entire area of CBS was glaciated during the last glacial period. Glacial sediments are commonly thin (less than 3 m), and are either sandy till (sediment deposited directly by glaciers, comprising a mixture of boulder- to clay-sized material) or glaciofluvial sand and gravel (sediment deposited by meltwater as the glaciers were melting). Much of the northern part of CBS is dominated by bedrock (Figure 10). Surficial geology is particularly important in coastal areas, because cliffs composed of unconsolidated material erode more quickly than bedrock cliffs. In other areas, steep slopes covered by surficial sediments may be prone to landslides.

Historical coastal erosion rates in the Province for cliffs composed of unconsolidated material are up to 1 m per year, with an average rate of ~15 cm per year (Figure 11). These erosion rates are extremely dependent on local conditions and previously stable cliffs can be modified by single storm events. Set-back limits should aim for 100 years of sustainability of residential/commercial use. A distinction is recognized between exposed coastlines where the frequency of storms impacting the coast is high compared to more protected coasts where a specific wind (and commonly wave) direction is required to impact the shoreline. On exposed coastlines a setback of 25 m is recommended, with a 15 m setback for more protected coastal environments such as CBS. However, any municipality should view these setback recommendations as a minimum and consider greater setbacks in areas of municipal concern. These limits are also only valid for the time of preparation of this report and should be reviewed at least every decade to ensure that setback limits are maintained.

8. ASSIGNING A VULNERABILITY SCORE

There are numerous methods of determining risk, but the variables included and the weighting applied to each are largely subjective. For this study, slope, flood zones, elevation, adjacency to cliff-tops, and historical evidence of geological events were considered because they are relevant to most municipalities in the Province (Table 1).

In an attempt to quantify the data in this analysis, each layer was assigned a factor score on a scale of 1 to 10; high scores represent high vulnerability and low scores represent low vulnerability.

9. CREATING A MULTI-HAZARD MAP

Following the assignment of a score to each variable, the layers were essentially overlain on each other to produce a multi-hazard map.

A manual classification scheme was used to categorize the total score values, which range from 1 to 30, into three classes. The resulting class ranges are as follows:

Low:	1 – 4.99
Moderate:	5 – 9.99
High:	10 and above

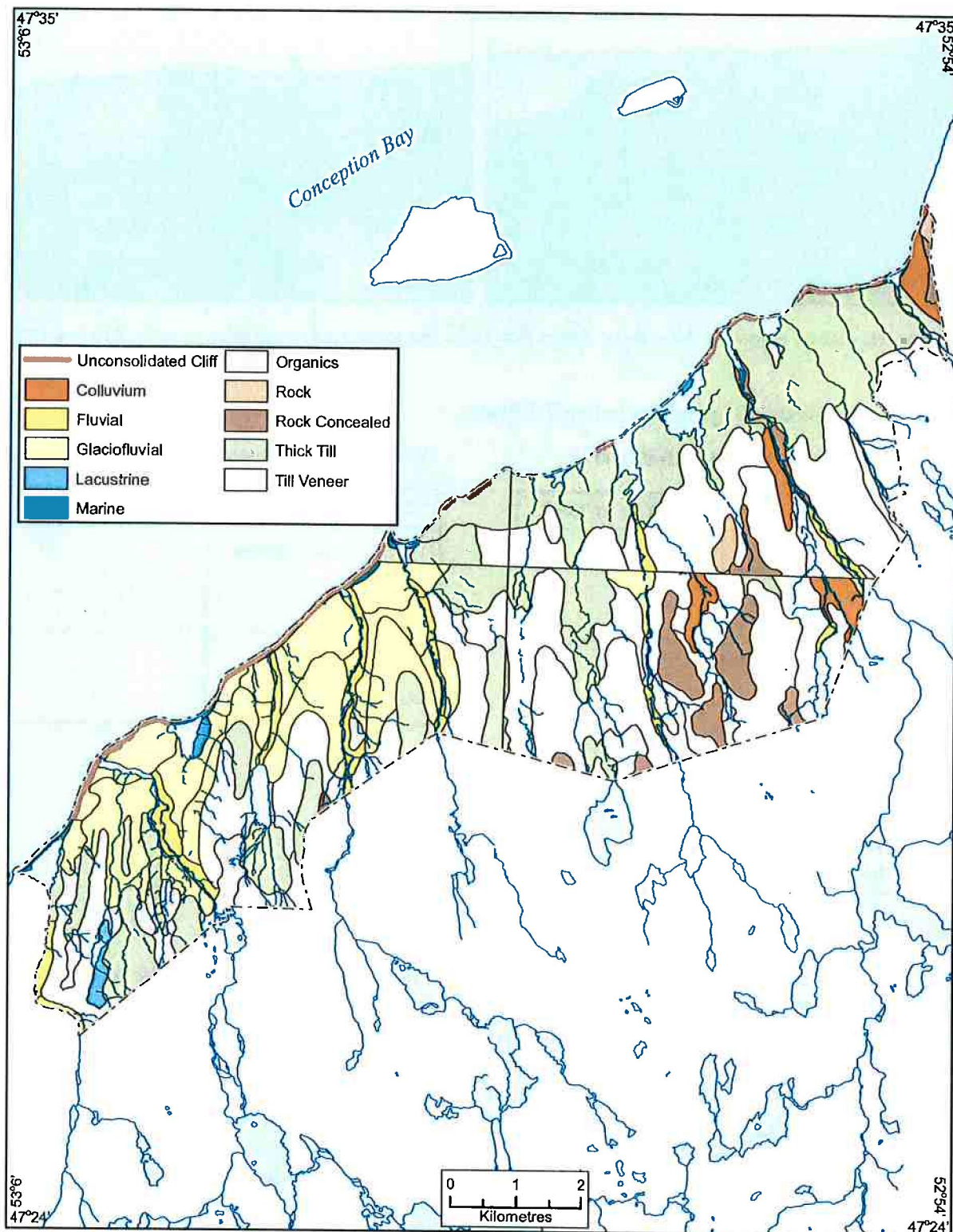


Figure 10. Surficial geology map of CBS (taken from Batterson, 1999, and Catto and Taylor, 1998a, b).



Figure 11. Coastal erosion at Point Verde, Avalon Peninsula. The photographs were taken in 1999 (left) and 2005 (right).

Table 1. Factor scores applied to individual inputs

Each layer was scored as follows:

INPUT	FACTOR SCORE
Historical occurrence	10
Within 20-year flood zone	10
Within 100-year flood zone	5
Below 2 m asl	10
Between 2 and 4 m asl	5
Within 15 m of non-rock cliff edge	10

Each slope class was scored as follows:

SLOPE (°) / (%)	FACTOR SCORE
1 - 1.0° slope adjacent to stream	5
1.01 - 20.00	1
20.01 - 45.00	5
> 45.01	10

10. GENERATION OF THE FINAL MAP

Except for the defined 15-m setback limit from an unconsolidated cliff edge, the multi-hazard map is computer-generated, based on the protocols defined in this report. This 'black-box approach' provides a classification of hazard vulnerability, but it requires comparison with the real world to ensure that areas are not over- or under-represented. The resultant multi-hazard map identifies areas of potential hazard in areas as small as 25 m² (*i.e.*, one 5 by 5 m pixel), which may be insignificant for regional or municipal planning, *e.g.*, some of these small areas may be artefacts of producing the DEM and may not reflect any hazard and others may be embankments as a result of road or highway construction. Areas identified as low hazard (commonly lower sloped areas) may be surrounded by areas of higher hazard, and therefore unsuitable for unrestricted development. Thus the map requires knowledge-based editing to produce the final product (Figure 12).

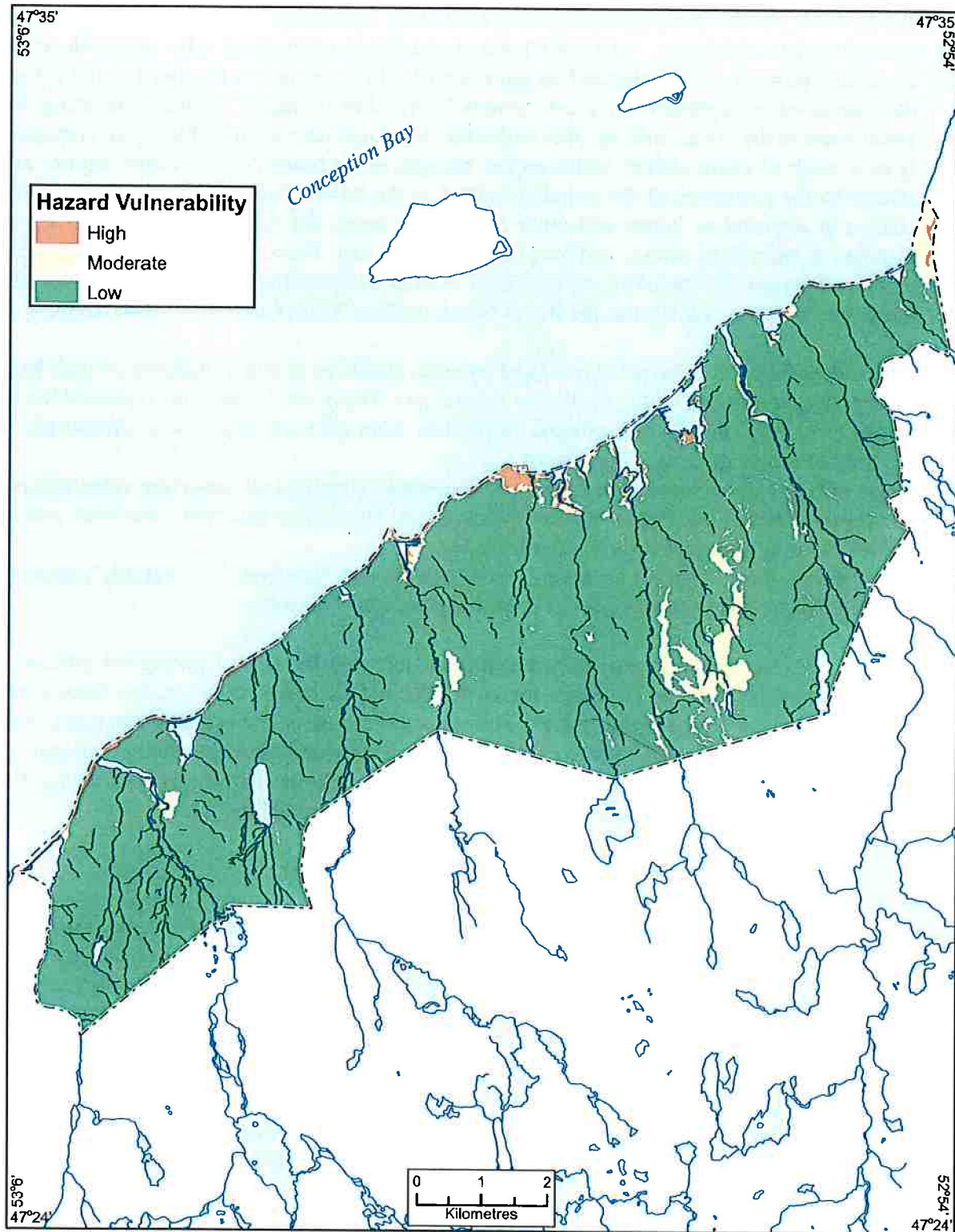


Figure 12. Hazard vulnerability map for CBS.

Within CBS, the following generalizations were made to the map:

- i) Areas less than 250 m² (*i.e.*, < 10 pixels) were generally considered not to be mappable units.
- ii) Barachois beaches were designated as high hazard. These are gravel beaches located across the mouths of embayments. They are commonly breached through a channel connecting the embayment to the ocean, although this outlet may be closed during parts of the year, commonly as a result of storm activity and seasonal changes in the beach profile. These features are critical to the protection of the coastline inland of the beach. Barachois beaches constantly change in response to storms and other coastal processes; the crest may migrate inland in response to individual storms, and long-term sea-level rise. These features are unsuitable for any development and therefore are classified as high vulnerability even though some of the larger beaches (*e.g.*, adjacent to the Royal Newfoundland Yacht Club) have crests above 4 m asl.
- iii) Areas identified as low hazard surrounded by areas classified as either moderate or high hazard are always included within the higher hazard area. These areas commonly represent lower slopes (1 to 20°), but the risk of mass movement from adjacent slopes or to infrastructure required to access the area is considered.
- iv) Areas of bog with an associated stream are commonly classified as 'moderate vulnerability' as a result of having low slopes adjacent to the stream. These areas generally have a low potential for flooding and were therefore not included.
- v) Areas of low slope, adjacent to streams, were classified as 'moderate vulnerability', because detailed hydrological analysis has not been completed in these areas.

Hazard vulnerability areas are defined approximately and the risk of geological processes impacting human activities is estimated for each. The risk is based on geological factors but includes an undefined degree of uncertainty. Thus an area defined as low vulnerability, rarely, still may be impacted by geological processes, and an area defined as high vulnerability may not be impacted by geological processes over long periods of time. Extreme and very rare events (earthquakes, tsunamis, etc.) may also affect areas mapped as low vulnerability.

Description of Levels of Vulnerability

The map (Figure 12) shows hazardous areas on a scale of low to high vulnerability (Table 2). Users should be aware that these hazard vulnerability maps have limitations: they indicate only those types of hazard that may be active under present-day conditions. Slope instability can be increased by clearance of vegetation, diversion of drainage onto the slope, or progressive erosion of cliff edges. Slope hazard can be reduced by various mitigation measures, such as retaining structures. Improvement of drainage infrastructure may reduce flood risk. The hazard vulnerability maps provide no information about the intensity, frequency, or time of occurrence of any geological process. Similarly, the identification of two or more hazards within an area does not indicate that the area is potentially more hazardous than an area modified by only one geological process.

It should be noted that no location should be considered invulnerable to hazards, even those mapped as "low vulnerability" above. The chances of hazardous events occurring in those areas may be slight but not negligible.

Table 2. Description of levels of vulnerability and suggested recommendations associated with each

Vulnerability	Description	Recommendations
Low	Unlikely to be affected by hazardous geological processes (including flooding), unless human activities modify the landscape to increase hazard potential; slope gradients generally gentle (<20°); remote from sources of flooding; no adjacent steep slopes.	No action required.
Moderate	May be vulnerable to hazardous geological processes in certain conditions (e.g., extreme rainfall events, exceptional snow melt). Slopes generally moderate (20–45°); may be adjacent to steeper slopes or low lying areas potentially subject to flooding; be within a designated 1:100-year flood zone; be between the 2 and 4 m contour.	In some instances development is restricted (e.g., within the floodway fringe). For those areas not already excluded from development, a detailed assessment of the area should be undertaken, conducted by a qualified geoscientist or geotechnical engineer.
High	Vulnerable to hazardous geological processes, with return times 100 years or less. May have evidence of previous events; slopes steep (>45°); within a designated 1:50-year flood zone; close to eroding cliff or bank; lying directly below very steep slopes; be below the 2 m contour.	In some instances development is restricted (e.g., within the floodway). For those areas not already excluded from development, a detailed assessment of the area must be required, conducted by a qualified geoscientist or geotechnical engineer. This assessment should include plans to reduce risk and mitigation of risk to existing structures. In some instances (e.g., adjacent to cliff edges, or below 2 m asl), municipalities may choose to remove areas from development.

This report and accompanying hazard vulnerability map can be used with other criteria to help planners/municipal councils to select potential areas for development, and avoid geologically vulnerable areas. Within areas designated as ‘moderate’ or ‘high’ vulnerability, it is recommended that site-specific geotechnical evaluations be conducted prior to new construction or upgrading of buildings and other facilities. These evaluations should include detailed site descriptions that identify the potential hazards and risk, and plans to protect planned developments from hazard or mitigate the risk for existing structures. Municipalities are encouraged to develop their own criteria for development to maximize the effectiveness of these maps.

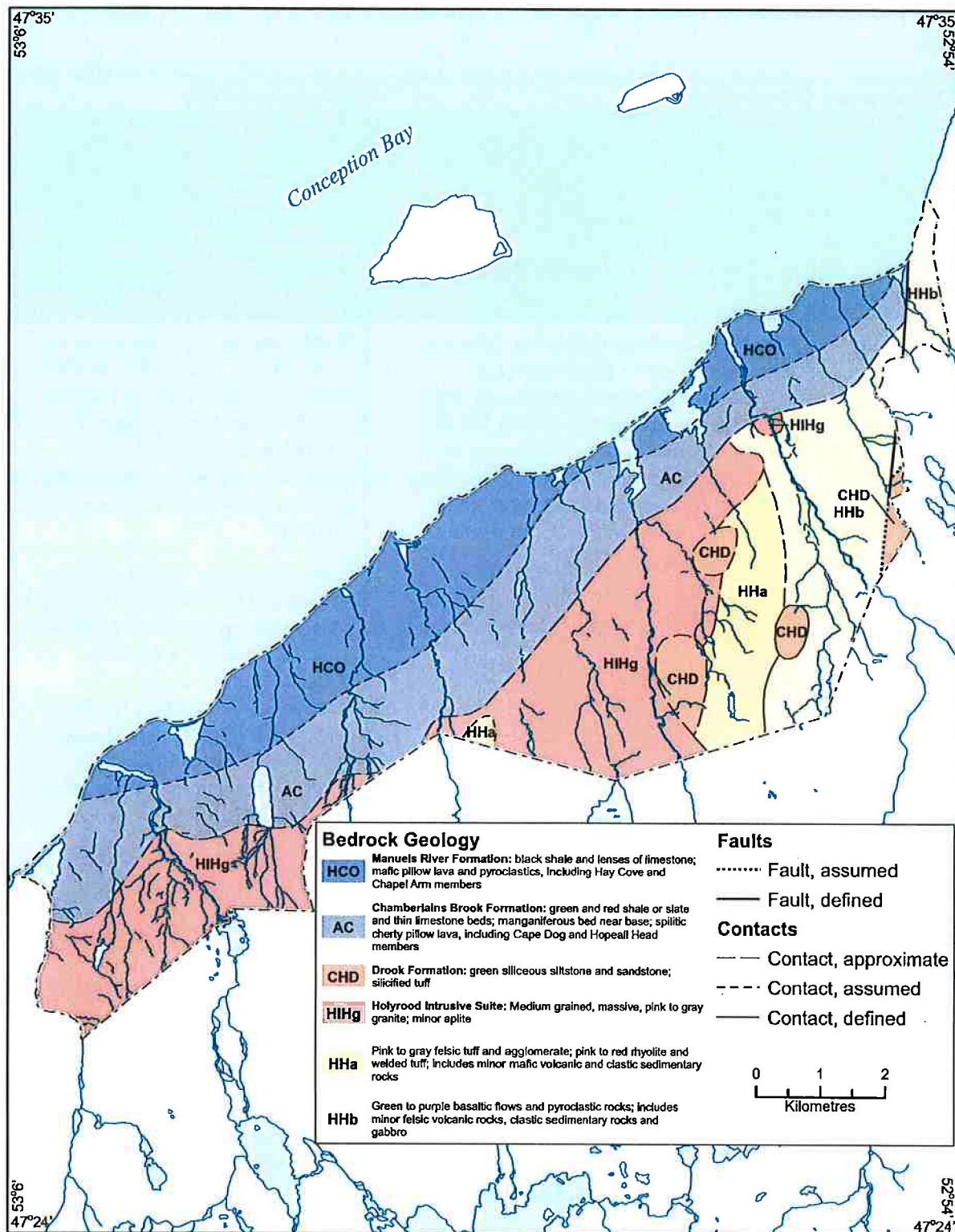


Figure 13. Bedrock geology map of CBS (after King, 1988). See text for explanation.

FUTURE DIRECTION OF HAZARDS-MAPPING PROGRAM

Several other layers of data could be incorporated into the hazards-mapping program, which may refine the existing designations:

i) Increased use of Bedrock Geology Maps

The bedrock in CBS (Figure 13) is mostly Precambrian sedimentary and volcanic rock (King, 1988). The oldest rocks are tuff, rhyolite and basaltic flows of the Harbour Main Group (HHa, HHb). They generally outcrop along the northern coast, and comprise the coastal hills. The Harbour Main Group rocks are intruded by pink to grey granite of the Holyrood Intrusive Suite (HIHg), which are found in the southern part of the town. These granitic rocks are overlain by siltstone and sandstone of the Conception Group (CHD), which are found in several small areas in the east part of the town. The youngest rocks are those of the Cambrian Harcourt (HCO) and Adeytown (AC) groups. These are mostly shale and slate, and are generally poorly exposed, underlying much of the coastal fringe in the southern part of the town. Detailed analysis of bedrock geology data will identify well-jointed and/or well-bedded rock units that are more likely to produce blocks that could topple, compared to bedrock with no structural weakness.

ii) Identify the Shadow Angle

Shadow angle is that area of low-angle slope beyond the base of a steep slope that may be affected by displaced and rolling boulders. The shadow angle is derived from projection of an angle of 22° (from horizontal) from the top of a talus slope. Calculation of the shadow angle requires detailed surficial geology mapping to identify talus slopes or aerial photography to identify potential areas, and detailed (1:5000 or better) digital topographic data.

iii) Slope Aspect

A slope aspect layer is provided (Figure 14). This shows the direction toward which the slope is facing. In the northern hemisphere, a south-facing slope will be more open to sunlight and winds and will therefore generally be warmer and dryer due to higher levels of evapotranspiration than a north-facing slope. Aspect is an important consideration in modeling the effects of climatic events, particularly storm tracks. On the east coast of the Province, most storms track southwest– northeast, and with intense rainfall commonly associated with the passing of a cold front, slopes facing northwest will receive higher amounts of precipitation compared to those facing southeast. This may result in a higher risk of mass movement on northwest-facing slopes. Similarly, strong northwesterly winds during snow storms may deposit larger amounts on lee slopes, increasing the risk of avalanche there. Other relationships between weather and hazard risk clearly exist, *e.g.*, flooding and storm surge, but are not currently components of this study.

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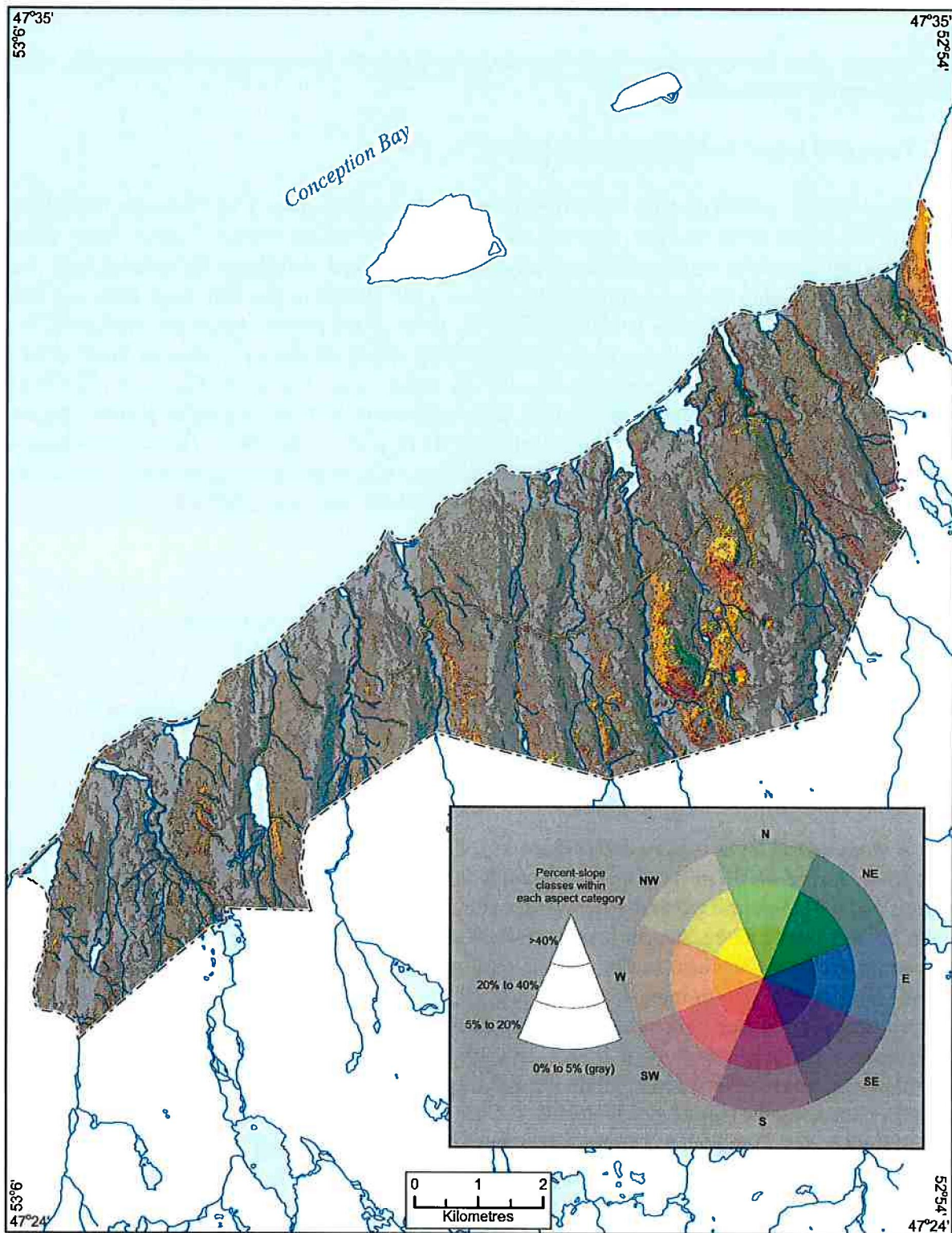


Figure 14. Slope aspect map for CBS. This map indicates the direction in which the slope faces, and is an important factor in modeling the effects of storm events.

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APPENDIX

i. Map Projections

Data in this report uses the NAD_1927_UTM_Zone22N projection. Municipalities using a different projection can use the Transformations tool in ArcGIS. Alternatively, the Geological Survey would be pleased to provide the data in a format compatible with your computer system.

ii. ArcGIS Explorer

ArcGIS Explorer Desktop (AGX) is a free, downloadable GIS viewer that provides users with an easy way to view GIS data. All data used in the creation of the hazards vulnerability map have been saved as an ArcGIS Explorer project and is available on the accompanying CD. AGX can be downloaded from <http://www.esri.com/software/arcgis/explorer/>

1. TOPOGRAPHY (DEFINING MEAN SEA LEVEL)

To quantify spatial and temporal variations in sea level, water levels are normalized into a standard vertical reference level. In this way, areas of interest (*e.g.*, global sea-level change or coastal subsidence) can be measured. Variability over time is dealt with by averaging local water levels over a period of years, smoothing variations into local tidal base levels (tidal datums). Variability across an area is dealt with using a single initial base elevation and referencing that level throughout a national network (geodetic datum).

Tidal datums establish local tidal phase averages as reference levels from which to determine height or depth observations. These datums are averages of observations by the Canadian Hydrographic Service made over a 19-year National Tidal Datum Epoch, a time period that

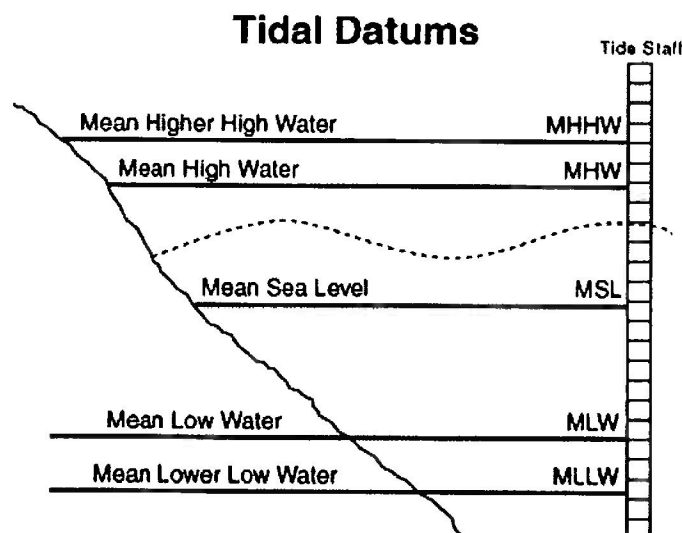


Image courtesy of NOAA/NOS CO-OPS

includes all variations in the path of the moon about the sun. In eastern Canada, mean sea level is based on observations at Father Point, Rimouski, Québec. Mean sea level for other parts of the world are based on observations from similar sites in their area. Tidal datums are used to determine many jurisdictional and property boundaries and in nautical charts and navigation. Commonly used tidal datums include Mean Higher High Water (MHHW), Mean High Water (MHW), Mean Sea Level (MSL), and Mean Lower Low Water (MLLW).

Geodetic datums (or Orthometric datums) are vertical datums that reference mean sea level from a select set of initial locations. This initial reference level is then established across a national network using differential levelling procedures and the placement of reference benchmarks. Many terrestrial elevation datasets (*e.g.*, topography) are referenced to these datums. The most commonly used geodetic datum is the North American Vertical Datum of 1988 (NAVD88), which replaces the previously used National Geodetic Vertical Datum of 1929 (NGVD29).

Local tidal datums are commonly different (several centimetres to decimetres) from those determined from the Québec site, and thus for many coastal water-level applications a conversion is required between the local tidal datum and the geodetic datum. This conversion requires that a geodetic elevation be established for every water level station/benchmark and local vertical offsets to each tidal datum calculated. This is accomplished using Global Positioning Systems (GPS) to occupy tidal benchmarks. Although GPS observations do not directly provide geodetic elevation, they can be used in calculations to find the vertical offsets to common geodetic datums.

2. CREATING A DIGITAL ELEVATION MODEL (DEM) FROM 2-M CONTOUR LINES

Contours are the most common method for storage and presentation of elevation information. Unfortunately, this method is also the most difficult to properly utilize with general interpolation techniques. The disadvantage lies in the undersampling of information between contours, especially in areas of low relief. An interpolation method known as ‘Topo to Raster’ was used to resolve this issue. At the beginning of the interpolation process, ‘Topo to Raster’ uses information inherent to the contours to build a generalized drainage model. By identifying areas of local maximum curvature in each contour, the areas of steepest slope are identified, and a network of streams and ridges is created. This information is used to ensure proper hydrogeomorphic properties of the output DEM and can also be used to verify accuracy of the output DEM. Details of this method can be found at: <http://webhelp.esri.com/arcgisdesktop/9.3/index.cfm?TopicName=Using the Topo to Raster tool>.

Care should be taken in the selection of a DEM interpolation method. Earlier versions of the DEM using a minimum curvature surface adequately resolved steeper parts of the study area, but had difficulty with interpolating between contours in low relief areas, resulting in ‘tiger-stripping’. This effect incorrectly designated steep slopes at contour boundaries and flat surfaces between contour lines, leading to misclassification of areas. This was resolved by using the ‘Topo to Raster’ method.

3. CREATING A SLOPE MODEL FROM THE DEM

Slope identifies the steepest downhill slope for a location on a surface and is calculated for each cell in the raster. The 'Slope' command in ArcGIS takes an input surface raster and calculates an output raster containing the slope at each cell. Details of this method can be found at: http://webhelp.esri.com/arcgisdesktop/9.3/index.cfm?id=1286&pid=1277&topicname=Slope_%283D_Analyst%29.

6. GEOLOGICAL DISASTERS

The historical hazards database consists of a date of occurrence, a location given as UTM or latitude/longitude coordinates, number of injuries and fatalities, and source (usually local media). All data were compiled in a spreadsheet, added to ArcGIS as an X/Y point layer and exported as a point feature class.

9. CREATING A MULTI-HAZARD MAP

Following the assignment of a score to each variable, the layers were converted to 5-m grid formats, using the ArcGIS Spatial Analyst extension. The result is a series of grids that contain pixel scores for each factor. These pixel scores are added together, using the ArcGIS Raster Calculator command, and a multi-hazard map was produced. Details of this method can be found at: http://webhelp.esri.com/arcgisdesktop/9.3/index.cfm?id=6003&pid=5977&topicname=The_Raster_Calculator.

Forestry uses, including domestic cutting and some small sawmilling activities occur mainly in the southern areas of the Town. While forestry uses are not a significant industry or activity in the community, limited primarily to areas to the south of the Conception Bay Bypass, it is important to recognize the value of forest cover for a variety of values such as visual amenity, wildlife habitat and stormwater management that forests provide.

Aggregate extraction activities occur throughout the town, but most of this activity occurs along Red Bridge Road and in Seal Cove between the Seal Cove River and Lawrence Pond. These activities have come into conflict with residential uses and the Town has taken measures to deal with the negative impacts of such activities. As urban development continues, greater effort will be required to ensure that aggregate extraction activities, particularly the rehabilitation of pits, are conducted in a manner which reduces land use conflict and results in restored sites that are suitable for other uses.

One mine, a pyrophyllite mine south of Long Pond at the end of Minerals Road opened in 1955. While a significant deposit remains to be mined, little mining currently takes place here. Future potential is unknown but it will be important to protect this deposit should there be markets for this mineral in the future.

2.3 Environmental Protection

2.3.1 Climate Change Impacts

Planning in the context of climate change requires that Conception Bay South proactively plan for future development, infrastructure and vital community services with risk reduction in mind. Climate change impacts in Atlantic Canada will include more frequent storm events, increasing storm intensity, rising sea level, higher storm surges, and more coastal erosion and flooding, affecting coastal communities, their infrastructure and industries. The quality of drinking water resources may also come under pressure with these conditions. Conception Bay South has a vulnerable coastline and it is important to keep development of public infrastructure and services as well as private homes and businesses away from most at risk areas, and put measures in place to evaluate development proposals in areas that appear to have moderate risks. A hazard map prepared by province provides indication of high, moderate and low hazard areas². While the report recommends further study, analysis and delineation of the hazard areas identified, it does provide a good start to information with respect to natural hazards, particularly in coastal areas.

2.3.2 Waterways and Wetlands

The 2000 Plan identified major waterways in the town for protection and included policies to prevent encroachment from development. As urban development continues throughout the town, the role of waterways and wetlands becomes ever more important in the management of stormwater runoff and provision of amenity value. Air photo interpretation was done to identify wetlands. It is expected that over the planning period, further study and delineation of wetlands

² Batterson M. and Stapleton N. 2011. Report on Vulnerability to Geological Hazard in the Town of Conception Bay South. Geological Survey Division, Department of Natural Resources.



will be needed to establish more precisely the limits of wetlands to be used to determine appropriate setbacks for future urban development.

2.3.3 Alteration of the Landscape

Throughout Conception Bay South, alteration of the landscape through filling in of wetlands, and cutting and filling on steep slopes continue to be an issue. Particularly evident are areas where backfilling of properties has occurred into conservation areas along streams or into wetlands. Measures to limit and control such activities are needed to ensure the hydrological functioning of waterways and wetlands are not disrupted. In other areas, backfilling of areas of steep slopes to “create” suitable land for development is creating visual eyesores and potentially hazardous conditions.

A number of significant river systems flow through the town before emptying into Conception Bay. These waterways have an important role to play in handling stormwater runoff, and providing wildlife habitat and recreational opportunities for residents. Over the years, development has encroached on the natural drainage systems provided by a number of the waterways and wetlands throughout the town. As the Town grows, there will be a greater need to protect natural drainage systems to prevent erosion and flooding.

During the public consultations, residents and other groups consulted indicated that protection of the natural environment, especially safeguarding the quality of rivers, ponds and coastal areas, should be given priority in development decisions.

2.4 Heritage Preservation

Over the past decade the Town has undertaken initiatives to recognize and designate a number of heritage buildings throughout the Town. There are currently 60 such buildings spread throughout the town, five of which are designated by the Heritage Foundation of Newfoundland and Labrador. One small area in Topsail has been identified as a heritage area. The area includes such residences as O'Driscoll's, The Hermitage and William Hibbs, as well as St. John the Evangelist Anglican Church. Heritage guides and walking tours have been developed to present and promote the history represented in this area. The Town, through its Heritage Committee, has also documented and prepared a series of brochures on the agricultural history of the community.

As property values continue to rise, there is growing pressure to redevelop heritage properties with new, modern buildings. Over the planning period it will be important to consider the value of the community's heritage resources and priorities for protection.

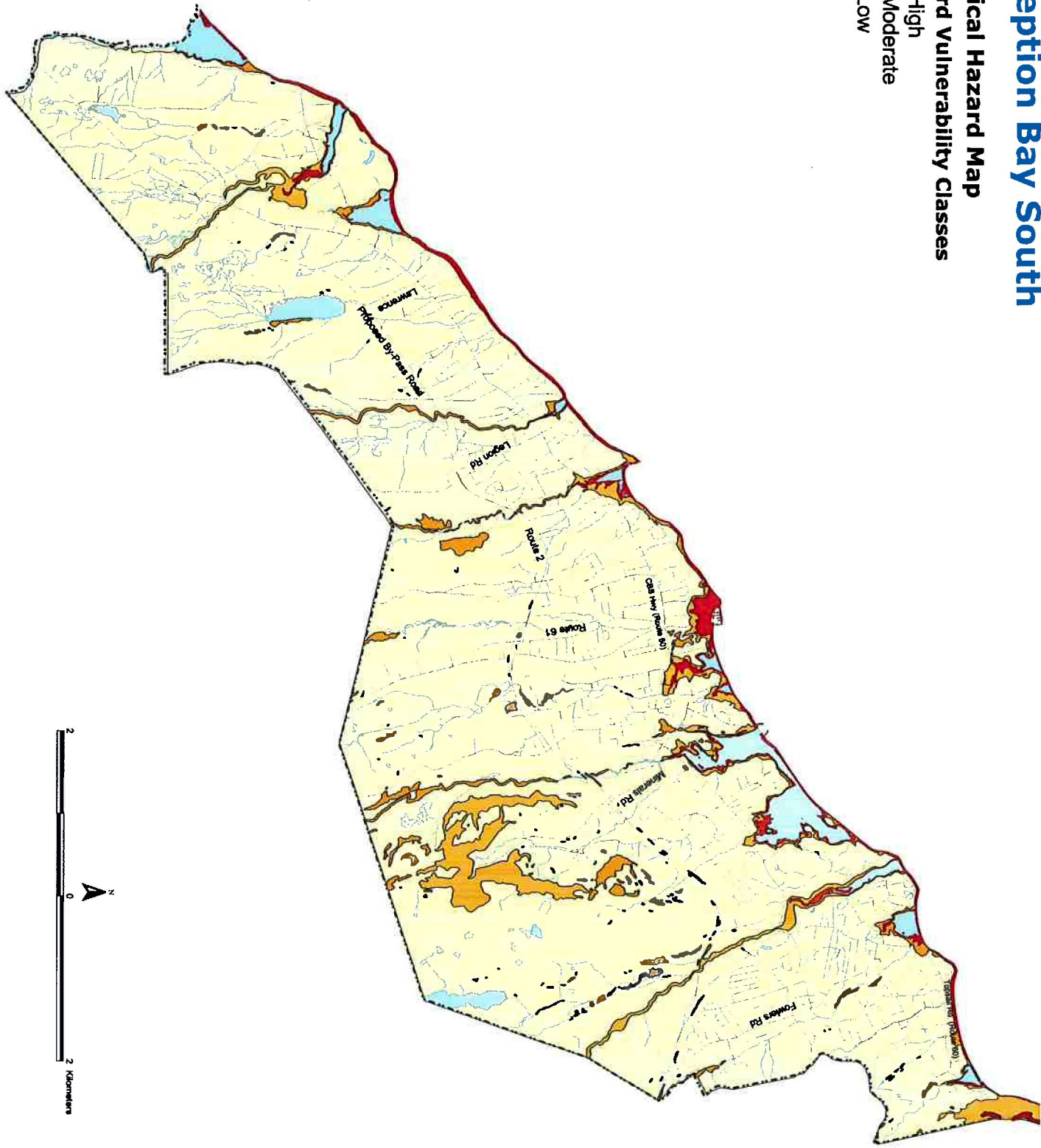
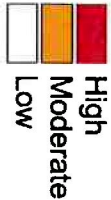
2.5 Road Network

The Town of Conception Bay South has an extensive network (224km) of local and provincial roads which provide important linkages to employment, retail and transportation centres in the Urban Region. An internal network of collector and local streets provides access to residential neighbourhoods, commercial centres and public and recreational facilities within the town. However, as the town has grown, many local streets have begun to function as collector streets.



**Town of
Conception Bay South**

**Geological Hazard Map
Hazard Vulnerability Classes**



2. The Authority may require public notice of any development application where, in the opinion of the Authority, such notice is required for information and public consultation purposes.
3. The Authority shall require the cost of the public notice or portion thereof be paid by the applicant and that such notice shall be by public advertisement in a newspaper circulating in the area or by any other means deemed necessary or appropriate by the Authority.

4.15 Land Use Impact Assessment

1. **Assessment Required** – The Authority may require a Land Use Impact Assessment to evaluate any proposed land use or development that affects the policies contained in the Municipal Plan.
2. **Terms of Reference** – The Terms of Reference for a Land Use Impact Assessment shall be prepared and approved by the Authority.
3. **Impact Assessment Report** - The report and any supporting studies shall be prepared at the expense of the applicant unless otherwise determined by the Authority.
4. **Mitigation Plan** – The report shall identify significant impacts, evaluate their importance, and recommend measures of control or mitigation, where appropriate.
5. **Public Review** – The Authority shall provide adequate time for public review and comment with regards to the items to be addressed in the Terms of Reference for the Land Use Impact Assessment. The Authority may provide an opportunity for public review and comment on the Land Use Impact Assessment report prior to its approval.

4.16 Environmental Site Assessment and Remediation

The Authority may require an environmental site assessment as a condition of approval for development of lands where site contamination is known or reasonably believed to have occurred. Where such an assessment indicates the presence of hazardous materials, no development will be permitted until the site has been remediated in accordance with relevant federal and provincial regulations regarding contaminated sites.

4.17 Archaeological Assessment

Where archaeological resources are known to exist, or where they are likely to exist based on location or historical evidence, applications for development will be forwarded to the Historic Resources Division, Department of Tourism, Culture and Recreation for review and consideration under the Historic Resources Act. The Authority or the Historic Resources Division may require an archaeological assessment. This assessment must be reviewed by the Historic Resources Division. The Authority may apply conditions for the protection and preservation of any archaeological resources.

4.18 Right of Entry

The Authority, the Director, or any inspector, enforcement officer or other person or persons authorized by the municipality, may enter upon any public or private land and may at all reasonable times enter any development or building upon the land for the purpose of making surveys or examinations or obtaining information relative to the carrying out of any development, construction, alteration, repair, or any other works whatsoever which the Authority is empowered to regulate.

5.6 Building Accessibility

All public and institutional buildings shall be constructed in conformity with the *Buildings Accessibility Act* and *Regulations* to ensure accessibility for persons with physical and/or sensory disabilities.

5.7 Building Height

With the exception of accessory buildings, the Authority may permit the erection of buildings of a height greater than that specified in the use zones set out in Section 10 but in such cases the building line setback and rearyard requirements shall be varied as follows:

- a) The building line setback shall be increased by 2 metres for every 1 metre increase in height; and
- b) The rear yard shall not be less than the minimum building line setback calculated as described in (1) above plus 6 metres.

5.8 Building Line and Setback

1. The Authority, by resolution, may establish building lines on an existing street and may require any new buildings to be located on those building lines, whether or not such building lines conform to the standards set out in the use zones set out in Section 10 of these Regulations.
2. Where a development constitutes infill on an existing developed street, the Authority may set the minimum building line setback to enable the development to fit into the streetscape with respect to adjoining properties and the general area.

5.9 Fences

No fence shall be erected, replaced or repaired unless a permit for construction has been issued by the Town in accordance with the *Town of Conception Bay South Fence Regulations* and the *Conception Bay South Road Reservation Regulations*.

5.10 Development in Hazard Areas

1. In addition to development complying with the development standards and conditions outlined in the Use Zones set out in Section 10, the following conditions will also apply to development located within areas identified as high and moderate Hazard Vulnerability identified on Map 2 Environmental Overlay Map of the Municipal Plan.
 - a) New residential development shall be prohibited in areas identified as high hazard;
 - b) Where proposed residential development is located in any area identified as Moderate Hazard, the Authority shall require a site specific study in the form of a Land Use Impact Assessment, prepared by suitably qualified person(s) to evaluate the level of hazard risk, taking into consideration the susceptibility of the proposed development to storm surges, erosion or flooding. Such studies will consider elevation, topography and geomorphology.
 - c) For commercial, industrial or other non-residential development located in areas identified as High Hazard, the Authority shall require a site specific study in the form of a Land Use Impact Assessment, prepared by suitably qualified person(s) to evaluate the level of hazard risk, taking into consideration the susceptibility of the proposed development to storm surges, coastal erosion or flooding. Such studies will consider elevation, topography and geomorphology;
 - d) Development, where permitted in any area identified as moderate or high hazard may also be required to assess the biophysical impact on the coastal ecosystem including the

potential to contaminate (hazardous materials storage), harmful disruption of natural habitats and disruption of natural coastal processes such as littoral drift;

- e) The Authority may require additional engineering design or other measures to mitigate identified hazards as a condition of development, or may refuse development where, in the opinion of the Authority, identified hazards cannot be mitigated.

5.11 Heritage Buildings/Properties

1. Alteration of buildings or lands identified by the Town and/or the Newfoundland and Labrador Heritage Foundation as heritage buildings/properties may be permitted providing the alteration is consistent with the heritage features of the building/property. Where new uses are proposed for heritage buildings, such uses may be permitted provided the use does not significantly alter the exterior of the building.
2. A designated Heritage building or structure shall not be removed or demolished except where, in the opinion of the Authority, the building or structure has deteriorated to an extent that it cannot be preserved, where the structure poses a hazard to public safety, and all options for preservation have been evaluated in consultation with the Conception Bay South Heritage Advisory Board, the Newfoundland and Labrador Heritage Foundation and any other local heritage organizations with an interest in the structure or property.

5.12 Landscaping

5.12.1 General

1. The Authority may require the limits of new development to be delineated in the field, and if so, site work will be restricted to that area in order to minimize disruption on the remaining and surrounding natural vegetation.
2. All areas that are disrupted by construction shall be reinstated by the developer using natural landscaping with a minimum of topsoil and grass sods.
3. Slopes shall have a maximum vertical slope ratio of 2:1 and shall be landscaped with topsoil and grass sods or hydro seeded.
4. A landscape deposit in the amount to cover the costs of the landscaping of the lot or area shall form a condition of the Development Approval and shall be paid prior to the issuance of the applicable permit by the Town. The landscaping must be completed to the satisfaction of the Authority within two years of the issuance of the permit. If no landscape inspection is completed within this two year period, the deposit may be forfeited. The amount of the landscape deposit shall be as outlined in the Schedule of Fees established by the Authority.

5.12.2 Residential

1. The front and side yards of a residential lot shall be landscaped with a minimum treatment of grass and related natural vegetation.
2. With the exception of row dwellings and apartment building lots, the minimum area to be landscaped in the front yard of a residential lot is 50%.
3. A minimum of one tree shall be planted in the front yard per six metres (6 m) of lot frontage as part of the initial landscaping feature of the lot.
4. The driveway and any parking areas shall be paved or completed with a hard surface acceptable to the Authority;

5.12.3 Commercial, Public and Institutional Uses

- d) Be developed according to a Development Agreement having a Planned Unit Development Plan attached thereto, satisfactory to and between the owners of the land and the Authority, registered in the Registry of Deeds of Newfoundland.

5.24 Provincial T’Railway Park

1. Development of lands adjacent to the T’Railway may be required to provide a buffer in the form of a natural separation or structure between the development and the T’Railway.
2. In considering applications for development adjacent to the T’Railway, the Authority may require that pedestrian access to the T’Railway from the development be provided as a condition of development. Where required, the pedestrian access shall be constructed and maintained to the specifications established by the Authority.
3. Proposals for any development that crosses the right-of-way of the Newfoundland T’Railway Park shall be referred to the Departments of Tourism, Culture and Recreation and Environment and Conservation for review, comment and approval.

5.25 Servicing Development

1. Except where permitted as part of an approved Residential Estate Lot Subdivision, development of backlands or beyond the end of existing public streets, will only be permitted on the basis of full municipal water and sewer servicing.
2. Servicing with on-site well and septic systems may be permitted as infill development along existing public streets.
3. Where permitted, private on-site septic systems, shall be properly designed, installed and maintained. Approval for on-site septic systems is required from the Government Service Centre.
4. Where development on the basis of water supply wells (either in unserviced infill areas or in a Residential Estate subdivision) an assessment of groundwater quantity and quality may be required in accordance with the Provincial Department of Environment and Conservation Groundwater Supply Assessment and Reporting Guidelines for Subdivisions Serviced by Individual Private Wells, 2009.
5. Where there is insufficient groundwater yield to support any development proposed on the basis of a well, the Authority shall refuse the development.

5.26 Side Yards

Sideyards shall be kept clear of obstruction and shall be provided on the exposed sides of every building in order to provide access for the maintenance of that building.

5.27 Soils and Drainage

Development shall only be permitted on lands having soil and drainage conditions that are suitable to permit the proper siting and development of the proposed uses.

5.28 Soil Removal, Deposit and Site Grading

1. Removal or placement of soil or other material, or alteration to the natural grade or drainage of a property which adversely affects a watercourse or adjacent property shall not be permitted.
2. Alteration of hillsides with slopes greater than 30% shall be prohibited.
3. Where not part of an approved development, any land disturbance that involves removal or deposition of soil or other material on a property, or any excavation within a lot carried out so as to change the natural grade of the lot, or, if in an approved subdivision the grade established in the grading plan, shall require approval from the

Authority. Applications submitted to the Authority will be required to show the full extent of disturbance that is intended. A Land Use Impact Assessment Report may be required to assess geotechnical aspects, visual and environmental impacts, as well as impacts on adjoining properties and land use zones; and

4. Where alterations to the landscape are approved, financial guarantees may be required to ensure adequate site rehabilitation and/or landscaping.

5.29 Storage and Screening of Refuse Containers

Refuse containers used for the collection or storage waste from a commercial use shall be positioned to have minimal visual impact from the road, be screened by fence or similar structure and shall not be placed in a front or flanking yard.

5.30 Storage of Flammable Liquids

Uses and structures for the on-site bulk storage of flammable liquids shall conform to the requirements of the Provincial Fire Commissioner and be surrounded by such buffers and landscaping as the Authority may require to prevent damage to adjacent uses by fire, explosion or spillage of flammable liquid or other dangerous goods.

5.31 Street Construction Standards

Unless otherwise permitted by the Authority, new streets must be constructed in accordance with and to the design and specifications in the *Town of Conception Bay South Municipal Engineering Standards*.

5.32 Storm Water Management

1. Land shall be used and graded in a manner that does not alter the natural flow of water or result in run-off from land or a development causing damages to other properties.
2. Development of land shall be undertaken with the objective of wherever possible achieving zero net runoff with respect to on-site storm water runoff.
3. Where development results in the discharge of water into a wetland, waterbody, or watercourse such discharge shall be designed and constructed in accordance with the requirements and conditions prescribed by the Authority.

5.33 Subsidiary Apartments

Subsidiary apartments shall be limited to single and double dwellings. For the purposes of calculating lot area and yard requirements, it shall be considered part of the single dwelling. Provision shall be made for at least one off-street parking space for a subsidiary apartment.

5.34 Watercourse Protection

1. No development shall be permitted within 15 metres of the high water mark of any body of water or wetland without approval from the Department of Environment and Conservation, and, if fish habitat is affected, from Fisheries and Oceans, Canada. The Authority may require larger buffer areas around watercourses where identified flood plains, steep slopes, unstable soil or other conditions could result in damage to watercourses and wildlife habitat as a result of development. For the purposes of assessing applications in areas at risk of flooding, the high water mark shall be the 1:100 year flood level.

Authority. Applications submitted to the Authority will be required to show the full extent of disturbance that is intended. A Land Use Impact Assessment Report may be required to assess geotechnical aspects, visual and environmental impacts, as well as impacts on adjoining properties and land use zones; and

4. Where alterations to the landscape are approved, financial guarantees may be required to ensure adequate site rehabilitation and/or landscaping.

5.29 Storage and Screening of Refuse Containers

Refuse containers used for the collection or storage waste from a commercial use shall be positioned to have minimal visual impact from the road, be screened by fence or similar structure and shall not be placed in a front or flanking yard.

5.30 Storage of Flammable Liquids

Uses and structures for the on-site bulk storage of flammable liquids shall conform to the requirements of the Provincial Fire Commissioner and be surrounded by such buffers and landscaping as the Authority may require to prevent damage to adjacent uses by fire, explosion or spillage of flammable liquid or other dangerous goods.

5.31 Street Construction Standards

Unless otherwise permitted by the Authority, new streets must be constructed in accordance with and to the design and specifications in the *Town of Conception Bay South Municipal Engineering Standards*.

5.32 Storm Water Management

1. Land shall be used and graded in a manner that does not alter the natural flow of water or result in run-off from land or a development causing damages to other properties.
2. Development of land shall be undertaken with the objective of wherever possible achieving zero net runoff with respect to on-site storm water runoff.
3. Where development results in the discharge of water into a wetland, waterbody, or watercourse such discharge shall be designed and constructed in accordance with the requirements and conditions prescribed by the Authority.

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2. The Authority shall require that water crossings, bridges, culverts, stream diversions and stormwater management devices, are planned, designed and constructed so as to ensure that fish habitat and passage are preserved, and where possible, enhanced.
3. Filling in or alterations of wetlands shall be prohibited. Where development is proposed adjacent to a wetland area identified on Map 2 Environment Overlay Map (Schedule A of the Municipal Plan), the Town may require the developer to undertake a wetland analysis study to delineate more precisely the limits of the wetland in order to establish appropriate setbacks for the development.

5.35 Unsubdivided Land

Development is not permitted on unsubdivided land unless sufficient area is reserved to satisfy the yard and other allowances called for in the Use Zone in which it is located and the allowances shall be retained when the adjacent land is developed.

5.36 Zero Lot Line and Other Comprehensive Development

The Authority may, at its discretion, approve the erection of dwellings which are designed to form part of a zero lot line development or other comprehensive layout which does not, with the exception of dwelling unit floor area, meet the requirements of the Use Zones set out in Section 10, provided that the dwellings are designed to provide both privacy and reasonable access to natural daylight and the overall density within the layout conforms to the regulations and standards set out in the Use Zone Table apply where the layout adjoins other development.

Commercial/Light Industrial	CLI
Industrial General	IG

Open Space

Open Space Recreation	OSR
Open Space Conservation	OSC

Resource

Mineral Working	MW
Rural	R
Agriculture	A

Comprehensive Development Area	CDA
Public Use	P
Highway Reserve	HR

10.5 Environment Overlay Map^[AMC6]

In order to identify environmentally sensitive and natural hazard areas, refer to Schedule A Environmental Overlay Map 2 of the Conception Bay South Municipal Plan.

10.6 Permitted Uses

Subject to these Regulations, the uses that fall within the Permitted Use Classes set out in the appropriate Use Zones shall be permitted by the Authority in that Use Zone.

10.7 Discretionary Uses

Subject to these Regulations, the uses that fall within the Discretionary Use Classes set out in the appropriate Use Zones may be permitted in that Use Zone if the Authority is satisfied that the development would not be contrary to the general intent and purpose of these Regulations, the Municipal Plan, or any further scheme or plan or regulation pursuant thereto, and to the public interest, and if the Authority has given notice of the application and has considered any objections or representations which may have been received on the matter.

10.8 Prohibited Uses

Uses that do not fall within the Permitted or Discretionary Use Class, or are specifically identified as a Prohibited Use shall not be permitted in that Use Zone

10.9 Classification of Land Uses and Buildings

Schedule A contains a table listing of classes of uses and provides examples of specific uses for each use class. Using the Schedule A, the Authority can interpret a proposed use and determine whether it is permitted, discretionary or prohibited in the applicable use zone.

15 Goldrock Run, Manuels	236214	28-Oct-04	500.00
24 Scenic Place, Foxtrap	236821	12-Nov-04	500.00
8 Mercedes Court, Kelligrews	237476	01-Dec-04	500.00

19. Sale of Town Owned Land – Porters Road

Recommendation:

Be it so resolved that the Town sell a portion of Town owned property on Porters Road to the residents of 15, 17, 19, 107 and 111 Porters Road for \$200 each plus all survey and conveyance costs with the condition that 17 Porters Road be required to install a privacy fence along the boundary between private property and the Porters Road playground and that the Town will assume no costs or responsibility for fencing along the boundaries of the Porters Road playground.

20. Municipal Plan Review

Recommendation:

Be it so resolved that the draft Conception Bay South Municipal Plan and Development Regulations be submitted to the Department of Municipal Affairs for provincial review.

**5. RECOMMENDATIONS OF ENGINEERING & PUBLIC WORKS COMMITTEE
(Chair, Councillor Stephen Tessier)**

Transferred from Privileged Meeting #12

a. CP-4 – Legion Road and Street “A”

Resolution #11-280

Councillor Tessier/Councillor Baggs

Be it so resolved that approval be given to award the tender for the CP4 - Legion Road and Street “A” to Cougar Engineering and Construction in the amount of \$1,420,410. Funds are available in the capital account for this project.

- carried unanimously

Regular Meeting
April 17, 2012

Councillor Rowe/Councillor Baags

Be it so resolved that the minutes and recommendation/decisions made at the Planning and Development Committee Meeting of April 10, 2012 be accepted as presented

- carried unanimously

The Planning and Development Committee Meeting Report of April 10, 2012 contains the following recommendations

1 Municipal Plan and Development Regulations 2011-2021

Recommendation

Be it so resolved that a public hearing to hear representations into the adoption of the Town of Conception Bay South Municipal Plan and Development Regulations 2011-2012 to be held on May 9 2012, at 7:00 p m at Worsley Park, Chamberlains

Recommendation

Be it so resolved that Keith Warren be appointed as Commissioner for the Public Hearing to be held May 9 2012 to hear representations regarding the Conception Bay South Municipal Plan and Development Regulations

4 RECOMMENDATIONS OF PLANNING & DEVELOPMENT COMMITTEE

Presentation of recommendations of meeting held June 5, 2012

1 **Municipal Plan Review - Commissioner's Report**
Resolution #12 228
Councillor Rowe /Councillor Tessier

Be it so resolved that the Conception Bay South Municipal Plan 2011-2021 and Development Regulations be approved with the following changes

1 Redesignate and rezone land at 939 Conception Bay Highway from Open Space Conservation (OSC) to Commercial (Commercial Main Street - C -1) preserving a 20 metre Open Space Conservation buffer along Lower Gullies River

2 Redesignate and rezone civic numbers 66 to 80 and 79 to 81 Church Road from Industrial General (IG) to Residential Medium Density (R -2)

3 Redesignate and rezone land on the west side of Dunns Hill Road, south of Gerald Rideouts Road from Rural (RUR) to Residential Low Density (R -1)

4 Redesignate and rezone land on the north side of Conception Bay Highway east of Pond Road from Commercial (Commercial Main Street - C -1) to Conservation Open Space (OSC)

to compliance with the requirements of the Town's Commercial Motor Vehicle Regulations

4 Invoice – CBCL Limited

Recommendation

Be it so resolved that invoice 0418549 dated June 12 2012 in the amount of \$4 497 12 from CBCL Limited, for professional services in connection with the review of the Conception Bay South Municipal Plan and Development Regulations be approved Funds are available in account no 01-501-1000-7615

5 Invoice – Commissioners Report – Municipal Plan and Development Regulations

Recommendation

Be it so resolved that invoice dated June 8 2012 from LW Consulting in the amount of \$2,351 06 for the holding of a public hearing regarding the Conception Bay South Municipal Plan and Development Regulations and the preparation of the the Commissioner's report be approved Funds are available in account no 01 501-1000 7615

6 Invoice – Geo Matics Service Limited

Recommendation

Be it so resolved that invoice 2012-25 dated July 1 2012 from Geo-Matic Services Limited for digital mapping, GIS and PSAB work for the period of May 1 to July 1 2012 in the amount of \$5,558 36 be approved Funds are available in account no 01-501 1017-8055

**7 Take into General Revenue – 8 Silverwood Drive, Chamberlains
Recommendation**

Be it so resolved that an occupancy deposit in the amount of **\$450 00** be taken into general revenue as the owner has failed to comply with the site grading requirements of the Town

April 6, 2017

**Notice of Proposed Changes to the Conception Bay South Municipal Plan and
Development Regulations and
Draft Terms of Reference, Land Use Assessment Report**

**Re-designate and re-zone land near Kitty Ades Turn at Civic No. 353-371
Conception Bay Highway, Long Pond, to Residential Medium Density land use
designation and the Residential Multiple Unit zone.**

The Town Council of Conception Bay South is considering amendments to the Conception Bay South Municipal Plan and Development Regulations. In general terms, the amendments would re-designate 1.6 hectares (4 acres) of land at 353-371 Conception Bay Highway, Long Pond, from the "Commercial" designation to the "Residential Medium Density" designation. The same land would be re-zoned from "Commercial Main Street (C-1)" to the "Residential Multiple Unit (RMU)" use zone. The purpose of the amendments is to allow Council to consider an application for development of an assisted living facility at the property. A Land Use Assessment Report will be required to provide further information on the potential for flood risk and traffic impacts of the proposed development.

Details of the proposed changes may be viewed at the Planning Department, 11 Remembrance Square, Long Pond, between 8:00 am and 4:30 pm on weekdays or visit the Town's website at www.conceptionbaysouth.ca.

Before proceeding with these proposed amendments to its Municipal Plan and Development Regulations, the Town Council of Conception Bay South wishes to receive any comments or representations on the proposed amendment and the Draft Terms of Reference. Anyone wishing to make a comment, objection or representation should submit a written statement no later than 4:30 pm on **Friday, April 21, 2017**. Written submissions can be emailed to planning@conceptionbaysouth.ca, faxed to 834-8337 or submitted in person or by mail to Town Hall, 11 Remembrance Square, P.O. Box 14040, Stn. Manuels, Conception Bay South, NL, A1W 3J1.

Name: _____

Date: _____

Address: _____



Area outlined in in red proposed to be changed to Residential Multiple Unit (RMU from Commercial Main Street (C1).

Terms of Reference Land Use Assessment Report (LUAR)

Develop an Assisted Living Facility Civic No. 353-371 Conception Bay Highway, Long Pond, Conception Bay South

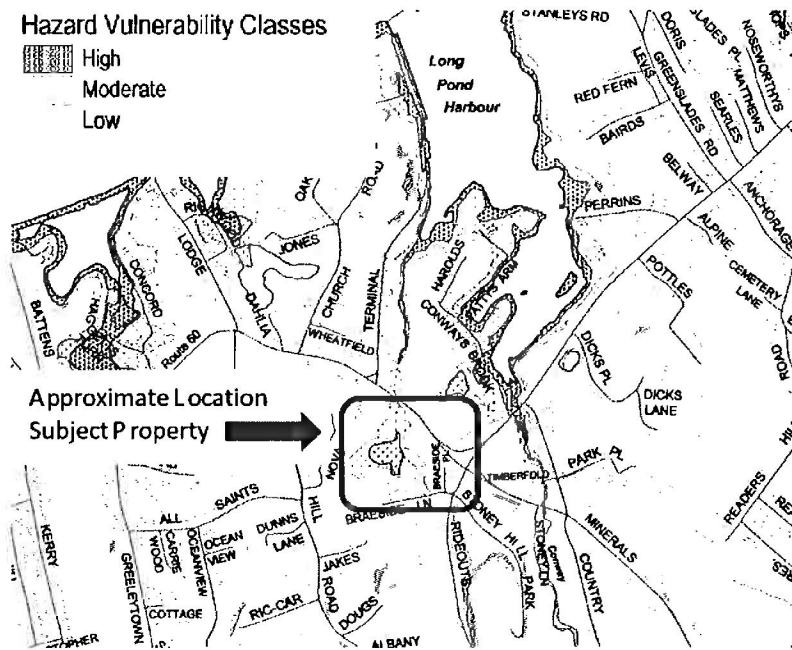
Background

The property owner at 353-371 Conception Bay Highway, Long Pond, Conception Bay South is proposing to develop an assisted living facility that would accommodate up to 120 individuals. The property owner has requested that the Town Council amend the Conception Bay South Municipal Plan and Development Regulations to change the land use designation and zoning to accommodate the proposal.

In its natural state, the property was bisected by a small stream. The property and land adjacent to the stream were wet and had only minor variations in topography. The natural state of the property has been modified over the past twenty years or so by infilling, storage of fill material by a construction company, grading and re-routing of surface water to its south and western limits. The property has not been previously developed beyond the infilling and storage of fill described above.

The property includes an area identified as “moderate risk” on the “Environmental Overlay Map” of the Conception Bay South Municipal Plan (as illustrated in an excerpt of that map to the right). The moderate risk area coincides with the original location of the stream that crossed the property. The moderate risk land classification was derived from a report and hazard map prepared by the province¹. The report recommended further study, analysis and delineation of the hazard areas identified to confirm site specific conditions.

The moderate risk classification was applied to a portion of the subject property due to the presence of a stream noted on the original mapping and the relatively flat topography. Those factors indicated that the moderate risk area could be susceptible to flooding.



¹ Batterson M. and Stapleton N. 2011. Report on Vulnerability to Geological Hazard in the Town of Conception Bay South. Geological Survey Division, Department of Natural Resources.

The Conception Bay South Municipal Plan provides for the preparation of a Land Use Assessment Report (LUAR) where further detail is required for Council to make an informed decision with respect to proposed development.

Given the history of the property and possible flooding at the subject property, further assessment is required to determine whether the property can be safely developed for an assisted living facility, and if so, what measures will be required to ensure that development can occur safely. The Town Council has therefore determined that a LUAR will be required to assess and determine the suitability of the site and assess impacts of the proposed development on the natural and built environments. The purpose of the LUAR is to determine if the proposed development would place a vulnerable population (elderly and infirm residents of an assisted living facility) in a vulnerable location (potential flooded area) endangering the life safety or compromising evacuation of the facility during an emergency.

The initial traffic assessment provided by the proponent's consultant did not fully assess the traffic impacts of the proposed development and on adjacent streets. The LUAR will also further assess and identify impacts and mitigations for vehicular access and traffic.

Terms of Reference

The proponent shall identify impacts and, if necessary mitigative efforts, regarding possible flooding, and traffic integration of the proposed assisted living facility. All information is to be submitted under one report in a form that can be reproduced in hard and digital copy for public information and review. The numbering and ordering scheme used in the report shall correspond with that used in this Terms of Reference and a copy of this Terms of Reference shall be included as part of the report.

A list of those persons/agencies who prepared the Land Use Assessment Report shall be provided as part of the report. Given the complexity of potential flood risk to the site and its adjacent properties along with upstream and downstream impacts, the Town expects that the analysis be performed by suitably qualified persons with expertise in hydrologic engineering, flood risk mapping in consideration of climate change impacts, and traffic assessment.

The following items shall be addressed by the proponent at its expense:

1. A description of the site conditions (including reference to technical reports, research studies and/or technical experts), that were reviewed/consulted to evaluate and determine the proposed protection solutions for traffic access, egress, and flow; surface water characteristics considering elevation, topography, geomorphology, etc. Evaluate the level of hazard and or risk in relation to the areas susceptible to flooding, ground saturation, erosion, and the suitability/acceptability of the site for the proposed use.
2. Provide flood risk analysis for the site and adjacent lands (both up and downstream of the subject property) that considers and includes:
 - a. Hydrology (determining flood flows),
 - b. Hydraulics (water surface profiles for the 1:20 and 1:100 AEP flood events),
 - c. Topographic mapping (delineated flood levels on the flood plain), and

- d. Impacts of climate change on potential flood impacts such as increased frequency and duration of precipitation events.
 - e. Inundation mapping (indicating the depth of flooding),
3. Municipal water, sanitary and storm sewer services.
- a. Provide information on the proposed installation of municipal water and sewer services to the site, including storm water management and detention.
 - b. Identify if the municipal water supply will be looped. Verify adequate water pressure and flow for firefighting.
 - c. For sanitary sewage, indicate the rate of discharge at the point of connection.
 - d. Indicate how storm water (surface run-off and groundwater) will be handled; storm water flows off the property are not to not exceed pre-development levels for 1:100 year return period.
 - e. If on site storm water detention is proposed, indicate the emergency overflow route for any detention system.
 - f. Assess the existing culvert (and its headwall) crossing the Conception Bay Highway; anecdotal evidence suggests the culvert maybe undersized for current storm water flows.
4. Roads and Traffic
- a. Provide a traffic impact statement, including the anticipated traffic generation rates for the proposed development. Depending on the impacts, a traffic study may be required.
 - b. The proposed development includes a new cross intersection with the Conception Bay South Highway at its north-western access point. The existing tee intersection provides only right hand turn (west bound) movements exiting the Sobeys property. Anticipated turning movements at the intersection will have to be provided and reviewed.
 - c. Left turn exit traffic causes some concern with vicinity to existing intersection by crossing 4 lanes plus oncoming traffic from east.
 - d. Assessment of the underground traffic light infrastructure currently installed at the site access intersection shared with Sobeys for compliance with the requirements of any new signalization required resulting from this LUAR.
 - e. Current and proposed traffic counts, including all turning movements, for the CBS Highway intersections at Terminal Road and Rideouts Road / Minerals Road shall be provided.
 - f. Existing and projected traffic counts must indicate left and right turn entry and exit counts for both am and pm peak traffic flows.
 - g. The Department of Transportation and Works (TW) must be consulted, and their comments and requirements incorporated into the traffic impact statement.
 - h. TW permits from 2013 may not apply as the proposed accesses are different; new TW access permits may be required.
 - i. Identify any road realignment (including horizontal and vertical geometrics) that may

be required at the development stage.

- j. Identify any new or revised signalization for vehicular and pedestrian traffic at the proposed intersection with the CBS Highway and existing signalized intersections to the immediate east and west of the subject property.
5. Clearly delineate on a drawing or site plan, the proposed development such that it does not encroach into 15 m buffer measured perpendicular to the highwater mark noted as the outer limit of the 1:100 flood risk boundary.
 6. Provide details on how any flood risk to the site will be mitigated, and details of how residents will be protected from dangers associated with flood risk, including:
 - a. Emergency access to and egress from the building(s) and site in the event of inundation.
 - b. Protection of any primary or secondary electrical supply systems.
 - c. Measures to reduce or eliminate sewerage contamination of the building and potable water systems in the event of flooding.

The Land Use Assessment Report should be submitted to:

Jennifer Lake, Ec.D. (F)

Director of Planning, Economic Development and Tourism

Department of Community Development

11 Remembrance Square

P.O. Box 14040, Stn. Manuels, Conception Bay South, NL A1W 3J1

T. 709-834-6500 ext 702

Town of
Conception Bay South
Municipal Plan Amendment
No. 16, 2017

Prepared by
Mary Bishop, FCIP
for
Town of Conception Bay South

April, 2017

Urban and Rural Planning Act, 2000
Resolution to Adopt
Town of Conception Bay South
Municipal Plan Amendment
No. 16, 2017

Under the authority of Section 16 of the *Urban and Rural Planning Act, 2000* the Town Council of Conception Bay South adopts the Conception Bay South Municipal Plan Amendment No. 16, 2017.

Adopted by the Town Council of Conception Bay South on the ____ day of _____, 2017.

Signed and sealed this ____ day of _____ 2017.

Mayor: _____

Clerk: _____

Canadian Institute of Planners Certification

I certify that the attached Municipal Plan amendment has been prepared in accordance with the requirements of the *Urban and Rural Planning Act, 2000*.

Mary Bishop, FCIP

Urban and Rural Planning Act, 2000
Resolution to Approve
Town of Conception Bay South
Municipal Plan Amendment
No. 16, 2017

Under the authority of Sections 16, 17 and 18 of the *Urban and Rural Planning Act 2000*,
the Town Council of Conception Bay South

- a) Adopted the Conception Bay South Municipal Plan Amendment No. 16,
2017 on XXXXXXXXXXXX, 2017.
- b) Gave notice of the adoption of the Conception Bay South Municipal Plan
Amendment No. 16, 2017 by advertisement in the Shoreline News on
XXXXXXX and XXXX, and in the Telegram on XXXXXXXX,2017.
- c) Set XXXXXX,XXXX , 2017, 7:00 p.m. at the Town Hall, 11 Remembrance
Square, Conception Bay South, for the holding of a public hearing to
consider objections and submissions.

Now under the authority of Section 23 of the *Urban and Rural Planning Act, 2000* the
Town Council of Conception Bay South approves the Conception Bay South Municipal
Plan Amendment No. 16, 2017 as adopted.

SIGNED AND SEALED this ____ day of _____ 2017.

Mayor: _____

Clerk: _____

**Town of Conception Bay South
Municipal Plan Amendment No. 16, 2017**

Introduction

The Conception Bay South Municipal Plan came into legal effect on July 20, 2012. The Town Council wishes to amend the Municipal Plan and this report has been prepared to explain the proposed change, and to serve as a basis for consideration by the public before it is adopted and approved by Council and submitted to the Minister of Municipal Affairs and Environment for registration.

Background

The Town has received an application to re-designate 1.609 hectares (3.976 acres) of land located at 353-371 Conception Bay Highway, Long Pond, and an adjacent small parcel of land, comprising approximately 216m² (2330 square feet), owned by the provincial government's Department of Transportation and Works. The applicant is the Morgan Group. The area that is the subject of the amendment is shown in the aerial photo below.



The land is currently designated as “Commercial” by the Municipal Plan and the applicant proposes that the designation be changed to “Residential Medium Density”. An amendment to the Conception Bay South Development Regulations to rezone the same lands from the “Commercial Main Street Zone (C-1)” to “Residential Multiple Unit Zone (RMU)” is being processed concurrently with this Municipal Plan Amendment.

This amendment is intended to apply existing policies of the Municipal Plan that would allow Council to consider the proposed development of a Personal Care Assisted Living Facility at 353 Conception Bay Highway. The proposed facility would support and provide personal care for up to 120 residents requiring various levels of care.

Assessment

The property is centrally located within the community and adjacent to several community and commercial services that would provide synergies to the proposed use. Over the years, the property has been subject to infilling, storage of fill material by a construction company, grading and re-routing of surface water to its south and western limits.

The proposed re-designation of the property is consistent with the policies of the Conception Bay South Municipal Plan.

The goals and objectives expressed in the Conception Bay South Municipal Plan are meant to encourage a range of housing options that meets the needs of a variety of age groups and incomes along with providing a variety of choice and affordable housing options. Assisted living facilities provides a housing option for individuals that require assistance with meals, chronic medical needs, or other necessities of life.

An area identified for “Moderate Risk” by a Geological Hazards Vulnerability Report prepared by the Provincial Department of Natural Resources¹ occurs on the property. The Geological Hazards Vulnerability report provides the basis for the hazard areas denoted on the Environmental Overlay Map of the Municipal Plan.

The Conception Bay South Municipal Plan allows development to be considered in areas identified as having a moderate hazard risk. Section 4.3.14 of the Municipal Plan provides context for how development should be considered in the moderate hazard area.

However, the moderate hazard area at this site is reflective of the original flow of water

¹ Batterson, M.J. and Stapleton, N. 2011: Report on vulnerability to geological hazards in the town of Conception Bay South. Newfoundland Department of Natural Resources, Geological Survey, Geological Hazards Series, Report No. 1, Open File 001N/0884, 24 pages.

at the property. As noted above, the flow of water was diverted to the perimeter of the site several years ago; water no longer flows through the property as depicted on the hazard vulnerability map. Therefore, the actual hazard vulnerability may have shifted with the alteration of water flow at the site. A Land Use Assessment Report will be required prior to any development approval to assess the flood risk and measures required to mitigate any identified risks.

St. John's Urban Region Regional Plan

The St. John's Urban Region Regional Plan (Regional Plan) identifies Conception Bay South as a sub-regional centre. Upon installation of municipal services, the Regional Plan encourages a wide range of residential densities, a variety of commercial operations, parks and recreational facilities and other uses that are characteristic and appropriate for a sub-regional centre.

The Regional Plan designates the subject property as "Urban Development" which allows for a range of urban uses connected to municipal water and sewer services. The proposed use is consistent with the intent of the St. John's Regional Plan.

Consultation

A notice outlining the proposed amendments was distributed to all property owners within 100 metres of the subject property. In addition, a notice was published in the DATE 1 and DATE 2 editions of the Shoreline and the DATE 3 edition of the Telegram. The notice was also posted on the Town's website. Written submissions were requested by DEADLINE. (XX) / (No) written submissions were received by the advertised deadline.

The Department of Natural Resources (DNR) with the provincial government was consulted. DNR indicated that their hazard vulnerability study that forms the basis of the Municipal Plan's Environmental Overlay Map was completed using best available mapping available at the time. DNR indicated that development can occur within areas of varying hazard probability subject to assessment of specific proposals and the type of hazard at the site.

The Department of Transportation and Works (DTW) with the provincial government was consulted. DTW own a small portion of the land that is subject to this amendment. DTW ~~did/did not~~ express any concerns or objections to the proposed amendment.

Conclusion

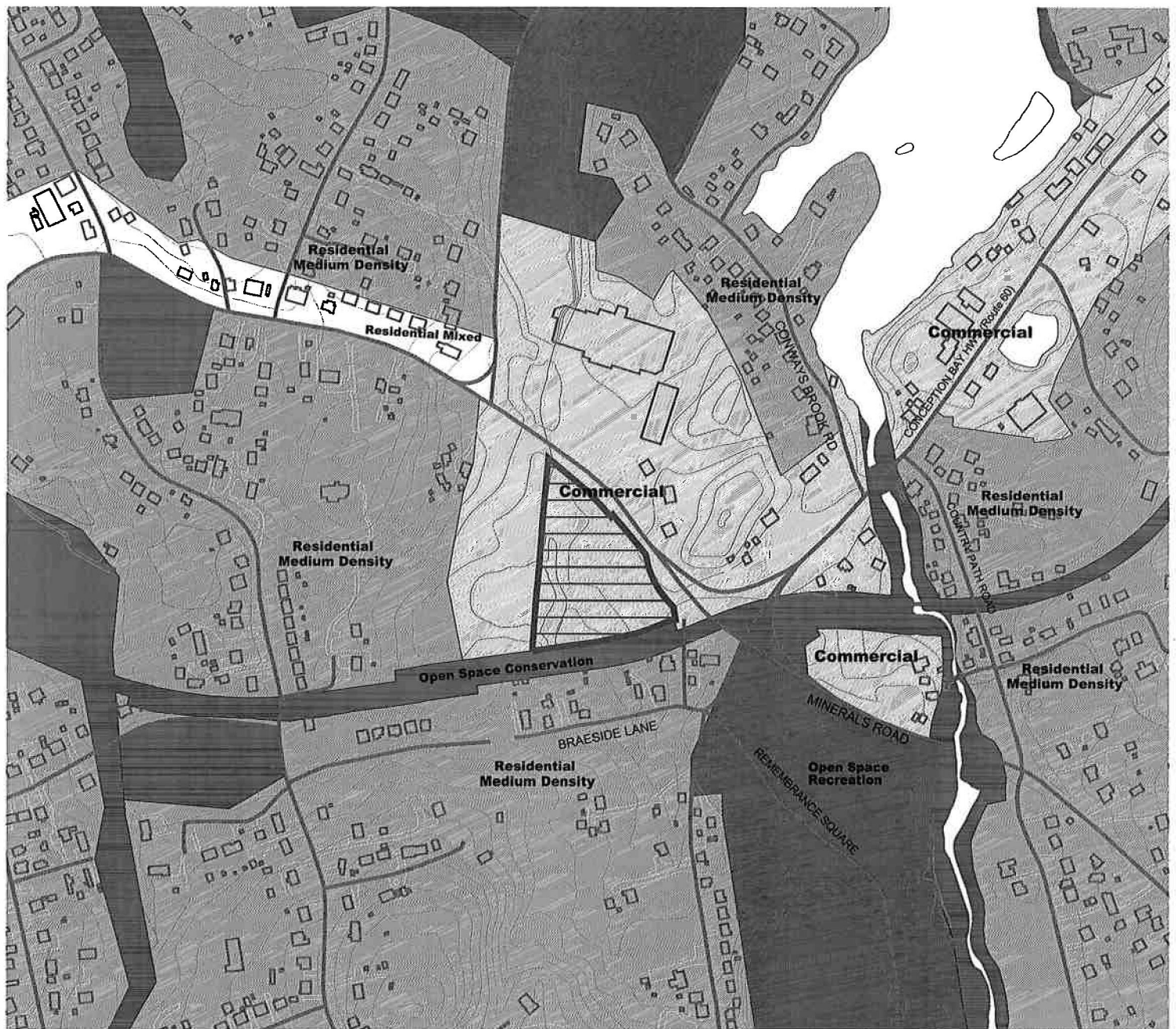
Council determined that designating the at 353-371 Conception Bay Highway, Long Pond, to the Residential Medium Density land use designation and rezoning the property to the Residential Multiple Unit Use Zone (RMU) land use zone is consistent with the Town's Municipal Plan and the Regional Plan.

The change supports the goals and objectives of the Plan to encourage diverse housing options for all age groups and within the community.

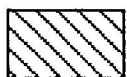
Amendment

The Conception Bay South Municipal Plan Future Land Use Map shall be amended as follows:

1. The Future Land Use Map is amended as shown on the attached plan.



**Town of Conception Bay South
Municipal Plan
Amendment No. 16, 2017
Future Land Use**



From: Commercial

To: Residential Medium Density

Dated: Town of Conception Bay South, NL

This _____, day of _____, 2017

Stephen Tessier, Mayor

Dan Noseworthy, Chief Administrative Officer

I certify that this Municipal Plan Amendment
has been prepared in accordance with the requirements of the Urban
and Rural Planning Act 2000:

Mary Bishop, FCIP

**Town of
Conception Bay South
Development Regulations
Amendment No. 24, 2017**

**Prepared by
Mary Bishop, FCIP
for
Town of Conception Bay South**

April, 2017

Urban and Rural Planning Act, 2000
Resolution to Adopt
Town of Conception Bay South
Development Regulations
Amendment No. 24, 2017

Under the authority of Section 16 of the *Urban and Rural Planning Act, 2000* the Town Council of Conception Bay South adopts the Conception Bay South Development Regulations Amendment No. 24, 2017

Adopted by the Town Council of Conception Bay South on the XXX day of XXX 2017.

Signed and sealed this _____ day of _____ 2017.

Mayor: _____

Clerk: _____

Canadian Institute of Planners Certification

I certify that the attached Development Regulations amendment has been prepared in accordance with the requirements of the *Urban and Rural Planning Act, 2000*.

Mary Bishop FCIP

Urban and Rural Planning Act, 2000
Resolution to Approve
Town of Conception Bay South
Development Regulations
Amendment No. 24, 2017

Under the authority of Sections 16, 17 and 18 of the *Urban and Rural Planning Act, 2000*
the Town Council of Conception Bay South

- a) Adopted the Conception Bay South Development Regulations Amendment No. 24, 2017 on XXXXXX, 2017.
- b) Gave notice of the adoption of the Conception Bay South Development Regulations Amendment No. 24, 2017 by advertisement in the Shoreline News on XXXXXX and XXX and in the Telegram on XXXXXXXX, 2017.
- c) Set XXXXXXXX, 7:00pm at the Town Hall, 11 Remembrance Square, Conception Bay South, for the holding of a public hearing to consider objections and submissions.

Now under the authority of Section 23 of the *Urban and Rural Planning Act, 2000* the Town Council of Conception Bay South approves the Conception Bay South Development Regulations Amendment No. 24, 2017 as adopted.

SIGNED AND SEALED this ____ day of _____ 2017.

Mayor: _____

Clerk: _____

Purpose

The purpose of this proposed Development Regulations amendment is to re-zone land at 1526 Conception Bay Highway, Long Pond to the Residential Multiple Unit Use Zone (RMU).

This amendment implements Municipal Plan Amendment No. 16, 2017, which is being processed concurrently.

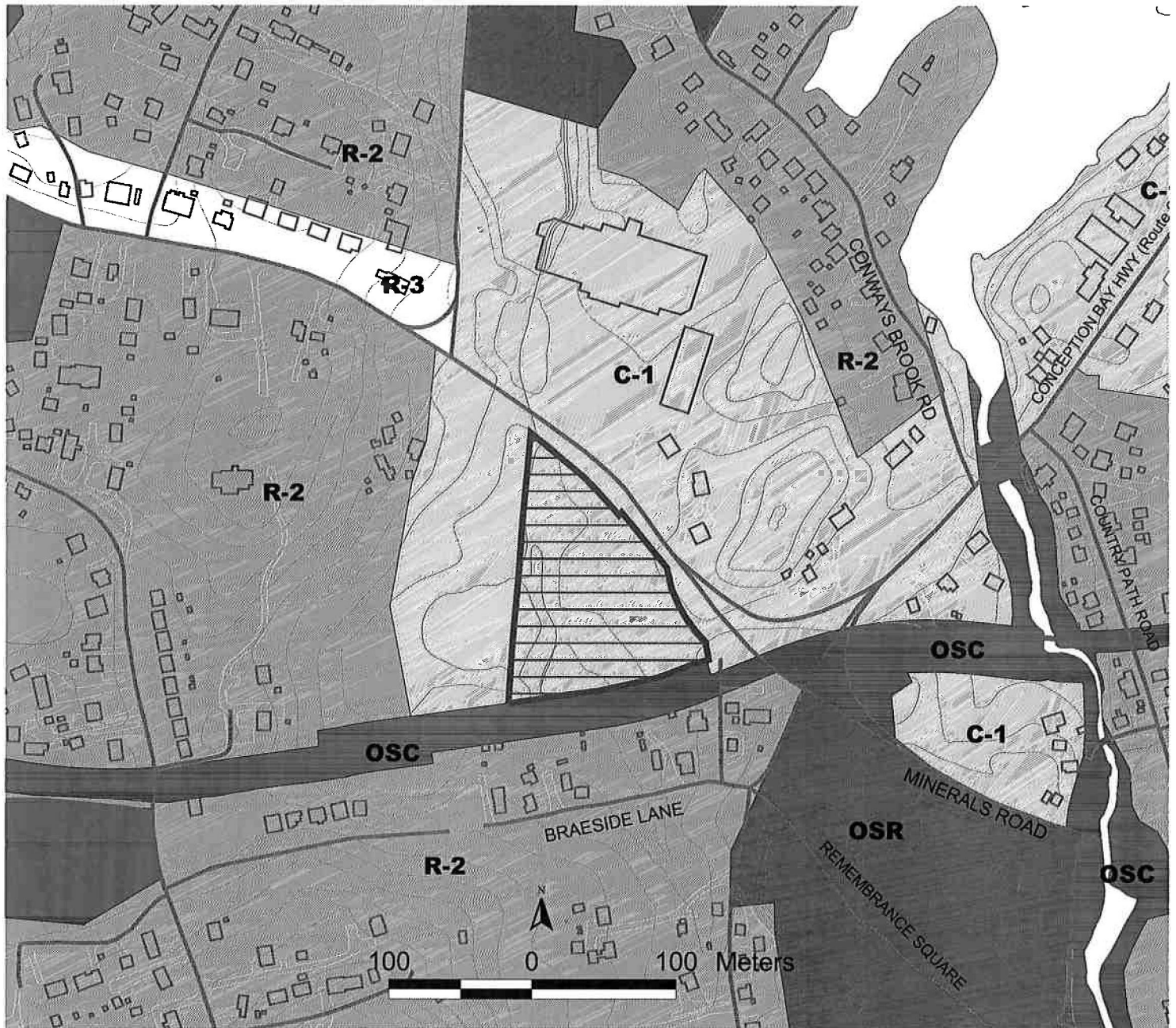
Consultation

Paste from MPA when finalized

Amendment

The Conception Bay South Land Use Zoning, Subdivision and Advertisement (Development) Regulations shall be amended as follows:

1. The Zoning Map is amended as shown on the attached plan.



**Town of Conception Bay South
Development Regulations
Amendment No. 24, 2017
Land Use Zoning**



From: Commercial Main Street (C-1)
To: Residential Multiple Unit (RMU)

Dated: Town of Conception Bay South, NL

This _____, day of _____, 2017

Stephen Tessier, Mayor

Dan Noseworthy, Chief Administrative Officer

I certify that this Development Regulations Amendment
has been prepared in accordance with the requirements of the Urban
and Rural Planning Act 2000:

Mary Bishop, FCIP