



UPLAND

Municipality of the County of Cumberland

Municipal Planning Strategy &
Land Use Bylaw Review (RFP-MCC-1606)

Proposal

August 15, 2016

Prepared for the
Municipality of the County of Cumberland

To:
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1395 Blair Lake Road
Upper Nappan, Nova Scotia
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15
August
2016

Re:
Proposal for Municipal Planning Strategy &
Land Use Bylaw Review RFP-MCC-1606

Letter of Intent

UPLAND is pleased to submit our response to the Request for Proposals for the Municipal Planning Strategy & Land Use Bylaw Review. Our proposal demonstrates how we can provide Council, municipal staff, Steering Committee members, volunteers, residents and stakeholders with an attractive, practical and inspiring new plan that will respond to the unique circumstances of the municipality.

Our team has the right skills, expertise, relationships, passion and understanding to ensure that the new plan exceeds the expectations of the Steering Committee. Led by UPLAND's in-house group of planners, we have partnered with **CBCL Limited** and **Tim Webster** to ensure that the new land use policy and associated regulations are based on the latest available science and rooted in knowledgeable decisions on municipal infrastructure priorities and capital spending.

Perhaps more importantly, we have the corporate experience and track record to manage complex studies and deliver innovative and engaging plans on time and on budget.

We are truly excited for the opportunity to work with the Steering Committee on this Plan Review and look forward to your response to our proposal.

Sincerely,



Steffen Käubler, MCIP (Partner)



Bruce Mans, MCIP (Partner)



Source:
Dennis Jarvis

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Section 1

Understanding of the Project



1.1 Project Understanding

The Municipality of Cumberland is changing and looking towards the future. It needs a practical and manageable plan that addresses emerging challenges, takes advantage of existing assets, *and* creates new opportunities.

The Municipality of Cumberland first adopted its Municipal Planning Strategy and Land Use Bylaws in 1993 and secondary plans were adopted for the area around the Town of Amherst in 2003, for Joggins in 2006, and for the Village of Pugwash in 2008. A variety of development pressures have caused these planning documents to be repeatedly amended throughout the years, but a thorough review was never conducted. The makeup of the municipality is currently undergoing several administrative changes. With the dissolution of the Town of Springhill in 2015 and Town of Parrsboro later this year, the plan review is very timely as the Springhill and Parrsboro plans and regulations need to be updated and integrated into a new Cumberland MPS. With that comes the tremendous opportunity to rationalize and modernize over three decades of plan amendments that have left a mark on what the Request for Proposals calls "erratically" evolving planning documents.

Many of the municipality's challenges that Council wishes to see addressed are not unique to Cumberland. Most rural municipalities across Atlantic Canada are similarly trying to respond to shrinking and aging demographics, improve health and well being of citizens, attract newcomers, provide business opportunities, protect their built and natural heritage, nurture an engaged citizenry, remain financially sustainable and adapt to climate change.

Its geography, however, make Cumberland particularly unique. In terms of land mass it is the second largest municipality in Nova Scotia, much of its municipal boundary is also the frontier between the land and the ocean, and its location between the Northumberland Strait and the Bay Fundy expose the municipality to sea level rise, storm surges and potential flooding.

Council has made climate change adaptation a cornerstone in readying the municipality for the future. The 2011 Environmental Planning Framework lays a good foundation for an updated MPS and appropriate approaches from the framework will inform new policies and regulations.

We have assembled our team with one eye firmly on ensuring that future planning policy is based on good science and as-accurate-as-possible predictions about lands vulnerable to flooding and erosion. For that reason, our team includes two distinguished experts on coastal issues and flood plains as well as a senior engineer with a long track record of advising municipalities on infrastructure issues. Led by UPLAND's in-house group of policy planners, urban designers and engagement specialists, our team has all necessary skills and experience to provide an in-depth analysis of the municipality's current land use planning trends and challenges, engage its citizens and stakeholders in a meaningful dialogue and devise progressive policy combined with unambiguous and easy-to-understand regulations.

We have an enthusiastic local team, that combines decades of consulting expertise with in-house planners that have worked within municipal and provincial governments on plan reviews, wind turbine by-laws, lakes shore planning, architectural controls and land use by-laws. Our team members have been collaborating in various team configurations on municipal planning projects across Nova Scotia and Atlantic Canada. Last but not least, we will provide quality control through our associate Mary Bishop, FCIP, one of the most experienced and well known planners in our region.

With our track record of efficiently managing multi-disciplinary teams, keeping projects on schedule and on budget, while balancing varying interests and opinions that inevitably emerge over the course of a complex plan review, we believe we can assist Council in achieving its six strategic goals, produce a practical and manageable plan, ready the municipality for the future and, in the spirit of the One Nova Scotia Report, "decide where we want to be 10 years from now, set our goals, and start work on all the things we need to do to get there."

Section 2

Work Plan + Schedule



Photo Credit: Dennis Jarvis

2.1 Work Plan

The following pages describe our proposed work plan and project methodology. As per the RFP, our work plan is divided into six distinct steps:

1. Project Initiation and Continuous Management
2. Review and Analysis
3. Citizen Engagement
4. Council Engagement
5. Drafting/Policy Development
6. Final Presentation & Approvals

Phase 1: Project Initiation and Continuous Management

The project start-up phase consists of foundational work to provide structure and planning to guide further steps in the project. Background information and base data will be compiled, analyzed and synthesized to inform future phases of the project. A detailed work plan will be prepared to finalize project milestones and deliverables. We propose that the final engagement and communications plan will be developed in collaboration with the Steering Committee. We have included a toolkit of potential engagement techniques in Phase 3 of this work plan but believe the ultimate selection of suitable engagement tactics should be made in discussion with the Committee after commencement of the project.

Task	Description	Outcome + Deliverables
<p><i>Task 1.1</i> Start Up Meeting</p>	<ul style="list-style-type: none"> • Meet with Steering Committee; • Confirm scope and work plan; • Establish lines of communication and method for information sharing; and • Gain preliminary knowledge about "hot button" issues 	<ul style="list-style-type: none"> • Confirmed work plan, schedule, data sharing protocol and meeting minutes

Task 1.2

Data Collection

A good source of data is crucial to developing informed policies and development regulations.

We will:

- collect, collate and analyze data from a variety of sources including Statistics Canada, the Canada Mortgage and Housing Corporation, the Nova Scotia Health Authority; and
- collect spatial data for mapping products and GIS analysis.

We will assemble this data into a series of working base maps that will, at a minimum, contain the following information:

- Roads;
- Building polygons;
- Current Zoning Map;
- General Future Land Use Map;
- Place names;
- Trails and bicycle routes;
- Servicing and utilities;
- Contours;
- Water bodies and water courses;
- Floodplains and wetlands;
- Resource lands;
- Any available information on historically, culturally, or archaeologically-significant areas;
- Digital Elevation Model / hillshade; and
- Any other geospatial data that is relevant and available.

- Statistical data depository;
- Comprehensive GIS database;

Task 1.3

Engagement Plan

We will design a detailed engagement and communication implementation plan with the following key elements:

Engagement:

- Identification of key stakeholders
- Identification of key engagement techniques (including techniques further described under Phase 3 - Citizen Engagement)
- Identification of steps to analyze information
- Engagement evaluation methods

Communication:

- Audience identification and segmentation
- Review of existing communications avenues/ strategies and engagement mechanisms to make best possible use of existing resources
- Development of key messaging

- Engagement and communication strategy including methods, venues and schedule

<p><i>Task 1.4</i> Project Brand</p>	<ul style="list-style-type: none"> • Develop a project brand that will consist of a logo and theme for the project • Create a project identity that contributes to improving project awareness and overall excitement 	<ul style="list-style-type: none"> • Project Logo
<p><i>Task 1.5</i> Project Website</p>	<ul style="list-style-type: none"> • Create a user-friendly website that will function as the main portal for the project • Use the site to share materials, provide information about upcoming events, post project updates, and distribute draft/final planning documents for feedback • Enable connection to a Facebook and Twitter account which can be used to engage the community and offer opportunities to participate from home or away 	<ul style="list-style-type: none"> • Project website
<p><i>Task 1.6</i> Monthly Progress Reports</p>	<ul style="list-style-type: none"> • Keep client up-to date on achieved targets, outputs, risks and risk mitigation. 	<ul style="list-style-type: none"> • PDF progress report every last Friday of the month

Phase 2: Review and Analysis

The planning analysis phase will help us to understand all relevant background information and to frame the context of the municipality. The analysis will describe the essence and character of the Municipality of Cumberland by describing the historical, social, cultural, environmental and economic characteristics that make it unique. We will place particular emphasis on building from the recommendations of the 2011 Environmental Planning Framework. We have added both an experienced coastal engineer from CBCL as well as a research scientist of the Applied Geomatics Research Group (AGRG) to our team to inform land use management policies with accurate and up-to-date science on sea level rise projections and floodway and floodway fringe delineation.

All findings with spatial relevance will be included in a GIS geo-database our team will develop over the course of the project. The analysis phase will conclude with a summary report of key issues and possible directions.

Task	Description	Outcome + Deliverables
<p><i>Task 2.1</i> Document Review</p>	<ul style="list-style-type: none"> • Compile and review various existing studies, programs, municipal policy priorities and economic development initiatives in the municipality to ensure our team has the full context for the MPS review • In addition to reviewing documents specified in the RFP, we have listed relevant environmental studies that will be reviewed for our detailed technical analysis of coastal and floodway issues (see appendix). 	<ul style="list-style-type: none"> • Comprehensive literature review



Our planning analysis will be organized into themes to help shape and focus the public consultations. Possible themes and questions to answer through our analysis and consultations include:

ENVIRONMENT

A review of policy recommendations included in 2011 Environmental Planning Framework pertaining to:

- Land;
- Water;
- Air;
- Natural resources; and
- Governance.

Particular focus will be placed on developing an in-depth understanding of areas with coastal vulnerability and flooding issues to identify future management zones by:

- modeling and mapping best current sea level rise projections;
- obtaining existing digital mapping for floodway and floodway fringe areas, and
- engaging community groups to validate data with local knowledge (please refer to Phase 3 "Citizen Engagement" for more detail).

- Delineation of restricted land use areas
- Sea level rise projection model
- Delineation of accurate management areas for coastal vulnerability and floodway and floodway fringe areas
- Integration into MPS GIS geodatabase

A detailed methodology for our team's technical component study for a coastal risk analysis is included in the appendix of this proposal.

Which environmentally sensitive areas should be protected? Which areas are at risk of flooding or erosion? How can Cumberland develop in an environmentally sustainable way?

HISTORY AND CULTURE

- Develop a summary of the history and culture of Cumberland that conveys a sense of where the community has come from and how it has evolved over time
- Review heritage bylaws for Cumberland, Springhill and Parrsboro

What heritage resources should be protected? How have development trends changed over time?





SOCIOECONOMIC

A snapshot of the demographic profile, including population trends, household characteristics, health and wellness trends, population density, growth areas and future demographic trends that may influence future growth.

What are population trends? Is growth occurring in certain areas versus others? What demographics are under-served in the community? Is the housing available in the community appropriate for the people who live or want to move here?



INFRASTRUCTURE AND SERVICES

A high level audit of existing servicing infrastructure, the road network, parks, and active transportation / trail corridors.

What servicing capacity issues exist? How sustainable is existing infrastructure? Are there areas that should be set aside for future recreation needs? How do most people move within and through Cumberland?



LAND USE

A general description of the existing development form throughout the Municipal Planning Area, and an exploration of hot-button zoning and development issues.

How integrated are different types of uses? What kinds of development pressures exist in the community? Where are the areas where we should direct future growth?



ECONOMY

A discussion on the economic role of the region, a description of labour force characteristics, and of current economic development projects. Integration of ongoing consulting work (by others) pertaining to economic development.

Where do people work? How is the economy changing? What opportunities for commercial, industrial or tourism sector growth exist?

Task 2.3

**Leading Edge Policy -
Best Practices Review**

Members of the project team are well versed in emerging planning and urban design practice and what progressive communities are doing to take a smarter approach to growth.

- Best practice summary

We will provide the Steering Committee with a summary of policy approaches used in other jurisdictions used to address issues and challenges similar to those of Cumberland on topics such as housing, healthy communities, climate change adaptation, and land use management.

Task 2.4

Policy Gaps

We will conduct a policy analysis to identify policy gaps in the current MPS in relationship to Council's six strategic goals for the MPS review.

- Policy gap memo

Task 2.5

Issues Report

We will summarize key issues and possible directions of the plan and prepare background report.

- PDF document of issues report and sign-off by Client

Phase 3: Citizen Engagement

We undertake citizen engagement based on the assumption that there is an authentic need and intention to listen to the public voice. We strive to make all points of view visible, particularly the voices of marginalized groups. It is important to extend a compelling invitation and ask very good questions, making it easy and interesting for people to participate. We face outwardly, are interactive, and occupy everyday places.

Citizen engagement that “creates buy-in” is the bare minimum metric of success. Our objective is to co-design a citizen engagement process and provide tools that will build local capacity to replicate strong engagements in the future. Our approach is to facilitate, mentor and work alongside Council members, municipal staff, and community stakeholders who will help implement a peer-led process that is locally-owned from beginning to end.

There are many possible ways to ask creative questions through outreach engagements. We have recommended a few, described below. We propose that the most suitable and feasible engagement methods for the MPS review will be selected collaboratively with the Steering Committee during the preparation of the Engagement Strategy in Phase 1, as described above.



Task	Description	Outcome + Deliverables
<p><i>Task 3.1</i> Engagement Manual</p>	Prepare implementation manual as guiding document for consistent engagement by Council members, municipal staff, and community stakeholders over the course of the project	<ul style="list-style-type: none"> • PDF of engagement manual for distribution amongst facilitators
<p><i>Task 3.2</i> Engagement Materials</p>	Prepare interesting, consistent and easy to use engagement materials	<ul style="list-style-type: none"> • Information graphics, display boards, posters, flyers
<p><i>Task 3.3</i> Pre-Engagement Communications Support</p>	Provide engagement materials to Council members, municipal staff, and community stakeholders to assist them in the project communication efforts	<ul style="list-style-type: none"> • Communications guide
<p><i>Task 3.4</i> Engagement Tactics</p>	We propose to employ a toolkit of engagement methods to ensure that a broad spectrum of perspectives can be heard during the creation of the new MPS. While not all of the methods described below might be suitable for the context of Cumberland, they will provide a good starting point for collaborative discussions between our team and the Steering Committee during the drafting of an effective Engagement Strategy.	<ul style="list-style-type: none"> • A mix of creative outreach, online engagement and workshop events as outlined below

Creative Outreach Engagement

Photo Voice

Photo voice invites people to take photos according to a particular inquiry, in order to visually represent values and subjective experiences.

Written/ Photo/ Video Story Booth

Text, image or voice recording of people sharing a story in response to a question, that can be shared in its original form, or edited for exhibition.

Chalk Boards

A fun and nostalgic medium for collecting input in a shared space, where responses are collected with some chaos and are open to interpretation.

Speech Bubbles

A large poly plastic board is a visually intriguing way of recording input that is associated with an individual and is well suited to be shared later.

Post-It Templates

A simple, affordable material with a consistent style and repeating question is an excellent format for getting responses that can be organized into themes.

Post Cards

Similar to post-it templates, post cards can have a repeating question and can be used for themes, but responses can be longer and created with more time.

Public Space Demonstrations

Demonstrations can activate a space in an unexpected way and will enable us to test out ideas probe for insights about potential future uses of open space.

Guided Walks

Walks are an opportunity to notice often overlooked aspects of the physical world, and contemplate the value or frustrations that may exist.

Storefront Installations

Vacant or community-use storefronts are a good venue to display/ communicate information, and promote or implement other engagement tools.

Online Engagement

Online Mapping Tool

An ArcGIS Online supported mapping tool enables the collection of input of spatially relevant information from the community. An online map of Cumberland and a few concise questions will enable citizens to voice concerns and provide ideas from the comfort of their home and specific to their relevant location.

Questionnaire

An online questionnaire can be completed at any time of day from any place with internet, and is a good option for people who prefer to provide input privately.

Social Media Content

Facebook, Instagram and other social media platforms can be leveraged by a series of posts with interesting and noteworthy content people will want to share.

Facilitated Public Workshop

Focus Groups

Group discussion among individuals with convergent views about an issue provides opportunity to hear first hand natural dialogue among participants.

Public Open House

An open house drop-in is open to everyone and advertised in advance. Participants are given information and invited to respond to a series of questions.

Pop-Up Engagement

A drop-in event similar in format to an open house, but held spontaneously at an existing gathering and is easy for people to jump into without advance intent.

Task 3.4 (continued)
Engagement Tactics

Our engagement tactics will also be tailored to consult on a series of “complicated issues”, which may include but are not limited to:

- Shoreline buffers & minimum lot sizes
- Home Based Businesses/Small businesses
- Wind energy development
- Springhill Geothermal development
- Architectural controls in Pugwash, Springhill & Parrsboro
- Improving the entrance to Amherst from the New Brunswick border.
- Any other issues that arise during preliminary consultation

Task 3.5
Metric Reporting

- Report the reach, attendance, key statistics and other metrics
- Record of key engagement statistics

Task 3.6
What We Heard Report

- Create a user-friendly report that captures the feedback received during this engagement period, including areas of agreement, points of contention, specific directions, and priorities.
- Engagement summary report

Phase 4: Council Engagement

During Phase 4 of the project, our team will update Council on the ongoing citizen engagement activities and further explain the approach and planning process. This update will be used to confirm the overall direction of the plan as well as its overall goals, priorities and timelines.

Task	Description	Outcome + Deliverables
<i>Task 4.1</i> Introductory Presentation to Council	We will present to Council to introduce the consultant team and to explain the planning process, the outline for public engagement, the goals and priorities for the project, and project timelines	<ul style="list-style-type: none"> • Record of comments, concerns, suggestions from Council (Council minutes by clerk)
<i>Task 4.2</i> Issues Workshop with Council	We will conduct a full day workshop with Council. We will present a summary of the Issues Report and What We Heard Report, and then work with Council to confirm a high-level direction on key policy issues	<ul style="list-style-type: none"> • Record of high-level direction on key policy issues

<p><i>Task 4.3</i> Mid-Draft Update Presentation to Council</p>	<p>We will provide a mid-draft update presentation to Council. This will be an opportunity to confirm progress on the draft MPS & LUB, and receive direction (if needed) on any key issues that come up in the drafting process.</p>	<ul style="list-style-type: none"> Record of comments, concerns, suggestions from Council (Council minutes by clerk)
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Phase 5: Policy Development

During Phase 5 our team will work in conjunction with senior management and the Steering Committee to draft the planning documents. The result will be a clear, well-founded and defensible plan that meets the needs of the municipality in a creative manner.

Task	Description	Outcome + Deliverables
<p><i>Task 5.1</i> Prepare Draft MPS</p>	<p>Develop strategies that address key area themes such as:</p> <ul style="list-style-type: none"> Affordable Housing Healthy Living Historic Property Preservation Economic Development Agriculture Immigration Potential Aging Population Retention of Young Families Natural Heritage Preservation Water quality (Blair Lake & Mattatall Lake). <p>Some of the higher-order objectives of our review include:</p> <ul style="list-style-type: none"> updating MPS to reflect the needs and values expressed by the community during the consultation phase simplifying and optimizing it from an organizational point of view and use a clean format that incorporates explanatory graphics drafting MPS that is understandable, practical and workable from a planning, legal, and administrative point of view with policies that are clear and defensible striking the right balance between being too general and being too specific to allow for the right amount of flexibility and to reduce the amount of future amendments 	<ul style="list-style-type: none"> Illustrated Draft MPS

Task 5.2

Prepare Draft Land Use By-Law

We will draft the new land use by-law with the following principles in mind:

- Reduce the need future amendments
- Draft regulations that have a strong rationale and can be directly tied to the intent and policies of the Plan
- Remove unnecessary frustrations for residents, Council, staff, and the development community by eliminating overly stringent regulations that do not contribute positively to community development and are causing more problems than solutions
- Devise a document that is simple enough so that it can be understood by both planners and non-planners
- Use plain language throughout the document, avoid legal and planning jargon, and seek to write regulations that are both easy to understand and enforce.
- Provide, whenever possible, simple, effective graphics that will help illustrate regulations

- Illustrated Draft Land Use By-Law

Task 5.3

Recommend Subdivision By-Law Amendments

Our team will review the current Subdivision Bylaws and make recommendations for updating them to compliment the updated MPS and Land Use Bylaw.

- List of recommendations

Task 5.4

Prepare Mapping

While developing the draft Municipal Planning Strategy and Land Use By-Law, we will create a draft Generalized Future Land Use Map and Land Use Zoning Map. They will:

- ensure legibility and ease-of-use
- be created at an appropriate scale
- be prepared using ArcGIS and Adobe Illustrator software and will be provided in PDF format
- be provided as newly created shapefiles and data sources that will be compatible with the municipality's GIS system.

- GIS shape files and PDF maps

We will also create additional maps that may be needed to help with the implementation of certain policies or initiatives, such as coastal management areas.

<p><i>Task 5.5</i> Submit Draft MPS & LUB</p>	<p>We will submit a full package of the draft MPS and Land Use By-Law, including maps and illustrations, to the Steering Committee.</p>	<ul style="list-style-type: none"> • Draft PDF document
<p><i>Task 5.6</i> Draft Plan Presentation to Steering Committee and Council</p>	<p>Our team will present the Draft Plan to the Steering Committee and subsequently to Council. At this meeting, the project team will present the key changes of the Plan and Land Use By-Law and hear any questions, concerns or comments.</p> <p>At this point in the project, we will also submit the Draft Municipal Plan and Land Use By-Law to the province for an informal review. This will allow the project team to gauge if there are any potential issues from the province before the planning documents are submitting for a formal review by the Director of Planning to the province.</p>	<ul style="list-style-type: none"> • Presentation and meeting minutes
<p><i>Task 5.7</i> Community Consultation</p>	<p>Our team will take the draft plan out to the community for refinement and further consultation</p>	<ul style="list-style-type: none"> • Consultation event (TBD, in accordance with engagement plan)

Phase 6: Final Presentation & Approvals

Phase 6 will conclude the project with the submission of the final plan and with our team supporting the formal adoption of the planning documents. Once all feedback has been received, we will make all necessary revisions to the Municipal Planning Strategy and Land Use By-Law. Once the final documents have been updated to address the feedback to the satisfaction of the Director of Planning, we will submit the final version of the planning documents to the municipality in PDF and Word formats. All relevant electronic files will be placed on the project web

Task	Description	Outcome + Deliverables
<p><i>Task 6.1</i> Community Input Summary</p>	<p>We will summarize the comments received during the draft plan community consultation.</p>	<ul style="list-style-type: none"> • Comments summary document
<p><i>Task 6.2</i> Final Revisions</p>	<p>In collaboration with the Steering Committee we will incorporate changes that are considered a suitable response to public feedback.</p>	<ul style="list-style-type: none"> • Final draft plan

Task 6.3

**Formal MPS & LUB
Adoption**

At this point, the Director of Planning and the Clerk will coordinate the formal adoption of the planning documents. Our team will attend the Public Hearing and assist the Director of Planning with the presentation of the Final Plan. Any additional extensive support and/or substantial revisions that occur after the Public Hearing can be provided by the consulting team, but are outside the scope of work of this proposal.

- Presentation and implementation support

The steps to adoption are as follows:

1. A first reading of the Plan to Council, where the documents are approved in principle;
2. After the first reading, the Clerk will give notice of a Public Hearing in a local newspaper for a minimum of two consecutive weeks;
3. Council considers any submissions made or received during the Public Hearing;
4. Council adopts the planning documents at second reading by majority vote;
5. The Clerk submits four certified copies of the documents to the Director of Planning at the province for formal review;
6. Pending approval from the province, the planning documents come into effect on the date that a notice is published in a local newspaper.

2.2 Proposed Schedule

Assuming a project start in September, we will complete the Background + Analysis phase in January 2017 and begin the Consultation phase in the early fall 2016 after people have returned from summer vacations. Our team will then work to complete the draft Municipal Plan and Development Regulations by the end of July 2017. After allowing time for review by the public, government agencies and Town Council, the adoption and public hearing of the Plan and Development Regulations is anticipated by the end of January 2018. The proposed schedule is illustrated below:

	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
1 Project Mobilization and Continuous Management																	
1.1 Start Up Meeting																	
1.2 Data Collection																	
1.3 Engagement Plan																	
1.4 Project Brand																	
1.5 Project Website																	
1.6 Monthly Progress Reports																	
2 Review and Analysis																	
2.1 Document Review																	
2.2 Planning Analysis																	
2.3 Leading Edge Policy - Best Practices Review																	
2.4 Policy Gaps																	
2.5 Issues Report																	
3 Citizen Engagement																	
3.1 Engagement Manual																	
3.2 Engagement Materials																	
3.3 Pre-Engagement Communications Support																	
3.4 Engagement Tactics																	
3.5 Metric Reporting																	
3.6 What We Heard Report																	
4 Council Engagement																	
4.1 Introductory Presentation to Council																	
4.2 Issues Workshop with Council																	
4.3 Mid-Draft Update Presentation to Council																	
5 Policy Development																	
5.1 Prepare Draft MPS																	
5.2 Prepare Draft Land Use By-Law																	
5.3 Recommend Subdivision By-Law Amendments																	
5.4 Prepare Mapping																	
5.5 Submit Draft MPS & LUB																	
5.6 Draft Plan Presentation to Steering Committee and Council																	
5.7 Community Consultation																	
6 Final Presentation & Approvals																	
6.1 Community Input Summary																	
6.2 Final Revisions																	
6.3 Formal MPS & LUB Adoption																	

Appendices



- 1. Detailed Methodology for Coastal Risk Analysis**
- 2. Our Team**
- 3. Reference Projects**
- 4. Reference Letters**
- 5. Curricula Vitae**

1. DETAILED METHODOLOGY FOR COASTAL RISK ANALYSIS (provided by CBCL Limited)

Coastal Risk Analysis

The new MPS will address Item 6 in the Focus of Policy Review: Climate change mitigation and adaptation – Coastal vulnerability to storm surges and rising sea levels, Inland flooding. CBCL will provide updated data and recommend policies to address coastal flooding and erosion risks (including rising sea level, storm surges) along (1) the Northumberland Strait, (2) Chignecto Isthmus and (3) Bay of Fundy. Final mapping products will be produced by Upland.

Coastal Risk Analysis- Task 1 - Data Review

CBCL will review relevant studies and reports, with emphasis on those published since the 2011 Environmental Planning Framework which will be considered the starting point.

Flood risk evaluations and infrastructure impact assessments have been carried out recently along some key shorelines of the County, notably in the Chignecto Isthmus area that is a critical transportation link sensitive to coastal risk. CBCL was recently involved in the 2016 Cost-benefit analysis of climate change adaptation options for the Chignecto transportation corridor (Dietz, Hoyt 2016). As noted in this study, dykes provide the first line of flood protection for all infrastructure across the marshes between the two provinces. Significant work has been carried out to evaluate dyke sensitivity to flooding, inventory dyke heights, and provide some management protocols for maintaining dyke infrastructure. The community of Amherst, NS is located primarily on higher ground, but some significant infrastructure is located in the at-risk zones (municipal sewage treatment facility, wind turbines). A vulnerability and risk assessment was carried out in 2012, which also lists some adaptation actions the town was planning to carry out (Longhurst & Milton, 2012). CBCL was also the lead designer of the new aboiteau on the La Planche River in Amherst, which involved thorough analyses of extreme water levels and coastal flood risks.

The reference list may notably include (but not be limited to):

CBCL, 2009. NS State of the Coast Report. <https://www.novascotia.ca/coast/state-of-the-coast.asp>

Dietz S., Hoyt J. 2016. Cost-benefit analysis of climate change adaptation options for the Chignecto transportation corridor. in: Parnham, H., S. Arnold and A. Fenech (eds.) (2015) Using cost-benefit analysis to evaluate climate change adaptation options in Atlantic Canada. Submitted to Climate Change Impacts and Adaptation Division, Natural Resources Canada, 90p + appendices. <http://atlanticadaptation.ca/en/islandora/object/acasa%3A779>

Daigle, R.J. (2014). Sea-Level Rise and Coastal Flooding Estimates for Chignecto Isthmus and Halifax Harbour. <http://atlanticadaptation.ca>.

Longhurst, S., A. Milton. 2012. Town of Amherst Municipality Climate Adaptation Case Study Report. <http://atlanticadaptation.ca>.

Stantec, 2011. Environmental Planning Framework for the Municipality of Cumberland.

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van Proosdij, D., S. Page. 2012. Best Management Practices for Climate Change Adaptation in Dykelands: Recommendations for Fundy ACAS sites. <http://atlanticadaptation.ca>.

Coastal Risk Analysis - Task 2 – Compilation of Extreme Water Levels and Coastal Vulnerability

Extreme water levels - CBCL will provide updated values for extreme water levels along all shorelines of the study area.

The extreme water levels will consider the following components:

- Highest astronomical tide, based on a combination of tide gauge observations where available and DFO's WebTide numerical model;
- Sea level rise published by DFO in the 2016 online Canadian Extreme Water Level Adaptation Tool (CAN-EWLAT), which gives SLR values at all fishing harbours based on the "business as usual" scenario of the IPCC 2013 Fifth Assessment report corrected for local effects such as land subsidence;
- Extreme storm surge, based on the recent ACASA work notably by R. Daigle and complemented if required by CBCL's storm surge model of Atlantic Canada.

Importantly, we will check with DFO on vertical reference levels and confirm conversions from Chart Datum (the typical tidal reference level) to Canadian Geodetic Vertical Datum of 1928 (CGVD28, the typical reference level for municipal infrastructure, which is typically located near current mean sea level).

Disclaimer re. wave action and river flooding - For areas exposed to wave action, an additional elevation allowance must be made for wave runup and overtopping. To our knowledge, wave action has not been included in any of the previous static flood modeling work. An accurate estimate can only be obtained by a site specific coastal engineering assessment, using hydrodynamic modeling with high resolution bathymetry as inputs (which is outside the present scope). Instead, CBCL proposes to flag exposed areas, give a cursory allowance (e.g. up to 0.5 m, 0.5 to 1 m) based on exposure, assumed shoreline type and shoreline slope (e.g. flat sand beaches are much better at limiting wave overtopping than rocky shorelines with a steep nearshore slope). Similarly, an accurate determination of river flood lines would require site-specific flood studies, with extensive field measurements and hydrologic/hydraulic modeling. As an example, part of that modeling work was done by Webster et al for River Philips in Oxford/Pugwash, and Nappan. However these studies do not provide flood lines to be used for legally binding purposes (e.g. 1 in 20 year floodway, and 1 in 100-year floodway fringe). Given the size of the study area, a flood study for each watershed cannot realistically be included as part of this scope. Instead we will use the existing data to its maximum applicability based on our experience in flood studies, and flag data gaps.

Coastal flooding and vulnerability maps (Component to be done by Upland, with guidance from CBCL) - The mapping component will take extreme water levels into GIS elevation models to provide flood lines and coastal vulnerability. We anticipate that coastal vulnerability maps will require updating based on the 2016 release of NRCan's CanCoast GIS product (Couture and Manson 2016: CanCoast: a tool for helping to assess climate change vulnerability – NRCan GSC Open file). CanCoast is a tool designed to help facilitate adaptation planning in coastal areas. It is a GIS database of coastal attributes (shoreline type, geology, tidal range etc) that can be combined to update the coastal vulnerability index. CBCL expects to have access to Upland's project-related GIS databases on an as-needed basis to help in the analyses. Final mapping products will be issued by Upland.

Coastal Risk Analysis (Upland and CBCL)- Task 3 – Planning Recommendations to Address Coastal Risk

CBCL will assist Upland in preparing generic planning recommendations to mitigate coastal risk. The recommendations will consider:

- Extreme water levels and coastal vulnerability as defined in task 2;
- Intended land use (e.g. private properties, industrial, institutional ...)

The objective will be to define an acceptable level of risk that fits the intended land use.

Coastal Risk Analysis- CBCL Deliverables

CBCL deliverables will include summaries of assumptions, methodology and results in a 10 to 20-page word format report, for inclusion into Upland's document. It is assumed that final mapping products will be produced by Upland, not CBCL. Expenses for the purchase of LiDAR data are not included in this scope.

2. Our Team

UPLAND

We believe in creating context-sensitive and tangible planning and design solutions that the wonderfully unique places of our region deserve.

Years in Business

2+

Number of Employees

6

Professional Memberships

LPPANS, CIP, API, CSLA, APALA

Office Location

5663 Cornwallis Street, Suite 204
Halifax, Nova Scotia
B3K 1B6
+1 (902) 423 0649

Website

uplandstudio.ca

UPLAND provides award-winning strategic planning and design services to public and private sector clients throughout Atlantic Canada. Our team is committed to delivering tangible planning and design solutions that are rooted in a "sense of place". At our core, we firmly believe these solutions must be rooted in local expertise and support, and in the creative application of innovative planning and landscape architecture principles.

We are passionate about our work. Pride in our plans, both in substance and presentation, is the foundation of our success and the key to providing our community partners and clients with a superior end product.

We at UPLAND truly understand that building vibrant communities and regions is a complex process, one that often requires input from many professionals. We have a long history of working on multi-disciplinary teams. We collaborate with partners throughout Canada and often assemble teams consisting of specialized planners, professional engineers, architects, environmental scientists, communications experts, and economic development specialists.

Since its inception, UPLAND has worked on dozens of planning and urban design projects in Atlantic Canada.

About Our Team

We are truly excited to work with the Municipality of Cumberland on this project. Our team consists of UPLAND's Steffen Käubler, Bruce Mans, Mary Bishop, Ian Watson and Erica Brook who will work collaboratively with the Steering Committee in various capacities. Our team will be supported by Rick Giffin and Vincent Leys, two experienced senior civil engineers with CBCL Limited and Tim Webster, a senior geomatics consultant who has work extensively on flooding research in Cumberland. Together, our team combines decades of experience in planning and design and have worked on dozens of similar projects.

Client

Municipality of Cumberland

Team



Steffen Käubler

Planner
Project Manager



Bruce Mans

Planner
Urban Designer



Mary Bishop

Senior Planner
Quality Control



Ian Watson

Planner



Erica Brook

Engagement Planner



Rick Giffin

Civil Engineer



Vincent Leys

Coastal Engineer



Tim Webster

Geomatics
Consultant

On the following pages we present a short introduction to our team, describing our credentials and project roles. Detailed curricula vitae, which includes information about our education and work experience, are included in the Appendix.



Steffen Käubler
MCIP, LPP

Steffen has developed an expertise as a planner and designer, with a keen interest in bridging the gap between planning policy and physical design.

Steffen draws on over ten years of experience as an urban planning and design consultant in Atlantic Canada. His education in Architecture (Vordiplom, Technical University of Dresden, Germany), Business Administration (Bachelor, University of Hagen, Germany), and Urban Planning (Masters Degree, Dalhousie University), have afforded him the ability to work on a wide variety of urban planning and design projects. Building on his regulatory and design education, Steffen has developed an expertise as a planner and designer with a keen interest in bridging the gap between planning policy and physical design. Steffen has provided strategic advice to many public and private sector clients on infrastructure planning, urban design, land use planning and active transportation.

Through working with small- and mid-size Atlantic Canadian communities for many years, Steffen has gained a deep appreciation for their crucial role as part of our country's social fabric. Many of the principles of urbanism that Steffen applies in his daily practice have, in fact, their origin in small, tight-knit, dense and walkable small towns. While aiming for innovative and engaging plans, Steffen's approach to planning for small communities is always guided by an awareness that these plans must be realistically attainable by communities with limited financial and human resources.

In May 2014, Steffen was appointed to the City of Charlottetown Design Review Committee. Steffen's expertise and reputation in the industry is highlighted by the granting of eight national planning and design awards, among them the highest honors by both the Canadian Society of Landscape Architects (CLSA) and the Canadian Institute of Planners (CIP).

Most recently, Steffen project-managed three large successful engagement projects, the Sherbrooke Lake Public Access Consultation Project, the Fundy Gateway consultations and the Recreational Assets and Connectivity Project in the Southeast Regional Service District in New Brunswick.

Role:

For this project, Steffen will oversee all aspects of the project and act as primary client contact.



Mary Bishop

FCIP

Senior Planner / Quality
Control

UPLAND

A graduate of the Master's program in Urban and Rural Planning Program at Technical University of Nova Scotia (now Dalhousie), Mary is a land use planner who has worked for the past 25 years in the private and public sectors where she has prepared Municipal Plans and Land Use Bylaws for communities throughout Newfoundland and Labrador – from small rural communities, to suburban and urban towns and regions. She joined CBCL Limited's St. John's office as a Senior Project Manager in 2008 and has managed a number of significant planning projects, including the preparation of a Regional Plan for the Humber Valley. From 2001 to 2008, she was the Director of Planning for the Town of Conception Bay South, where she was responsible for establishing a planning department and implementation of their municipal plan. In 2013, she acted the Planning Facilitator for the Healthy Canada By Design project in Newfoundland and Labrador, which brought together professionals in the field of planning and public health to develop ways of improving the built environment to support active living. For the past year, she has been assisting the City of St. John's with the drafting of a new Municipal Plan and an overhaul of their implementing bylaw.

While the bulk of her career has been related to work within the province of Newfoundland and Labrador, she has also worked on planning projects in the Maritimes. Projects there included a review of the Kings County Signage Bylaw in 2013, a study for an industrial park in the Municipal District of Chester, and a review of the Planning and Heritage Department in the City of Charlottetown.

Other planning projects that she has undertaken and managed include main street plans, heritage plans, and community economic development strategies. A number of these have received awards for excellence in Planning from both the Canadian Institute of Planners and the Atlantic Planners Institute. In 2004, she received the CIP's highest honour, and was made a Fellow of the Institute, in recognition of her contribution to planning and the planning profession in Canada.

Role:

Mary will be involved in all aspects of the project and will provide quality control prior to submission of any documents. She will apply her experience and local knowledge to provide input and advice on the drafting of planning policy and the Development Regulations.



Bruce Mans

MCIP, LPP

*Planner / Urban Designer
Partner*

UPLAND

Bruce believes that well designed places can profoundly improve our quality of life and is committed to planning solutions that are both compelling and feasible.

As an urban designer with an education in planning and a passion for landscape architecture, Bruce offers the ability to lead projects through the entire planning process, from high level policy development, conceptual design, community engagement, project management, right through to detailed design and implementation. As a result, he understands the importance of communicating design and ensuring ideas are feasible and can be implemented. In all his work, Bruce strives to enhance the interface between landscape and architecture by creating places that are both compelling and appropriate within each individual place.

Bruce has applied this philosophy to a variety of projects in Atlantic Canada, including municipal plan reviews, downtown revitalization plans, waterfront design concepts, urban developments, active transportation plans, park master plans, and other planning studies. Several projects that he has worked on have been recognized with planning and design awards, including a national award in Neighbourhood Planning from the Canadian Institute of Planning and awards from the Canadian Society of Landscape Architects and the Atlantic Planners Institute.

Bruce has been involved in a handful of planning project in Prince Edward Island. He provided planning policy and mapping support for North Shore, Kensington, Malpeque Bay and Eastern Kings. He was also involved in over half a dozen municipal plan reviews in Newfoundland, including plans for the towns of Trinity, Brigus, Conception Bay South, Ferryland, Normans Cove-Long Cove, Petty Harbour-Maddox Cove, and New Wes Valley. He was the primary author and project lead for the most recent Municipal Plan and Development Regulations for Trinity Bay North, which included an innovative approach and a set of policies acknowledging a shrinking population, climate change, and unsustainable infrastructure. Finally, Bruce is currently working on a Plan Review for Paradise in Newfoundland.

Role:

Bruce will be involved in all aspects of the project, with a focus on planning analysis, mapping, improving the visual quality and ease-of-use of the planning documents, and streamlining and simplifying the Development Regulations.



Ian Watson

MCIP, LPP

Planner

UPLAND

Ian believes planning affects everyone, and strives to ensure planning processes and outcomes are understandable and accessible to everyone.

Ian Watson joined UPLAND after spending four years as a municipal planner in a diverse regional municipality. His early career was defined by a number of high-profile—and hotly contested—planning issues, such as large-scale wind turbines and the preparation of a new regional plan. These early “trials by fire” gave Ian experience beyond his years and quickly developed him into a planner with a knack for effective public engagement and an astute sense of diplomacy and tact.

Ian brings a highly analytical approach to solving problems. He has adapted this approach into expertise developing clear, concise policy and regulations that are easy to interpret and apply. Ian fundamentally believes that planning is a discipline that affects all people, and strives to ensure planning processes and outcomes are understandable and accessible to everyone.

Most recently Ian drew on his wide range of skills to support his deep involvement in the Kings 2050 development of a new Municipal Planning Strategy and Land Use By-law for the Municipality of Kings in Nova Scotia. Since joining UPLAND, Ian has been managing four major development applications for a large development company and is leading the consultation for a regional recreational asset study.

Role:

Ian will be involved in all aspects of the project. He will directly assist with analysis, consultation, mapping, and the creation of policies and regulations. He will lead the drafting of Municipal Plan and Development Regulations documents and contribute his valuable experience from working as municipal planner for the Municipality of the County of Kings.



Erica Brook
Engagement Planner

Erica strives to design participatory processes that are effective, open and appropriate to the unique context of each community.

Erica Brook joined UPLAND after spending 8 years in diverse roles, specializing in public engagement, process design and project administration. Her practice has focused in sustainability planning, community development, resource conservation, environmental planning and active transportation with the private, public, and nonprofit sectors. Throughout her work in these various fields Erica led all aspects of public engagement, and enabled a collaborative approach. She has an excellent ability to design participatory processes that are effective, open and appropriate for the affected communities. Erica is an astute listener and takes an intuitive approach to solving problems.

Erica is a graduate of the Dalhousie School of Planning. She began her career in Nova Scotia, and spent time living and working in Newfoundland, Jamaica, and Maine. Upon returning to Canada, she dove into coordination of municipal special projects, and lived in Tatamagouche for 3 years. In this role she led a major public engagement process to research barriers and motivators to walking and cycling in small towns and rural areas of Colchester County. She managed creative engagements, participatory meetings, an intercept survey, and all aspect of outreach and promotion.

In addition to her work with UPLAND, Erica operates her own entrepreneurial venture; a mobile wood-fired sauna for rental and public events. This work is a continuation of her career as a placemaker, facilitating connections and building community with innovative and authentic tactics.

Role:

Erica will lead the engagement process, including facilitation, implementation and reporting.



Vincent Leys

M.Sc., P.Eng.

Coastal Engineer



Mr. Leys has 16 years of experience as a consulting engineer in Canada, Africa and the UK. He specializes in coastal and water resources infrastructure projects, and has particular expertise in coastal, lake and river processes. He led over 40 studies at ports and harbours throughout Eastern Canada on waves and storm surges, sediment transport, hydrodynamics, where he issued engineering recommendations for reduced maintenance dredging, enhanced shoreline protection and climate change adaptation. He was recently CBCL's lead coastal engineering expert on the following landmark projects:

- Mahone Bay shore protection design, based on innovative Living Shorelines techniques combining robustly engineered rock structures with salt marsh restoration (2016);
- La Planche River aboiteau design and construction (\$4 M project in Amherst NS, 2014-2015);
- Climate Change Adaptation Guidance for Rural Communities in Atlantic Canada (NRCan-funded project, led by UPEI, in collaboration with Dalhousie U. and St Marys U.);
- Co-author of the 'Nova Scotia State of the Coast Report (Sea Level Rise and Storm Events Chapter)' used in the Province's Coastal Management Framework.
- Sydney Harbour Dredging (\$38 M project, completed in 2012, where CBCL was hired as Owner's Engineer);
- Reconstruction of Dominion Beach, NS DNR (\$1.1 M project, completed in 2013)

Mr. Leys' international experience includes oceanographic work for Fugro GEOS (UK) and a major fisheries development project in Uganda. Prior to joining CBCL Limited in 2004, Mr. Leys worked as an ocean engineer for Coastal Ocean Associates Inc. Mr. Leys completed a Certificate Program in Coastal Engineering from Old Dominion University in Virginia, and an M.Sc. in Ocean and Offshore Technology in Cranfield University (UK). He also graduated in ocean engineering at France's Ecole Centrale de Marseille, a 'Grande Ecole'.

Role:

Vincent will lead the sea level rise modeling.



Rick Giffin

P.Eng.

Senior Civil Engineer



Rick Giffin, P.Eng., LEED Accredited, is a senior Civil Engineer and Project Manager with CBCL Limited. He has over 33 years of experience from geotechnical and materials engineering to design, construction administration, and project management of municipal and heavy civil engineering projects. He has extensive experience in site development, including grading, road, and municipal services design and storm water management. He is well seasoned on all phases of projects including initial planning, conceptual design, preliminary design, detailed design, tender documents, cost estimating, and construction administration and inspection. He has served as CBCL Limited’s lead design engineer for the Burnside Business Park since 1988, and specializes in roadway, highway and land development design.

Role:

Rick will provide ongoing advise on municipal intrastructure decisions.



Tim Webster

PhD

Geomatics Consultant

Tim is a research scientist with the Applied Geomatics Research Group at Nova Scotia Community College in Middleton, NS. He is also a private consultant and expert in the areas of geomatics and coastal and fluvial processes. His academic research focus is mapping, monitoring and modeling processes in the coastal zone using topo-bathymetric LIDAR and other tools. He is the 2010 recipient of the Gulf of Maine Council Visionary Award, and obtained his PhD from Dalhousie University in 2006, MSc from Acadia in 1996, Advanced Diploma from the College of Geographic Sciences (now part of NSCC) in 1988, and a BSc from UNB in 1987. He and his team have generated many of the coastal flood risk maps in the province based on high-resolution elevation data from LIDAR surveys. He has consulted on coastal and fluvial flood risk studies, written LIDAR specifications, and written the specifications for the department of defense to use LIDAR to map obstructions around military airfields.

Role:

Tim will provide ongoing advise on inland flooding issues.

Reference Projects

Our team members have considerable experience in plan review projects in Atlantic Canada. We have worked on plan reviews, secondary plans and zoning bylaws for the following jurisdictions in the region:

- Halifax Centre Plan, NS, ongoing
- Town of Rothesay Secondary Plan, ongoing
- Town of Paradise, NL, 2016
- Municipality of the County of Kings, NS, 2016
- Town of Fermeuse, NL, 2015
- Town of Harbour Main, NL, 2015
- Town of Petty Harbour-Maddox Cove, NL, 2015
- Town of New-Wes-Valley, NL, 2013.
- Town of Normans Cove-Long Cove, NL, 2012
- Municipality of Eastern Kings, PEI, 2012
- Municipality of North Shore, PEI, 2012
- Town of Trinity Bay North, NL, 2011
- Town of Brigus, NL, 2011
- Town of Trinity, NL, 2011
- Town of Ferryland, NL, 2011
- Town of Malpeque Bay, PEI, 2011
- Town of Kensington, PEI, 2011
- Town of Conception Bay South, NL, 2010
- Humber Valley Regional Plan, 2010

The following section includes a list of relevant projects completed by the team members of UPLAND. Each project sheet includes a brief description of the project and contact information for our past clients who can attest to our ability to complete this project on time and on budget.

Additional reference letters are provided in the Appendix.



Town of Paradise Plan Review

Location
Paradise, Newfoundland

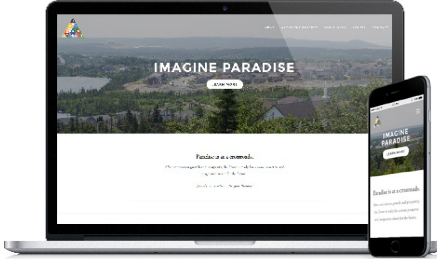
Client
Town of Paradise

Date
Ongoing

Service Area(s)
Public Consultation, Municipal Planning, Urban Design, Graphic Design, Master Planning

Project Overview

UPLAND is currently working with CBCL Limited on a plan review project in Paradise, Newfoundland. Our role in the project involves recommending new Urban Design Guidelines and policies that will emphasize quality in architectural design, streetscape design, and the public realm for future development in the Town of Paradise. We are also creating a Master Plan for a growth area called Picco Ridge, promoting a desired type and form of physical development that will ultimately guide public and private investment. We have developed a project identity and social media engagement program that has supplemented traditional public consultation events and allowed for a diverse range of community groups, residents and stakeholders to provide input and participate in the Plan Review process. As part of this process, we created a user-friendly project website, logo and social media outlets, developed business cards with contact information, and designed T-shirts that were awarded to participants who engaged in the process.



This plan won a 2015 API Award for Excellence in Planning for public outreach and communications.

Client Reference

Alton Glenn
Director of Planning
Town of Paradise
aglenn@townofparadise.ca
(709) 782 3558





Kings 2050 Plan Review

Location
Kings County, Nova Scotia

Client
Municipality of the County of Kings

Date
2012 - 2015

Service Area(s)
Municipal Planning, Policy Analysis and Development, Master Planning,
Public Consultation

Project Overview

Ian Watson, one of UPLAND’s planners, worked for the Municipality of Kings in Nova Scotia for four years. During his time there he was heavily involved in a comprehensive regional planning exercise, known as Kings 2050. The project’s goals were to develop a common vision for the four municipal units in the region, and then update planning documents as necessary to fulfill this vision. In the case of the Municipality of Kings the update involved an entirely new Municipal Planning Strategy and Land Use By-law.



Ian played many roles throughout the Kings 2050 project. During the visioning phase he visited numerous community groups, local village governments, and stakeholders to promote Kings 2050 and engage in discussions about how the region should develop. He also organized and hosted a day-long workshop on renewable energy development. When it came time to develop new planning documents Ian was instrumental in preparing a new Municipal Planning Strategy and Land Use By-law for the Municipality of Kings. Ian developed policy and regulations on a number of topics, including energy, environmental areas, lake shore development, parking, mixed-use development, wellfields, and areas at risk of erosion. Ian was also responsible for managing document structure and ensuring text was easy to read, yet legally precise. Ian worked closely with councillors, senior staff, and the Planning Advisory Committee to ready the documents for a planned adoption in late 2016.

Reference

Ben Sivak, MCIP, LPP
Former Manager of Planning
Municipality of the County of Kings
sivakb@halifax.ca
(902) 490-6573



Town of Rothesay Zoning Handbook

Location
Rothesay, New Brunswick

Client
Town of Rothesay

Date
2015

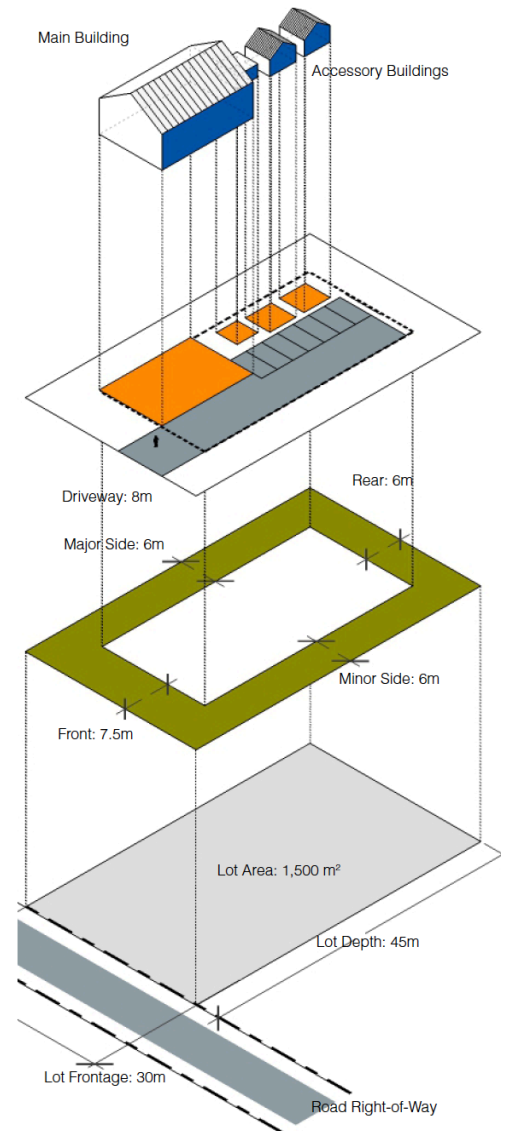
Service Area(s)
Visual Communication, Urban Design Guidelines, Land Use Bylaws, Municipal Planning

Project Overview

Municipal planning and land use bylaw documents are often complicated and full of “legalese”, making it difficult for readers to understand. Recognizing this, the Town of Rothesay hired UPLAND to design a Zoning Handbook; a plain-language guide including easy-to-read graphics and illustrations that will serve as supplementary documentation to the Town’s Zoning By-law. Using 3D illustrations and zoning diagrams, the handbook will give the reader a quick overview of the most important zoning requirements without in-depth study of the Zoning by-law. The illustrations are highly legible and avoid depicting certain architectural styles in order to allow for design flexibility and a range of building designs. The Zoning Handbook will also establish a design vocabulary for the impending Town of Rothesay Municipal Plan Review.

Reference

Brian White
Director of Planning and Development Services
Town of Rothesay
brianwhite@rothesay.ca
(506) 848 6609





Halifax Centre Plan

Location
Halifax, NS

Date
2016

Client
Halifax Regional Municipality

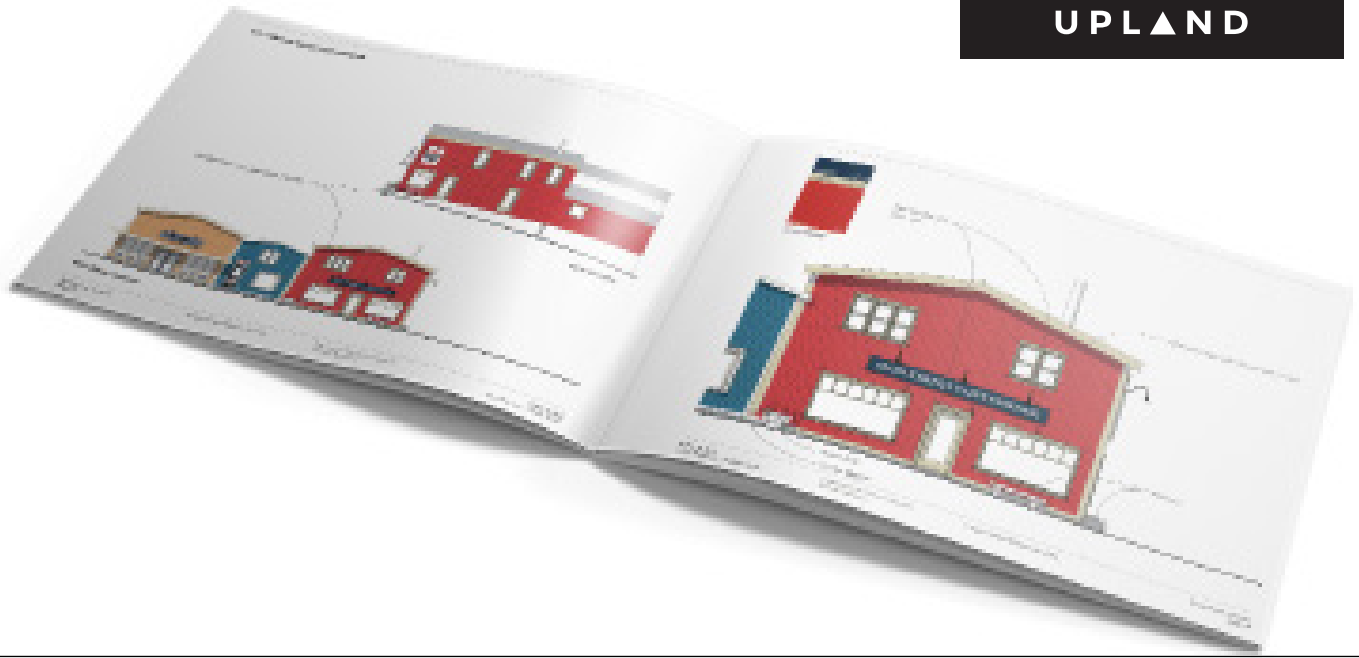
Service Area(s)
Municipal Planning, Urban Design, Public Consultation, Graphic Design, Master Planning

Project Overview

UPLAND is the local urban planning and design lead as part of a multi-disciplinary team that was recently awarded the Halifax Centre Plan project. As the first comprehensive planning study in over three decades, the 12-month study will build upon the Regional Center's historic, cultural and natural features while reaffirming the Centre as the symbolic, historic and functional heart of the HRM. The Plan will update outdated and fragmented policies in the Centre Plan area and will provide the municipality with an opportunity to make a profound leap towards comprehensive city planning.

Reference

Jacob Ritchie
Urban Design Manager
Halifax Regional Municipality
ritchij@halifax.ca
(902) 490-6510



Port Aux Basques Facade Guidelines

Location
Port Aux Basques, NL

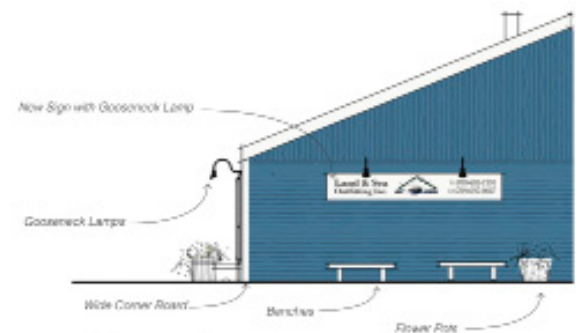
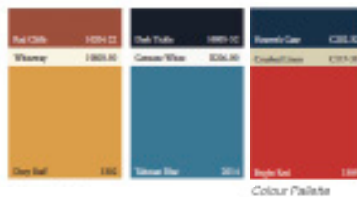
Client
Town of Channel - Port aux Basques

Date
2015

Service Area(s)
Urban Design, Master Planning, Built Form Guidelines

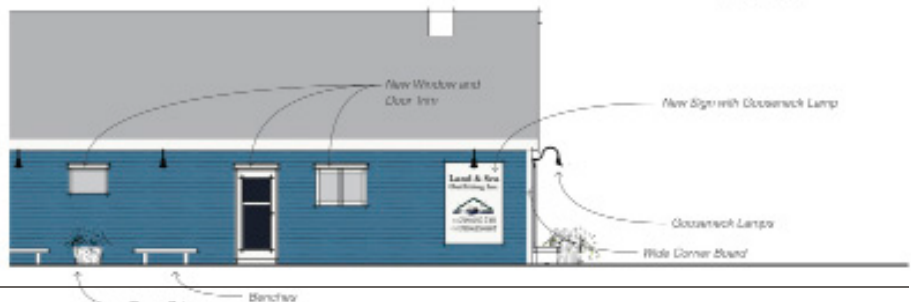
Project Overview

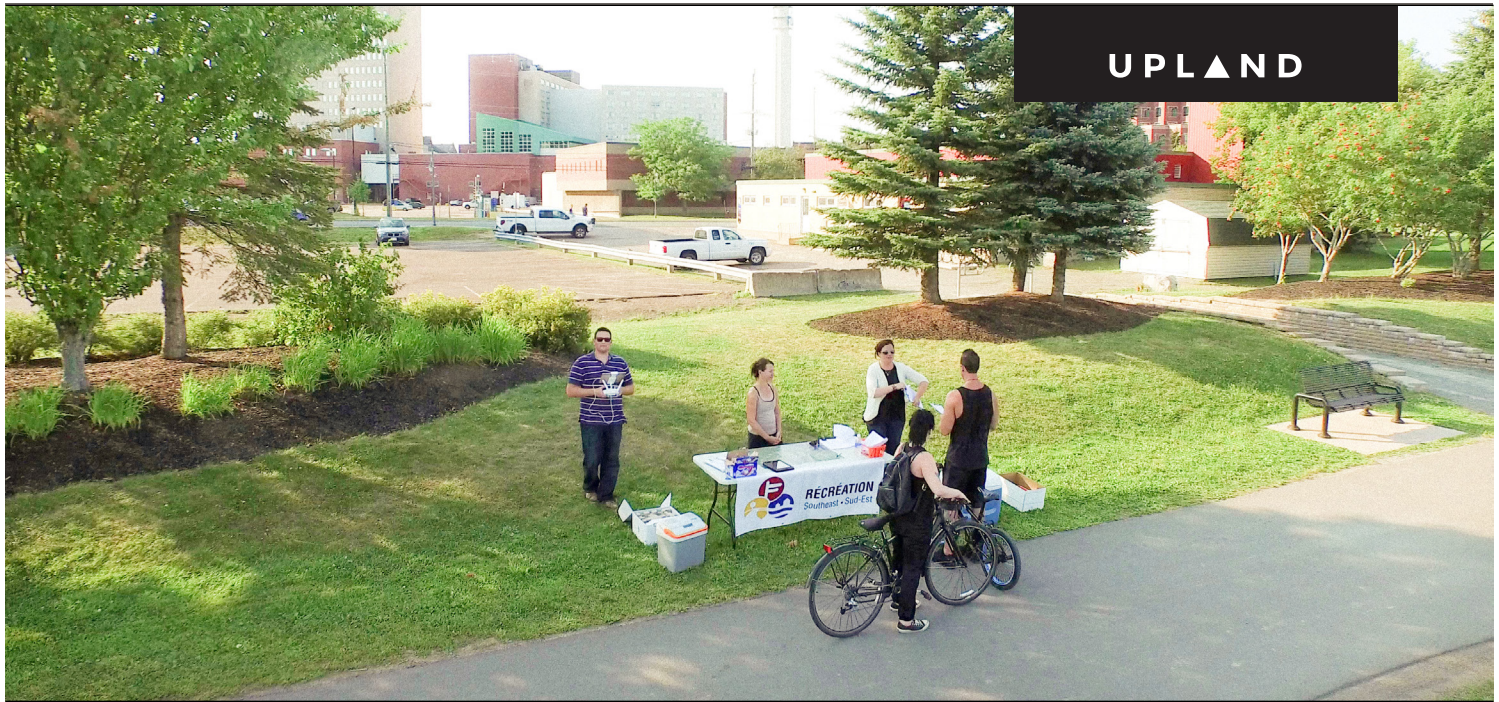
UPLAND developed downtown facade guidelines and provided design advisory services to the Town of Channel – Port aux Basques in Newfoundland. The work allows the Town to carry on with the downtown improvement strategy, which was developed during the award-winning Downtown Design Study process in 2012. The facade guidelines and associated design advisory services will enable the Town to implement a tangible facade improvement program resulting in attractive storefronts that reflect the history and heritage of Channel - Port of aux Basques.



Reference

Shauna Strickland
Economic Development Officer
Town of Channel-Port aux Basques
sstrickland@portauxbasques.ca
(709) 695-5775





Recreational Assets and Connectivity Study

Location
Southeast New Brunswick

Date
2015-2016

Client
Southeast Regional Service Commission (SERSC)

Service Area(s)
Recreation and Open Space Planning, Master Planning, GIS analysis, Trail Development
Public Consultation

Project Overview

UPLAND with its partners Viridis worked on behalf of the Southeast Regional Service Commission (SERSC) in New Brunswick to lay the foundation for a new recreation master plan for the region. Funded by Tourism, Heritage and Culture, one of the main goals of this project is to map all the recreation assets in south-east New Brunswick. In the process, our team collaborated with municipalities, recreation partners, community members and trail users to identify existing and potential recreational connections and trail linkages between the south-east communities and to establish the first cornerstone for a new long-term recreation plan for the region.



RÉCRÉATION
Southeast • Sud-Est

Reference

Tracey Wade, MCIP, RPP
Regional Planner
Southeast Regional Service District
tracey.wade@csrrsc7.ca
(506) 364-4753



Award of Excellence
Comprehensive
Policies & Plans

Atlantic Planners Institute



Active Avon: An Active Transportation Plan for the Avon Region

Location

Avon Region, Nova Scotia

Clients

District of West Hants, Town of Windsor, Town of Hantsport

Date

2015

Service Area(s)

Active Transportation, GIS, Urban Design, Signage / Wayfinding, Education / Awareness

Project Overview

Active Avon: An Active Transportation Plan for the Avon Region is a powerful document that will enable more physical activity across three distinct communities, through enhanced infrastructure and route options. The innovative process united the region and created a clear path forward through strong engagement of the public. The results have had a positive impact on the future of active transportation, health, and regional sustainability.

Uniting the region with a cohesive and integrated network required innovation. The study area spans urban, rural, and municipal boundaries, and identifies critical linkages to other regions in Nova Scotia. The region also presents a wide range of physical and natural characteristics that must be addressed through innovative design strategies. The range of solutions that we proposed are adaptable to unique site characteristics and the needs of unique neighbourhoods within the region. This plan pushes the envelope in leveraging the growing enthusiasm for active transportation and is the first step toward triggering a culture shift toward embracing active transportation as a viable and fun mode of



References

Kathy Kehoe

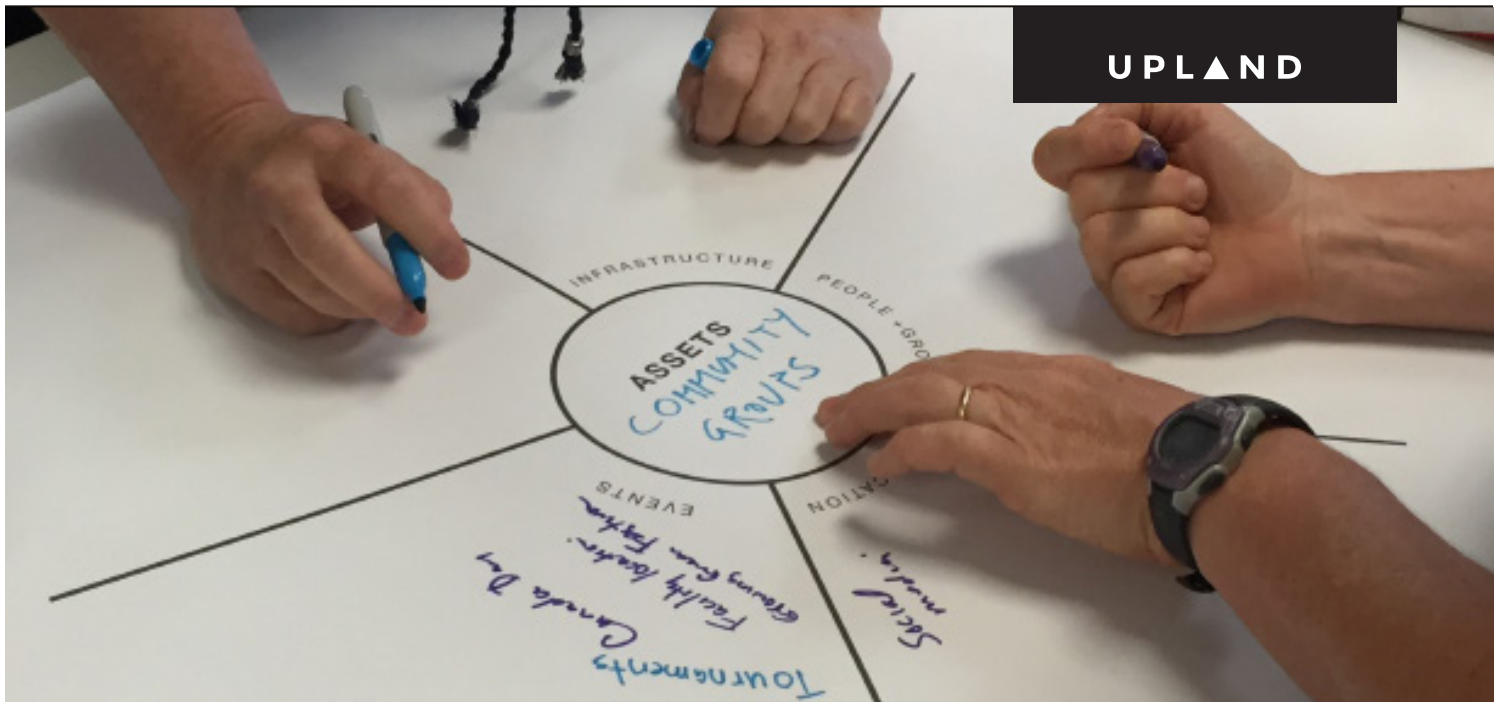
Director of Recreation
Municipality of the District of West Hants
recreation@westhants.ca
(902) 798 8553

Karen Dempsey

Director of Planning
Municipality of the District of West Hants
kdempsey@westhants.ca

Troy Burgess

Director of Public Works
Town of Windsor
troyburgess@town.windsor.ns.ca
(902) 798 2275



Community Engagement Services for the Development of the Town of Bridgewater's Open Space Network Plan

Location
Bridgewater, NS

Client
Town of Bridgewater

Date
2016 - ongoing

Service Area(s)
Community Engagement Services, Public Engagement, Open Space Design

Project Overview

With major public projects underway or on the horizon, the Town of Bridgewater has been working on developing an Open Space Network Plan that treats open spaces as a cohesive system of public assets contributing to the wellbeing of all residents. To develop this plan, the Town of Bridgewater recognized the need for diverse and authentic community involvement in the development of this plan. UPLAND was hired as a consultant to develop and guide a public engagement process that leads to transparent and well-informed decision making.

UPLAND is applying a hybrid of techniques and methods rooted in various disciplines, including participatory research, social marketing, art of hosting, landscape architecture and urban planning. Within the first two weeks of the project, our team undertook a detailed stakeholder analysis, established a local engagement team, and hosted a collaborative planning workshop to design the engagement process together. The methodology was designed to also build local consultation capacity that the Town could utilize for future engagement projects. Together with Town staff, UPLAND is currently undertaking a multitude of creative outreach events that will create the basis of a final "What We Heard Report".

Reference

Jessica McDonald
Director of Planning
902-541-4368
jessicamcdonald@bridgewater.ca
<http://www.bridgewater.ca>

Sherbrooke Lake Public Consultation + Design Services

Location

Sherbrooke, NS

Client

Municipality of the District of Lunenburg

Date

2016

Service Area(s)

Public Access, Recreation, Freshwater Systems, Public Engagement, Open Space Design

Project Overview

For a little over a decade, residents have recognized the potential for a new public space along Sherbrooke Lake. Since being formally recognized as a priority of the Municipality, increasing demand from the community led to establishment of the Sherbrooke Lake Access Advisory Committee, with a mandate to provide broad based community advice to the Municipality and provide options for establishing public access to the Sherbrooke Lake.

In collaboration with the advisory committee, UPLAND developed a shared vision for a new vibrant, public space on Sherbrooke Lake. We designed and facilitated one of the largest public engagement ever undertaken in the municipality using various methods to ensure community input, determine the level of interest in the community and provide objective recommendations that helped Council decide the nature and extent of a new public space. After evaluating the results of the consultation, we developed three open space concept options and cost estimates to help Council better understand the nature and extent of potential new public space.

Over 1000 people provided input through a survey, more than 200 residents attended three open houses and final presentation and multiple government agencies provided input through a focus group.

Reference

Trudy Payne
 Director of Recreation Services
 902-541-1333
 tpayne@modl.ca
 www.modl.ca



Reference Letters

The following is a collection of reference letters from past clients who will attest to our ability to undertake and complete this project on time and within budget.



Municipality of the District of West Hants

76 Morison Drive, Windsor-West Hants Industrial Park
P.O. Box 3000, Windsor, Nova Scotia B0N 2T0
Tel: (902) 798-690 Fax: (902) 798-8553

19 March, 2015

Steffen Kaubler
Upland Urban Planning & Design Studio
2112 Bauer Street
Halifax
NS B3K 3W3

RE: Letter of Reference

To whom it may concern:

This letter is provided as a reference letter for Steffen Kaubler and Bruce Mans of Upland, Urban Planning & Design Studio in their capacity as land use planners and urban designers. In my current position as the Director of Planning for the Municipality of West Hants and as a member of the Avon Region active transportation working group I had the pleasure of working with Upland as the consultant hired to develop an active transportation plan for the Avon Region. This plan involved working with three separate municipalities (West Hants, Windsor and Hantsport), the active transportation working group and the local communities to develop an active transportation plan with an eight year time horizon. Upland delivered a thoroughly researched, well written and practical plan that was delivered on time and within the approved budget.

Upland demonstrated creativity, professionalism and a thorough knowledge and understanding of the issues and challenges involved in this project. I would be delighted to have the opportunity to work with them at any time in the future and feel that their qualifications and expertise bring value to the planning process.

Please don't hesitate to call if you have any questions or if I might be of further assistance.

Yours truly,

Karen Dempsey, MCIP, LPP
Director of Planning



November 28, 2014

To Whom It May Concern:

It is my sincere pleasure to recommend Upland Studio as an urban planning and design consultant.

The Town of Paradise, NL is currently undertaking a review of its Municipal Plan and Development Regulations. CBCL Limited was the successful bidder in partnership with Upland Studio. Upland Studio is responsible for the following on this project:

- Social media strategy and creation of project branding
- Development of a comprehensive concept plan for a large undeveloped area
- Development of urban design guidelines

Bruce Mans and Steffen Kaebler have both been a pleasure to work with on this project. They have proven to be extremely competent, creative and responsive to our needs. An example of this would be our request for the creation of graphics for a t-shirt which we used to promote the plan review to the public. This request was outside of the original scope of work and made on a very short time line. Upland Studio worked with staff from both our Planning and Communications Departments to come up with a design that reflected our idea, met the t-shirt supplier's requirements and made the deadline in order to have the shirts ready for a specific Town event.

I would be happy to answer any questions which a prospective employer may have regarding Upland's work with the Town.

Yours very truly,

A handwritten signature in black ink, appearing to read "Alton Glenn", written over a horizontal line.

Alton Glenn, MCIP
Director of Planning and Protective Services

28 McNamara Drive, Paradise, Newfoundland Labrador, Canada A1L 0A6
T: 709.782.1400 • F: 709.782.3601 • E: info@townofparadise.ca • www.townofparadise.ca

Nov. 12, 2014

To whom it may concern;

I am writing this letter as a reference for UPLAND, Urban Planning and Design Studio. I worked closely with UPLAND for a recent project in St. John's. When the City announced that it would need to replace underground water and sewer beneath Water Street – a major hub in the downtown - it was clear that we would need to take a look at what the street would look like when it was replaced. The City's Engineering Department enlisted CBCL as the consultants who then subcontracted UPLAND for the streetscape component of the work. This was a high profile project with many stakeholder groups and public perspectives.

As the City's lead on the public engagement file, I worked closely with Bruce Mans and his team from UPLAND on the development and implementation of the public engagement strategy for the project between July and Sept, 2015. UPLAND came to the project with a lot of great ideas and worked with us to ensure that the engagement process was inclusive, accessible, timely and effective. They were particularly intuitive and understood the various information needs of the many stakeholders involved in the project. The UPLAND team was personable and approachable which made it very easy for members of the general public as well as the various targeted stakeholder groups to engage with them.

Working with City staff we were able to create online space with content provided by UPLAND at engagestjohns.ca as well as visuals for in-person events. Through effective promotional strategies, participation in the project was very high with more than 5000 people visiting the online page and hundreds more participating in person.

Throughout the development and implementation of the public engagement plan it was clear that UPLAND was invested in the success of the project. I feel they went above and beyond to make themselves available to City staff and the public. As the engagement process came to a close, they were particularly attentive to the City's needs around the "what we heard" document and developed a comprehensive and easily understandable piece that truly reflected what was heard through the consultation process.

Working with UPLAND allowed the city to carry out an effective public engagement process for this project. They understood and executed their work tremendously well and I would welcome the opportunity to work with them on future projects.

Victoria Etchegary
Manager, Strategic Development
Office of Strategy and Engagement
(709) 576-8510
vetchegary@stjohns.ca

ST. JOHN'S

CITY OF ST. JOHN'S PO BOX 908 ST. JOHN'S NL CANADA A1C 5M2 WWW.STJOHNS.CA



ROTHESAY



Friday, November 28, 2014

Mr. Steffen Käubler, Partner
UPLAND | urban planning + design studio
2112 Bauer Street
Halifax, Nova Scotia
B3K 3W3

via: steffen@uplandstudio.ca

70 Hampton Road
Rothesay, NB
Canada E2E 5L5

T: 506-848-6600
F: 506-848-6677

Rothesay@rothesay.ca
www.rothesay.ca

Dear Steffen:

I wanted to acknowledge that the Town of Rothesay is and has been very happy with the recently completed work UPLAND has done for us on a Zoning Handbook.

As the Director of Planning and Development Services, it was a major milestone for our community to have a complete Zoning Handbook containing illustrations for all zones of the Rothesay Zoning By-law that was user friendly to our residents. The Handbook you prepared is a plain-language guide that serves as supplementary documentation with 3D illustrations and zoning diagrams. The Handbook gives our residents a quick overview of the most important zoning requirements without getting into complex and bureaucratic detail. The illustrations are highly legible and depict generic architectural styles allowing for a range of building designs.

In a small Town like Rothesay we don't have the luxury of extra staff to manage our consultants. What I appreciate most about working your firm is that you understand who we are. UPLAND has shown a willingness to partner with us and innovate around the needs of our small Town. I have always found you to be open to listening to our needs and assessing our best options while accommodating our scheduling issues. I am pleased to say that your firm's solutions are the best balance of quality, innovation and value.

The Town of Rothesay has been very pleased to have worked with UPLAND on the development of a Handbook that describes in plain language the development regulations of our Zoning By-Law. The final product is attractive and an excellent resource to help residents understand the spatial characteristics of land use zones.

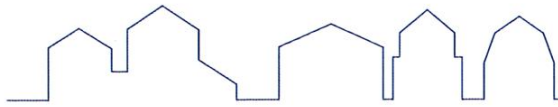
Please do not hesitate to share this letter with any future or potential clients. I would also be happy to provide your firm with a personal reference should our clients wish to contact me at brianwhite@rothesay.ca or (506) 848-6609 with any questions with respect to the above.

Sincerely,

Brian L. White, MCIP, RPP
Acting Town Manager / Director of Planning and Development Services

Explore our past / Explorez notre passé
Discover your future / Découvrez votre avenir

Grand Bay-Westfield • Quispamsis • Rothesay • St. Martins • Saint John



June 28, 2016

Dear Steffen –

On behalf of the Southeast Regional Service Commission (SERSC), I am pleased to write a letter of recommendation to you and Upland Planning and Design Studio.

SERSC had the pleasure of working with Upland and its partner Viridis in conducting the first phase of a Regional Recreation Master Plan for the area. Phase 1 included five steps: 1) identifying and mapping recreational assets throughout the southeast region; 2) conducting a trail connectivity gap analysis between the recreational assets within municipalities and a further connectivity gap analysis between communities within the Southeast Regional Service District; 3) gathering feedback on community trail systems use; 4) identifying options for improved trail connectivity between the Dieppe-Moncton-Riverview; and 5) bringing recreation partners together to meet, review, and contribute to the project.

Gathering baseline data for the regional asset inventory was time consuming and detail-oriented. The Upland team collected data from a variety of sources and standardized data for future analysis. The second part of the project related to trail connectivity between our 15 municipalities, as well as neighbouring communities such as Amherst, Nova Scotia and Fort Folly First Nation. While our asset map illustrated a wealth of existing trails – both motorized and active living – there were few that could be used as official connections between the communities. The Upland team assessed the trail data, formal transportation routes (roads), former rail lines, and dyke systems and identified 14 possible connections between communities which were then assessed on a scale to determine desirability of the trail connections. While none of the proposed linkages have been formalized, the results provided a solid foundation from which to continue discussions on trail development with partner communities and user stakeholders.

Throughout the course of the project, Upland team members were professional, attentive and responsive with requests and feedback from SERSC staff. Politically sensitive issues and general project concerns were dealt with eloquently and effectively. The Project Manager provided regular progress updates and compiled concise action plans following team meetings. We also appreciated Upland's flexibility in responding to stakeholder information requests and an ever-expanding project participation list. SERSC staff were very pleased with the final deliverables and are anxious to move forward on implementing the connectivity recommendations.

Sincerely,

Tracey Wade, MCIP, RPP
 Planner, and Recreation Project Lead

Westmorland-Albert

1222, rue Main Street,
 4th floor, Unit/Unité 4000,
 Moncton, NB, E1C 1H6
 Tel: 506-382-5386

Beaubassin

815A, rue Bombardier Street,
 Route 15, Exit/sortie 37,
 Shediac, NB, E4P 1H9
 Tel: 506-533-3637

Tantramar

131H, rue Main Street,
 Sackville, NB, E4L 4B2
 Tel: 506-364-4701

Solid Waste •

Déchets Solides

2024, rue Berry Mills Road,
 Moncton, NB, E1C 8T6
 Tel: 506-877-1050

Steffen Käubler MCIP, LPP

Planner
Urban Designer
Partner

Curriculum Vitae

#204 - 5663 Cornwallis Street
Halifax, Nova Scotia B3K 1B6
+1 (902) 717-4043
steffen@uplandstudio.ca

**Profile**

Steffen Käubler draws on over ten years of experience as an urban planning and design consultant in Atlantic Canada. His education in Architecture (Vordiplom, Technical University of Dresden, Germany), Business Administration (Bachelor, University of Hagen, Germany), and Urban Planning (Master's Degree, Dalhousie University), has afforded him the ability to work on a wide variety of urban planning and design projects. Building on his regulatory and design education, Steffen has developed an expertise as a planner and designer with a keen interest in bridging the gap between planning policy and physical design. Steffen has provided strategic advice to many public and private sector clients on infrastructure planning, urban design, land use planning and active transportation.

Steffen's expertise and reputation in the industry is highlighted by the granting of eight national planning and design awards, among them the highest honors by both the Canadian Society of Landscape Architects and the Canadian Institute of Planners.

Previous Work Experience

CBCL Limited	2006-2013
Planner and Urban Designer	
EDM • Environmental Design & Management	2003-2006
Planner and Urban Designer	

Memberships + Affiliations

- Canadian Institute of Planners
- Atlantic Institute of Planners
- Licensed Professional Planners of Nova Scotia
- Council for Canadian Urbanism
- City of Charlottetown Design Review Panel (2014-Present)

Technical Skills

- Nemetschek VectorWorks
- Adobe Illustrator
- Adobe InDesign
- Adobe Photoshop
- AutoCAD
- Trimble Sketch-Up

Education

Dalhousie University	2003
Masters in Urban Planning Halifax, Nova Scotia	
Aalto University	2003
Diploma in Urban Design Helsinki, Finland	
Hagen Correspondence University	2003
Bachelor in Business Administration Hagen, Germany	
Technical University of Dresden	1995
Bachelor of Architecture (Vordiplom) Dresden, Germany	


Recent Awards + Recognition

Regional Award of Planning Excellence	2015
Comprehensive Policies + Plans (Atlantic Planners Institute) Active Avon: An Active Transportation Plan for the Avon Region	
Regional Award of Planning Excellence	2015
Outreach + Public Engagement (Atlantic Planners Institute) Town of Paradise Plan Review	
National Award of Planning Excellence	2013
Neighbourhood Planning (Canadian Institute of Planners) Port aux Basques Downtown Design Study	
Regional Award of Planning Excellence	2013
Physical Plans + Designs (Atlantic Planners Institute) Conception Bay South Main Street Improvement Plan	
Regional Citation Award	2013
Canadian Society of Landscape Architects O'Brien Farm Historic Site Master Plan	
Regional Award of Planning Excellence	2012
Physical Plans + Designs (Atlantic Planners Institute) Riverview Built Form and Urban Design Guidelines	
National Honour Award	2007
Canadian Society of Landscape Architects Grand Parade/Province House Joint Public Lands Plan	



Project Experience

Comprehensive Planning

- **Halifax Centre Plan**
Halifax Regional Municipality (2015)
Halifax Urban Core, Nova Scotia
 - **Paradise Plan Review**
Town of Paradise (2015)
Paradise, Newfoundland
 -  **2015 Award in Planning Excellence**
Outreach and Public Engagement (Atlantic Planners Institute)
 - **Highway 102 Corridor Lands Secondary Planning**
Susie Lake Developments (2015)
Halifax, Nova Scotia
 - **Susie Lake Parkland Negotiations**
Susie Lake Developments (2014)
Halifax, Nova Scotia
 - **Rothesay Zoning Handbook**
Town of Rothesay (2014)
Rothesay, New Brunswick
 - **Municipal Plan and Development Regulations**
Town of Conception Bay South (2011)
Conception Bay South, Newfoundland
 - **Corner Brook-Humber Valley Regional Plan**
NL Department of Municipal Affairs (2009)
Corner Brook-Humber Valley, Newfoundland
 - **HRM Business Parks Functional Plan**
Halifax Regional Municipality (2008)
Halifax, Nova Scotia
 - **Shearwater Planning Project**
Canada Lands Company (2008)
Shearwater, Nova Scotia
 - **Village and Harbour Master Plan**
D'Escousse, DIMA Development (2003)
Isle Madame, Nova Scotia
 - **Sandy Lake Community Plan**
Sandy Lake Area Residents Association (2002)
Sandy Lake, Nova Scotia
-

Process + Approvals

- **Wolfville Plan Amendment Application**
Private Developer (2015)
Wolfville, Nova Scotia
 - **910 Bedford Highway Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
 - **Halifax West Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
 - **The Motels Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
-


Landscape Architecture + Site Design

- **Refresh Water Street Streetscaping Project**
City of St. John's (2015)
St. John's, Newfoundland
 - **Picco Ridge Development Concepts**
Town of Paradise (2015)
Paradise, Newfoundland
 - **Berry Hills Phase 8 Development**
Armco Capital (2013)
Lower Sackville, Nova Scotia
 - **Bayview Estates Subdivision Master Plan**
Private Developer (2007)
Corner Brook, Newfoundland
 - **Corey Estates Subdivision Master Plan**
Destiny Homes (2005)
Halifax, Nova Scotia
 - **Conceptual Design Donkin Community Centre**
Donkin Residents Association (2007)
Donkin, Nova Scotia
 - **Concept Plan for Dunfield Park Revitalization**
NL Housing Corporation (2007)
Corner Brook, Newfoundland
 - **Conceptual Design Marx Miles Condominiums**
Mr. Marx Miles (2005)
Fredericton, New Brunswick
 - **Live/Work Neighbourhood Master Plan**
Southwest Properties (2004)
Halifax, Nova Scotia
-


Urban Design + Master Planning

- **Cable Wharf Conceptual Designs**
Waterfront Development (2015)
Halifax, Nova Scotia
- **Port aux Basques Facade Guidelines**
Town of Chanel-Port aux Basques (2015)
Port aux Basques, Newfoundland
- **Bloomfield Centre Redevelopment Plan**
Housing Nova Scotia (2014)
Halifax, Nova Scotia
- **Downtown Dartmouth 3D Modeling Scenarios**
Halifax Regional Municipality (2014)
Dartmouth, Nova Scotia
- **The Lakes Master Plan**
Susie Lake Developments (2014)
Halifax, Nova Scotia
- **Glovertown Centre Plan**
Town of Glovertown (2014)
Glovertown, Newfoundland
- **Main Street Improvement Plan**
Town of Conception Bay South (2013)
Conception Bay South, Newfoundland
-  **2013 Award in Planning Excellence**
Outreach and Public Engagement (Atlantic Planners Institute)
- **Port Aux Basques Downtown Study**
Town Channel-Port aux Basques (2013)
Port aux Basques, Newfoundland
-  **2013 Award of Planning Excellence**
Neighbourhood Planning (Canadian Institute of Planners)
- **O'Brien Farm Master Plan**
O'Brien Farm Foundation (2012)
St. John's, Newfoundland
-  **2013 Regional Citation Award**
Canadian Society of Landscape Architects
- **Land Suitability and Residential Concept Plan**
Town of Happy Valley Goose Bay (2011)
Happy Valley Goose Bay, Newfoundland
- **Built Form and Urban Design Guidelines**
Town of Riverview (2011)
Riverview, New Brunswick
-  **2013 Award in Planning Excellence**
Physical Plans and Designs (Atlantic Planners Institute)
- **South Battery Pier Open Space Concept**
Waterfront Development Corporation (2011)
Halifax, Nova Scotia
- **Charlottetown Airport Master Plan**
Charlottetown Airport Authority (2011)
Charlottetown, Prince Edward Island
- **Brigus Heritage Design Guidelines**
Town of Brigus (2010)
Brigus, Newfoundland
- **Dartmouth Common Master Plan**
Halifax Regional Municipality (2010)
Dartmouth, Nova Scotia
-  **2011 Regional Merit Award**
Canadian Society of Landscape Architects
- **Dartmouth Sportsplex Revitalization Study**
Halifax Regional Municipality (2010)
Dartmouth, Nova Scotia
- **Hants West Business Park Master Plan**
Hants West RDA (2010)
Hants, Nova Scotia
- **Torbay Industrial Park Master Plan**
Town of Torbay (2010)
Torbay, Newfoundland
- **Facility Plan and Design Guidelines for Tilting Irish Field Studies Centre**
Town of Tilting (2008)
Tilting, Newfoundland
- **Grand Parade/Province House Joint Public Lands Plan**
Halifax Regional Municipality (2006)
Halifax, Nova Scotia
-  **2007 National Honour Award**
Canadian Society of Landscape Architects
- **Masterplan Woodside Knowledge Park**
Nova Scotia Innovation Corporation (2006)
Halifax, Nova Scotia
- **Conceptual Design Solar Aquatics Wastewater Treatment Facility**
2008 Olympics (2005)
Beijing, China
- **Stewiacke Business Park Master Plan**
Colchester Regional Development Agency (2005)
Truro, Nova Scotia
- **Harbourside Business Park Master Plan**
Sydney Steel Corporation (2005)
Sydney, Nova Scotia
- **Redesign proposal for neighborhood centre of Garden City of Kortepohja, Finland**
City of Jyväskylä, Int. Fed. for Housing and Planning (2003)
Kortepohja, Finland
- **Downtown Revitalization Plan**
Town of New Waterford and District Economic Renewal Association (2003)
New Waterford, Nova Scotia

Sustainable Transportation + Recreation Planning

- **Southeast New Brunswick Recreation Assets and Connectivity Study**
Southeast Regional Service District (2015)
Southeast New Brunswick
- **Quispamsis Sports Field Analysis**
Town of Quispamsis (2015)
Quispamsis, New Brunswick
- **Cycle Nova Scotia Brochure Series**
Bicycle Nova Scotia (2014 - 2015)
Nova Scotia
- **Avon Region Active Transportation Plan**
West Hants, Windsor and Hantsport (2015)
Avon Region, Nova Scotia
-  **2015 Award in Planning Excellence**
Comprehensive Policies and Plans (Atlantic Planners Institute)
- **Active Avon Education and Awareness Campaign**
West Hants, Town of Windsor and Town of Hantsport (2015)
Avon Region, Nova Scotia
- **Cycle Nova Scotia Bicycle Tourism Brochure/Route Maps**
Bicycle Nova Scotia (2014)
Nova Scotia
- **Active Transportation Master Plan**
Municipality of the District of Lunenburg (2011)
District of Lunenburg, Nova Scotia
- **Airport Access Road Plan**
Halifax International Airport Authority (2011)
Halifax, Nova Scotia
- **Cheticamp Bridge Replacement**
NS Transportation and Infrastructure Renewal (2009)
Cheticamp, Nova Scotia
- **Cornwall Transportation Master Plan**
Town of Cornwall (2006)
Cornwall, Prince Edward Island
- **Louisbourg Lighthouse Trail Plan**
Cape Breton Regional Municipality (2006)
Louisbourg, Nova Scotia
- **Whitney Pier Community Heritage Trail Plan**
Whitney Pier Historical Society (2004)
Sydney, Nova Scotia

Planning Studies + Research

- **Port aux Basques Facade Guidelines**
Town of Chanel-Port aux Basques (2015)
Port aux Basques, Newfoundland
- **Healthy Communities Statement of Provincial Interest**
Province of Nova Scotia (2015)
Nova Scotia
- **McNabs Island Provincial Park Tourism Impact Assessment**
Public Works and Government Services Canada (2013)
McNabs Island, Nova Scotia
- **Sign Audit and Inventory**
Waterfront Development (2013)
Halifax, Bedford and Dartmouth, Nova Scotia
- **Viewscape Study, Maritime Link Transmission Corridor**
Emera (2011)
Newfoundland and Nova Scotia
- **Greenwood Arena Location Study**
Municipality of Kings County (2011)
Greenwood, Nova Scotia
- **Annapolis Valley Industrial Land Demand Study**
Kings Regional Development Agency (2011)
Annapolis Valley, Nova Scotia
- **Edinburgh Waterfront Independent Review**
Cairns International (2010)
Edinburgh, Scotland
- **Dartmouth View Plane Study**
Halifax Regional Municipality (2010)
Dartmouth, Nova Scotia
- **Melford Land Reserve Land Use Analysis**
NS Business Inc. (2008)
Melford, Nova Scotia
- **Port-to-Port Corridor Study**
Cape Breton Regional Municipality (2007)
Sydney, Nova Scotia
-  **2009 National Citation Award**
Canadian Society of Landscape Architects
- **Socio-Economic Profile**
Community of Donkin, Xstrata (2006)
Donkin, Nova Scotia
- **Site Planning for Tourism Related Land Development Opportunities**
Guysborough County RDA (2004)
Durrell's Island, Nova Scotia

Branding + Visual Design

- **Visual Impact Assessment, Terence Bay 8 MW Wind Farm**
Renewable Energy Services Limited (2013)
- **Visual Impact Simulations Maritime Link Transmission Corridor**
Emera (2011-2013)
Cape Breton, Nova Scotia
- **Visualization Indian Sluice Bridge**
NS Dept. of Transportation and Infrastructure Renewal (2012)
Indian Sluice, Nova Scotia
- **Visual Impact Assessment, Pugwash 38 MW Wind Farm**
Atlantic Wind Power Corporation (2011)
Pugwash, Nova Scotia
- **Digital Image Simulation, Frankly Mines Remediation**
DEVCO (2009)
Frankly Mines, Nova Scotia
- **Visual Impact Assessment, Point Tupper 22 MW Wind Farm**
Renewable Energy Services Limited (2008)
Point Tupper, Nova Scotia
- **Visual Impact Assessment, Nuttby Mountain 45 MW Wind Farm**
Atlantic Wind Power Corporation (2008)
Nuttby Mountain, Nova Scotia
- **Canada Games Stadium Visualization**
University of Prince Edward Island (2008)
Charlottetown, Prince Edward Island
- **Community Visioning Illustrations - Vision HRM**
Halifax Regional Municipality (2007)
Halifax, Nova Scotia
- **3D model, Fish Hatchery for Kajjansi Aquaculture Research and Development Center**
Ministry of Aquaculture, Animal Industry and Fisheries (2007), Uganda
- **Visual Impact Assessment of Donkin Coal Mine**
Xstrata (2007)
Donkin, Nova Scotia
- **Digital 3d-modeling for 1.6 million square feet retail/commercial complex**
Dartmouth Crossings Ltd. (2005)
Dartmouth, Nova Scotia
- **3D model, Harbourside Business Park Master Plan**
Sydney Steel Corporation (2005)
Sydney, Nova Scotia
- **Visual Impact Assessment Highway 118 interchange**
Dartmouth Crossings Ltd. (2004)
Dartmouth, Nova Scotia
- **Digital 3d-modeling for Solar Aquatics Treatment Facility**,
2008 Beijing Olympics, proposal, 2004.
- **Graphic support, Wenyu River Eco Corridor**
Competition (2004)
Beijing, China
- **Digital imaging and renderings for Salter's Wharf redevelopment proposal**
Westwood Developments (2004)
Halifax, Nova Scotia
- **Digital 3d-modeling and digital image manipulation for Sydney Coke Ovens and Tar Ponds Land Use Plan**
Sydney Tar Ponds Agency (2003)
Sydney, Nova Scotia

Publications

Small Community Urbanism

Kaeubler, Steffen; Gordon Smith
LANDSCAPES | PAYSAGES, Spring 2013 Issue.

The article weighs in on the debate around a distinct Canadian Urbanism as a shared approach to city-building in Canada. The authors argue that the discourse should not neglect small towns and villages since many of the principles of urbanism have their origin in small, tight-knit, dense and walkable small towns.

Visualizing Landscape Architecture

Mertens, Elke (2010).
Basel, Boston, Berlin: Birkhäuser Publishing.

Steffen was invited to provide renderings to Prof. Dr. Elke Mertens' publication "Visualizing Landscape Architecture". In three large sections, this book sifts through visual presentation techniques and evaluates them in terms of their informative value and persuasive power, illustrating its points with analysis of examples from international firms. The visual examples were chosen for their clarity and to underline how important it is that a design be effectively communicated to the community, clients, and the public.

Mary Bishop

B.Sc., MURP, FCIP

Associate
Senior Planner

Curriculum Vitae

#204 - 5663 Cornwallis Street
Halifax, Nova Scotia B3K 1B6
+1 (709) 412-2457
oliver@uplandstudio.ca



Profile

Mary has worked throughout Newfoundland and Labrador for the past 30 years in both the private and public sectors. Through her work as a planning consultant she has prepared and reviewed municipal plans for communities throughout the province, and was the Director of Planning for the Town of Conception Bay South from 2001 to 2008. She has organized and conducted a variety of public consultations related to strategic planning, recreation, land use, environment and heritage projects and managed consulting teams responsible for preparing regional planning studies in the Northeast Avalon and Humber Valley Regions.

In the past five years, Mary has led teams whose work has been recognized by the Canadian and Atlantic Planners Institutes and the Canadian Society of Landscape Architects. Among her clients she has carried out of number of projects for the City of St. John's which include assisting with the drafting of a new Municipal Plan and Development Regulations, and preparing a concept plan for future development in the Kilbride area. She is currently part of the design team responsible for creating a plan Water Street associated with plans to replace the street's underground infrastructure.

Areas of Specialty

- Municipal management
- Municipal planning and development
- Evaluation
- Economic development
- Tourism planning
- Environmental planning

Memberships + Affiliations

Fellow, Canadian Institute of Planners (FCIP)

Education

Technical University of Nova Scotia (Dalhousie) 1982-1985
Master of Urban and Rural Planning

Dalhousie University 1978-1982
Bachelor of Science (Honours)

Recent Awards

**API Award for Excellence
Public Information and Consultation** 2014
Town of Paradise

CIP Award of Excellence in Neighbourhood Planning 2013
Channel Port-aux-Basques Downtown Design Study

CIP Award of Merit for Rural/Small Town Planning 2013
Trinity Municipal Plan and Development Regulations

API Award of Excellence for Planning 2013
Conception Bay South Main Street Improvement Plan

**Canadian Society of Landscape Architects
Regional Award of Merit** 2013
O'Brien Farm Master Plan

API Award of Excellence for Planning Policy 2012
Policy for the Protection of Underwater Historic Resources
Red Bay, Labrador

API Award of Excellence for Planning 2012
Town of Ramea Integrated Community Sustainability Plan



Project Experience - Municipal Planning and Development

- **Manager, Northeast Avalon Regional Plan Review**
Department of Municipal Affairs (2008-9)
St. John's, Nfld.
- **Manager, Humber Valley Regional Plan**
(2009-2010)
- **Project Manager, Trans Labrador Highway Protected Road Zoning Plan**
Department of Municipal Affairs (2011)
- **Municipal Plan Reviews:**
Town of Paradise (2015)
Town of New-Wes-Valley (2012)
Town of Petty Harbour-Maddox Cove (2012)
Town of Normans Cove-Long Cove (2012)
Town of Brigus (2011)
Town of Trinity (2011)
Town of Peterview (2010)
Town of Bay Roberts (2009)
Town of Norris Point (2008)
Town of Come By Chance (2001)
Town of Conception Bay South (2001)
Town of L'Anse au Loup, Labrador (1999)
Town of Gander (1999)
- **Municipal Plan and Development Regulations Amendments**
Towns of Peterview, Come By Chance, Triton, Witless Bay, Cormack, Logy Bay-Middle Cove-Outer Cove, Burin, Port Rexton
- **New Municipal Plans**
Towns of Fermeuse, Aquaforte, Harbour Main-Chapel's Cove-Lakeview
- **Municipal Plan and Development Regulations, as well as general planning services**
Town of Ferryland (1998-2002, and 2011)
- **Watershed Management Plan for the Peter's River Protected Watershed Area**
Department of Natural Resources (1995)



Project Experience - Design and Tourism

- **Octagon Park Detailed Concept Design**
Town of Paradise (2014)
Paradise, Nfld.
- **Town Centre Improvement Plan**
Town of Glovertown (2014)
Glovertown, Nfld.
- **Mainstreet Improvement Study**
Town of Conception Bay South (2012)
Conception Bay South, Nfld.
- **O'Brien Farm Master Plan**
O'Brien Farm Foundation (2012)
St. John's, Nfld.
- **Downtown Revitalization Plan**
Town of Port-aux-Basques (2012)
Port-aux-Basques, Nfld.
- **Downtown Design Study**
Town of Port-aux-Basques (2012)
Port-aux-Basques, Nfld.
- **Long Pond Inner Harbour Potential Study**
Town of Conception Bay South (2012)
Conception Bay South, Nfld.
- **Port of Long Pond Asset Condition Study**
Harbour Authority (2012)
Long Pond, Nfld.
- **Policy for the Protection of Underwater Historic Resources at Red Bay, Labrador**
Provincial Archaeology Office (2011)
St. John's, Nfld.
- **Feasibility Study for an On-Land Netwashing Facility**
Newfoundland Aquaculture Industry Association (2009)
Nfld.
- **Assessment of the Economic and Social Impacts of the Arts and Heritage Industries**
Cultural and Heritage Industries Associations (2002)
St. John's, Nfld.
- **Downtown Heritage Development Strategy**
City of St. John's (2000)
St. John's, Nfld.
- **Tourism Strategy**
Town of Placentia (1998)
Placentia, Nfld.
- **Historic Townscape Plan**
Bonavista Historical Society (1998)
Bonavista, Nfld.
- **Concept Plan for Relocation of the Bonavista Community Museum to the Ryan Premises National Historic Park**
Bonavista Historical Society (1996)
Bonavista, Nfld.
- **Management of a Crown Land Cottage Lot Market Study**
Land Management Division, Department of Natural Resources (1995)
Nfld.
- **Colony of Avalon Site Development Master Plan**
Southern Shore Development Association (1995)
Ferryland, Nfld.



Project Experience - Evaluation Research and Environmental

- **Recreation Facilities Needs Assessment**
Department of Municipal Affairs (2010)
Northeast Avalon
- **Formative Evaluation of the Federal/Provincial Strategic Regional Diversification Agreement (2000)**
- **Evaluation of the Canada/Newfoundland Green Plan (Sustainable Agriculture) Agreement**
Northeast Avalon
- **Update of a Human Resources Development Strategy for the Agrifoods Industry**
Nfld. Federation of Agriculture (1996)
- **Evaluation of the Canada-Newfoundland Farm Business Management Agreement**
Department of Fisheries, Food and Agriculture (1995)
- **Project Manager, Wabana Groundwater Model Study**
Town of Wabana (2015)
- **Project Manager, Provincial Wellhead Protection Study**
Department of Environment and Conservation (2013)
- **Project Manager, Groundwater Vulnerability Mapping**
Eastern Newfoundland
Department of Environment and Conservation (2012)
- **Project Manager, Review and Evaluation of the Provincial Drilled Well Database (2011)**
- **Project Manager, Groundwater Assessment**
Department of Natural Resources (2012)
Mud Lake Road, Labrador
- **Project Manager, Environmental Site Assessments various agricultural properties**
Nfld. Department of Natural Resources (2011-2012)
- **Project Manager, Study to Identify Preliminary Representative Marine Areas in the Grand Banks Marine Area** Parks Canada (2009)
- **Strait of Canso Fisheries Liaison Services**
Sable Offshore Energy Project (1999-2002)
- **Integrated Snowmobile Trail Environmental Report**
Nfld. and Labrador Snowmobile Federation (1998)
- **Permitting, inter-agency coordination and public consultation, mineral exploration program**
Leeson Resources Inc (1998)
Fischell's Brook area of western Newfoundland
- **Community Coastal Resources Inventory: Procedures Manual**
Department of Fisheries and Oceans (1997)
- **Commercial Fisheries Baseline Study**
Voisey's Bay Nickel Company (1997)
- **Preparation of a Community Coastal Resource Inventory Handbook**
Department of Fisheries and Oceans (1998)
- **Permitting, inter-agency coordination and public consultation, for seismic surveys**
GeoScott Exploration Consultants Inc. (1997)
several west coast locations

Bruce Mans

MCIP, LPP

Planner
Urban Designer
Partner

Curriculum Vitae

#204 - 5663 Cornwallis Street
Halifax, Nova Scotia B3K 1B6
+1 (902) 412-2457
bruce@uplandstudio.ca



Profile

As an urban designer with an education in planning and a passion for landscape architecture, Bruce offers the unique ability to lead design projects through the entire planning process; from high level policy development, conceptual design, community engagement, project management, right through to detailed design and implementation. As a result, he recognizes the importance of communicating design in an accessible, inclusive manner, and developing ideas that are both exciting and implementable.

Bruce has worked on a diverse array of projects, including downtown revitalization plans, waterfront design concepts, urban development plans, active transportation plans, park master plans, and municipal plans. Most recently, Bruce has contributed his design expertise on an urban redevelopment of the Bloomfield Centre in North End Halifax and an upcoming 500 acre, mixed use neighbourhood. His work has been recognized by several planning and design awards including a national award in Neighbourhood Planning from the Canadian Institute of Planning and awards from the Canadian Society of Landscape Architects and the Atlantic Planners Institute.

Memberships + Affiliations

- Canadian Institute of Planners
- Atlantic Institute of Planners
- Licensed Professional Planners of Nova Scotia
- Atlantic Province Association of Landscape Architecture (Associate Member)
- Council for Canadian Urbanism
- Halifax Cycling Coalition (2010 - 2012)

Technical Skills

- Nemetschek VectorWorks
- Adobe Illustrator
- Adobe InDesign
- Adobe Photoshop
- Adobe Lightroom
- ESRI ArcGIS and ArcCatalog
- QGIS
- Trimble Sketch-Up
- Conceptual Sketches
- Hand Renderings

Education

Dalhousie University 2009-2011
Masters in Urban Planning
Halifax, Nova Scotia

University of the Fraser Valley 2003-2007
Bachelor of Arts (Urban Geography)
Abbotsford, British Columbia

Previous Work Experience

CBCL Limited 2011-2014
Land Use Planner and Urban Designer

Cities + Environment Unit 2011
Community Planner

Freelance Graphic Designer 2006 - 2010
Graphic Designer

Recent Awards + Recognition

Regional Award of Planning Excellence 2015
Comprehensive Policies + Plans (Atlantic Planners Institute)
Active Avon: An Active Transportation Plan for the Avon Region

Regional Award of Planning Excellence 2015
Outreach + Public Engagement (Atlantic Planners Institute)
Town of Paradise Plan Review

National Award of Planning Excellence 2013
Neighbourhood Planning (Canadian Institute of Planning)
Port aux Basques Downtown Design Study

National Award of Merit 2013
Rural/Small Town Planning (Canadian Institute of Planning)
Town of Trinity Municipal Plan

Regional Award of Planning Excellence 2013
Physical Plans + Designs (Atlantic Planners Institute)
Conception Bay South Main Street Improvement Plan

Regional Citation Award 2013
Canadian Society of Landscape Architects
O'Brien Farm Historic Site Master Plan



Project Experience




Comprehensive Planning

- **Halifax Centre Plan**
Halifax Regional Municipality (2015)
Halifax Urban Core, Nova Scotia
- **Paradise Plan Review**
Town of Paradise (2015)
Paradise, Newfoundland
-  **2015 Award in Planning Excellence**
Outreach and Public Engagement (Atlantic Planners Institute)
- **Highway 102 Corridor Lands Secondary Planning**
Susie Lake Developments (2015)
Halifax, Nova Scotia
- **Susie Lake Parkland Negotiations**
Susie Lake Developments (2014)
Halifax, Nova Scotia
- **Rothesay Zoning Handbook**
Town of Rothesay (2014)
Rothesay, New Brunswick
- **Municipal Plan and Development Regulations**
Town of Trinity Bay North (2012)
Trinity Bay North, Newfoundland
- **Municipal Plan and Development Regulations**
Town of Petty Harbour Maddox Cove (2012)
Petty Harbour Maddox Cove, Newfoundland
- **Municipal Plan and Development Regulations**
Town of Conception Bay South (2011)
Conception Bay South, Newfoundland
- **Eastern Kings Municipal Plan**
Municipality of Eastern Kings (2012)
Eastern Kings, Prince Edward Island
- **North Shore Municipal Plan Review**
Municipality of North Shore (2012)
North Shore, Prince Edward Island
- **Municipal Plan and Development Regulations**
Town of Trinity (2011)
Trinity, Newfoundland
-  **2013 Award of Merit**
Rural/Small Town Planning (Canadian Institute of Planners)
- **Municipal Plan and Development Regulations**
Town of Brigus (2011)
Brigus, Newfoundland
- **Malpeque Bay Municipal Plan**
Town of Malpeque Bay (2011)
Malpeque Bay, Prince Edward Island
- **Kensington Municipal Plan**
Town of Kensington (2011)
Kensington, Prince Edward Island
- **Municipal Plan and Development Regulations**
Town of Normans Cove - Long Cove (2011)
Normans Cove - Long Cove, Newfoundland
- **Municipal Plan and Development Regulations**
Town of Ferryland (2011)
Ferryland, Newfoundland
- **Comprehensive Community-Based Plan**
North Shore Tribal Council (2011)
North Shore, Ontario

Process + Approvals

- **910 Bedford Highway Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
- **Halifax West Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
- **The Motels Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia


Urban Design / Master Planning

- **Cable Wharf Conceptual Designs**
Waterfront Development (2015)
Halifax, Nova Scotia
- **The Lakes Master Plan**
Susie Lake Developments (2015)
Halifax, Nova Scotia
- **Bloomfield Centre Redevelopment Plan**
Housing Nova Scotia (2014)
Halifax, Nova Scotia
- **Downtown Dartmouth 3D Modeling Scenarios**
Halifax Regional Municipality (2014)
Dartmouth, Nova Scotia
- **Glovertown Centre Plan**
Town of Glovertown (2014)
Glovertown, Newfoundland
- **Victoria Park Master Plan**
Town of Truro (2014)
Truro, Nova Scotia
- **Main Street Improvement Plan**
Town of Conception Bay South (2013)
Conception Bay South, Newfoundland
-  **2013 Award in Planning Excellence**
Physical Plans and Designs (Atlantic Planners Institute)
- **Northern Construction Lands Master Plan**
RMP Consulting (2013)
Waverely, Nova Scotia
- **Port Aux Basques Downtown Study**
Town Channel-Port aux Basques (2013)
Port aux Basques, Newfoundland
-  **2013 Award of Planning Excellence**
Neighbourhood Planning (Canadian Institute of Planners)
- **Long Pond Harbour Development Plan**
Town of Conception Bay South (2012)
Conception Bay South, Newfoundland
- **Paradise Open Space and Recreation Plan**
Town of Paradise (2012)
Paradise, Newfoundland
- **Land Use and Development Plan**
Acadia First Nation (2012)
Gardner's Mill, Nova Scotia
- **Form-Based Code Concepts**
Town of Antigonish (2013)
Antigonish, Nova Scotia
- **Dartmouth Cove Planning Study**
Halifax Reg. Municipality / Waterfront Dev. (2012)
Dartmouth, Nova Scotia
- **O'Brien Farm Master Plan**
O'Brien Farm Foundation (2012)
St. John's, Newfoundland
-  **2013 Regional Citation Award**
Canadian Society of Landscape Architects
- **Land Suitability and Residential Concept Plan**
Town of Happy Valley Goose Bay (2011)
Happy Valley Goose Bay, Newfoundland
- **Community Demonstration Projects**
Lac La Ronge Indian Band (2011)
Lac La Ronge, Saskatchewan
- **High School Design-Build**
Potlotek First Nation (2011)
St. Peter's, Nova Scotia

Landscape Architecture + Site Design

- **Refresh Water Street Streetscaping Project**
City of St. John's (2015)
St. John's, Newfoundland
- **The Lakes Master Plan**
Susie Lake Developments (2015)
Halifax, Nova Scotia
- **Picco Ridge Development Concepts**
Town of Paradise (2015)
Paradise, Newfoundland
- **Central Park Open Space Design**
Town of Trinity (2013)
Trinity, Newfoundland
- **RCMP Nova Scotia Headquarters Interpretive Site Design**
Public Works and Government Services Canada (2014)
Dartmouth, Nova Scotia
- **Paradise Park Design**
Town of Paradise (2013)
Paradise, Newfoundland
- **Canal Greenway Park and Plaza Design**
Halifax Regional Municipality (2013)
Dartmouth, Nova Scotia
- **Berry Hills Phase 8 Development**
Armco Capital (2013)
Lower Sackville, Nova Scotia

Sustainable Transportation + Recreation Planning

- **Southeast New Brunswick Recreation Assets and Connectivity Study**
Southeast Regional Service District (2015)
Southeast New Brunswick
 - **Quispamsis Sports Field Analysis**
Town of Quispamsis (2015)
Quispamsis, New Brunswick
 - **Cycle Nova Scotia Bicycle Tourism Brochure + Maps**
Bicycle Nova Scotia (2014)
Nova Scotia
 - **Active Avon Education and Awareness Campaign**
District of West Hants, Town of Windsor and Town of Hantsport (2015)
Avon Region, Nova Scotia
 - **Avon Region Active Transportation Plan**
West Hants, Windsor and Hantsport (2015)
Avon Region, Nova Scotia
 - **HRM Active Transportation Wayfinding System**
Halifax Regional Municipality (2014)
Halifax, Nova Scotia
 - **Strait Area Transit Study**
Strait Area Regional Transit (2013)
Cape Breton, Nova Scotia
 - **Oromocto Active Transportation Plan**
Town of Oromocto (2012)
Oromocto, New Brunswick
 - **Lunenburg Active Transportation Plan**
Town of Lunenburg (2013)
Lunenburg, Nova Scotia
 - **Nova Scotia Bikeways Mapping Project**
Bicycle Nova Scotia (2011)
Nova Scotia
 - **Aspotogan Peninsula Active Transportation Strategy**
Route Enhancement Cmte of Aspotogan Peninsula (2010)
Aspotogan Peninsula, Nova Scotia
-  **2015 Award in Planning Excellence**
Comprehensive Policies and Plans (Atlantic Planners Institute)
-

Planning Studies + Research

- **Kings Country Signage Study**
Municipality of Kings County (2014)
Kings County, Nova Scotia
 - **Healthy Communities Statement of Provincial Interest**
Province of Nova Scotia (2015)
Nova Scotia
 - **Sign Audit and Inventory**
Waterfront Development (2013)
Halifax, Bedford and Dartmouth, Nova Scotia
 - **Socioeconomic, Land Use and Visual Impact Assessment**
Potash Corporation of Saskatchewan (2013)
Saint John, New Brunswick
 - **Waterville Airport Relocation Study**
Province of Nova Scotia and Kings County (2012)
Kings County, Nova Scotia
 - **Climate Change and Infrastructure Workbook**
Municipalities Newfoundland and Labrador (2012)
Province of Newfoundland
 - **Purcell's Cove Servicing Study**
Halifax Regional Municipality (2012)
Purcell's Cove, Nova Scotia
 - **Lake Echo Watershed Studies**
Halifax Regional Municipality (2011)
Halifax, Nova Scotia
-

Branding + Design

- **Port aux Basques Facade Guidelines**
Town of Chanel-Port aux Basques (2015)
Port aux Basques, Newfoundland
 - **Harvest Moon Signage**
Annapolis Valley Trail Coalition (2015)
Annapolis Valley, Nova Scotia
 - **Channel-Port aux Basques Place Branding**
Town of Channel-Port aux Basques (2015)
Port aux Basques, Nova Scotia
 - **Lake Pisiquid Wayfinding Signage**
District of West Hants, Town of Windsor and Town of Hantsport (2015)
Avon Region, Nova Scotia
 - **RCMP Nova Scotia Headquarters Interpretive Panels**
Public Works and Government Services Canada (2014)
Dartmouth, Nova Scotia
 - **CNG Fredericton Facility Renderings**
Irving (2012)
Fredericton, New Brunswick
-

Planning Studies + Research

- **Recreation Facilities Needs Assessment**
Department of Municipal Affairs (2010)
Northeast Avalon
- **Formative Evaluation of the Federal/Provincial Strategic Regional Diversification Agreement (2000)**
- **Evaluation of the Canada/Newfoundland Green Plan (Sustainable Agriculture) Agreement**
Northeast Avalon
- **Update of a Human Resources Development Strategy for the Agrifoods Industry**
Nfld. Federation of Agriculture (1996)
- **Evaluation of the Canada-Newfoundland Farm Business Management Agreement**
Department of Fisheries, Food and Agriculture (1995)
- **Project Manager, Wabana Groundwater Model Study**
Town of Wabana (2015)
- **Project Manager, Provincial Wellhead Protection Study**
Department of Environment and Conservation (2013)
- **Project Manager, Groundwater Vulnerability Mapping**
Eastern Newfoundland
Department of Environment and Conservation (2012)
- **Project Manager, Review and Evaluation of the Provincial Drilled Well Database (2011)**
- **Project Manager, Groundwater Assessment**
Department of Natural Resources (2012)
Mud Lake Road, Labrador
- **Project Manager, Environmental Site Assessments various agricultural properties**
Nfld. Department of Natural Resources (2011-2012)
- **Project Manager, Study to Identify Preliminary Representative Marine Areas in the Grand Banks Marine Area** Parks Canada (2009)
- **Strait of Canso Fisheries Liaison Services**
Sable Offshore Energy Project (1999-2002)
- **Integrated Snowmobile Trail Environmental Report**
Nfld. and Labrador Snowmobile Federation (1998)
- **Permitting, inter-agency coordination and public consultation, mineral exploration program**
Leeson Resources Inc (1998)
Fischell's Brook area of western Newfoundland
- **Community Coastal Resources Inventory: Procedures Manual**
Department of Fisheries and Oceans (1997)
- **Commercial Fisheries Baseline Study**
Voisey's Bay Nickel Company (1997)
- **Preparation of a Community Coastal Resource Inventory Handbook**
Department of Fisheries and Oceans (1998)
- **Permitting, inter-agency coordination and public consultation, for seismic surveys**
GeoScott Exploration Consultants Inc. (1997)
several west coast locations

Ian Watson

MCIP, LPP

Planner

Curriculum Vitae

#204 - 5663 Cornwallis Street
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ian@uplandstudio.ca



Profile

Ian Watson joined UPLAND after spending four years as a municipal planner in a diverse regional municipality. His early career was defined by a number of high-profile—and hotly contested—planning issues, such as large-scale wind turbines and the preparation of a new regional plan. These early “trials by fire” gave Ian experience beyond his years and quickly developed him into a planner with a knack for effective public engagement and an astute sense of diplomacy and tact.

Ian brings a highly analytical approach to solving problems. He has adapted this approach into expertise developing clear, concise policy and regulations that are easy to interpret and apply. Ian fundamentally believes that planning is a discipline that affects all people, and strives to ensure planning processes and outcomes are understandable and accessible to everyone.

Recently, Ian drew on his wide range of skills to support his deep involvement in the Kings 2050 development of a new Municipal Planning Strategy and Land Use By-law for the Municipality of Kings in Nova Scotia. Since joining UPLAND, Ian has been managing four major development applications for a large development company, is leading the consultation for a regional recreational asset study, and has become a key member of the team developing a new plan for Halifax’s urban core.

Memberships + Affiliations

- Canadian Institute of Planners
- Atlantic Institute of Planners
- Licensed Professional Planners of Nova Scotia



Technical Skills

- Adobe Illustrator
- Adobe InDesign
- Adobe Photoshop
- Microsoft Office Suite
- ESRI ArcGIS and ArcCatalog
- Autodesk AutoCAD
- Trimble Sketch-Up
- Microsoft Sharepoint
- Web Design: HTML + PHP

Education

Dalhousie University 2009-2011
Masters in Urban Planning
Halifax, Nova Scotia

Queen’s University 2005-2009
Bachelor of Science, Honors in Biology and Physics
Kingston, Ontario

Previous Work Experience

United Gulf Developments 2015
Planner

Municipality of the County of Kings 2011-2015
Planner

Dalhousie University 2011
Teaching Assistant



Recent Awards + Recognition

Sexton Honour Roll (Top of Class) 2011
Dalhousie University

School of Planning Team Project Prize 2011
Dalhousie University

Rosetti Scholarship 2010
Dalhousie University

Nova Scotia Planning Directors Association Award 2010
Dalhousie University

Queen’s Principal’s Scholarship 2005
Queen’s University



Project Experience

Comprehensive Planning

- **Halifax Centre Plan**
Halifax Regional Municipality (2015)
Halifax Urban Core, Nova Scotia
 - **Kings 2050, Vision for Kings County**
Municipality of Kings County (2014)
Kentville, Nova Scotia
 - **Municipal Planning Strategy**
Municipality of Kings County (2014)
Kentville, Nova Scotia
 - **Land Use By-Law**
Municipality of Kings County (2014)
Kentville, Nova Scotia
 - **Large-Scale Wind Turbine Regulations**
Municipality of Kings County (2012)
Kentville, Nova Scotia
 - **Planning Application Reviews**
Municipality of Kings County (2011 to 2015)
Kentville, Nova Scotia
-

Process + Approvals

- **910 Bedford Highway Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
 - **Halifax West Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
 - **The Motels Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
 - **Briarwood Development Application**
United Gulf Developments (2015)
Halifax, Nova Scotia
-

Urban Design / Master Planning

- **Refresh Water Street Streetscaping Project**
City of St. John's (2015)
St. John's, Newfoundland
-

Sustainable Transportation + Recreation Planning

- **Southeast New Brunswick Recreation Assets and Connectivity Study**
Southeast Regional Service District (2015)
Southeast New Brunswick
 - **District of Argyle Active Transportation Plan**
Municipality of the District of Argyle (2016)
Tuskett, Nova Scotia
 - **District of St. Mary's Active Transportation Plan**
Municipality of the District of St. Mary's (2015)
Sherbrooke, Nova Scotia
-

Planning Studies + Research

- **Kings County Lake Monitoring Program**
Municipality of Kings County (2011 to 2015)
Kentville, Nova Scotia
 - **Sherbrooke Lake Public Access Consultation**
Municipality of the District of Lunenburg (2015)
Bridgewater, Nova Scotia
 - **Kings 2050 Background Paper – “Environment”**
Municipality of Kings County (2012)
Kentville, Nova Scotia
-

Erica Brook

Engagement Planner

Curriculum Vitae

#204 - 5663 Cornwallis Street
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+1 (902) 423 0649
ian@uplandstudio.ca



Profile

Erica Brook joined UPLAND after spending 8 years in diverse roles, specializing in public engagement, process design and project administration. Her practice has focused in sustainability planning, community development, resource conservation, environmental planning and active transportation with the private, public, and nonprofit sectors. Throughout her work in these various fields Erica led all aspects of public engagement, and enabled a collaborative approach. She has an excellent ability to design participatory processes that are effective, open and appropriate for the affected communities. Erica is an astute listener and takes an intuitive approach to solving problems.

Erica is a graduate of the Dalhousie School of Planning. She began her career in Nova Scotia, and spent time living and working in Newfoundland, Jamaica, and Maine. Upon returning to Canada, she dove into coordination of municipal special projects, and lived in Tatamagouche for 3 years.

In addition to her work with UPLAND, Erica operates her own entrepreneurial venture; a mobile wood-fired sauna for rental and public events. This work is a continuation of her career as a placemaker, facilitating connections and building community with innovative and authentic tactics.

Education

Dalhousie University 2003-2007
Bachelor of Community Design, Honours
Halifax, Nova Scotia

Professional Skills

- Participatory Process Design
- Group Facilitation
- Social Marketing
- Social Media
- Adobe InDesign
- Adobe Photoshop
- Microsoft Office Suite

Previous Work Experience

Municipality of Colchester	<i>2013-2014</i>
Active Transportation Engagement Coordinator	
Colchester Regional Development Association in partnership with Town of Truro	<i>2011-2013</i>
Sustainable Community Coordinator	
CBCL Limited (Newfoundland)	<i>2009-2010</i>
Community Planner	
Canadian Urban Institute in partnership with CIDA (Jamaica)	<i>2008-2009</i>
Sustainable Community Planner	
CBCL Limited and CEF Consultants	<i>2007-2008</i>
Junior Planner	

Project Experience

Community Engagement

- **Fundy Gateway Master Plan**
Municipality of the County of Colchester (2016)
Truro, Nova Scotia
- **Shebrooke Lake Public Access Consultation**
Municipality of the District of Lunenburg (2016)
Lunenburg County, Nova Scotia
- **Tatamagouche School Enhancement Consultation**
Community Committee (2015)
Tatamagouche, Nova Scotia
- **Active Transportation Social Marketing**
Municipality of the County of Colchester (2014)
Truro, Nova Scotia
- **Tatamagouche Bike Rental Program**
County of Colchester (2014-2015)
Tatamagouche, Nova Scotia
- **Cool Truro-Colchester Program**
Colchester Regional Development Agency (2012)
Truro, Nova Scotia

Community Engagement Con't

- **Truro Storefront Art Initiative**
Town of Truro (2012)
Truro, Nova Scotia
- **Pugwash Farmers' Market**
Municipality of Kings County (2012)
Kentville, Nova Scotia
- **Uptown Mandeville Design Workshop**
Manchester Parish Development Committee (2009)
Jamaica
- **Shearwater Development Planning Services**
Canada Lands Company (2008)
Dartmouth, Nova Scotia
- **Lake Uist Wind/Hydro Power Project**
Cape Breton Hydro Ltd. (2008)
Loch Lomond, Nova Scotia
- **Point Tupper Wind Farm**
Point Tupper Industrial Management (2008)
Cape Breton, Nova Scotia
- **Child and Youth Friendly Land-Use and Transport Guidelines for Nova Scotia: Consultation with Nova Scotian Planners**
Ecology Action Centre (2007)
Halifax, Nova Scotia

Sustainability Planning

- **Sustainability Plan Implementation**
Town of Truro (2010-2012)
Truro, Nova Scotia
- **Integrated Community Sustainability Plan**
Happy Valley - Goose Bay (2009)
Newfoundland
- **Integrated Community Sustainability Plan**
St. Lunaire - Griquet (2009)
Newfoundland
- **Integrated Community Sustainability Plan**
Trinity Region (2009)
Newfoundland
- **Integrated Community Sustainability Plan**
City of Mount Pearl (2010)
Newfoundland
- **Integrated Community Sustainability Plan**
Miles Cove Region (2010)
Newfoundland

Land Use Planning

- **Cobequid Trail AT Extension**
Town of Truro (2012)
Truro, Nova Scotia
- **Mount Pearl Municipal Plan**
City of Mount Pearl (2010)
Mount Pearl, Newfoundland
- **Northeast Avalon Regional Plan**
Dept. of Municipal Affairs (2015)
St. John's, Newfoundland
- **Town of Berwick / Kings County Joint Industrial Park Feasibility Study**
Kings County Economic Development Agency (2008)
Berwick, Nova Scotia
- **Donkin Mine and Transportation Corridor**
Xstrata Coal Donkin Management Ltd. (2008)
Berwick, Nova Scotia



AREAS OF SPECIALTY

Coastal Engineering, Climate Change Adaptation
Hydraulics, Sediment Transport and Water Quality for Coasts, Lakes and Rivers

PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS

Member of the Association of Professional Engineers of Nova Scotia

EDUCATION

2005 Coastal Engineering Certificate Program, Old Dominion University, VA
2000 M.Sc. in Ocean and Offshore Technology, Cranfield University, UK
1999 B.Sc. in Ocean Engineering, Ecole Centrale de Marseille, France, a French 'Grande Ecole'

PROFESSIONAL TRAINING

2016 Geotechnical Engineering Fundamentals, EPIC
2012 Inspection, Repair and Rehabilitation of Marine Structures, EPIC
2011 Applied Climate Change Program, University of Prince Edward Island
2011 Project Management Bootcamp, PSMJ Resources Inc.
2007 Integrated Coastal Zone Management, UNESCO-IHE
2001-2003 Dalhousie University Graduate Courses in Hydraulics and Oceanography, Halifax, NS

EXPERIENCE

Mr. Leys has 16 years of scientific and engineering consulting experience in Canada, the UK and Africa. Prior to joining CBCL in 2004, Mr. Leys was an ocean engineer for Coastal Ocean Associates NS, and Fugro Global Environmental and Ocean Sciences, UK. He has provided scientific, engineering and project management expertise on a wide array of coastal and water resources projects. Highlights include:

CLIMATE CHANGE ADAPTATION:

- Climate Change Coastal Adaptation Guidance (CBCL and UPEI, Dalhousie U., St Mary's U., for Atlantic Climate Adaptation Solutions Association, 2014-15) – Developing a decision key for the selection of sustainable coastal adaptation strategies (planning and engineering). Principal Investigator for engineering component of the project.
- Municipal Climate Change Action Plans (NS) – Lead coastal expert on MCCAPs for Cape Breton, Port Hawkesbury, Victoria, Inverness, Lunenburg, Annapolis Royal.
- Nova Scotia State of the Coast Report (NS Provincial Oceans Network) – Lead Technical Author of 'Sea Level Rise and Storm Events' (Chapter 9) <https://www.novascotia.ca/coast/state-of-the-coast.asp>
- CLIMATE CHANGE VULNERABILITY AND ADAPTATION ASSESSMENT OF FISHERIES INFRASTRUCTURE (NS) – Development of a 'Climate Change Adaptation Toolkit' for fisheries and aquaculture infrastructure. Site assessments within six pilot study areas - <http://atlanticadaptation.ca/node/218>
- CHETICAMP WATERFRONT ENHANCEMENT PLAN (NS) – Assessment of waterfront infrastructure vulnerability to storm surge and sea level rise and recommendations for structural upgrades https://www.ecologyaction.ca/qmb_leys
- RUSTICO ESTUARY STRATEGIC ENVIRONMENTAL ASSESSMENT (PARKS CANADA AND DFO, PEI) - Technical solutions and costs to remediate erosion and improve navigation (tidal inlet sediment dynamics, dune erosion, navigation channel shoaling, tidal flushing).



Richard B. GIFFIN

SENIOR CIVIL ENGINEER

PRINCIPAL

LEED® ACCREDITED PROFESSIONAL



AREAS OF SPECIALTY

Municipal Planning, Design, and Cost Estimating, Highway Design, Digital Terrain Modelling and Computer Aided Design, and Project Management

PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS

Association of Professional Engineers of Nova Scotia

Association of Professional Engineers of New Brunswick

LEED® 2.0 Accredited Professional, Canada Green Building Council

EDUCATION

Environmental Pollution and Control, 1993, Technical University of Nova Scotia

Solid Waste Management, 1993, Technical University of Nova Scotia

B.Eng. (Civil), 1982, Technical University of Nova Scotia

Certificate of Applied Science, 1979, Acadia University

PROFESSIONAL DEVELOPMENT

Stormwater Management and Hydraulic Computations—Interhymo Centre

Marine Outfall Design and Siting—TUNS

DCA Engineering Software Symposium

Geographic Information Systems—TUNS

Geographic Information Systems in Transportation—TAC

District Heating Symposium

LEED® Training Workshop

EXPERIENCE

Rick Giffin, P.Eng., LEED Accredited, is a senior Civil Engineer and Project Manager with CBCL Limited. He has over 33 years of experience from geotechnical and materials engineering to design, construction administration, and project management of municipal and heavy civil engineering projects. He has extensive experience in site development, including grading, road, and municipal services design and storm water management. He is well seasoned on all phases of projects including initial planning, conceptual design, preliminary design, detailed design, tender documents, cost estimating, and construction administration and inspection. He has served as CBCL Limited's lead design engineer for the Burnside Business Park since 1988, and specializes in roadway, highway and land development design.

Highways and Roadwork

- Lead Design Engineer - Highway Twinning and Tolling Study (300 Km) for Nova Scotia
- Lead Design and Project Manager for Larry Uteck Interchange and Highway 102 widening – Halifax.
- Lead Design and Project Manager for Highway 104 Twinning -Beech Hill Road to Taylor Road (7.5Km), Antigonish, NS.
- Lead Design and Project Manager for Highway 125 Twinning (8.6Km), Sydney, NS.
- Lead Design and Project Manager for improvements to the Windsor/Kempt Road Intersection and twinning of the Halifax approach to the MacKay Bridge.
- North Street Improvements, Bridgewater, NS.
- Intersection improvements at various locations in Burnside and throughout the region.
- Project Manager for the design of numerous roundabouts throughout Nova Scotia.
- Design and Project Management of Akerley Boulevard and Wright Avenue Extensions in Dartmouth.

- Reconstruction of Albion Street, Amherst, NS, Kensington Road, Charlottetown, PEI (17 Intersections), Bristol Avenue and Milton Road, Liverpool, NS, and North- South Arterial and Germain, and North and South Market Streets in Saint John, NB, and LaHave Street in Bridgewater.
- Street designs for approximately 18Km of new streets in Burnside and Stellarton Business Parks.
- Highway design for new bridge construction including re-alignment of the Cabot Trail at the Margaree Harbour Bridge, Grand Etang, and Cheticamp River.
- Highway design for Pinette River Bridge on the Trans-Canada Highway near Wood Islands, PEI.
- Highway Design related to replacements for several rural Nova Scotia Bridges including Sutherland's Bridge, Elmsdale Bridge, North River Bridge, East Kemptville, Gold River, Weir, and Sydney Mines.

SITE DEVELOPMENTS

- Lead Design Engineer for the development of Phases 4, 8, 11, and 12 of the Burnside Business Park in Dartmouth, NS, and Stellarton Highway Commercial Business Park.
- Site Development designs including parking lot designs for numerous buildings including Kent Building Supplies, Chapters/Future Shop in Dartmouth, fifteen Sobeys store developments, approximately twenty new schools throughout the Maritimes, and several sewage treatment plants in Nova Scotia.
- Participated in several projects involving Green Building Design including a P-12 School in Iona, Nova Scotia, Chiefs & Petty Officers building at CFB Halifax, the Maritime Helicopter Training Centre at 12 Wing Shearwater, and the proposed Government of Canada building at the Bedford Institute of Oceanography.

MUNICIPAL SERVICES

- Design and Project Management of storm and sanitary sewer collection systems, water distribution systems, pumping stations and forcemains, for the Burnside Business Park, Stellarton Highway Commercial Business Park, the Town of Liverpool, Amherst, Bridgewater, NS, and the City of Saint John, NB.
- Site Services Design for 13 P3 School projects throughout Cape Breton, Halifax West High School, South Queens Elementary, Pictou East and West High Schools, Maritime Helicopter Training Centre, and the Life Sciences Buildings at Dalhousie University.

INDUSTRIAL/MARINE FACILITIES

- Design Engineer/Project Manager for new Aboiteau Structure, LaPlanche River, Amherst, NS
- Site development and services for the Boat Harbour Sludge Dewatering Facility (pulp and paper).
- Design and project management for the Boat Harbour Hydraulic Control Structures.
- Pre-design of at Treated Effluent Pipeline and Pumphouse at Boat Harbour.
- Closure of the Bowater Mersey Industrial Landfill, Liverpool, NS.
- Site development and services for the Wirsbo Pipe manufacturing plant in Saint John, NB.
- Provided civil engineering advice and cost estimates to Nova Scotia Power Inc. in a feasibility study for district heating for Halifax and Dartmouth using the Tuft's Cove Plant.

STORMWATER MANAGEMENT

Design of numerous storm sewers and Stormwater Management Systems throughout the Maritimes.

TIMOTHY L. WEBSTER

AFFILIATION and CONTACT INFORMATION

Research Scientist, Applied Geomatics Research Group, Nova Scotia Community College (NSCC).

Centre Of Geographic Sciences, Annapolis Valley Campus

50 Elliott Road, Lawrencetown, NS, B0S 1M0

Phone: (902) 825-5475, Email: timothy.webster@nsc.ca

EDUCATION

Dalhousie University, PhD, Dept. of EARTH SCIENCE 2006

Acadia University, MSc GEOLOGY, October 1996

Centre of Geographic Sciences, Post Graduate Advanced Diploma in REMOTE SENSING, August 1988

University of New Brunswick, BSc. double major GEOLOGY and PHYSICS, April 1987

RESEARCH/PRACTICAL EXPERIENCE

1992 – Present Private consultant on Geomatics, specializing in geoscience, geomatics and climate change applications.

2008 – Present Adjunct Professor status at Dalhousie University, Department of Earth Sciences

2006 – Present Adjunct Professor status at Acadia University, Department of Earth Sciences

2000 – Present Chair of the Nova Scotia Branch of the Canadian Institute of Geomatics

2000 – 2007 Chair of the Atlantic region of the Canadian remote Sensing Society

2000 – Present Research Scientist, Applied Geomatics Research Group, COGS, NSCC, Middleton, Nova Scotia.

Sept. 1991 – Jan. 2000 Faculty GIS/Remote Sensing, Centre of Geographic Sciences, Lawrencetown, Nova Scotia

June 1999 - Aug. 1999 Private consulting to Shaw Resources

July 1992 – August 1994 Consultant Valley Visions Geomatics & Educational Services

Oct 1989 - Jan 1991 INTER-TYDAC, Ottawa, Ontario, GIS Applications Specialist

AWARDS & GRANTS

2016 NSERC Grants

Engage Grants \$25k per grant ~ 6 months

AquaDelights Seafoods Ltd. “*Optimizing oyster aquaculture in Little Harbour, NS using hydrodynamic modelling and bathymetric lidar*”

2015 NSERC Grants

Applied Research & Development Grants ~\$ 225k total per grant over 3 years

- Leading Edge Geomatics “*Operational research of airborne topo-bathymetric lidar*”
- Acadian Seaplants “*Quantification of Harvestable Seaweed using a Topographic-bathymetric Lidar System*”

Engage Grants \$25k per grant ~ 6 months

- Parsons Investments Ltd. Engage “*Tools to Assess Flood Risk of Commercial Investment Properties*”
- CBCL Consulting “*Evaluating a topo-bathymetric lidar sensor to map river channels for improved hydrodynamic flood risk mapping*”
- Pieridae Energy (Canada) Ltd. “*Bathymetric Lidar to support pre-engineering analysis for marine LNG transport infrastructure*”.

Department of Fisheries and Oceans – Grants and Contrition’s – World Tanker Safety \$400k

“*NSCC-AGRG to survey and chart bodies of water and adjacent coastline, and models coastal hydrodynamics*”

Natural Resources Canada (NRCan) Science and Technology Internship Program (STIP) 50% salary up to \$13.2 k

Nova Scotia Energy Training Program for Students 50% salary up to \$13.2k

2014 NSERC Grants

Engage Grants \$25k per grant ~ 6 months

- Stantec Consulting Ltd. “*Evaluating a topo-bathymetric lidar sensor to map Submerged Aquatic Vegetation in Lakes*”
- Halifax Water Commission “*Development of a New Method for Determining the Reservoir Capacity of a Water Supply Lake*”
- Open Oceans “*Site Selection for Balanced Ecosystem Aquafarming using Biophysical Data and Hydrodynamic Modelling*”
-

NRC IRAP Grants

National Research Council Voucher \$5k per project

- Acadian Seaplants
- Scotia Weather

2013– Principal Investigator of \$2M grant from **Canada Foundation for Innovation** \$800k and Nova Scotia Research Innovation Trust \$800k, Industry \$40k for “*Advanced Mapping and Monitoring within the Coastal Zone to support Sustainable Harvesting and Coastal Development*”. The funding is to acquire a new bathymetric and coastal lidar scanner.

2010– The Gulf of Maine Council on the Marine Environment “**Gulf of Maine Visionary Award**” in recognition of the long-standing dedication and leadership in

the development and application of remote sensing technologies to increase our knowledge and improved management in the Bay of Fundy / Gulf of Maine.

2008– Nova Scotia Community College “**Team Work Award**”

2002–Government of Canada “**Science Award to leaders in Sustainable Development**” awarded for contributions to the Prince Edward Island Climate Change project.

1999- J.M. Ellis Award for the most “**Innovative Map of the Year**”, Canadian Institute of Geomatics

PUBLICATIONS

Webster, T., McGuigan, K., Crowell, N., Collins, K. and MacDonald, C (submitted). The use of Topo-bathymetric lidar to enhance Geological Structural Mapping in Maritime Canada. GeoScience Canada.

Webster, T., McGuigan, K., Crowell, N., Collins, K. and MacDonald, C. (in press). Optimization of data collection and refinement of post-processing techniques for Maritime Canada’s first shallow water topographic-bathymetric lidar survey. Journal of Coastal Research. Special issue on Advances in Topo-Bathymetric lidar.

McGuigan, K., Webster, T., Collins, K. (2015). A Flood Risk Assessment of the LaHave River Watershed, Canada using GIS Techniques and an Unstructured Grid Combined River- Coastal Hydrodynamic Model. Journal of Marine Science and Engineering, 3(3) ISSN 2077-1312; doi:10.3390/jmse3031093. <http://www.mdpi.com/2077-1312/3/3/1093> pp. 1093-1116.

Butler, S., Webster, T., Redden, A., Rand, J., Crowell, N. Livingston, W. (2014). Using Remote Sensing to Identify Changes in Land Use and Sources of Fecal Bacteria to Support a Watershed Transport Model. Water, 6 (7), Open Access ISSN 2073-4441; doi: 10.3390/w6071925 www.mdpi.com/journal/water pp. 1925-1944.

Webster, T., McGuigan, K., Collins, K., MacDonald, C. (2014). Integrated River and Coastal hydrodynamic Flood Risk mapping for the LaHave River estuary and Town of Bridgewater, Nova Scotia Canada. Water, 6(3), Open Access ISSN 2073-4441; doi: 10.3390/w6030517 www.mdpi.com/journal/water pp. 517-546.

Webster, T.L., Gosse, J.C., Spooner, I., and Murphy, B.J. (2014). Using a lidar derived DEM to test the influence of variable overburden thickness and bedrock on drainage and basin morphology. Geoscience Canada Vol. 41
<http://journals.hil.unb.ca/index.php/GC/article/view/19064>
DOI: <http://dx.doi.org/10.12789/geocanj.2014.41.033>

Millard, K., Redden, A.M., Webster, T., and Stewart, H. (2013). Use of GIS and high resolution LiDAR in salt marsh restoration site assessments in the upper Bay of Fundy, Canada. Wetlands Ecology and Management. 21 No. 4 DOI 19.1007/s11273-013-9303-9.

Webster T., Brydon, C. 2013. Evaluating Long-Term Coastal Change on Prince Edward Island using GIS-Based Spatial Analysis of Coastline Orthophotography. In *Climate Impacts and Adaption Science*. CIAS Issue 3. Prince Edward Island's Changing Climate: Results of the Atlantic Regional Adaption Collaborative on Climate Change. <http://projects.upei.ca/climate/publications/climate-impacts-and-adaptation-science-cias/>

Rose, G. and Webster, T. 2012. Water quality Forecasting for Better Infrastructure Spending. Water Canada. <http://watercanada.net/2012/water-quality-forecasting-for-better-infra-spending/>

Rogers, S.R., Webster, T., Livingston, W., O'Driscoll, N.J. 2012. Airborne Laser-Induced Fluorescence (LIF) Light Detection and Ranging (LiDAR) for the Quantification of Dissolved Organic Matter Concentration in Natural Waters. *Estuaries and Coasts*. Journal of the Coastal and Estuarine Research Federation. DOI 10.1007/s12237-012-9509-8.

Webster, T. 2012. Laser Altimetry: What Can Be Learned About Geology and Surface Processes from Detailed Topography, Earth Sciences, Imran Ahmad Dar (Ed.), ISBN: 978-953-307-861-8, InTech, Available from: <http://www.intechopen.com/articles/show/title/laser-altimetry-what-can-be-learned-about-geology-and-surface-processes-from-detailed-topography>

Crowell, N., Webster, T., and O'Driscoll, J. 2011. GIS Modelling of Intertidal Wetland Exposure Characteristics. *Journal of Coastal Research*. 27 (6A), pp. 44-51.

O'Driscoll, J, Canario, J., Crowell, N., Webster, T. 2011. Mercury Speciation and Distribution in Coastal Wetlands and Tidal Mudflats: Relationships with Sulphur Speciation and Organic Carbon. *Water Air Soil Pollution*. Vol. 220. DOI 10.1007/s11270-011-0756-2, pp. 313-326.

Webster, Tim. L. 2010. Flood Risk Mapping Using LiDAR for Annapolis Royal, Nova Scotia, Canada. *Open Access Remote Sensing* ISSN 2072-4292. Vol. 2; doi:10.3390/rs2092060, pp. 2060-2082.

Webster, T., Templin, A., Ferguson, M., Dickie, G. 2009. Remote Predictive Mapping of Aggregate Deposits using LiDAR. *Canadian Journal of Remote Sensing*. Vol. 35, Suppl. 1 (Special Issue on Remote Predictive Mapping), pp. S154-S166.

Webster, T., Murphy, J.B., Quinn, D. 2009. Remote Predictive Mapping of a Potential Volcanic Vent Complex in the Southern Antigonish Highlands using LiDAR, Magnetism, & Field Mapping. *Canadian Journal of Remote Sensing*. Vol. 35, No. 5, pp. 486-495.

Webster, T.L., Mosher, R., Pearson, M. 2008. Water Modeler: A component of a Coastal Zone Decision Support System to generate Flood-Risk Maps from Storm Surge Events and Sea-Level Rise. *Geomatica*. Vol. 62, No. 4, pp. 393-406.

Webster, T. and Stiff, D. 2008. The prediction and mapping of coastal flood risk associated with storm surge events and long-term sea level changes. In Risk Analysis VI Simulations and Hazard Mitigation. WIT Press. Edited by Brebbia, C.A. and Beriatos, E. pp. 129-139.

Parrot, R.D., Todd, B.J., Shaw, J., Hughs Clarke, J., Griffin, J. MacGowan, B., Lamplugh, M., and Webster, T. 2008. Integration of Multibeam Bathymetry and LiDAR Surveys of the Bay of Fundy, Canada. Proceedings of the Canadian Hydrographic Conference and National Surveyors Conference, 2008.

Birch Hill GeoSolutions, contributing author. 2007. Climate Change Adaptation for Land Use Planners. Natural Resources Canada project A1209.

Webster, T.L., Forbes, D.L., MacKinnon, E. and Roberts, D. 2006. Floodrisk mapping for storm-surge events and sea-level rise in Southeast New Brunswick. Canadian Journal of Remote Sensing, Vol. 32, No. 2, pp. 194-211.

Webster, T.L., Murphy, J.B., Gosse, J.C., and Spooner, I. 2006. The application of LIDAR-derived DEM analysis for geological mapping: An example from the Fundy Basin, Nova Scotia, Canada. Canadian Journal of Remote Sensing, Vol. 32, No. 2, pp. 173-193.

Brennen, R. and Webster, T.L. 2006. Object Oriented Land Cover Classification of LiDAR Derived Surfaces. Canadian Journal of Remote Sensing, Vol. 32, No. 2, pp. 167-172.

Webster, T.L. and Dias, G. 2006. An automated GIS produce for comparing GPS and proximal LIDAR elevations. Computers & Geoscience, Vol. 32/6, pp. 713-726.

Webster, T.L., Murphy, J.B., and Gosse, J.C. 2006. Mapping Subtle Structures with LIDAR: Flow Units and Phreatomagmatic Rootless Cones in the North Mountain Basalt, Nova Scotia. Canadian Journal of Earth Sciences. Vol. 43, pp. 157-176.

Webster, T.L., Forbes, D.L., 2006. Airborne laser altimetry for predictive modelling of coastal storm-surge flooding. In *Remote Sensing of Aquatic Ecosystem Processes, Science and Management Applications*, Edited by LeDrew, E. and Richardson, L. pp. 157-180.

Webster, T.L., Forbes, MacKinnon, E., and Roberts, D. 2006. Chapter 4.4 LiDAR digital elevation models and flood-risk mapping. Environment Canada report: Daigle, R. and Project Research Team. 2006. Impacts of sea level rise and climate change on the coastal zone of southeastern New Brunswick/ Impacts de l'élévation du niveau de la mer et du changement climatique sur la zone côtière du sud-est du Nouveau-Brunswick. Environment Canada, 611 pp. (also on CD-ROM and on-line at <http://atlantic-web1.ns.ec.gc.ca/slr/>).

Webster, T.L. 2005. LIDAR validation using GIS: A case study comparison between two LIDAR collection methods. *GeoCarto International*. Vol. 20, No. 4, pp. 11-19.

To link to this article: <http://dx.doi.org/10.1080/10106040508542359>

Webster, T.L., and Forbes, D.L. 2005. Using Airborne LIDAR to map exposure of Coastal Areas in Maritime Canada to Flooding from Storm-Surge events: A Review of recent experience. Canadian Coastal Conference, Dartmouth, Nova Scotia.

Webster, T.L., Christian, M., Sangster, C., and Kingston, D. 2005. High-Resolution Elevation and Image Data within the Bay of Fundy Coastal Zone, Nova Scotia, Canada. In *GIS for Coastal Zone Management*, Edited by Bartlett, D. and Smith, J. pp.195-218.

Webster, T.L. Forbes, D.L., Dickie, S., and Shreenan, R. 2004. Using topographic lidar to map flood risk from storm-surge events for Charlottetown, Prince Edward Island, Canada. *Canadian Journal of Remote Sensing*, Vol. 30, No. 1, pp. 54-76.

Webster, T.L., Dickie, S., O'Reilly, C., Forbes, D., Parkes, G., Poole, D., and Quinn, R. 2003. Mapping Storm Surge Flood Risk using a LIDAR-Derived DEM. Elevation, a supplement to *Geospatial Solutions and GPS World*, pp. 4-9.

Webster, T. 2003. High Resolution Mapping from LIDAR – Light Detection and Ranging, in the Maritimes. 2003. Presented at the Geomatics Atlantic 2003 Conference. Wolfville, Nova Scotia.

Webster, T.L. 2003. LIDAR Validation and the Application of these data for mapping Geological Landforms in the Annapolis Valley region, Nova Scotia. Presented and in the proceeding of the 25th Canadian Remote Sensing Symposium.

Webster, T.L., 2002. The comparison of LIDAR and traditional elevation data for watershed modelling. Abstract in Atlantic Geoscience Society Colloquium and Annual General Meeting, Current Research in the Atlantic Provinces. Antigonish, Nova Scotia.

Webster, T.L, Forbes, D.L, Dickie, S., Colvill, R., and Parkes, G., 2002. Airborne Imaging, Digital Elevation Models and Flood Maps. Supporting Document number 4. In Coastal impacts of Sea-Level Rise on Prince Edward Island. Edited by Forbes D.L. Climate Change Action Fund Project A041. Geological Survey of Canada Open File 4261.

Webster, T., van der Sanden, J., Stockhausen, J., 2001. Multiple Remote Sensing Technologies Comparison in the Coastal Zone. Abstract and presentation at Remote Sensing & Resource Management in Nearshore and Inland Waters. Wolfville, Nova Scotia, October 2001.

van der Sanden, J., Hugenholtz, C., Webster, T., Stockhausen, J., 2001. C-Band Radar Polarimetry for Coastal Zone Applications. Abstract at Remote Sensing & Resource Management in Nearshore and Inland Waters. Wolfville, Nova Scotia, October 2001.

Solomon, S., Manson, G., van der Sanden, J., Forbes, D., Gareau, P., Webster, T., 2001. Coastal Geology Applications of Remote Sensing. Abstract at Remote Sensing & Resource Management in Nearshore and Inland Waters. Wolfville, Nova Scotia, October 2001.

Akhavi, M.S., Webster, T.L. and Raymond, D. A., 2001. RADARSAT-1 Imagery and GIS Modeling for Mineral Exploration in Nova Scotia, Canada. Geocarto International, Vol. 16, No. 1, March 2001.

Webster, T.L., Murphy, J.B. and Barr, S.M. 1998. Anatomy of a Terrane Boundary: An Integrated Structural, GIS and Remote Sensing Study of the Late Paleozoic Avalon-Meguma Terrane Boundary, Mainland Nova Scotia, Canada. Canadian Journal of Earth Sciences, 35, pp.787-801.

Birchill geographics NRCan Climate Change Report
http://adaptation.nrcan.gc.ca/projdb/index_e.php?class=116
http://adaptation.nrcan.gc.ca/projdb/178_e.php

GRADUATE STUDENT SUPERVISION

Amanda Blackmore. 2006 MSc Geology, Acadia University. Co-supervised with Dr. Ian Spooner (Acadia) and Christine Rivard (Geological Survey of Canada). Thesis: Groundwater Vulnerability to Potential Contamination in the Annapolis Valley, Nova Scotia.

Koreen Millard. 2008 MSc Applied Geomatics, Acadia University. Co-supervised with Dr. Anna Redden (Acadia) and Dr. Chris Hopkinson and Heather Stewart (AGRG). Thesis: The Development and Application of Geomatics Techniques to Assist in Salt Marsh Restoration Planning at Beausejour Marsh, New Brunswick.

Doug Stiff. 2008 MSc Geology, Acadia University. Co-supervised with Dr. Ian Spooner (Acadia) Dr. Chris Hopkinson (AGRG). Thesis: Investigating Flood Risk in an Ungauged Watershed using LiDAR, GIS, and HEC Tools.

Chris Bates. 2009 MSc Applied Geomatics, Acadia University. Co-supervised with Dr. Ian Spooner (Acadia). Major Project: Using LiDAR data to Identify the Post-Glacial High Stand in the Bay of Fundy Region, Atlantic Canada.

Meredith Roik. 2009 MSc Applied Geomatics, Acadia University. Co-supervised with Dr. Ian Spooner (Acadia). Major Project: Investigating LiDAR to map Illegal Coal Pits, Local Subsidence and potential Groundwater Seepage Zones in the Cape Breton Coal Fields, Nova Scotia, Canada.

Kate Leblanc. 2010 MSc Applied Geomatics, Acadia University. Co-supervised with Dr. Ian Spooner (Acadia). Major Project: Flood risk mapping from storm surge and sea-level rise along the Antigonish County shoreline.

Stephanie Rogers. 2010 Applied Geomatics, Acadia University. Co-supervised with Dr. Nelson O'Driscoll (Acadia). Major Project: Investigating the potential of airborne laser-induced fluorescence (LIF) as a tool for environmental assessment of watershed quality.

Sean Butler (2011) MSc Applied Geomatics, Acadia University. Co-supervised with Dr. Anna Redden (Acadia). Thesis: Hydrodynamic and hydrologic modeling of fecal bacteria loadings in Annapolis Basin tributaries, Nova Scotia and their impact on the soft-shell clam industry.

Shalon Oldford-MacLellan. 2012. MSc Applied Geomatics, Acadia University. Co-supervised with Dr. Anna Redden (Acadia). Thesis: Laboratory and Field Assessments of the Abiotic Factors Influencing Escherichia Coli Decay Rates in the Annapolis Basin, Nova Scotia.

Michael Fedak (2012) MSc Geography. Saint Mary's University. Co-supervised with Dr. Danika vanProosdij (SMU). Thesis: Hydrodynamic modelling for flood risk in dyked agricultural lands.

Nathan Crowell (2014) MSc Applied Geomatics, Acadia University. Co-supervised with Dr. Soren Bondrup-Nielson (Acadia). Thesis: Shoreline evolution within Antigonish County.

Alicia Daniels (2014) Applied Geomatics, Acadia University. Co-supervised with Dr. Ian Spooner (Acadia). Thesis: Salt Marsh Migration in PEI with Sea-level Rise.

Charity Mouland (ongoing) Applied Geomatics, Acadia University. Co-supervised with Dr. Ian Spooner (Acadia). Thesis: An integrated water quality forecasting model to restrict the harvesting of shellfish following extreme weather events.

PRIVATE CONSULTANCY

2015 AERDE Environmental research - Literature Review: Floods to Natural Resources Canada. Conducted literature review and wrote the sections on lidar and flood risk mapping.

2015- John Amirault P. Eng. Evaluation of lidar to identify surficial coal seams for Springhill, NS.

2012 SNC-Lavalin – Report to Department of National Defence (Canada). Procuring lidar and aerial photography for object identification for the obstacle limitation surface (OIS) at Canadian Forces airfield bases. 504807-0013-T-PM-REP-001

2012 SNC-Lavalin – Report to Department of National Defence (Canada). Lidar and aerial photography collection. PF 61866.

2012 GeoNet Technologies Inc. Report to GeoNOVA Steering Committee, Service Nova Scotia summarizing the findings of the Lidar Working Group. Light Detection and Ranging (lidar) Strategic Directions Report for the Province of Nova Scotia.

2012 Webster T. Report to the Municipality of East Hants Nova Scotia on The Planning and development Request for Proposal Floodplain Mapping Study.

2011 Webster T. Report to Climate Change Directorate, Prince Edward Island. Assistance in devising the specifications for coastline extraction and change detection calculations from orthophotos.

2010 Webster T. Report to Climate Change Directorate, Prince Edward Island. Review of the orthorectification and coastline interpretation of 1968, 200 and 2010 aerial photos.

2010 Webster T. Report to Climate Change Directorate, Prince Edward Island. Review and validation of PEI government acquisition of Lidar data.

UPLAND