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REPORT TO MAGIC LAKE ESTATES WATER AND SEWER LOCAL SERVICES COMMITTEE
MEETING OF MONDAY, SEPTEMBER 15, 2014

SUBJECT **MAGIC LAKE ESTATES WASTEWATER SYSTEM INFRASTRUCTURE REPLACEMENT – UPDATE**

ISSUE

This report provides updated information to the staff report presented at the August 12, 2014 meeting and as well as responding to questions from committee members.

BACKGROUND

During the August 12, 2014 meeting, a number of questions arose and as well as a need to present each alternative in separate tables.

The following questions were raised during the meeting:

1. Is there a regulatory requirement to rehabilitate the septic field location?
    - Michael Payne of Payne Engineering has confirmed that an Environmental Assessment is not required, if the septic field is just abandoned. However, if the committee wishes to remediate the septic field, additional costs would be incurred.
2. What is the cost to mitigate the issue of standing water on the septic field?
    - The cost to import and place material to eliminate the low area of the upper septic field, which can have standing water, is estimated at $15,000. The budget for the each alternative has been updated to account for this mitigation. See Appendix A
3. Who owns the septic field property?
    - The septic field property is owned by the Capital Regional District (CRD).
4. Are there any grants available for this project?
    - There is a New Building Canada Fund that was announced March 28, 2014. Fund is broken into two programs: 1) National Infrastructure Component and 2) Provincial Infrastructure Component. Under the Provincial Infrastructure Component, there is $1 Billion for projects in communities with fewer than 100,000 residents through the Small Communities Fund. A copy of the information from the Federal Infrastructure Canada website is included in Appendix B. We have been in contact with Fraser Bell at Ministry of Transportation and Infrastructure and the program is still being negotiated between the Federal and Provincial Governments with no indication of when the intake will be.
5. What section of pipe is included in the work described as "Replacement of 325m of sewer along Buck Lake"?
    - The 325m section of pipe along Buck Lake to be upgraded and is shown on Figure 1.

- CRD staff reviewed the profile of the sewer upstream and downstream to ensure the section had been properly identified. A review of the profile of the sewer confirmed the problem section i.e. where the slope of sewer is minimal and the velocity of the sewage is not sufficient to keep solids suspended resulting in gravel and sand deposited in the pipe.

As indicated, the cost of each alternative was reviewed and some changes were required, for summary of changes see Appendix C. The revised budget for each alternative is detailed in Appendix D.

ALTERNATIVES

1. That the Magic Lake Estates Water and Sewer Local Services Committee approve:
   a. proceeding with a public referendum to seek approval by assent of the electors to secure a loan authorization bylaw of **$6,050,000** for: the replacement of the Chart Drive Septic Field System with a new pump station, forcemain and related works; Phase 1 of the I & I Program including hydraulic model analysis; provide one new clarifier and aeration tank at Schooner WWTP, upgrade 325m of pipe along Buck Lake, upgrade 112m of pipe on Privateers Road, upgrade Schooner Lift Station and replace Cannon WWTP with Pump Station and approximately 600m forcemain and related works.
   b. funding the Public Engagement strategy in the amount of $3,500 from capital reserves.
   c. funding the Referendum process in the amount of $10,000 from capital reserves.

2. That the Magic Lake Estates Water and Sewer Local Services Committee approve:
   a. proceeding with a public referendum to seek approval by assent of the electors to secure a loan authorization bylaw of **$11,690,000** for: the replacement of the Chart Drive Septic Field System with a new pump station, forcemain and related works; Phase 1 of the I & I Program including hydraulic model analysis; upgrade 325m of pipe along Buck Lake, upgrade 112m of pipe on Privateers Road, Schooner Lift Station and replace Cannon WWTP with Pump Station and approximately 600m forcemain and related works; and a new Schooner WWTP and complete upgrades to the 5 other pump stations.
   b. funding the Public Engagement strategy in the amount of $3,500 from capital reserves.
   c. funding the Referendum process in the amount of $10,000 from capital reserves.

3. That the Magic Lake Estates Water and Sewer Local Services Committee approve:
   a. proceeding with a public referendum to seek approval by assent of the electors to secure a loan authorization bylaw of **$1,630,000** for the replacement of the Chart Drive Septic Field System with a new pump station, forcemain and related works, Phase 1 of the I & I Program including hydraulic analysis, ultrasonic testing of clarifiers, upgrade 325m of pipe along Buck Lake and upgrade 112m of pipe on Privateers Road.
   b. funding the Public Engagement strategy in the amount of $3,500 from capital reserves.
   c. funding the Referendum process in the amount of $10,000 from capital reserves.

4. That the Magic Lake Estates Wastewater Committee not approve the proposed infrastructure improvements and fund work on an emergency basis.

IMPLICATIONS

Alternative 1

Based on a total of 714 taxable folios within the MLE sewer system, the impact on the taxpayer using a 15 year MFA loan at 5% is:

Term of Loan	Average User Charge	Existing Parcel Tax	Additional Parcel Tax	Total
15 year	$272	$415	$892	$1,579

Alternative 2

Based on a total of 714 taxable folios within the MLE sewer system, the impact on the taxpayer using a 15 year MFA loan at 5% is:

Term of Loan	Average User Charge	Existing Parcel Tax	Additional Parcel Tax	Total
15 year	$272	$415	$1,723	$2,410

Upgrade or replacement of the Schooner WWTP and decommissioning of the Cannon WWTP and replacement with a pump station should result in lower operating and maintenance costs, as well as dealing with a compliance issue. The actual O&M cost will be assessed once the upgrades are completed and we have had a chance to assess their performance.

Should the committee approve this Alternative, CRD staff will also review any grants and funding opportunities (such as Gas Tax Funding – Community Works Fund, etc.) in order to reduce the overall borrowing required for the project.

Alternative 3

Based on a total of 714 taxable folios within the MLE sewer system, the impact of borrowing on the taxpayer using a 15 year Municipal Finance Authority loan at 5% is:

Term of Loan	Average User Charge	Existing Parcel Tax	Additional Parcel Tax	Total
15 year	$272	$415	$241	$928

Alternative 4

If the committee decides not to approve the proposed capital works program, the infrastructure will fail, causing non-compliant issues and a requirement to resolve MOE Out of Compliance orders under the Municipal Wastewater Regulations. Over the past few years and as we go forward, emergency repair costs, as well as Operation and Maintenance costs will increase as the infrastructure fails. Replacement of equipment under emergency conditions is not the most cost effective approach and may require staff overtime if after hours or in the evenings. As well, failure of certain components will require a treatment bypass and a requirement to register an illegal discharge with the MOE and potentially environmental consequences as untreated sewage is discharged to the local environment. Depending on the seriousness of the infraction, there could be fines from the Ministry of Environment under the Municipal Wastewater

Regulation for these illegal discharges. Emergency equipment replacement can cost considerably more than planned replacement.

CONCLUSION

The MLE wastewater systems were originally built in the 1970s and are in need a replacement or upgrades to avoid steadily increasing operating and maintenance and emergency repair costs, as well as potential non-compliance issues. While the cost of the proposed capital works are significant, a reactive approach will result in higher long-term costs to the customers, potential for significant environmental impacts and Out of Compliance issues.

RECOMMENDATION

That the Magic Lake Estates Water and Sewer Local Services Committee approve:

a. proceeding with a public referendum to seek approval by assent of the electors to secure a loan authorization bylaw of **$6,050,000** for: the replacement of the Chart Drive Septic Field System with a new pump station, forcemain and related works; Phase 1 of the I & I Program including hydraulic model analysis; provide one new clarifier and aeration tank at Schooner WWTP; upgrade 325m of pipe along Buck Lake; upgrade 112m of pipe on Privateers Road; upgrade Schooner Lift Station and replace Cannon WWTP with Pump Station and approximately 610m forcemain and related works.

b. funding the Public Engagement strategy in the amount of $3,500 from capital reserves.

c. funding the Referendum process in the amount of $10,000 from capital reserves.

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Integrated Water Services
Integrated Water Services

Peter Sparanese, P. Eng.
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Concurrence

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General Manager, Integrated Water Services
Concurrence

CG/DP:ls
Attachments

Appendix A - Chart Drive Replacement Cost of Each Option
Appendix B - New Building Canada Fund
Appendix C - Summary of Changes Budget for Each Alternative
Appendix D - Budget for Each Alternative
Figure 1 – Proposed Magic Lake Wastewater Infrastructure Improvements

Magic Lakes Estates Wastewater
Chart Drive Septic System Replacement
Budget for Pump Station and Forcemain

Previously Provided Budget					
	Description	Quantity	Units	Unit Cost	Amount
1. Sanitary Forcemain					
1.1	100mm Dia. PVC Sanitary Forcemain	875	lin.m	$ 325	$ 284,375
1.2	Air Valve	1	each	$ 5,000	$ 5,000
1.3	1050mm Dia. Manhole, max. 2m depth	1	each	$ 8,000	$ 8,000
1.4	Tie-in to Ex. SMH 243 at Spyglass Rd	1	Lump Sum	$ 10,000	$ 10,000
1.5	Sanitary Forcemain Gate Valves	4	each	$ 2,000	$ 8,000
1.6	Pigging/Clean Out Chamber	1	Lump Sum	$ 30,000	$ 30,000
1.7	Trench Rock Removal	80	m^3	$ 310	$ 24,800
	Sub-Total A				*$ 370,175*
2. Pump Station					
2.1	Package System, c/w pumps and wet well	1	Lump Sum	$ 34,000	$ 35,000
2.2	Pump Controls	1	Lump Sum	$ 6,000	$ 10,000
2.3	Valve Chamber	1	Lump Sum	$ 27,000	$ 30,000
	Sub-Total B				*$ 75,000*
				Subtotal A + B	**$ 445,175**
				Contingency(30%)	$ 133,553
				Budget for Construction Cost	**$ 578,728**
				Engineering Design (10%)	$ 57,873
				Construction Services (18%)	$ 104,171
				TOTAL	$ 740,771
				Total	**$ 750,000**

Revised Budget - Includes Revised Rock Quantity and Drainage Improvements					
	Description	Quantity	Units	Unit Cost	Amount
1. Sanitary Forcemain					
1.1	100mm Dia. PVC Sanitary Forcemain	875	lin.m	$ 325	$ 284,375
1.2	Air Valve	1	each	$ 5,000	$ 5,000
1.3	1050mm Dia. Manhole, max. 2m depth	1	each	$ 8,000	$ 8,000
1.4	Tie-in to Ex. SMH 243 at Spyglass Rd	1	Lump Sum	$ 10,000	$ 10,000
1.5	Sanitary Forcemain Gate Valves	4	each	$ 2,000	$ 8,000
1.6	Pigging/Clean Out Chamber	1	Lump Sum	$ 30,000	$ 30,000
1.7	Trench Rock Removal	80	m^3	$ 310	$ 24,800
	Sub-Total A				*$ 370,175*
2. Pump Station					
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2.3	Valve Chamber	1	Lump Sum	$ 27,000	$ 30,000
	Sub-Total B				*$ 75,000*
				Subtotal A + B	**$ 445,175**
				Contingency(30%)	$ 133,553
				Budget for Construction Cost	**$ 578,728**
				Engineering Design (10%)	$ 57,873
				Construction Services (18%)	$ 104,171
				SUB-TOTAL	$ 741,000
3. Drainage Improvements					
3.1	Import, Place & Grade Fill Materials	1	Lump Sum	$ 15,000	$ 15,000
				Subtotal	**$ 756,000**
				Total	**$ 760,000**

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Appendix B

New Building Canada Fund: Provincial-Territorial Infrastructure Component Small Communities Fund

PDF Version (Size: 1.05 MB)

Help on accessing alternative formats, such as PDF, PPT and ZIP files, can be obtained in the alternate format help section.

What is it?

The $10-billion Provincial-Territorial Infrastructure Component (PTIC) provides support for projects of national, local or regional significance. This includes the Small Communities Fund (PTIC–SCF) that will provide $1 billion for projects in municipalities with fewer than 100,000 residents.

Why is it important?

Smaller communities will be able to build projects that deliver on local needs. Through the Small Communities Fund, our Government continues to provide dedicated funding for small communities, building on the successful practices established under the 2007 Building Canada Fund and the Infrastructure Stimulus Fund. In addition, communities can use the Gas Tax Fund towards a wider range of projects, including highways, disaster mitigation, broadband, brownfield redevelopment, recreation, culture, tourism and sport.

How does it work?

To ensure that small communities receive funding opportunities, ten per cent (10%) of the PTIC allocation of each province and territory will be set aside for the PTIC–SCF.

Infrastructure Canada will enter into funding agreements with the provinces and territories who will be responsible for identifying and proposing projects for consideration.

Projects funded through the PTIC–SCF must meet the following program objectives:

- Economic growth;
- A clean environment; and
- Stronger communities.

Eligible recipients under the PTIC–SCF:

Eligible recipients are restricted to those whose projects are situated within or are for the benefit of, communities with a population of fewer than one hundred thousand people (100,000) as determined by Statistics Canada — Final 2011 Census.

The following are eligible recipients for the purposes of the PTIC–SCF:

a. A municipal or regional government established by or under provincial or territorial statute;

b. A provincial or territorial entity (e.g., a department, corporation or agency) that provides municipal-type infrastructure services to communities, as defined in provincial or territorial statute;

c. A band council within the meaning of section 2 of the *Indian Act*; or a government or authority established pursuant to a Self Government Agreement or a Comprehensive Land Claim Agreement between Her Majesty the Queen in right of Canada and an Aboriginal people of Canada, that has been approved, given effect and declared valid by federal legislation;

d. A public sector body that is established by or under provincial or territorial statute or by regulation or is wholly owned by a province, territory, municipal or regional government which provides municipal-type infrastructure services to communities; and

e. A private sector body, including for-profit organizations and not-for-profit organizations, whose application is supported by a municipal or regional government referred to above. Such support could take the form of a resolution from the municipal or regional government council.

Eligible Categories under the PTIC–SCF:

- Public transit
- Drinking water
- Wastewater
- Solid waste management
- Green energy
- Innovation
- Connectivity and broadband
- Brownfield redevelopment
- Disaster mitigation infrastructure
- Local and regional airports
- Short-line rail
- Short-sea shipping
- Highways and major roads
- Northern infrastructure (applies to Yukon, Nunavut and Northwest Territories only)

More information on Sub-Category and expected outcomes and benefits.

Federal Cost-Sharing and Stacking

In the provinces, most projects will be federally cost-shared on a one-third basis. In the case of provincially-owned highways and major roads, as well as public transit projects, the maximum federal contribution to any single project will be 50 per cent. The maximum contribution is 25 per cent for projects with for-profit private sector proponents.

For projects located in the Northwest Territories, Yukon and Nunavut, the federal government will fund up to 75 per cent of total eligible costs. For projects with a for-profit private sector proponent, however, the cap would be 25 per cent. More information on cost-sharing and stacking.

How to apply?

Canada will enter into Funding Agreements (FA) with each province and territory for the implementation of the PTIC–SCF. In turn, provinces and territories will manage the project identification process in keeping with PTIC–SCF program parameters.

All proposed projects must provide basic information that includes the name of the municipality, title of the project, the eligible category and subcategory, a brief description of the project, financial information, project location as well as planned start and end dates.

If you are an eligible recipient and would like to have your project considered for funding under the PTIC, and to determine the process for submitting project proposals and deadlines, you are encouraged to contact your respective provincial or territorial ministry responsible for infrastructure as outlined below. You can also learn more about how the Small Communities Fund works by reading the Program Overview.

Contact Information

- **British Columbia**
  - Ministry of Transportation and Infrastructure
- **Alberta**
  - Alberta Infrastructure
- **Saskatchewan**
  - Ministry of Government Relations
- **Manitoba**
  - Manitoba Municipal Government
- **Ontario**
  - Ministry of Economic Development, Employment and Infrastructure
- **Quebec**
  - Secrétariat du Conseil du Trésor-Sous-secrétariat aux infrastructures publiques
- **New Brunswick**
  - Regional Development Corporation
- **Nova Scotia**
  - Finance and Treasury Board
- **Prince Edward Island**
  - Department of Transportation and Infrastructure Renewal
- **Newfoundland and Labrador**
  - Department of Transportation and Works
- **Yukon**
  - Department of Community Services
- **Northwest Territories**
  - Department of Municipal and Community Affairs
- **Nunavut**
  - Community and Government Services

Infrastructure Canada contact information

General questions and comments on the PTIC program can be addressed to Infrastructure Canada:

Email: info@infc.gc.ca
Telephone Infrastructure Canada: 613-948-1148
Toll Free Number: 1-877-250-7154
Mailing Address:
Provincial-Territorial Infrastructure Component
180 Kent Street, Suite 1100
Ottawa, ON K1P 0B6

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Infrastructure Canada

New Building Canada Fund: Provincial-Territorial Infrastructure Component, Small Communities Fund
Program Overview
Purpose

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To ensure that small communities receive funding opportunities, ten per cent (10%) of the **New Building Canada Fund - Provincial-Territorial Infrastructure Component - (PTIC)** envelope in each jurisdiction will be set aside for the **Small Communities Fund (PTIC–SCF)**. This $1 billion available under **PTIC-SCF** will provide contribution funding for locally significant projects in small communities with populations of 100,000 or less.

PTIC–SCF has been designed to leverage the resources and existing processes of the provinces and territories in managing local projects, while ensuring federal accountability and oversight of the funding envelope.

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Infrastructure Canada

New Building Canada Fund: Provincial-Territorial Infrastructure Component, Small Communities Fund
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Governance

- Canada will enter into Funding Agreements (FA) with each province and territory for the implementation of the SCF.
- The provinces and territories will in turn, enter into agreements with eligible ultimate recipients to manage individual projects. Canada will not enter into a FA with any party other than a province or territory.
- An Oversight Committee (OC) composed of both federal and provincial or territorial representatives will be established to monitor the implementation of the program in each jurisdiction.

Project Identification and Approval

- Provinces and territories will be responsible for identifying potential projects and submitting them to Infrastructure Canada (INFC) for approval.
- All proposed projects must provide basic information, including the name of the municipality, title of the project, the eligible category and subcategory, a brief description of the project, financial information, project location, as well as planned start and end dates. ***Please refer to Annex A for a full list of eligible investment categories and related subcategories.***

Eligible Recipient(s)

- Eligible recipients are restricted to those whose projects are situated within, and/or are for the benefit of, communities with a population of less than one hundred thousand people (100,000) as determined by Statistics Canada - Final 2011 Census. ***Please refer to Annex B for a complete listing of eligible recipients.***

Cost-sharing, Stacking and Limits to Federal Contribution

For projects located in provinces, the maximum federal contribution from all sources will be one-third (33.33%) of the total eligible costs of a project (*see Annex C for details of eligible and ineligible expenditures*), with the following exceptions:

a. For traditionally-procured projects in the Highways and Major Roads category where the asset is provincially-owned, and those in the Public Transit category, the maximum federal contribution from all sources will be fifty per cent (50%) of the total eligible costs; and
b. For all projects that are delivered as public-private partnerships or where the recipient is from the for-profit private sector, the maximum federal contribution from all sources will be twenty-five per cent (25%) of the total eligible costs.

For projects located in the territories, the maximum federal contribution from all sources will be three-quarters (75%) of the total eligible costs of a project, with the following exception:

- For all projects where the recipient is from the for-profit private sector, the maximum federal contribution from all sources will be twenty-five per cent (25%) of the total eligible costs.

The provincial government contribution will be no less than the federal contribution.

Contributions to for-profit, private sector bodies through the SCF will be considered only when these projects will be for public use or benefit. In these cases, recipients will be required to demonstrate the broader public benefits of the project.

For projects advanced by a First Nations recipient, with regard to financial support that the First Nation receives from Aboriginal Affairs and Northern Development Canada (AANDC), only funding received from the First Nations Infrastructure Fund would be counted towards the federal stacking limits for PTIC. All other sources of funds the First Nation receives from AANDC would not count towards the stacking limits.

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New Building Canada Fund: Provincial-Territorial Infrastructure Component, Small Communities Fund
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Annex A - Overview of Eligible SCF Categories

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Highways and Major Roads

I. Objective

To invest in highways and major roads, including bridges that have broad public benefits, and that contribute to economic growth, to a clean environment, and stronger communities.

II. Subcategories

New construction, additional capacity, or rehabilitation or safety-related improvements on highways and major roads, including bridges and tunnels that are:

- Part of the National Highway System (including core, feeder and northern categories);
- Highways and roads (e.g., freeways, expressways, collectors or arterials) that carry or are projected to carry significant volumes (see note a) of freight and/or passenger traffic;
- Highways and roads related to natural resource development opportunities; or
- Road/rail grade separations on one of the above highways or major roads.

Notes:

a. *Significant volumes' will be defined as an average annual daily traffic (AADT) value of at least 3,000.*
b. *Rehabilitation projects must meet the definition of 'rehabilitation' as agreed upon by the Council of Ministers.*
c. *Projects under this category could include: Intelligent Transportation Systems (ITS), and/or active transportation infrastructure (e.g. sidewalks, bicycle lanes, pedestrian/bike/multi-use pathways) components as a part of the overall project.*

III. Outcomes and Benefits for Canadians

These benefits support one or more of the following outcomes:

- Increasing efficiency and mobility by supporting efforts to reduce congestion, effectively manage traffic volume, and reduce travel time;
- Improving safety;
- Improving access for remote areas affected by resource development-related activity, and/or improved social and economic outcomes in affected communities; or
- Extending the life of the existing asset.

Public Transit

I. Objectives

To invest in public transit infrastructure that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Transit infrastructure and rolling stock, including but not limited to bus rapid transit (BRT), light rail transit (LRT), subways, buses, urban passenger ferries and regional commuter rail.
- Transit facilities and supporting infrastructure including but not limited to transit queue-jump lanes, reserved bus lanes, turning lanes or other related enhancements in support of public transit, streetcar/trolley infrastructure, storage and maintenance facilities, security enhancements, and transit passenger terminals.
- Intelligent Transportation Systems (ITS) in support of public transit services.

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Supporting efforts to reduce urban congestion;
- Increasing transit ridership;
- Improving safety; or
- Improving mobility (e.g., improved access, reduced travel times).

Disaster Mitigation Infrastructure

I. Objectives

To invest in disaster mitigation infrastructure that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Construction, modification, reinforcement or relocation of public infrastructure that protects from, prevents, reduces the impact and/or likelihood of, or mitigates the potential damage resulting from natural hazards, including impacts or events related to climate change.

Notes:

a. *Construction, modification or reinforcement of public infrastructure excludes normal routine, maintenance and operational work (e.g., dredging of sediment, gravel removal, debris traps, etc.). The relocation of entire communities is also excluded.*

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Reducing the social, physical and/or economic risks associated with natural hazards and/or adverse effects related to climate change
- Improving the resiliency of public infrastructure to natural hazards and/or adverse effects related to climate change
- Supporting an all-hazard risk assessment and related mitigation plan to address disaster risks

Connectivity and Broadband

I. Objectives

To invest in broadband infrastructure that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- High-speed backbone
- Point of presence
- Local distribution within communities
- Satellite capacity

Notes:

a. *In Canada, broadband service refers to download speeds of 1.5 Mbps or greater. In Telecom Regulatory Policy 2011-291, the CRTC established a universal broadband Internet access target download speed of 5 Mbps.*

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Increasing in geographical area, to account for industrial/resource development investments, with access to broadband speeds of 1.5 Mbps or higher, contributing to improved economic development in remote areas; or
- Increasing in number of Canadians with access to broadband speeds of 1.5 Mbps or higher, contributing to improving the quality, accessibility and effectiveness of public services.

Innovation

I. Objectives

To invest in infrastructure at post-secondary institutions that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Post-secondary research and development laboratories and centres, and related teaching facilities.
- Office space for the purpose of conducting research and development.
- Research libraries associated with the research laboratories and centres.

Notes:

a. *Eligible investments under each sub-category could include installation of underlying connective infrastructure as necessary (e.g. water/sewer connections, electricity connections, new technologies and implementation of approaches for improved energy efficiency in laboratories, telecommunications infrastructure).*

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Enhancing capacity of post-secondary institutions to develop and transfer new knowledge through leading-edge basic and applied research and teaching;
- Increasing opportunities for collaboration between public institutions and the private sector supporting the transfer of innovative technologies and research to market; and,
- Developing a highly-skilled workforce driving innovation in sectors that support increased diversification or competitiveness of the national, regional, or local economy and contribute to sustained long-term growth.

Wastewater

I. Objective

To invest in wastewater infrastructure that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Wastewater treatment facilities or systems
- Wastewater collection systems
- Separation of combined sewers and/or combined sewer overflow control, including real-time control and system optimization
- Separate storm water collection systems and/or storm water treatment facilities or systems
- Wastewater sludge treatment and management systems

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Measurably and quantifiably reducing the volume and/or improvement in the level of treatment of wastewater effluent;
- Increasing the number of households, industries, commercial establishments, and institutions with untreated wastewater connected to sanitary wastewater systems;
- Reducing the volume and incidents of discharge of untreated wastewater effluent as a result of sanitary sewer and combined sewer overflow events;
- Improving quality of treated stormwater effluent;
- Improving the reliability or performance of the wastewater collection and/or treatment system;
- Improving wastewater sludge treatment and management.

Green Energy

I. Objectives

To invest in energy infrastructure that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Reinforcement, expansion of existing and construction of new transmission grids to transmit clean electricity, including smart grid technologies.
- Renewable Electricity Generation facilities (e.g., wind energy, solar energy, small scale hydro).
- Thermal heat/cooling delivery system (i.e. district energy systems) using renewable or combined heat/power plants.
- Projects for new or material rehabilitation or expansion of carbon transmission and storage infrastructure;
- Electric vehicle infrastructure.
- Clean coal facilities.

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Increasing the security of Canada's clean electricity supply;
- Increasing installation of clean energy technologies that improve air quality and/or reduce greenhouse gases;
- Increasing the number of private sector and public sector installations and/or use of clean-energy technologies;
- Increasing electricity trade connections between provinces/territories that facilitate the transfer of clean electricity.

Drinking Water

I. Objective

To invest in water infrastructure that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Drinking water treatment infrastructure.
- Drinking water distribution systems (may include metering as part of a larger project).

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Improving the quality of drinking water, and where possible, alignment with the Guidelines for Canadian Drinking Water Quality;
- Increasing the number of households, industries, commercial establishments, and institutions provided with access to safe drinking water;
- Improving the efficiency and service reliability of water treatment facilities and/or distribution systems, as demonstrated by a reduction in water leakage or loss, use of treatment chemicals, energy use and/or number of boil water advisories;
- Improving water conservation (i.e. increased number of households equipped with residential metering, and decreased daily per capita water use);
- Improving the protection and/or management of drinking water sources.

Solid Waste Management

I. Objective

To invest in solid waste infrastructure that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Waste diversion infrastructure (e.g., recycling, composting, anaerobic digestion, eco centers).
- Waste disposal infrastructure (e.g., thermal processes, landfill gas recovery).

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Increasing the quantity (kg/capita) of solid waste diverted from disposal;
- Reducing environmental impacts from landfills (e.g. greenhouse gas emissions, leaching of liquid waste, soil contamination); or
- Increasing energy recovery from solid waste management activities.

Brownfield Redevelopment

I. Objective

To invest in the remediation and redevelopment of public infrastructure and associated properties that contribute to economic growth, a clean environment and stronger communities.

II. Subcategories

Remediation or decontamination and redevelopment of a brownfield site within municipal boundaries, where the redevelopment includes:

- The construction of public infrastructure as identified in the context of any category under the New Building Canada Fund; and/or
- The construction of municipal use public parks and affordable housing.

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Removing or neutralizing the negative effects of brownfields on communities and the environment by remediating and redeveloping these properties in a sustainable manner;
- Reducing the environmental and health risks posed by contaminated sites within municipal boundaries;
- Increasing local or regional economic development and competitiveness;
- Increasing the supply of affordable housing; and
- Increasing the sustainability of municipal development and encouragement of more efficient and the intensification of land use.

Local and Regional Airports

I. Objectives

To invest in airport infrastructure that has broad public benefits, and contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

Construction projects that enhance airports that are accessible all year-round, through the development, enhancement or rehabilitation of aeronautical and/or non-aeronautical infrastructure:

- Aeronautical infrastructure includes, but is not limited to: runways, taxiways, aprons, hangars, lighting, aids to navigation (Navaids), maintenance sheds, airside mobile equipment and associated shelters, air terminal buildings, and groundside safety-related infrastructure;
- Non-aeronautical infrastructure such as groundside access, inland ports, parking facilities, and commercial and industrial activities.

Notes:

a. *Local and regional airports are defined as those sites having scheduled passenger traffic, not located in the national capital or a provincial/territorial capital and not classified by Transport Canada as an Arctic or remote airport.*

b. *Federally-owned airports and federal assets are not eligible for funding.*
c. *Safety and security projects that are eligible for funding under Priorities 1 and 2 of Transport Canada's Airports Capital Assistance Program (ACAP) are funded under that program, and are not eligible for funding unless they are part of a larger project.*

ACAP priorities 1 and 2 may be described as:

Priority 1: Safety-related airside projects required to accommodate the aircraft providing year-round, regularly scheduled passenger service such as rehabilitation of runways, taxiways, aprons, associated lighting, visual aids, sand storage sheds, utilities to service eligible items, related site preparation costs including directly associated environmental costs, aircraft firefighting equipment and equipment shelters which are necessary to maintain the airport's level of protection as required by regulation.

Priority 2: Heavy airside mobile equipment (safety-related) such as runway snow blowers, runway snowplows, runway sweepers, spreaders, winter friction testing devices, and heavy airside mobile equipment shelters.

III. Outcomes and Benefits for Canadians

Proponents must demonstrate the economic advantages and the broader public benefits of the project.

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Improving efficiency (e.g., increased traffic volumes, passenger volume, cargo etc.);
- Increasing regional or local economic development (e.g., number of new carriers, new businesses operating at the airport, increased volume of interprovincial/territorial and international trade such as in the resource sector);
- Improving safety; or
- Increasing accessibility of local and regional airports (e.g., to remote and northern communities, to larger population centres).

Short Line Rail

I. Objective

To invest in improvements to existing short line rail infrastructure that contribute to economic growth, a clean environment and stronger communities.

II. Subcategories

New construction, additional capacity or rehabilitation of rail infrastructure including:

- Industrial branch lines to allow a railway to serve a group of companies, an industrial park, a logistic park, an intermodal yard, a multimodal facility, a port, a transfer facility, or a marine terminal;
- Tracks and structures, excluding regular or deferred maintenance, to ensure travel at speeds deemed acceptable for safe and efficient operations;
- Facilities to improve the interchange of goods between modes; or
- Capitalized equipment for loading/unloading required for expansion of short line rail.

Notes:

a. *Short line rail is typically defined as a Class III railway that provides regional service to a small number of towns or industries and/or serves as a feeder line for one or more larger railroads.*
b. *Projects under this category could include Intelligent Transportation Systems (ITS) components as part of the overall project.*

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Improving efficiency (e.g., increased traffic volumes, new shippers, increased speed, etc.);
- Increasing freight capacity of short-line railways (e.g., heavier traffic loads and volume, etc.); or
- Improving safety.

Short Sea Shipping

I. Objective

To invest in improvements to short sea shipping infrastructure that contribute to economic growth, a clean environment and stronger communities.

II. Subcategories

New construction, additional capacity, and rehabilitation of the following capitalized and fixed port infrastructure that increases short sea shipping capacity:

- Wharves and associated infrastructure;
- Intermodal facilities, multi-modal, or transfer facilities; or
- Capitalized and fixed equipment for loading/unloading required for expansion of short sea shipping.

Notes:

a. *Short sea shipping is defined as the movement of cargo by water over relatively short distances, excluding trans-oceanic voyages.*
b. *Projects under this category could include Intelligent Transportation Systems (ITS) components as part of the overall project.*
c. *The purchase of vessels, infrastructure that supports passenger-only ferry services, maintenance of existing facilities, as well as maintenance activities including dredging, are not eligible for funding.*

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Improving efficiency (e.g., reduced traffic congestion, increased freight capacity and speed, results in new shippers and trade movements);
- Improving safety;
- Reducing the environmental footprint and providing environmental benefits such as air quality improvement; or
- Improving integration between transportation modes.

Northern Infrastructure

I. Objective

To invest in the construction and maintenance of infrastructure in the Northwest Territories, Yukon and Nunavut that contributes to economic growth, a clean environment and stronger communities.

II. Subcategories

- Fixed capital assets of public benefit

Notes:

a. *Investments in health infrastructure (hospitals, nursing stations, convalescent and senior centers) are not eligible.*
b. *Projects which would be considered eligible for funding under another category of investment will be required to meet the overview requirements for that category.*

III. Outcomes and Benefits for Canadians

The project must demonstrate how it provides benefits to Canadians in support of one or more of the following outcomes:

- Improving accessibility to and from remote, communities in the North;
- Improving access for Canadians in the north to basic public services, including emergency services;
- Improving the quality of life of Northern Canadians; or
- Supporting competitiveness, and sustainable economic and resource development in the North.

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Date modified: 2013-04-11

New Building Canada Fund: Provincial-Territorial Infrastructure Component, Small Communities Fund
Program Overview
Annex B - Eligible Recipients

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Initial recipients will be the provinces and territories. It will be the province or territory that will enter into an agreement with the ultimate recipient. Federal entities, including federal Crown Corporations, are not eligible recipients.

The following are eligible ultimate recipients for the purposes of the SCF:

a. A municipal or regional government established by or under provincial or territorial statute;
b. A provincial or territorial entity (e.g., a department, corporation or agency) that provides municipal-type infrastructure services to communities, as defined in provincial or territorial statute;
c. A band council within the meaning of section 2 of the *Indian Act*; or a government or authority established pursuant to a Self Government Agreement or a Comprehensive Land Claim Agreement between Her Majesty the Queen in right of Canada and an Aboriginal people of Canada, that has been approved, given effect and declared valid by federal legislation;
d. A public sector body that is established by or under provincial or territorial statute or by regulation or is wholly owned by a province, territory, municipal or regional government which provides municipal-type infrastructure services to communities; and
e. A private sector body, including for-profit organizations and not-for-profit organizations, whose application is supported by a municipal or regional government referred to above. Such support could take the form of a resolution from the municipal or regional government council.

Please note:

Eligible ultimate recipients are those entities listed above and are restricted to those whose projects are situated within, and/or are for the benefit of, communities with a population of less than one hundred thousand (100,000) people, as determined by Statistics Canada - Final 2011 Census. A community in this section shall be defined as the legal entity of the local government pursuant to applicable provincial or territorial legislation, that is, having the legal status of a local government pursuant to provincial or territorial legislation in that province or territory.

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Date modified: 2013-04-11

New Building Canada Fund: Provincial-Territorial Infrastructure Component, Small Communities Fund
Program Overview
Annex C - Eligible and Ineligible Expenditures

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Eligible expenditures are limited to the following:

a. The capital costs of acquiring, constructing or renovating a tangible asset, as defined and determined according to accounting principles generally accepted in Canada;
b. Expenditures directly associated with joint federal communication activities (press releases, press conferences, translation, etc.) and with federal project signage;
c. All planning (including plans and specifications) and assessment costs specified in the agreement such as the costs of environmental planning, surveying, engineering, architectural supervision, testing and management consulting services. Canada will contribute no more than 15% of its contribution to this cost;
d. The costs of engineering and environmental reviews, including environmental assessments and follow-up programs as defined in the *Canadian Environmental Assessment Act 2012* and the costs of remedial activities, mitigation measures and follow-up identified in any environmental assessment;
e. Costs of Aboriginal consultation;
f. Recipient audit and evaluation costs as specified in the agreement;
g. The incremental costs of the eligible or ultimate recipient's employees or leasing of equipment may be included as eligible expenditures under the following conditions:
    i. The recipient is able to demonstrate that it is not economically feasible to tender a contract;
    ii. The employee or equipment is engaged directly in respect of the work that would have been the subject of the contract; and
    iii. The arrangement is approved in advance and in writing by the province or territory.

h. Leasing of equipment related to the construction of the project; and,
i. Other costs that, in the opinion of Canada, are considered to be direct and necessary for the successful implementation of the Project and have been approved in writing prior to being incurred.

The following are deemed ineligible expenditures:

a. Expenditures incurred prior to the approval of the project by Canada;
b. Expenditures incurred after the project completion date with the exception of expenditures related to audit and evaluation requirements pursuant to the agreement;
c. Expenditures related to developing a business case or proposal for funding;
d. Expenditures related to purchasing land, buildings and associated real estate and other fees;
e. Financing charges and interest payments on loans;
f. Leasing land, buildings, equipment and other facilities;
g. Furnishing and non-fixed assets which are not essential for the operation of the asset/project.
h. General repairs and maintenance of a project and related structures, unless they are part of a larger capital expansion project;
i. Services or works normally provided by the recipient, incurred in the course of implementation of the project, except those specified as eligible expenditures;

j. Expenditures related to any goods and services which are received through donations or in kind;
k. Any overhead costs, including salaries and other employment benefits of any employees of the recipient, its direct or indirect operating or administrative costs of ultimate recipients, and more specifically its costs related to planning, engineering, architecture, supervision, management and other activities normally carried out by its staff, except in accordance with b) and g) of the list of eligible expenditures above;
l. Taxes for which the ultimate recipient is eligible for a tax rebate and all other costs eligible for rebates;
m. Legal fees.

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Government of Canada / Gouvernement du Canada

Canada

Infrastructure Canada

How to Apply for Funding Under the New Building Canada Fund

PDF Version (Size: 161.95 KB)

Help on accessing alternative formats, such as PDF, PPT and ZIP files, can be obtained in the alternate format help section.

✔ **Checklists:**

New Building Canada Fund:
What you need to know to apply for funding

- National Infrastructure Component (NIC)
- Provincial-Territorial Infrastructure Component, National/Regional Projects (PTIC-NRP)
- Provincial-Territorial Infrastructure Component, Small Communities Fund (PTIC-SCF)

The New Building Canada Fund was officially launched on March 28, 2014. The Minister of Infrastructure, Communities, and Intergovernmental Affairs has also provided provinces and territories with the information required to start identifying priority projects and apply for funding — including detailed program guides, which are available below.

The National Infrastructure Component and the Provincial-Territorial Infrastructure Component have different processes. You can find details on both processes below.

National Infrastructure Component

The $4-billion National Infrastructure Component (NIC) provides funding for projects of national significance, that have broad public benefits, and that contribute to long-term economic growth and prosperity. The project submission process is currently open (i.e. without a deadline). To apply for funding, proponents must submit a detailed business case to Infrastructure Canada that demonstrates how the project meets the program's objectives, as well as category specific outcomes and criteria.

- Business Case Guide for Project Proponents (NIC) (HTML | PDF (Size: 370.64 KB))

Current calls for proposals

Infrastructure Canada is now accepting completed business cases for projects within all seven eligible categories:

- Highways and major roads
- Public transit
- Rail infrastructure
- Disaster mitigation
- Local and regional airports
- Port infrastructure
- Intelligent Transportation Systems

Completed project business cases should be emailed to: nic-vin@infc.gc.ca

Provincial-Territorial Infrastructure Component

The $10-billion Provincial-Territorial Infrastructure Component (PTIC) provides funding to support infrastructure projects of national, regional and local significance that contribute to objectives related to economic growth, a clean environment and stronger communities. To support a wide range of infrastructure needs, the PTIC is divided into two sub-components:

National and Regional Projects (PTIC–NRP): $9 billion for projects that are nationally and regionally significant, and are predominantly medium- and large scale in nature. If you are an eligible recipient and would like to have your project considered for funding under the PTIC–NRP, you are encouraged to contact your provincial or territorial ministry responsible for infrastructure to determine the process for submitting project proposals and deadlines.

An Initial Review Guide and a Business Case Guide are available to assist in the development of project proposals and detailed business cases respectively. Detailed business cases under the PTIC–NRP will only be requested for projects that have been jointly identified by Canada and provincial and territorial partners, and that are deemed eligible under the program terms and conditions.

Learn more about how to submit your project for funding consideration.

Small Communities Fund (PTIC–SCF): $1 billion for projects in communities with fewer than 100,000 residents through the Small Communities Fund. This will ensure that small communities have access to significant funding to support economic prosperity.

All proposed projects must provide basic information that includes the name of the municipality, title of the project, the eligible category and subcategory, a brief description of the project, financial information, project location as well as planned start and end dates. If you are an eligible recipient and would like to have your project considered for funding under the PTIC, and to determine the process for submitting project proposals and deadlines, you are encouraged to contact your respective provincial or territorial ministry responsible for infrastructure. You can also learn more about how the Small Communities Fund works by reading the Program Overview.

Date modified: 2014-07-15

APPENDIX C - SUMMARY OF CHANGES TO BUDGET FOR EACH ALTERNATIVE

The breakdown of the budget for **Alternative 1** is:

	Aug 15, 2014	Sept 15, 2014
• Replace Chart Drive Septic System	$750,000	$760,000
• Phase 1 - I & I Program including hydraulic model analysis	$217,000	$217,000
• Provide one Clarifier & Aeration Tank at Schooner WWTP	$2,056,000	$2,056,000
• Upgrade 325m of pipe along Buck Lake	$387,000	$495,000
• Upgrade 112m of pipe on Privateers Road	$133,000	$133,000
• Upgrade Schooner Lift Station	$557,000	$557,000
• Replace Cannon WWTP with Pump Station/Forcemain	$2,714,000	$1,826,000
Total	$6,814,000	**$6,050,000**

The breakdown of the budget for **Alternative 2** is:

	Aug 15, 2014	Sept 15, 2014
• Replace Chart Drive Septic System	$750,000	$760,000
• Phase 1 - I & I Program including hydraulic model analysis	$217,000	$217,000
• Upgrade 325m of pipe along Buck Lake	$387,000	$495,000
• Upgrade 112m of pipe on Privateers Road	$133,000	$133,000
• Upgrade Schooner Lift Station	$557,000	$557,000
• Replace Cannon WWTP with Pump Station/Forcemain	$2,714,000	$1,826,000
• 3 years of Annual Pipe Replacement Program	$512,000	$512,000
• New Schooner WWTP	$6,189,000	6,189,000
• Upgrade 5 Lift Stations	$1,000,000	$1,003,000
Total	$12,462,000	**$11,690,000**

The breakdown of the budget for **Alternative 3** is:

	Aug 15, 2014	Sept 15, 2014
• Replace Chart Drive Septic System	$750,000	$760,000
• Phase 1 - I & I Program including hydraulic model analysis	$217,000	$217,000
• Ultrasonic Testing of the Clarifier	$20,000	$21,000
• Upgrade 325m of pipe along Buck Lake	$387,000	$495,000
• Upgrade 112m of pipe on Privateers Road	$133,000	$133,000
Total	$1,507,000	**$1,630,000**

Making a difference...together

MAGIC LAKE ESTATES WASTEWATER UTILITY
CAPITAL REPLACEMENT REQUIREMENTS

Date: Sep 4, 2014
Prepared by: Craig Gottfred, P.Eng.

ALTERNATIVE 1

Description	Details	Estimated Construction	Contingency (30%)	Subtotal	Engineering	Admin	Operation Staff	TOTAL
		2015						
New Chart Drive Pump Station & FM	Existing Chart Drive Septic Field has failed and a Health Order has issued to cease discharge to the field. Recommend replacement with a pump station and 860m forcemain from Chart Dr along Galleon Way to Gunwhale Rd to Spyglass Rd and connect to gravity system. + $15,000 for Drainage Improvements	445,175	133,533	578,708	57,871	52,084	52,084	760,000
I & I Program Phase 1	Inflow / Infiltration program includes CCTV. flow monitoring and hydraulic analysis, smoke testing and field inspection of manholes .	164,032	16,403	180,436	18,044	9,022	9,022	217,000
Schooner WWTP Aeration/Clarifier Tank	The existing WWTP does not have capacity to handle peak flows. The plant is also at end of life. Recommend a new larger aeration/clarifier as an iterim measure to mitigate the peak flow issue.	1,171,659	351,498	1,523,157	380,789	76,158	76,158	2,056,000
Replace Schooner Pump Station	Replace Schooner Pump Station	317,520	95,256	412,776	103,194	20,639	20,639	557,000
Buck Lake Replacement	Using normal construction to upgrade the existing pipe	292,915	87,874	380,789	76,158	19,039	19,039	495,000
Privateers Rd	Replace existing 112m of 150mm AC pipe with 200mm PVC pipe.	82,016	24,605	106,621	15,993	5,331	5,331	133,000
New Cannon Pump Station & Forcemain	Peak flows at the exixting Cannon WWTP often exceed the permitted discharge limit. As well, the plant is at end of life. Recommend replacement with a new pump station and 600m forcemain.	1,040,500	312,150	1,352,650	338,163	67,633	67,633	1,826,000
							TOTAL ESTIMATED COST	6,050,000

Appendix D

MAGIC LAKE ESTATES WASTEWATER UTILITY
CAPITAL REPLACEMENT REQUIREMENTS

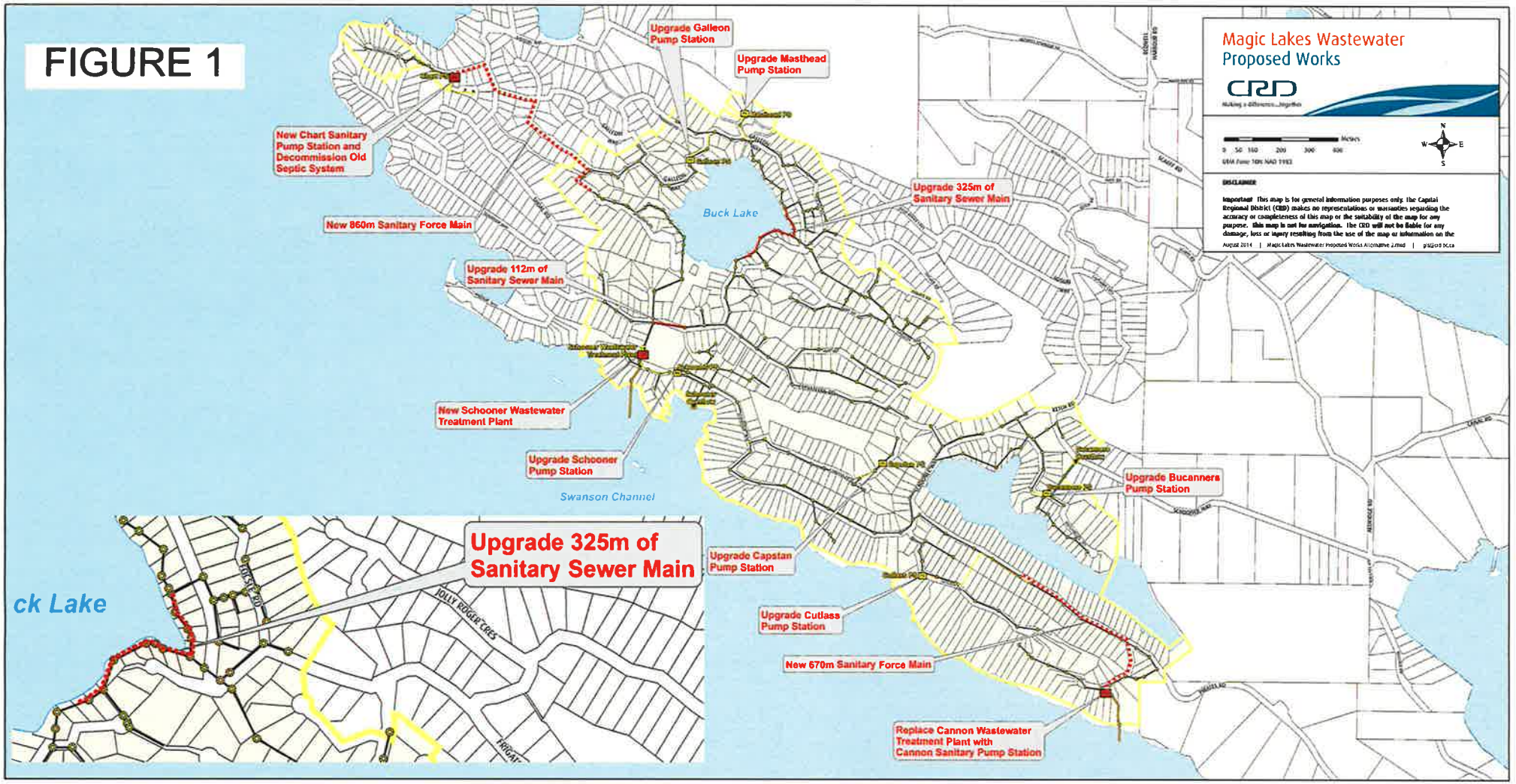
ALTERNATIVE 2

Description	Details	Estimated Construction	Contingency (30%)	Subtotal	Engineering	Admin	Operation Staff	TOTAL
		2015 $						
New Chart Drive Pump Station & FM	Existing Chart Drive Septic Field has failed and a Health Order has issued to cease discharge to the field. Recommend replacement with a pump station and 860m forcemain from Chart Dr along Galleon Way to Gunwhale Rd to Spyglass Rd and connect to gravity system. + $15,000 for Drainage Improvements	445,175	133,533	578,708	57,871	52,084	52,084	760,000
I & I Program Phase 1	Inflow / Infiltration program includes CCTV. flow monitoring and hydraulic analysis, smoke testing and field inspection of manholes .	164,032	16,403	181,000	18,100	9,050	9,050	217,000
Buck Lake Replacement	Using pipe bursting to upgrade the existing pipe	292,915	87,874	381,000	76,200	19,050	19,050	495,000
Privateers Rd	Replace existing 112m of 150mm AC pipe with 200mm PVC pipe.	82,016	24,605	106,621	15,993	5,331	5,331	133,000
Replace Schooner Pump Station	Replace Schooner Pump Station	317,520	95,256	415,000	105,000	18,500	18,500	557,000
New Cannon Pump Station & Forcemain	Peak flows at the exixting Cannon WWTP often exceed the permitted discharge limit. As well, the plant is at end of life. Recommend replacement with a new pump station and 600m forcemain.	1,040,500	312,150	1,352,650	338,163	67,633	67,633	1,826,000
Annual Pipe Replacement Program (3 years)	Replace 3.5 km of AC pipe over the next 19 years at 200m per year with an estimated total cost of $3.4M with average annual cost of $170,000	291,500	87,450	378,950	94,738	18,948	18,948	512,000
New Schooner WWTP	A New sequencing batch reactor (SBR) plant adjacent to the existing plant with a capacity of 536 m^3/day maximum monthly flow, peak flows of over 1,200 m^3/day	3,526,000	1,057,800	4,583,800	1,145,950	229,190	229,190	6,188,000
Upgrade 5 Lift Stations	Replace or upgrade Caspan, Cutlass, Buchaneer, Mastehead, Galleon Lift Station.	571,500	171,450	742,950	185,738	37,148	37,148	1,003,000
							TOTAL ESTIMATED COST	11,690,000

ALTERNATIVE 3

Description	Details	Estimated Construction	Contingency	Subtotal	Engineering	Admin	Operation Staff	TOTAL
		2015						
New Chart Drive Pump Station & FM	Existing Chart Drive Septic Field has failed and a Health Order has issued to cease discharge to the field. Recommend replacement with a pump station and 860m forcemain from Chart Dr along Galleon Way to Gunwhale Rd to Spyglass Rd and connect to gravity system. + $15,000 for Drainage Improvements	445,175	133,533	578,708	57,871	52,084	52,084	760,000
I & I Program Phase 1	Inflow / Infiltration program includes CCTV. flow monitoring and hydraulic analysis, smoke testing and field inspection of manholes .	164,032	16,403	180,436	18,044	9,022	9,022	217,000
Schooner WWTP Aeration Tank Eval	Engineering study to evaluate usable life of aeration tanks	16,403	1,640	18,044	902	902	902	21,000
Buck Lake Replacement	Using pipe bursting to upgrade the existing pipe	292,915	87,874	380,789	76,158	19,039	19,039	495,000
Privateers Rd	Replace existing 112m of 150mm AC pipe with 200mm PVC pipe.	82,016	24,605	106,621	15,993	5,331	5,331	133,000
FUTURE REPLACEMENTS & EXPANSION								1,630,000

FIGURE 1


Magic Lakes Wastewater
Proposed Works
CRD
Upgrade Galleon Pump Station
Upgrade Masthead Pump Station
New Chart Sanitary Pump Station and Decommission Old Septic System
New 860m Sanitary Force Main
Upgrade 325m of Sanitary Sewer Main
Buck Lake
Upgrade 112m of Sanitary Sewer Main
New Schooner Wastewater Treatment Plant
Upgrade Schooner Pump Station
Swanson Channel
Upgrade Bucannera Pump Station
Upgrade 325m of Sanitary Sewer Main
Upgrade Capstan Pump Station
Upgrade Cutlass Pump Station
New 670m Sanitary Force Main
Replace Cannon Wastewater Treatment Plant with Cannon Sanitary Pump Station
ck Lake
DISCLAIMER