# Capital Regional District
# CORE AREA WASTEWATER TREATMENT PROGRAM

BC Construction Round Table

February 21, 2013

Making a difference...together

# Core Area Wastewater Treatment Program

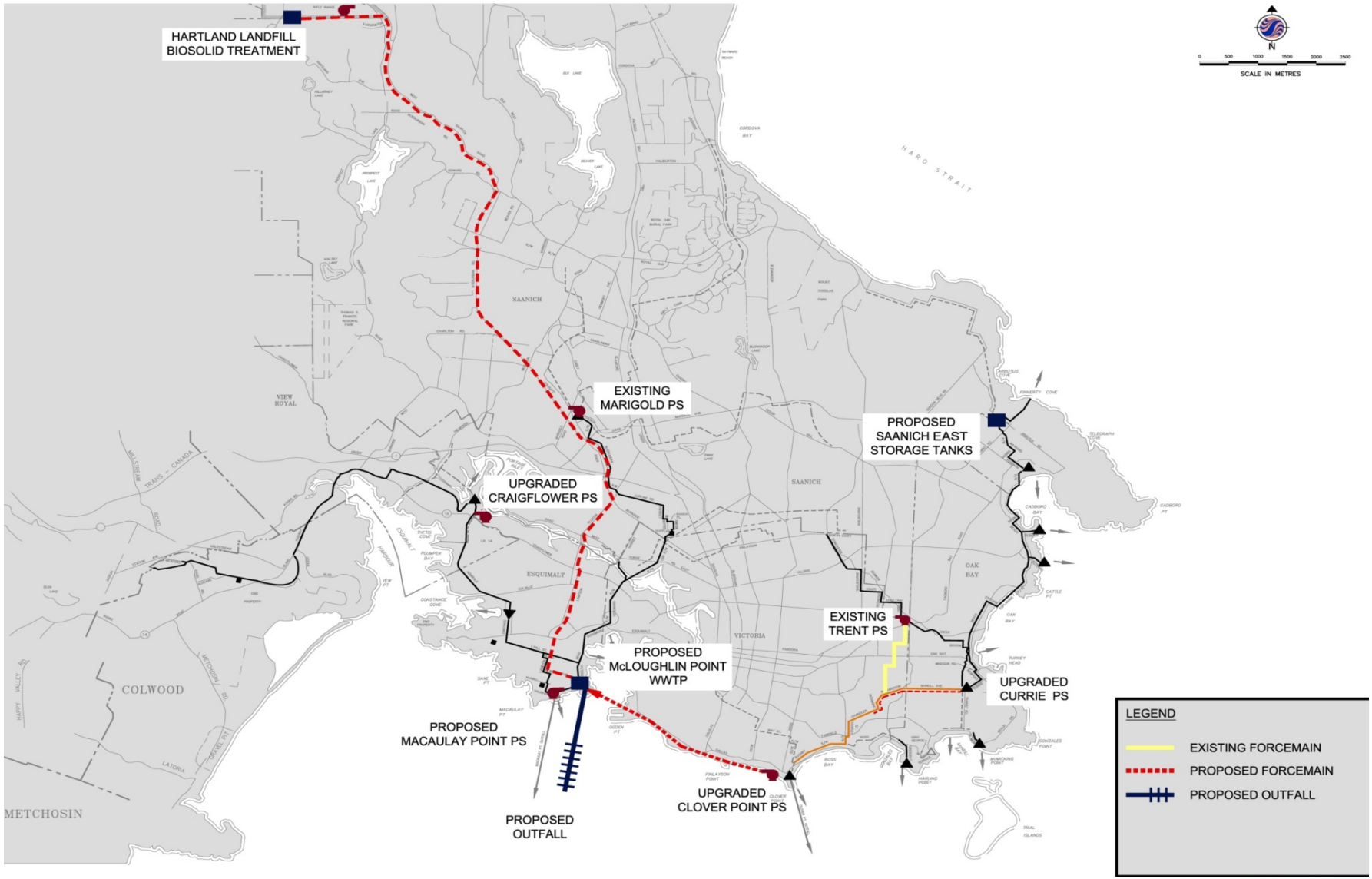
Making a difference...together

- Overview
- Funding
- Cost Estimates
- Governance
- McLoughlin Wastewater  Treatment Facility
- Biosolids Energy Centre
- Conveyance Facilities
- Schedule

# Overview

# Core Area Wastewater Treatment Program

Making a difference...together

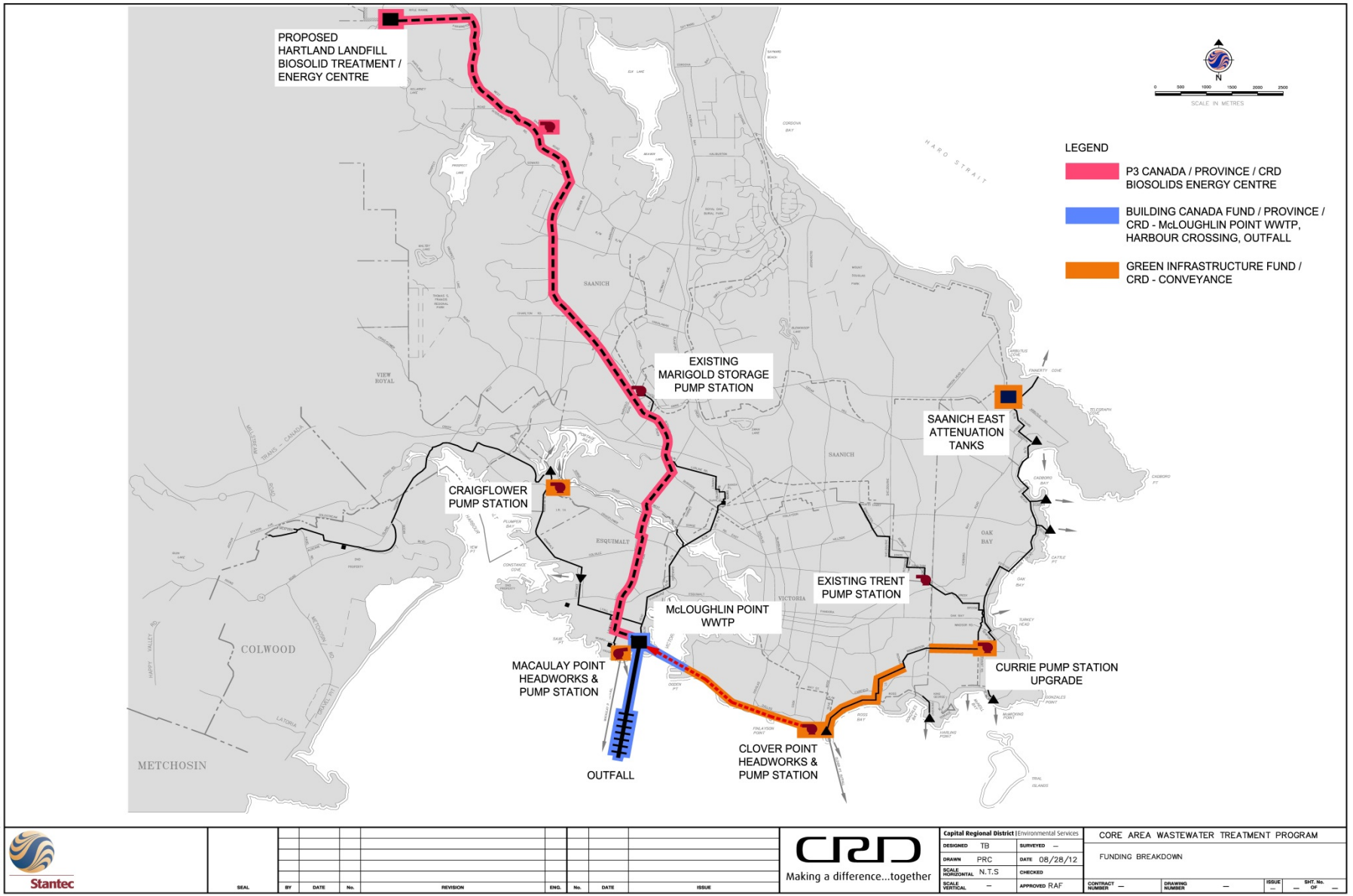


# Funding

Making a difference...together

# Core Area Wastewater Treatment Program – Funding Breakdown

Making a difference...together




Stantec

Making a difference...together

Capital Regional District | Environmental Services

CORE AREA WASTEWATER TREATMENT PROGRAM

FUNDING BREAKDOWN

# Cost Estimate

Making a difference...together

# Cost Estimates

Making a difference...together

| | |
|---|---|
| Construction Cost and Contingency: | $549 M |
| Indirect Costs: | $221 M |
| Engineering, administration and program management, inflation, financing, etc. | |
| Land: | $13 M |
| **TOTAL:** | **$783 M** |

# Governance

Making a difference...together

Making a difference...together

# Governance

- Commission established by a CRD Bylaw
- Standing Committee of the CRD Board
- 7 member Commission
- No elected officials on Commission
- Diverse qualifications and experience
- Delegated authority within scope & budget
- Mandate: To deliver program (procurement, design, construction & commissioning)

# McLoughlin Wastewater Treatment Plant and Facilities

Making a difference...together

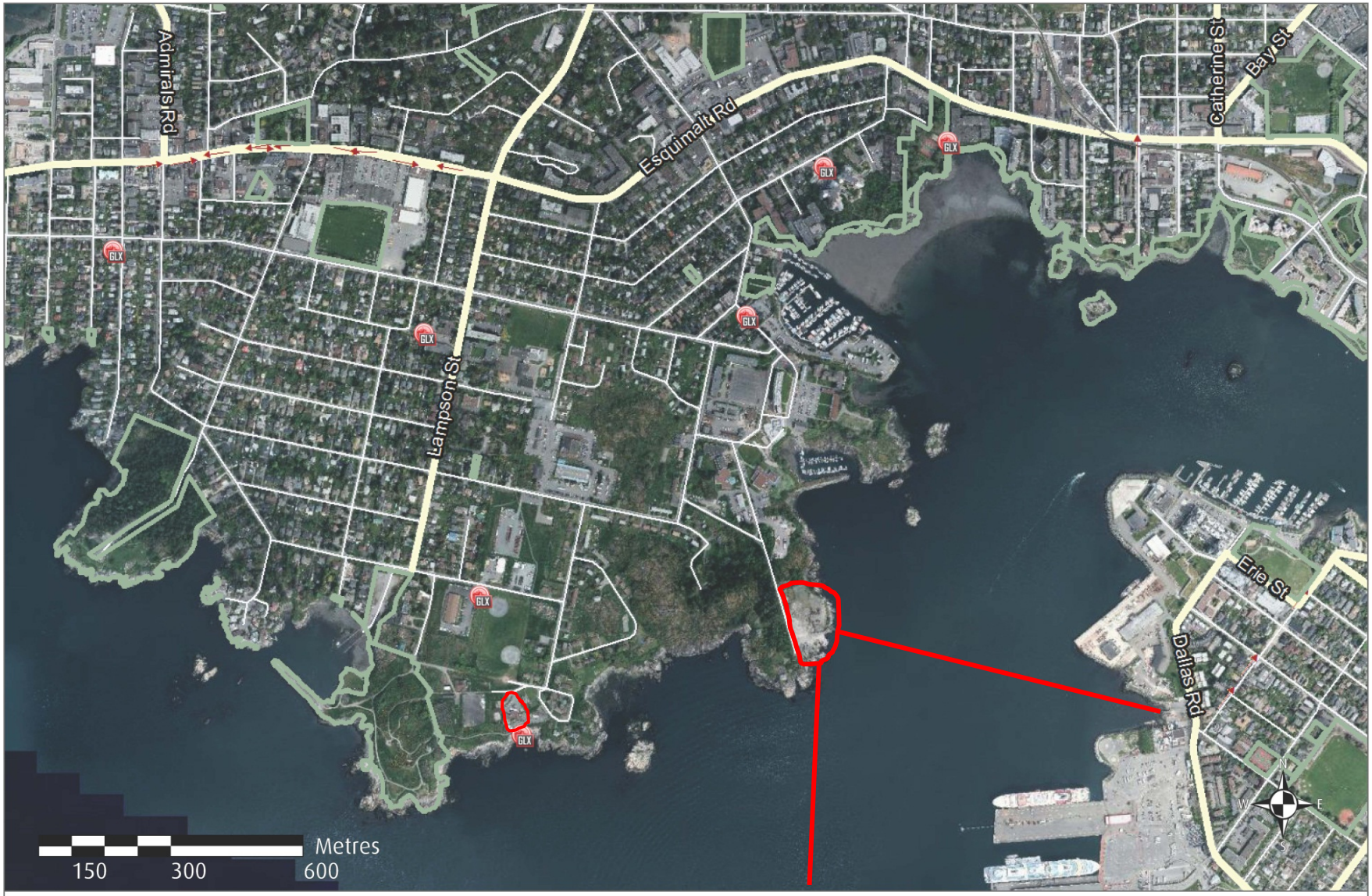
# McLoughlin Wastewater Treatment Plant and Facilities

Making a difference...together

- Capital Cost Estimate: $210 million
- WWTP capacity: 108 Ml/d ADWF
  - 1.4 hectare site
- Victoria Harbour Crossing
  - Diameter: 1,200 mm
  - Length: 800 m
- Marine Outfall
  - Diameter: 2,000 mm (gravity outfall)
  - Length: 2,100 m long

**1 DB contract**

(to include short term financing and 2-year performance verification)




## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

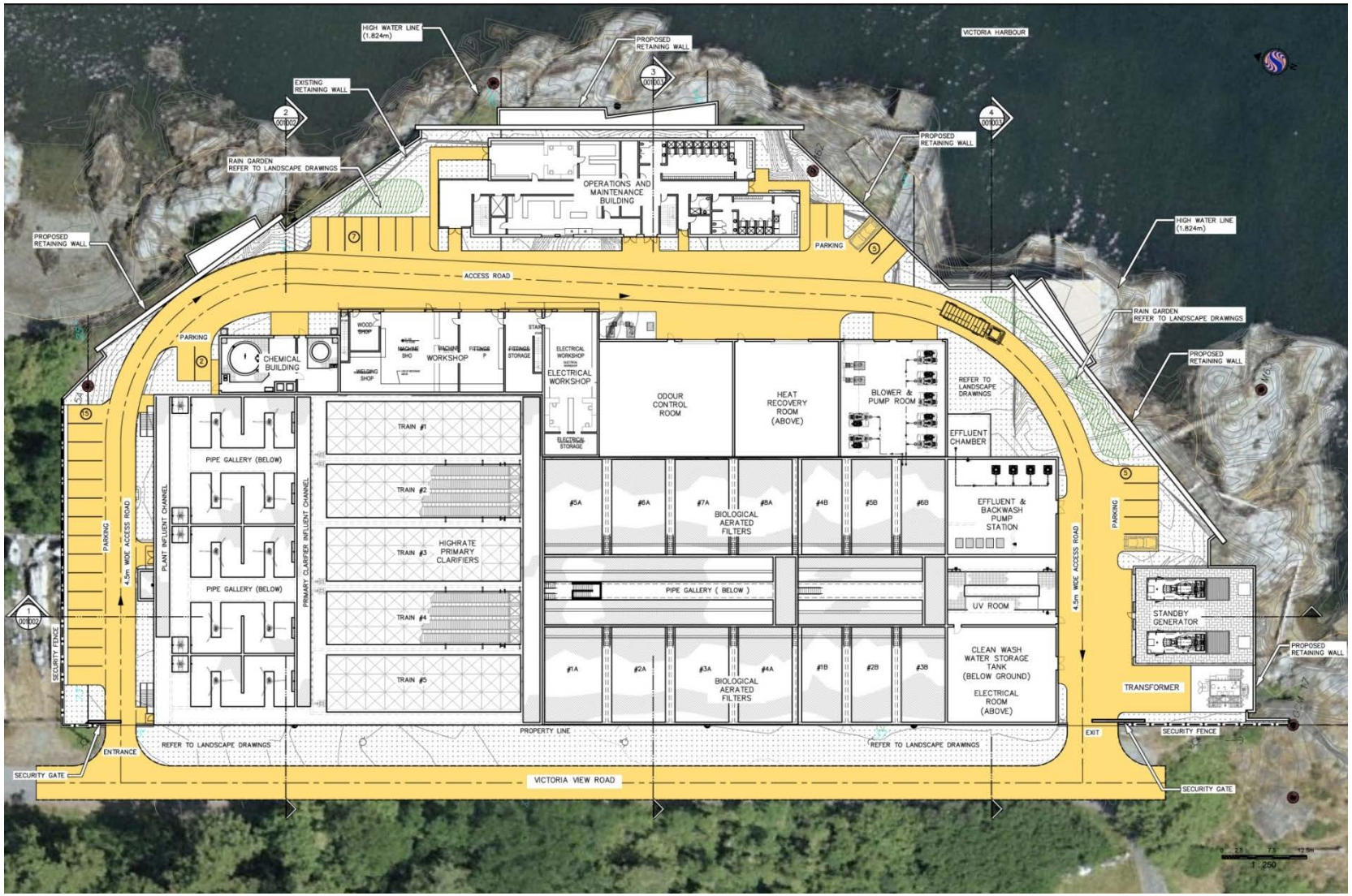
Printed Mon, Aug 20, 2012

# McLoughlin Point and Macaulay Point Pump Station

Intramap 2.0
Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

# McLoughlin WWTP Point (BAF)

Making a difference...together



# McLoughlin Point WWTP Site

Making a difference...together

# McLoughlin Point WWTP Site

Making a difference...together

# Biosolids Energy Centre Sludge Digestion/Resource Recovery Facility

Making a difference...together

# Biosolids Energy Centre

Making a difference...together

- Capital cost estimate: $205 million
- Sludge and centrate conveyance*
  - 18 km, twin 250 mm pipelines
  - 4 pump stations
- Sludge digestion
- Biosolids dewatering, drying and disposal

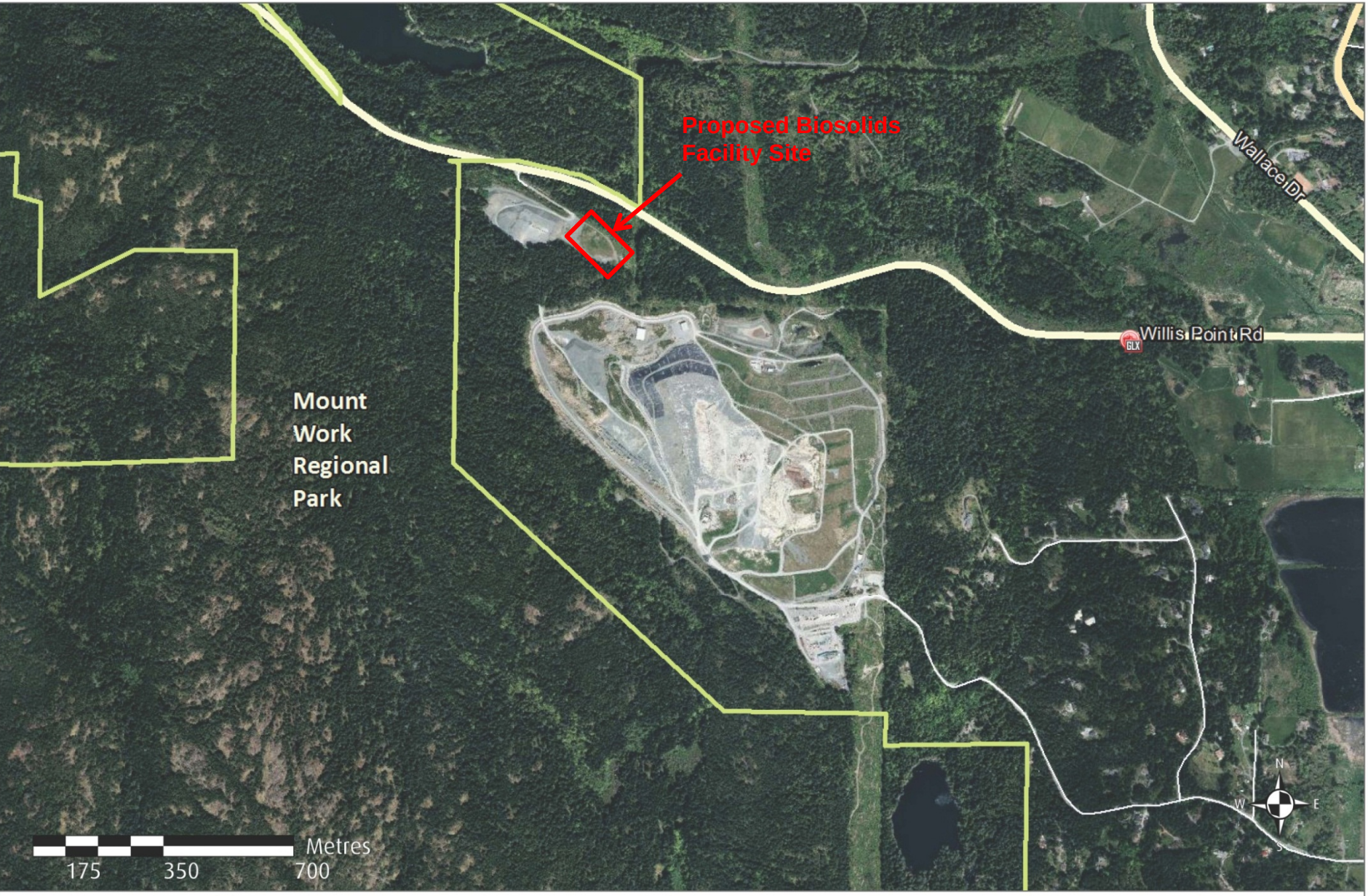
**1 DBFO contract**

* Alternative site closer to Hartland Landfill site is under consideration

# Resource Recovery Opportunities

Making a difference...together

- Biosolids processing facility
  - Struvite (phosphorus)
  - Biogas processing
  - May include landfill gas processing
- Digested dried biosolids
  - Used as a fuel substitute
- Heat recovery opportunities
  - Heating and biosolids drying




## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Printed Mon, Aug 20, 2012

# Hartland Landfill

Intramap 2.0
Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

# Conveyance Facilities

Making a difference...together

# Conveyance Facilities

Making a difference...together

- Macaulay Point/McLoughlin Conveyance
  - Macaulay Pump Station
    - Grit removal
    - Partition pump station to pump to McLoughlin Point
    - Maintain screening and overflow pumping
  - Conveyance pipeline: 1.1 km, 900 mm dia.
- Capital Cost Estimate: $13 million

**1DB and 1DBB contract**

## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Printed Fri, Sep 14, 2012

# Conveyance - Macaulay to McLoughlin

Intramap 2.0
Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

# Macaulay Point Pump Station

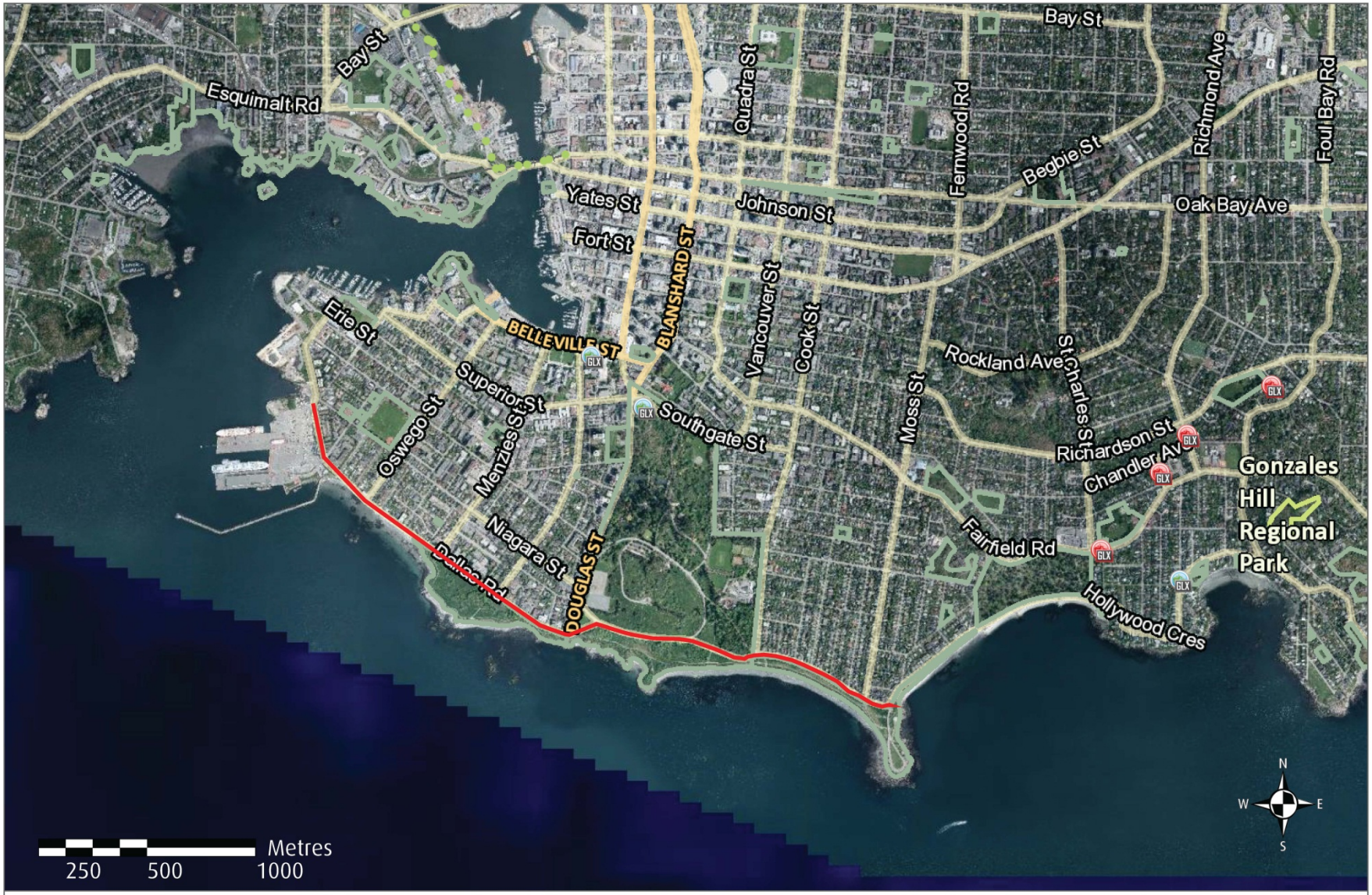
Making a difference...together

# Conveyance Facilities

Making a difference...together

- Clover Point/Ogden Point Conveyance
  - Clover Point Pump Station
    - Grit removal
    - Partition pump station to pump to McLoughlin
    - Maintain screening and overflow pumping
  - Conveyance pipeline: 3.3 km, 1,200 mm dia.
- Capital cost estimate: $20 million

**1DB Contract & 1 DBB Contract**




## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Printed Thu, Sep 13, 2012

# Conveyance - Clover Point Pump Station

Intramap 2.0
Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Printed Mon, Aug 20, 2012

## Intramap 2.0

Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

CRD
Making a difference...together

# Clover Point Pump Station

Making a difference...together

# Clover Point Pump Station

Making a difference...together

# Conveyance Facilities

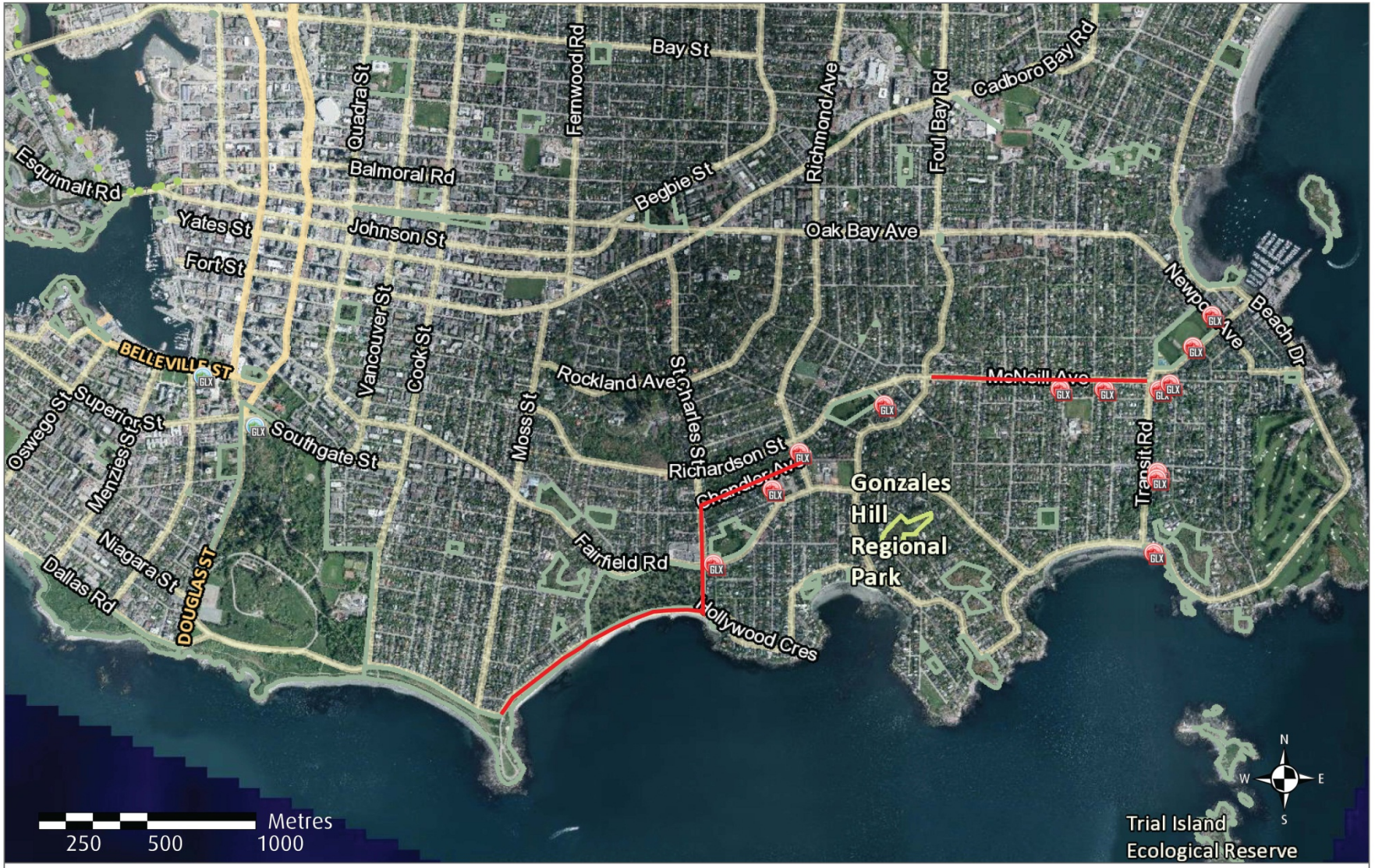
Making a difference...together

- Currie PS Upgrade/Pipelines
  - Extension of Trent syphon: 1.3 km, 900 mm dia.
  - Upgrade Currie PS
  - Twinning Currie PS forcemain: 1.8 km, 750 mm dia.
- Capital cost estimate: $12.8 million

**2 – 3 DBB Contracts**

- Craigflower Pump Station replacement
- Capital cost estimate: $10 million

**1 DBB Contract**




## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Printed Thu, Sep 13, 2012

# Conveyance - Currie Road Pump Station

Intramap 2.0
Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Printed Mon, Aug 20, 2012

# Currie Pump Station

## Intramap 2.0

Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

# Currie Road Pump Station

Making a difference...together

# Currie Road Pump Station

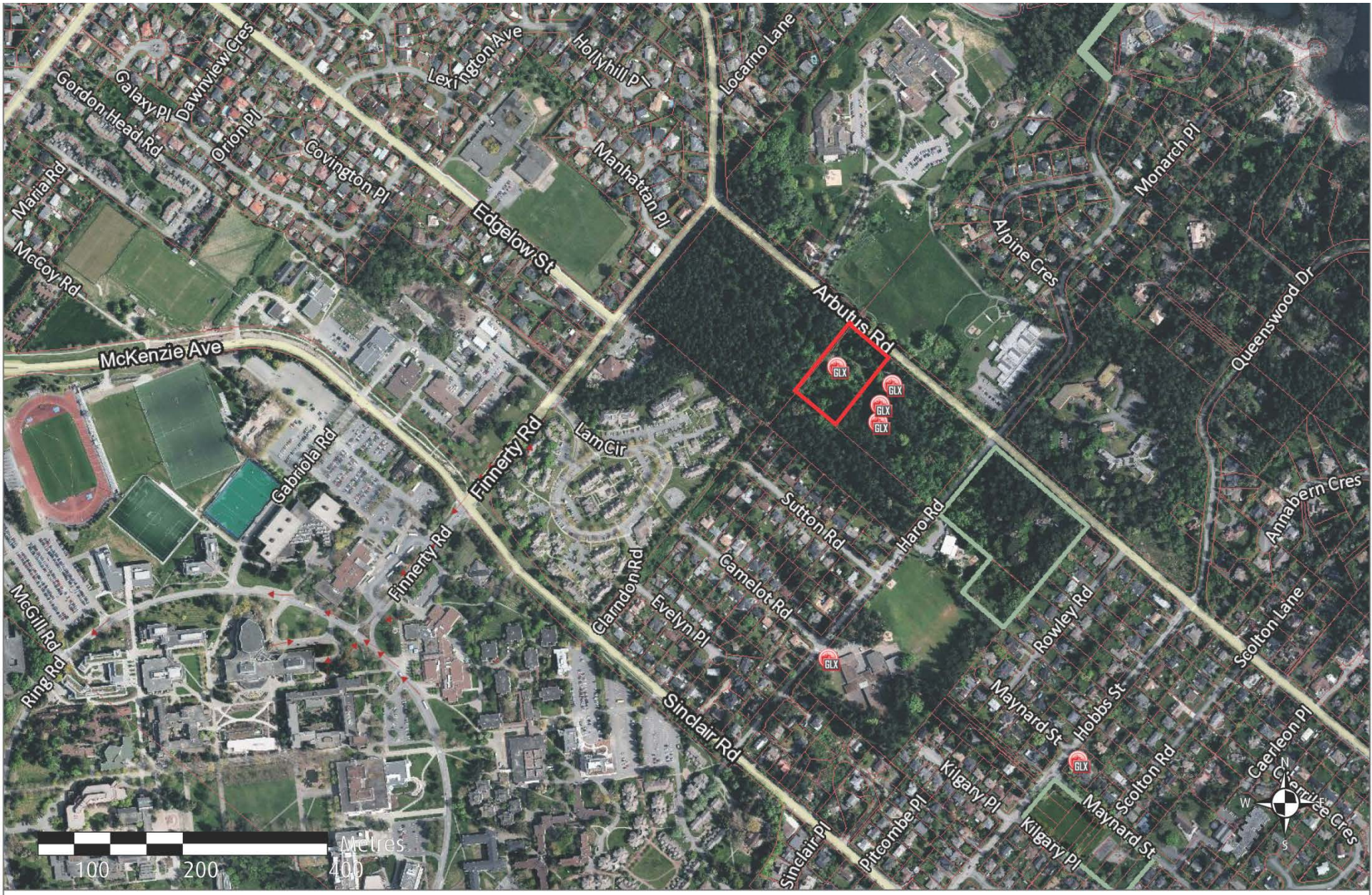
Making a difference...together

# Conveyance Facilities

Making a difference...together

- Arbutus Road Attenuation tank
  - 5000 $m^3$ buried tank
  - Conveyance to/from tank
  - Connection to existing overflow outfall
- Capital cost estimate: $9.5 million

**1 DBB Contract**




## Important

This map is for general information purposes only. The Capital Regional District (CRD) makes no representations or warranties regarding the accuracy or completeness of this map or the suitability of the map for any purpose. This map is not for navigation. The CRD will not be liable for any damage, loss or injury resulting from the use of the map or information on the map and the map may be changed by the CRD at any time.

Printed Mon, Feb 18, 2013

# Arbutus Road Attenuation Tank

## Intramap 2.0

Capital Regional District
gis@crd.bc.ca
http://www.crd.bc.ca

CRD
Making a difference...together

# Schedule – Treatment Plants

Making a difference...together

- McLoughlin Facilities (DB)
  - RFQ: 1st Quarter2013
  - RFP: 2nd Quarter 2013
  - Contract Award: December 2013
  - Construction start: 2014
- Biosolids/Energy Centre Facilities (DBFO)
  - RFQ: 3rd Quarter 2013
  - RFP: 1st Quarter 2014
  - Contract Award: September 2014
  - Construction Start: October 2014

# Schedule – Conveyance Facilities

Making a difference...together

- Craigflower Pump Station (DBB)
  - RFQ: January 2013
  - Tender: March 2013
- Arbutus Road Attenuation Tank (DBB)
  - RFP for Design: June 2013
  - Design: August 2013
  - Tender: January 2014

# Schedule – Conveyance Facilities

Making a difference...together

- Clover Point Pump Station Upgrade (DB)
  - 2014/2015
- Macaulay Point Pump Station Upgrade (DB)
  - 2014/2015

# Schedule – Conveyance Facilities

Making a difference...together

- Clover Point/Ogden Point Pipeline (DBB)
  - 2014/2015
- Macaulay to McLoughlin Pipeline (DBB)
  - 2014/2015
- Other components to follow

# Program Commissioning

Making a difference...together

- Commissioning:
  - McLoughlin WWTP: June 2017 – Jan 2018
  - Biosolids Energy Centre October 2017 – March 2018
- Final Acceptance – March 2018
- 2-year performance period commences on Final Acceptance

# Current Activities

Making a difference...together

- Established Program Management Office – November 1
- McLoughlin Point wastewater treatment plant indicative design – in progress
- McLoughlin WWTP RFQ and RFP documents – in progress
- Retained program advisors:
  - Legal, Financial, Risk/Insurance, Fairness
  - Conflict of Interest Adjudicator
- Geotechnical Investigations and Surveys
  - McLoughlin Point (completed)
  - Victoria Harbour (completed)
  - Outfall alignment study (completed)

# Current Activities (cont'd)

Making a difference...together

- Biosolids Facility site selection - in progress
- Program Implementation Plan and Program Management Plan – under development
- Rezoning for McLoughlin Point Site – in progress
- Rezoning for Arbutus Road Attenuation Tank Site – in progress
- Craigflower Pump Station tender RFQ – completed
- Commission member selection – in progress

# Contact info:

Jhull@crd.bc.ca

Making a difference...together

# Questions?