

BOWSER VILLAGE CENTRE WASTEWATER SERVICING STUDY

Presentation slides from the Public Meeting held July 11th 2016 at the Bowser Legion

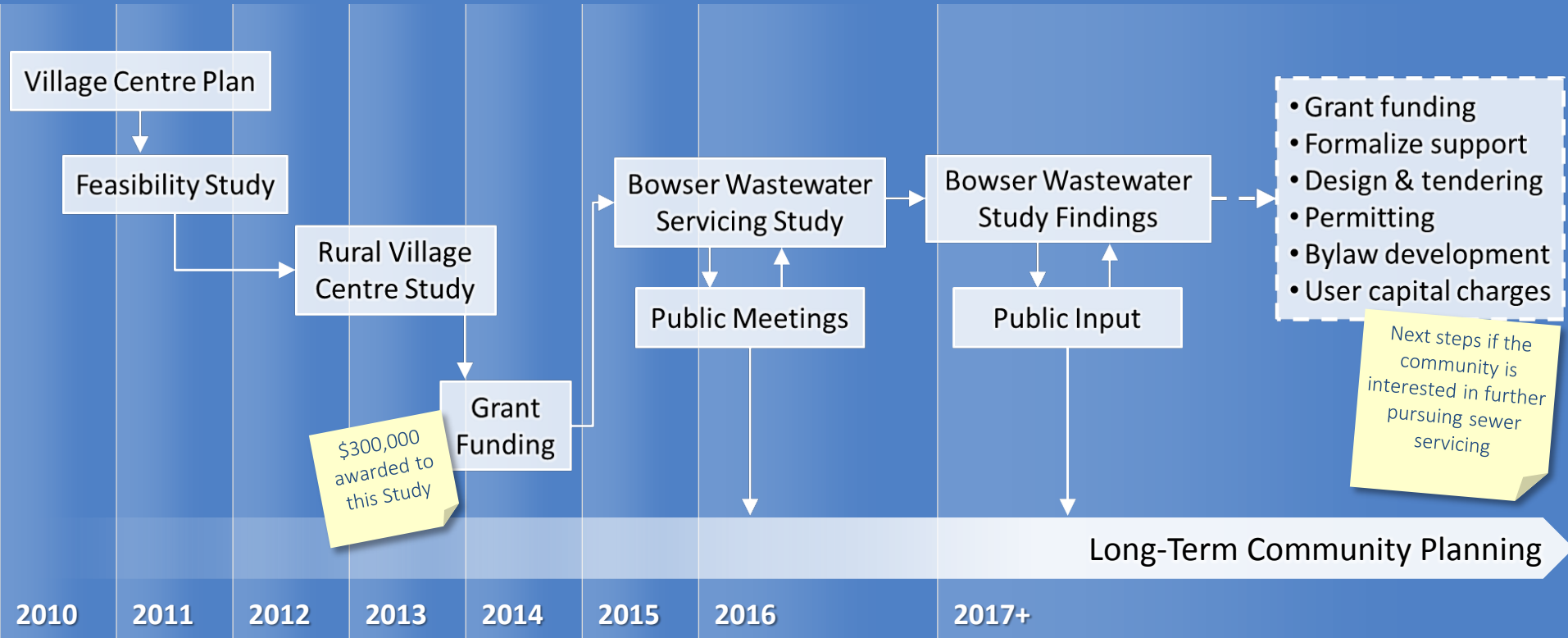


Speaking notes included on slides!

Presentation outline

- Timeline
- Long-term planning
- Study scope
- Collection system
- Treatment system
- Disposal options
- Costs

TIMELINE



REGIONAL GROWTH STRATEGY



The Regional Growth Strategy has designated areas where new growth is to be directed. In Electoral Areas, these areas are called “Rural Village Areas” – like Bowser, Qualicum Bay, and Dunsmuir

The Regional Growth Strategy envisions these centres as “complete compact communities”, including the provision of water and wastewater servicing

Bowser was identified as having high potential to evolve into a complete compact community

BOWSER VILLAGE PLAN

The Bowser Village Plan includes two goals: to increase density and to increase diversity within the village area



The Plan further recognizes that innovative wastewater treatment is required, which involves working with land owners to explore options for wastewater management systems and to encourage the development of expandable common wastewater management systems

DENSITY TARGETS

- Current Population 68 units - 142 people
- Plan Sets Density Targets
- Reaching density targets depends on wastewater treatment

2015 estimates

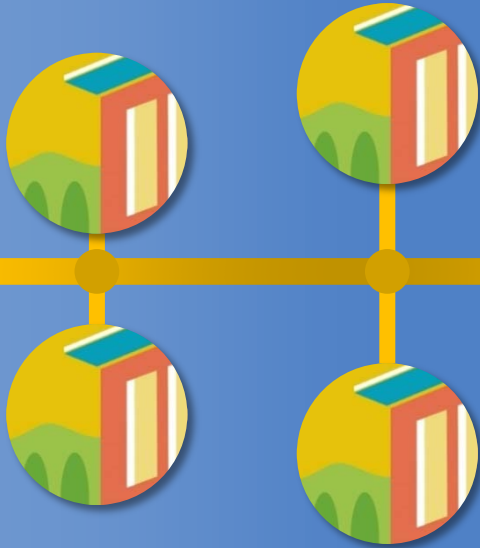
Aspirational target
used to guide
development

UPPER LIMIT	1,736 units
AVERAGE	20 units/ha by 2025 - 1,016 units 30 units/ha by 2040 - 1,523 units
LIKELY	893 units

Bowser Village Centre
Plan recognizes that
893 units is a more
likely scenario

STUDY SCOPE

Collection system
Detailed design



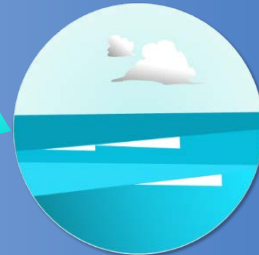
Treatment system
Detailed design



Ground disposal
Preliminary design

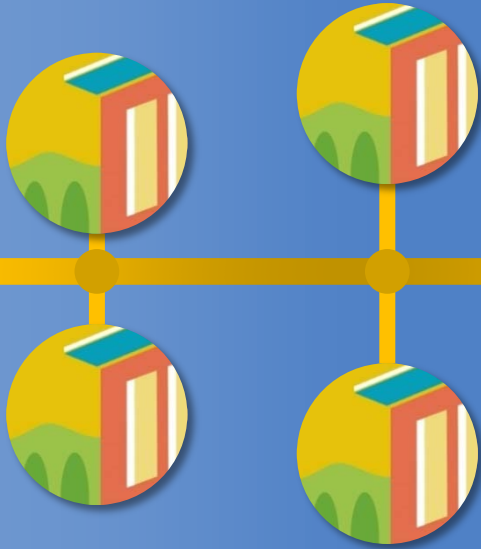


Marine disposal
Preliminary design

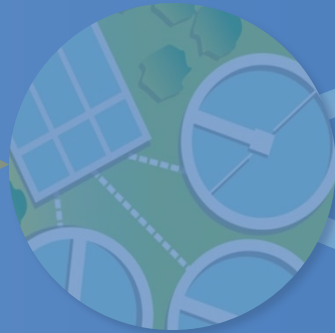


COLLECTION SYSTEM

Collection system
Detailed design



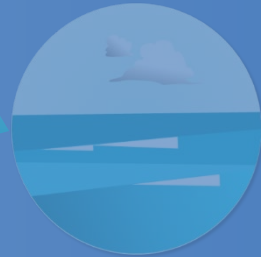
Treatment system
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3 community pump stations (white triangles)

This design avoids shorelines

Collection system follows road & rail ways

1 strata pump station (grey triangle)

Some properties would require individual grinder pumps to push sewage up to the collection line (white circles)

TREATMENT SYSTEM

Collection system
Detailed design



Treatment system
Detailed design



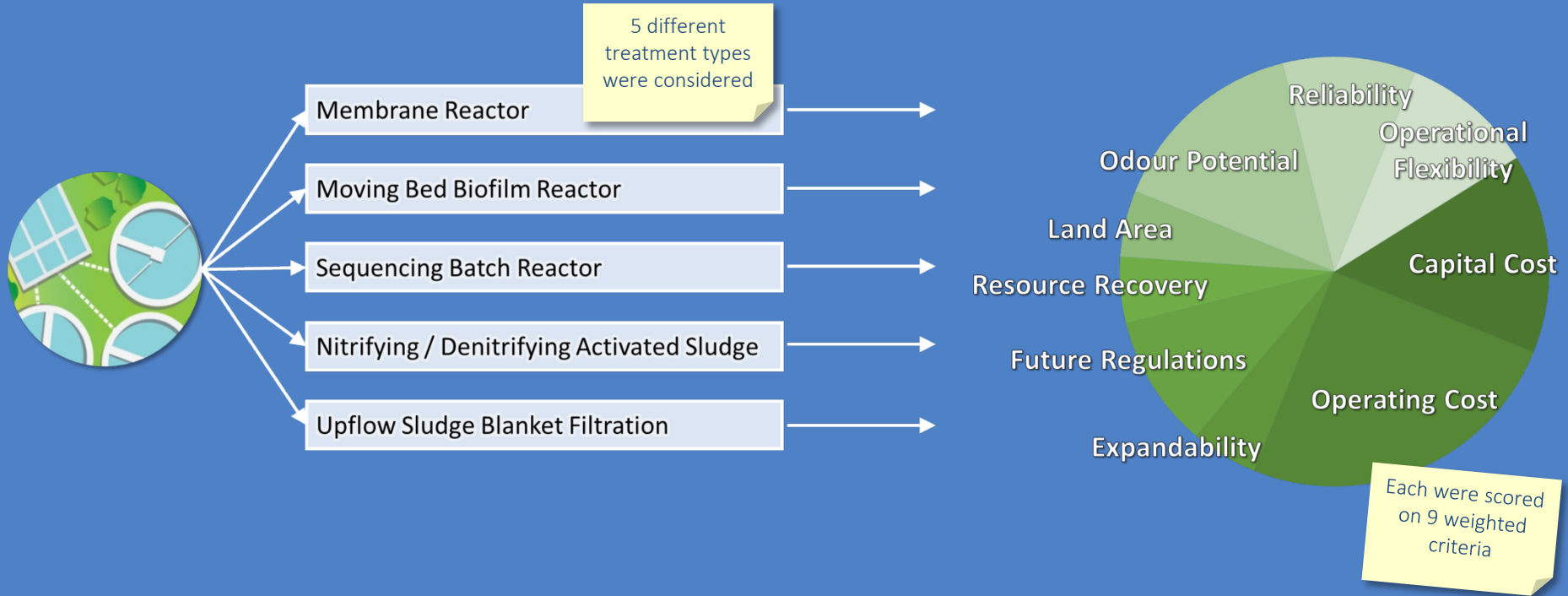
Ground disposal
Preliminary design



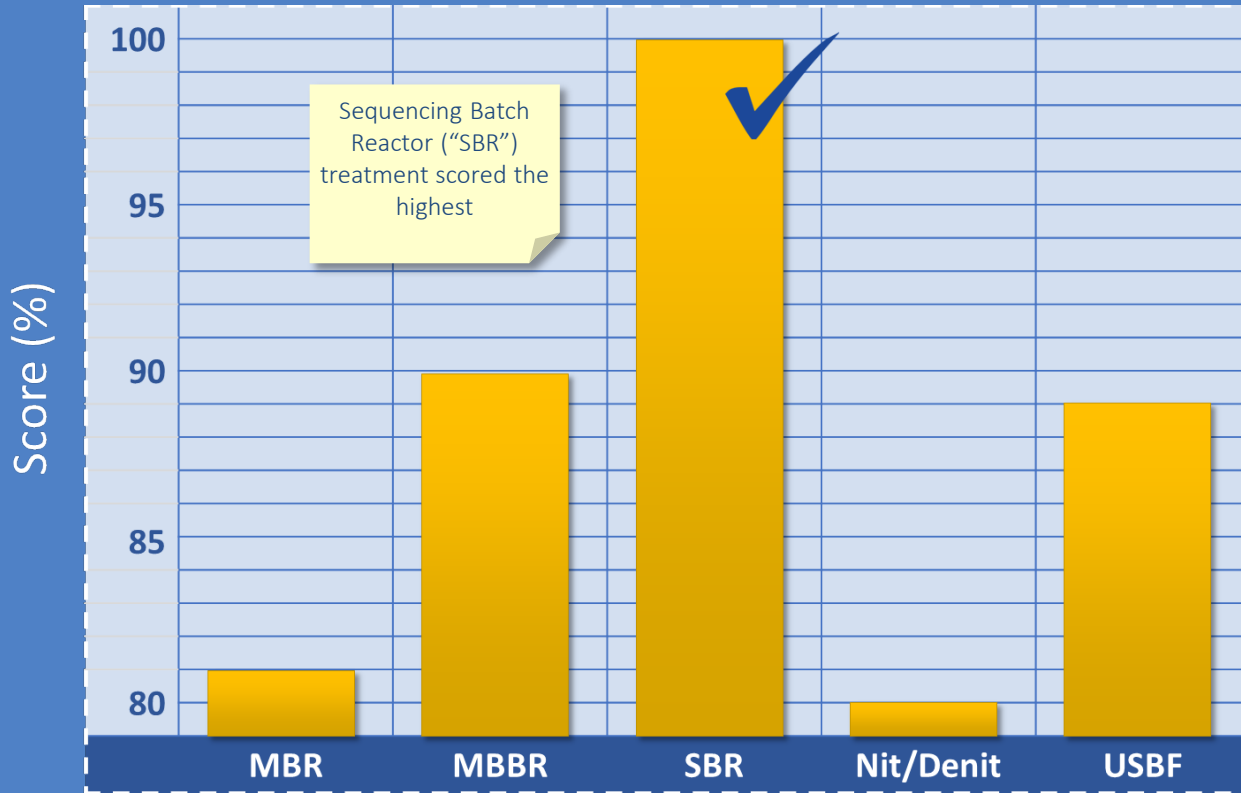
Marine disposal
Preliminary design



TREATMENT SYSTEM

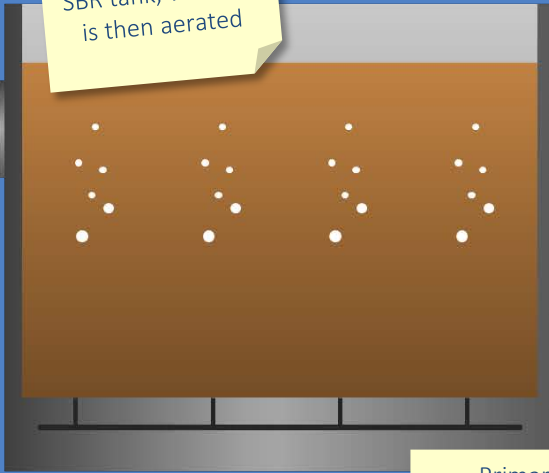


TREATMENT SYSTEM

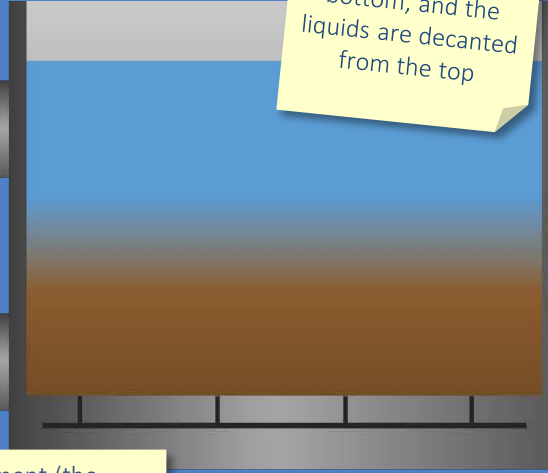


TREATMENT SYSTEM

Incoming wastewater fills the SBR tank, where it is then aerated



Solids settle to the bottom, and the liquids are decanted from the top

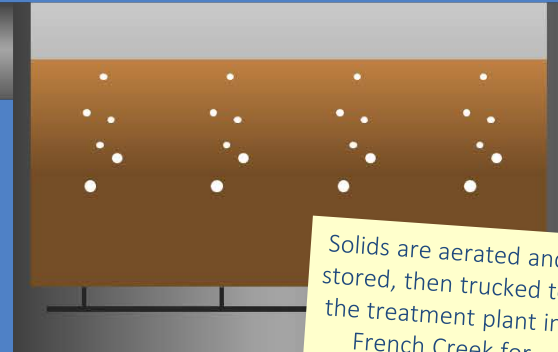


Ultraviolet disinfection further removes pathogens from the treated wastewater before it is discharged to the environment

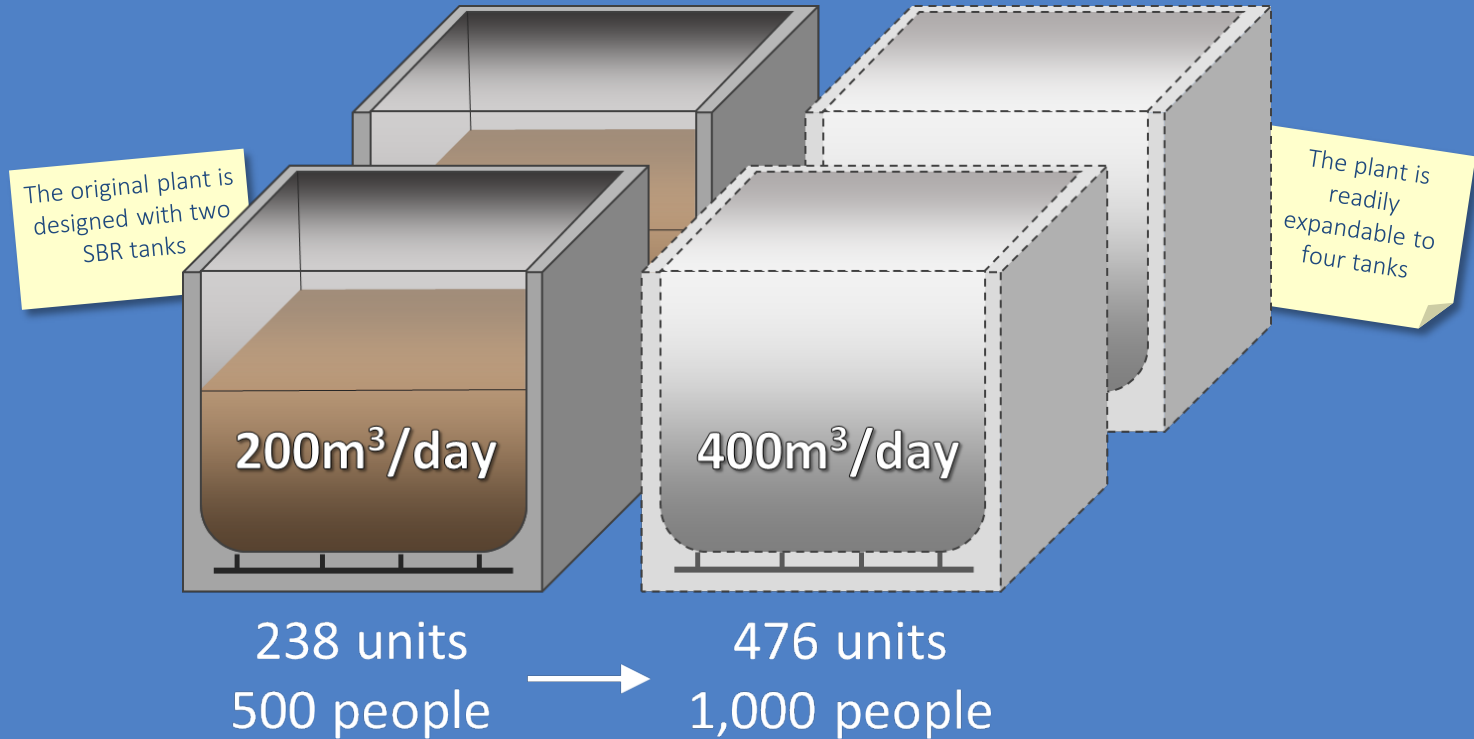


Primary treatment (the mechanical separation of liquids and solids) and secondary treatment (the biological reduction of contaminants) occur in the same SBR tank

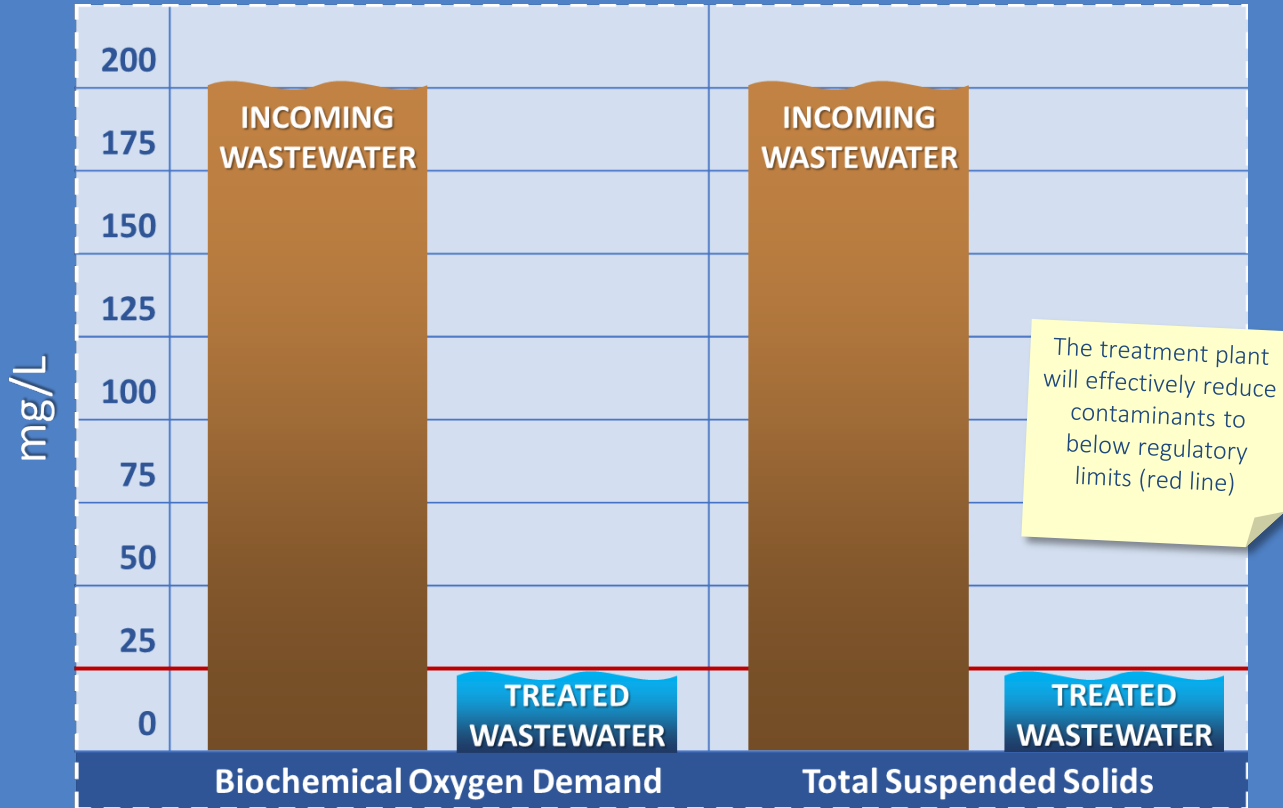
Solids are aerated and stored, then trucked to the treatment plant in French Creek for further processing



TREATMENT SYSTEM



TREATMENT SYSTEM

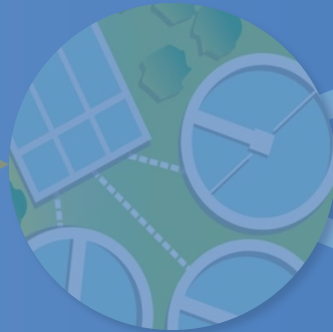


GROUND DISPOSAL

Collection system
Detailed design



Treatment system
Detailed design



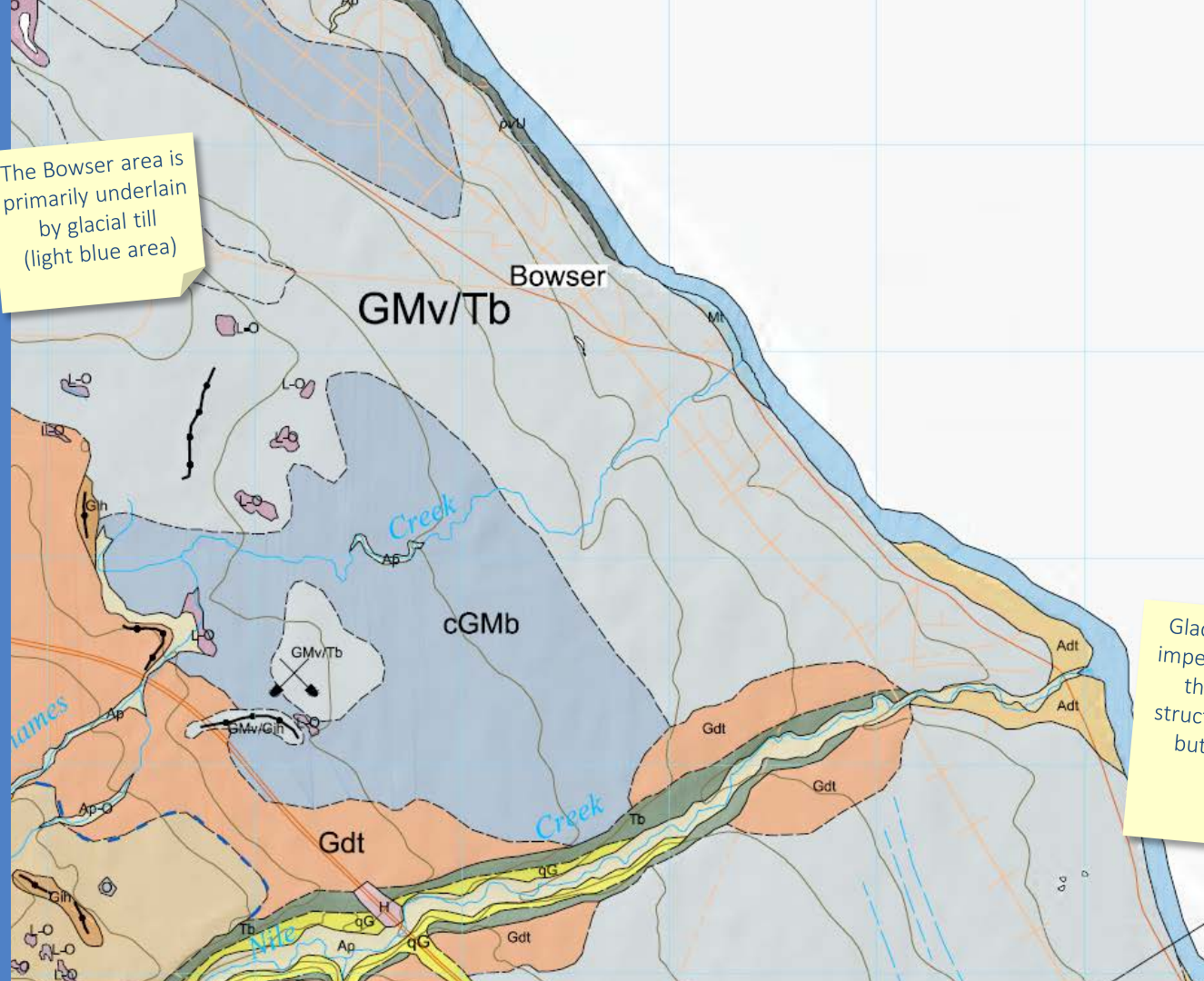
Ground disposal
Preliminary design



Marine disposal
Preliminary design



The Bowser area is primarily underlain by glacial till (light blue area)



Glacial till is relatively impermeable, meaning that it is good for structural foundations, but poor for liquid percolation

Four Crown Land parcels have been considered, but each present unique challenges:

Lot 4 is within the groundwater recharge area of the Bowser Waterworks Wells and is highly susceptible to surface contamination

Lot 2 may be viable, but it is within a protected area, meaning that the geotechnical investigations required to determine its suitability are not allowed

The dark green areas are protected lands

Lot 1 has impermeable soils and is too small

Lot 3 has impermeable soils and is immediately adjacent to active parks and trails

At this time, viable land options for ground disposal have not been identified

1 km

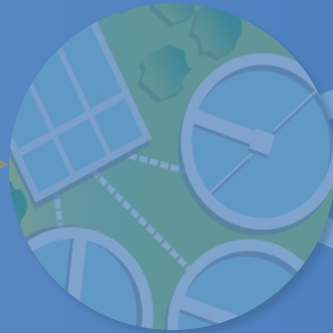


MARINE DISPOSAL

Collection system
Detailed design



Treatment system
Detailed design



Ground disposal
Preliminary design



Marine disposal
Preliminary design



Shellfish Lease

Two viable routing options for an outfall have been identified

The end of the outfall must be be at least 400m from the active shellfish lease

Option A

BC Hydro Right-of-Way

Option B

1 km



COST ESTIMATE

The costs will be further refined as the Study moves to detailed design

	Outfall Option A (\$millions)	Ground Disposal (\$millions)
Collection	\$ 4.9	\$ 4.9
Treatment	\$ 3.4	\$ 3.4
Disposal	\$ 1.3	\$ 1.8
Permitting	\$ 0.3	\$ 0.3
Total	\$ 9.9	\$ 10.4
2/3 Grant Funding	-\$ 6.6	-\$ 6.9
Total w/Grant	\$ 3.3	\$ 3.5

QUESTIONS & COMMENTS

Project info and updates are online at
www.rdn.bc.ca/bowser

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*A second public meeting will
be held at the end of the
Study, which is currently
expected for the new year*