


Birchcliff Municipal Sewage Collection System




Presentation

- ▶ Pop Quiz – 4 questions
 - ▶ Regional vs Municipal Sewage systems
 - ▶ Where is Birchcliff ?
 - ▶ What did we build ?
 - ▶ Why ?
 - ▶ Key Learnings
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Birchcliff Municipal Sewage Collection System

- ▶ Financing and building a municipal sewage gathering system is relatively easy

Birchcliff Municipal Sewage Collection System

- ▶ Financing and building a municipal sewage gathering system is relatively easy
 - ▶ **Managing expectations is the really tough part**
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Birchcliff Wastewater - Timeline



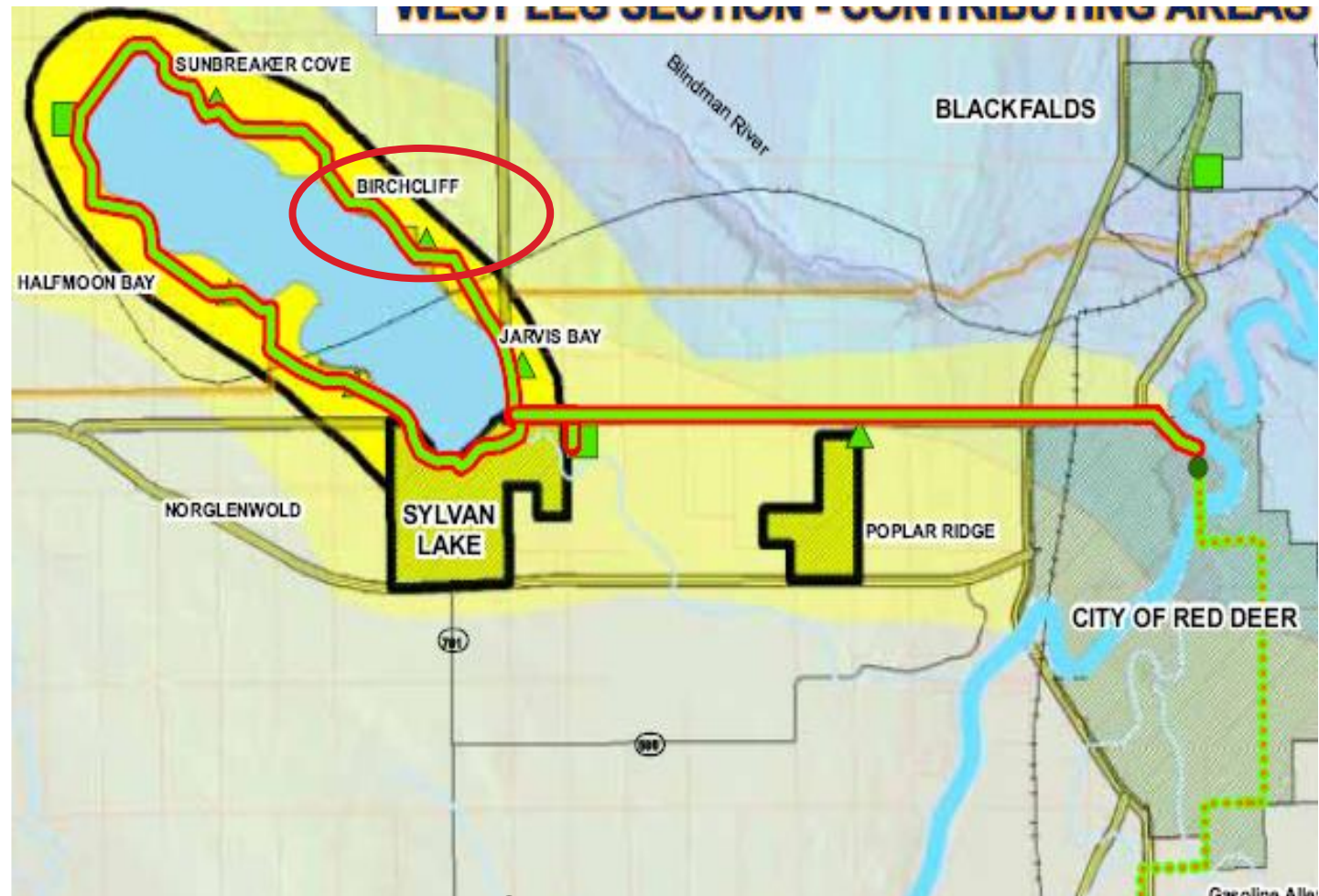
- Birchcliff VISION 2003
- Birchcliff Gathering system planning initiated July **2008**
- Conceptual Design 2009
- Final Design 2012
- **Business planning and funding 2009 – 2015**
- Construction contracts awarded – fall 2015
- Construction Initiated May 2016
- System Commissioned October **2016**
- **Two year grace period ends October 2018**

Sylvan Lake Regional




Two parallel Commissions
– Water and Wastewater

- 5 Summer Villages
- 1 town
- 2 counties




Schematic representation of gathering system

Regional Project – Capital Costs Funding

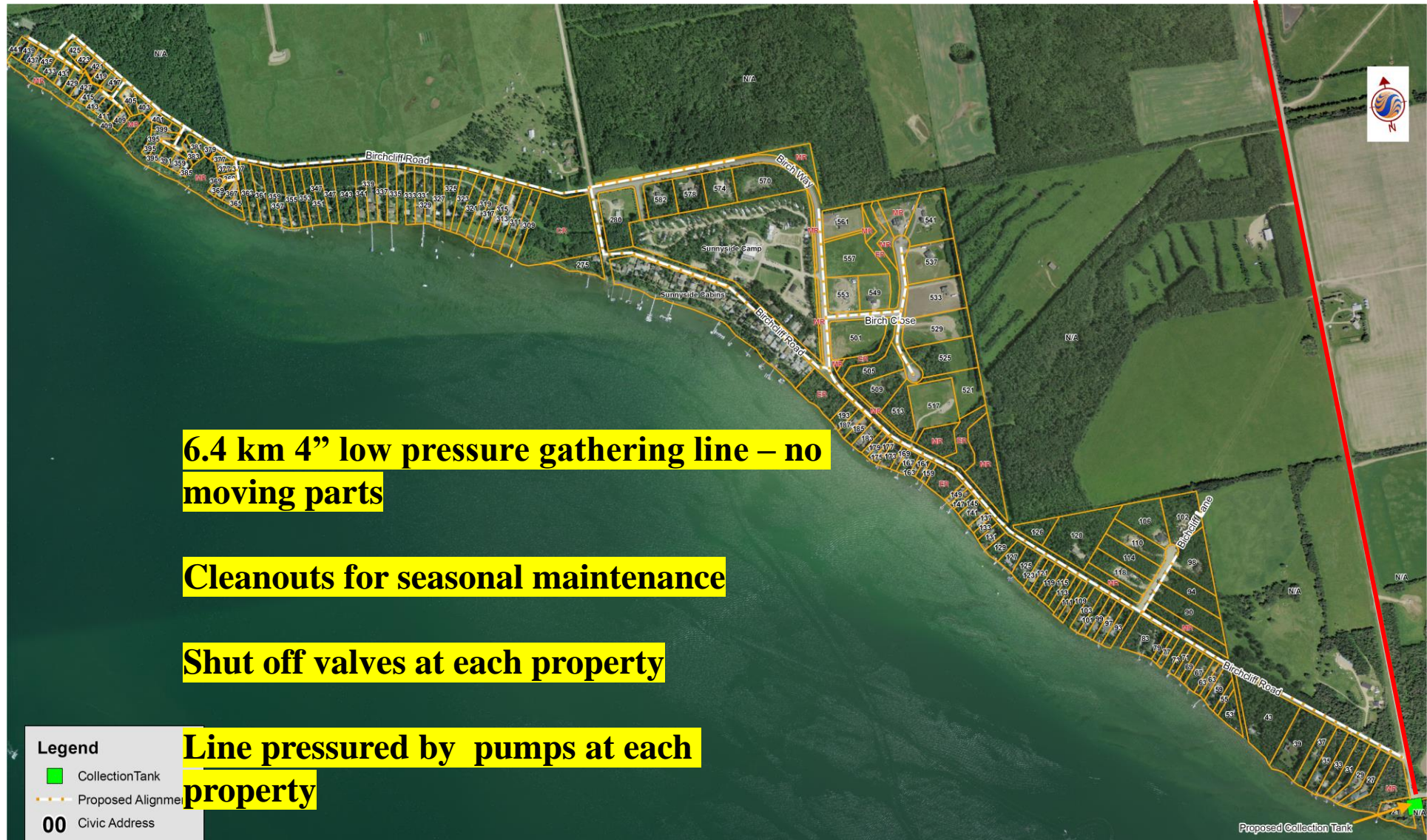
- ▶ Funding from provincial “Water for Life” program
 - ▶ 92% Provincial / 8% users.
 - ▶ Regional system owned and operated by Commission
 - ▶ Birchcliff will pay a volume-based fee for regional transportation and treatment.
 - ▶ Birchcliff manages its own Municipal gathering infrastructure.
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Impact:

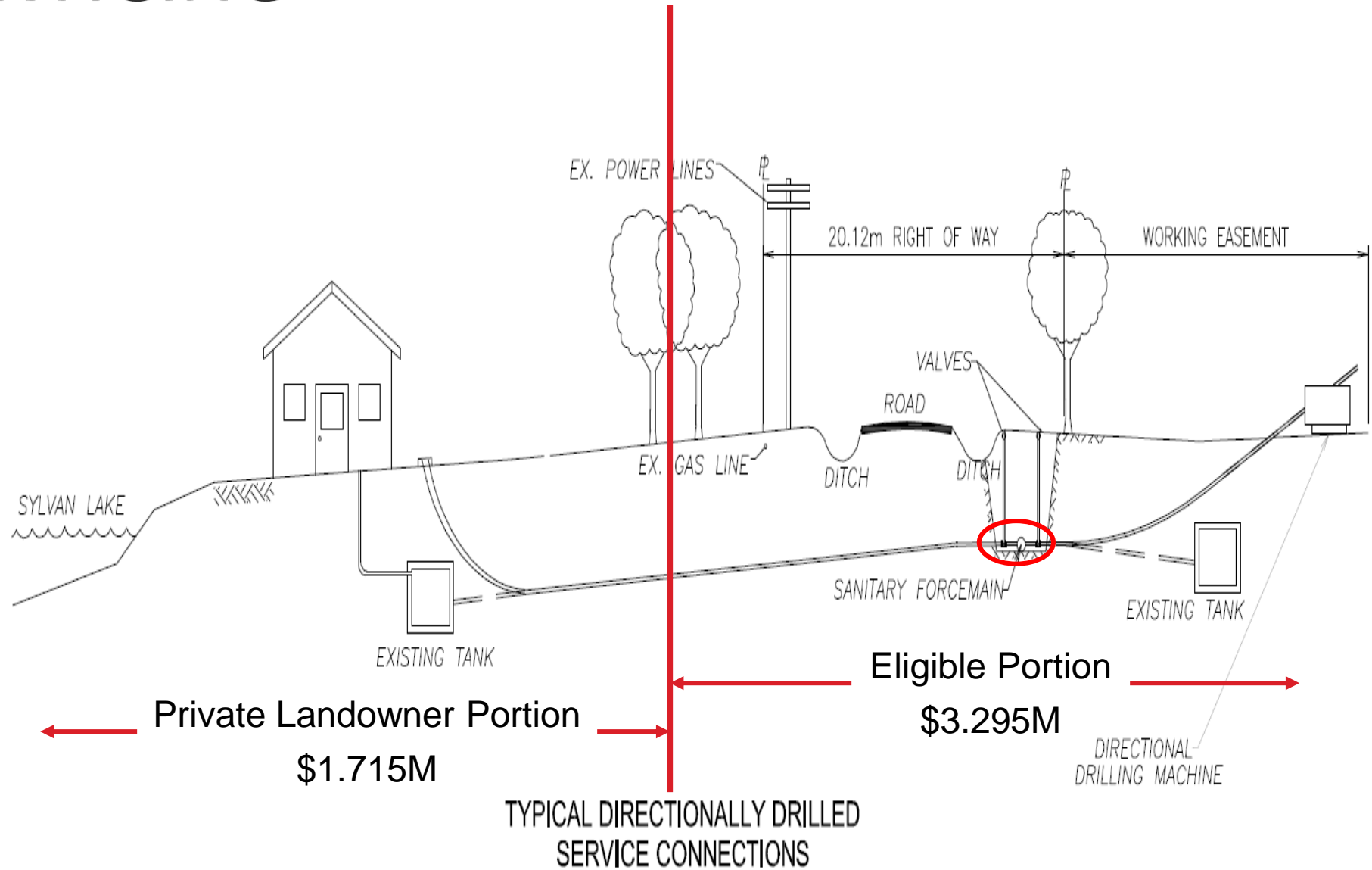
- ▶ Birchcliff's share of the \$2.2M lift station is roughly \$3,000.
 - ▶ Birchcliff does not own nor operate a sewage treatment facility.
 - ▶ Transmission and Treatment costs are shared on a user volume basis across the watershed.
 - ▶ Birchcliff residents will pay an annual fee to operate and maintain our **Municipal** gathering system plus a share of the total Village volume charge from the Commission (Regional Utility).
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▶ What Did We build

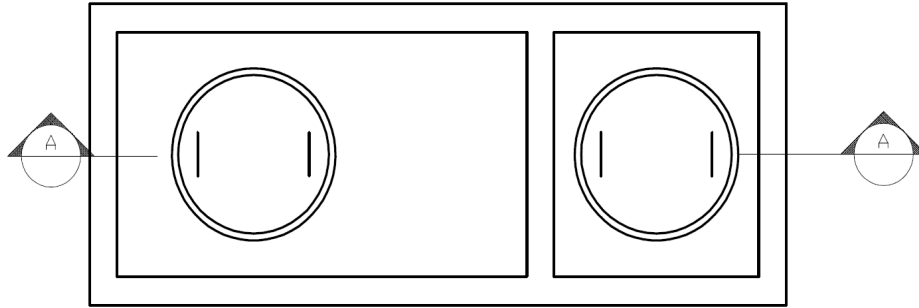
Birchcliff Municipal Collection System - KISS



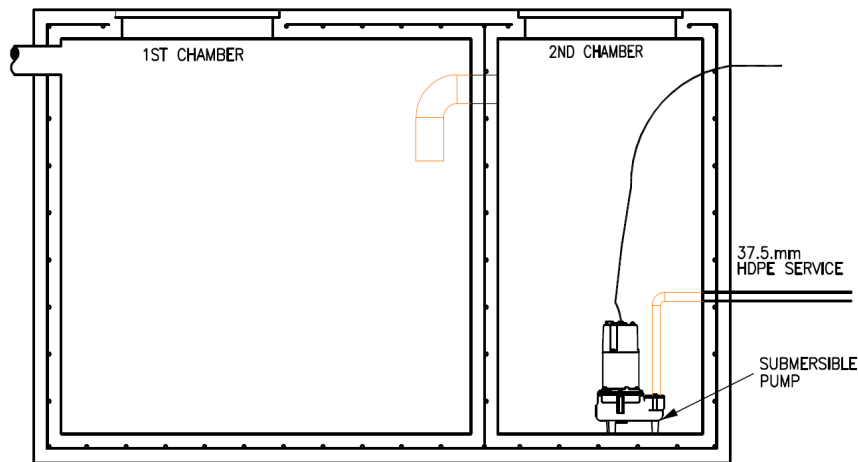
LOT SERVICING



EXISTING SEPTIC TANK CONVERSION



PLAN - 2 CHAMBER SEPTIC TANK



SECTION A-A - 2 CHAMBER SEPTIC TANK



WHY ?

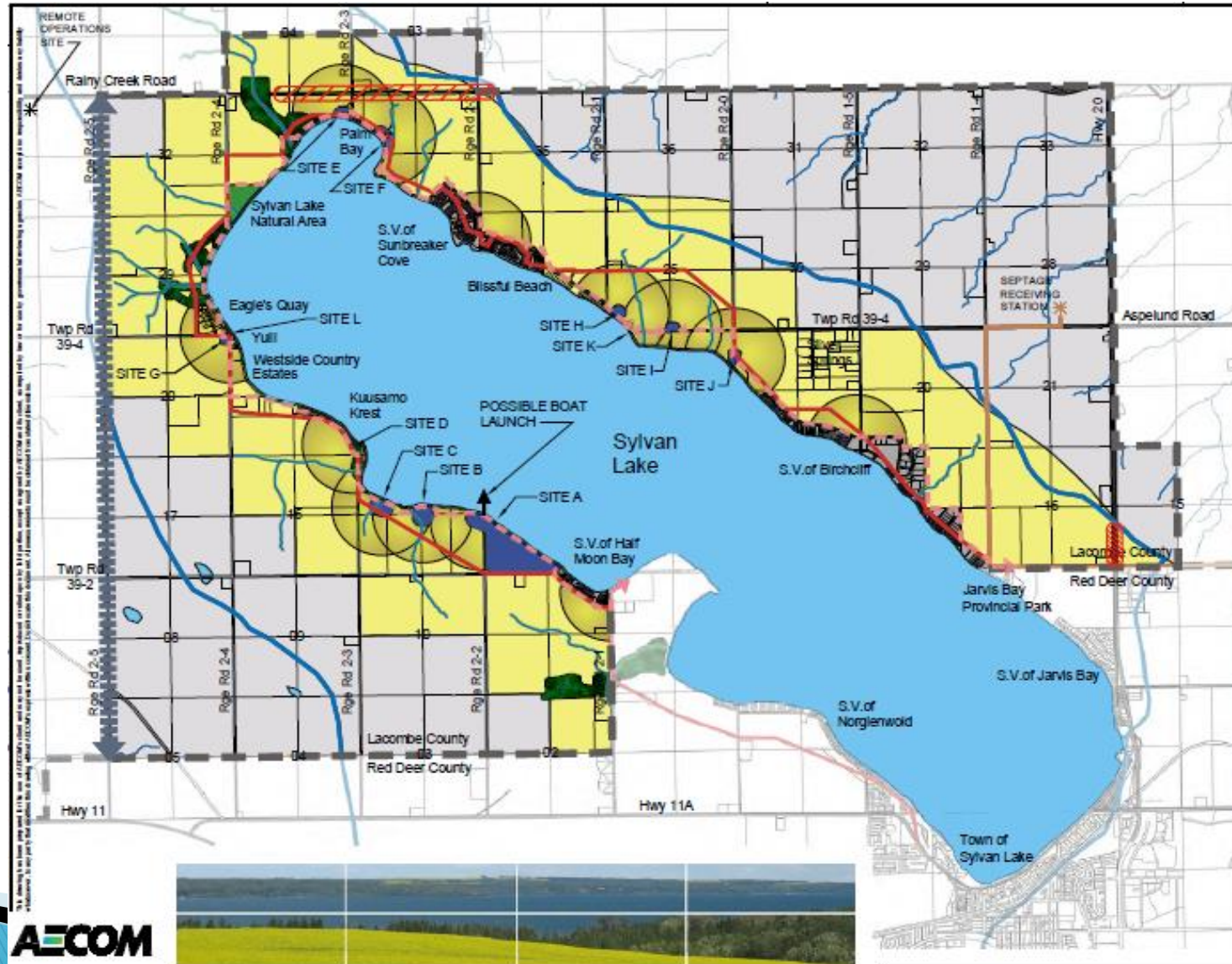
Water and Wastewater - 2013

An Investment in the future of our Lake

We are not living alone in the wilderness anymore



North Shore Development



Ever Changing Environmental Regulations

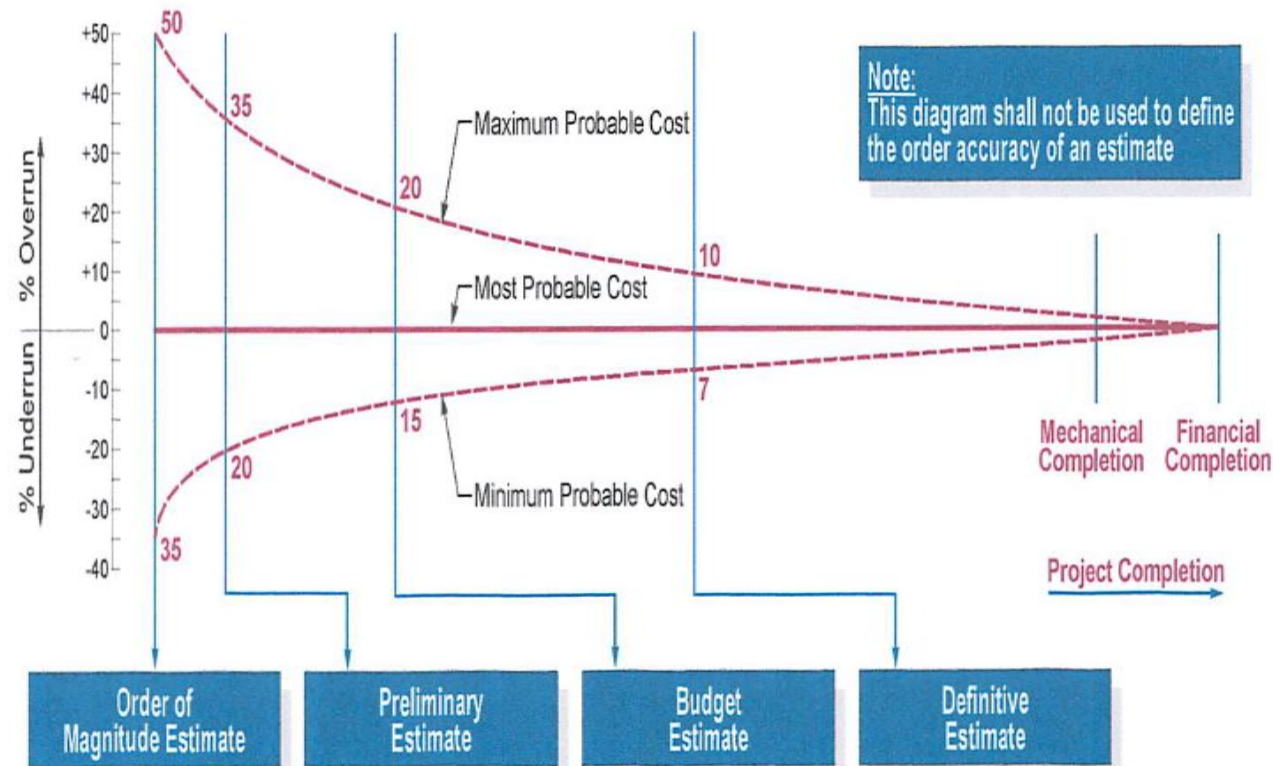
For example:

- ▶ One acre lot with 100' of lakefront and 430' of depth.
 - May be able to replace a failed field.
 - Smaller or different shape lot – highly unlikely
 - Pumpout option = \$\$\$

HOW MUCH ?



There are no absolute numbers – stay with ballpark and ranges




Opinion of Probable Cost (2014)

• Tender Estimate – Municipal	\$ 3,182,152
• <i>Assumes 10% contingency</i>	
• Service Connections Estimate	\$ 1,524,490
• <i>Assumes 10% contingency</i>	
• Plus Project Manager	\$ 300,000
<u>Total Pre Tender Estimate</u>	<u>\$ 5,006,642</u>


\$ Impact on Birchcliff Residents

▶ By Comparison:

- Each house in Norglenwold paid approximately \$5024 to bring the service to the property line – plus connection costs.
 - Each house also pays roughly \$180 per year for septic transport and treatment.
 - Postage stamp approach – each house pays the same for the service.
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Key Learnings

Start with a Business Plan

- ▶ Borrow an existing plan from a village that has been through the process
 - ▶ Hire a planner person to modify for your situation.
 - ▶ Have the planner build a decision tree to capture all of the moving parts – what needs to be done in what order.
 - ▶ then Start the communication process with the residents.
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Managing Expectations



Be Prepared – Get your ball to the top of the hill

New Provincial Government

All Bets are Off



Building Canada Funding



Premier of Alberta

order to give all Alberta municipalities equal opportunity to access this funding, we are planning to issue a one-time call for SCF applications in January 2015, which will allocate the entire \$94 million available to Alberta.

... one time call for applications in January


This will give all eligible municipalities time to prepare submissions

... time to prepare submissions

Managing Expectations

- ▶ **10% – Hell No** **10% – Hell Yes** **80% undecided**
 - Enlist the support of the 10% Hell Yes to **SPEAK UP**
 - Listen carefully to the 10% Hell No – improve your communications.
 - Keep the 80% updated
- ▶ Timeline and setbacks – decision tree with no dates on bottom axis
- ▶ Address changes (and no changes) as the project continues.


Challenges

- ▶ Nice pictures – can you prove the fields aren't working !
 - ▶ Do we see any pollution in the lake !
 - ▶ My field has been working fine for 30 years !
 - ▶ I only use the field part time so it will last longer !
 - ▶ Too expensive !
 - ▶ Why am I paying now for infrastructure that lasts 80 years ?
 - ▶ I would be better off on pump-out for my small volumes !
 - ▶ You can't make me !
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Aquifer (Lake) Pollution

- ▶ Edwards aquifer in Texas
 - ▶ Model based on thousands of wells
 - ▶ Shows actual not theoretical events

 - ▶ YouTube video – How the Edwards Aquifer Works 6.5 minutes

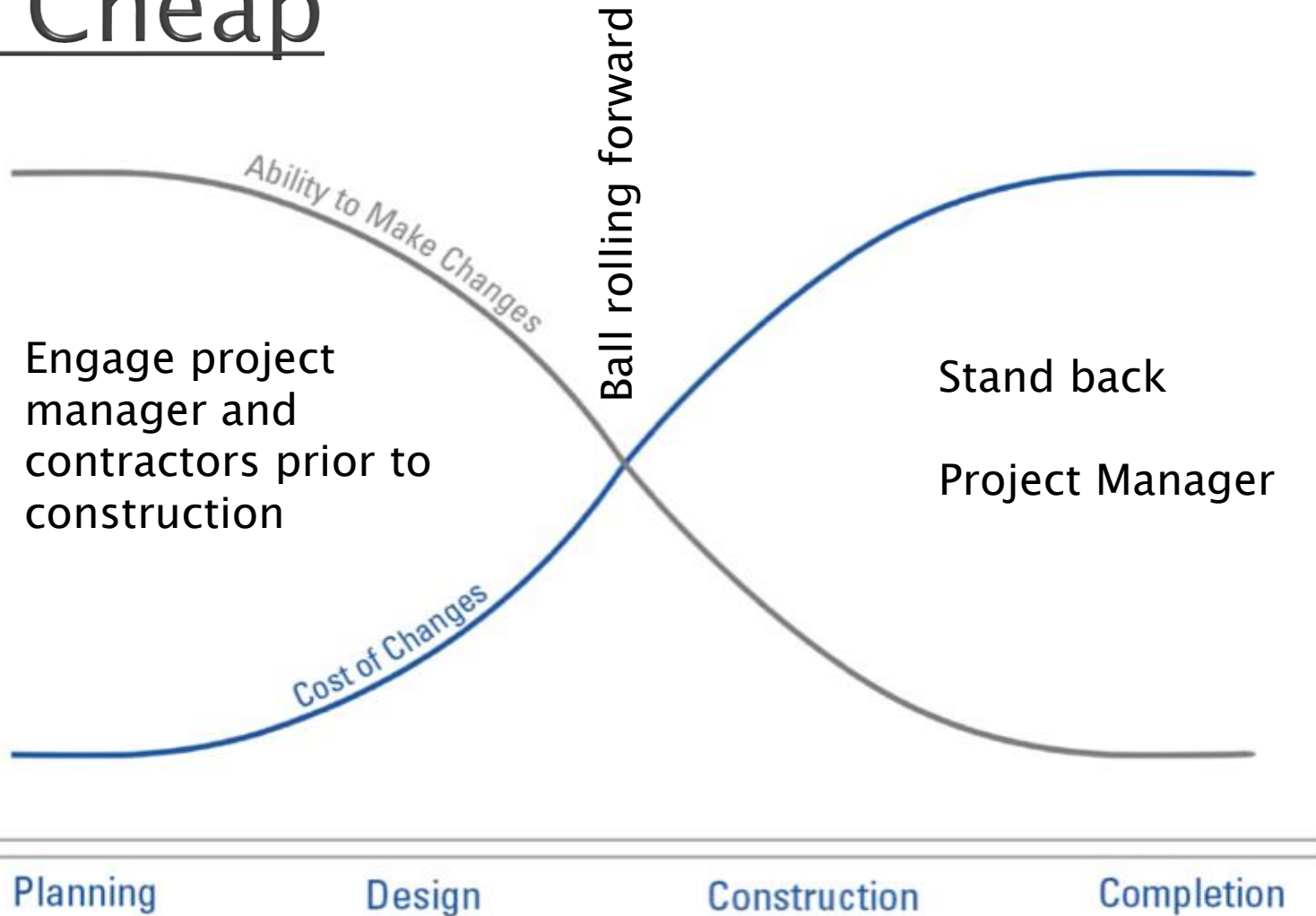
 - ▶ Local – Brag Creek pollution plume
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Cost

- ▶ Average field life = 20 years
- ▶ Field replacement \$20,000 to \$30,000
 - depends on a huge number of variables
- ▶ Aquifer pollution = parallel water distribution system
 - Major time and cost impact – where does potable water come from?

Talk is Cheap

Engage residents and design team early in planning



Engage Residents

Existing tank locations

Arrangements for tank inspection

Location of curb shut off to ease drilling of sewer line



Next Steps



- Confirm grant funds for detailed design.



- Proceed with the Detailed Design of the Project

- Secure Project Funding

- anticipate 33/33/33 split with provincial-federal-municipal governments.

- Proceed with Tendering and Construction

Summary

- ▶ Business Plan and decision tree First
 - ▶ Talk is cheap – construction is expensive
 - Get the planning and design right
 - Engineering firm with a proven track record
 - ▶ Borrow from the experiences of others
 - ▶ Good luck
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