

Town of Qualicum Beach Council meeting January 9th. 2012



An independent prospective for water supply options for the **Town of Qualicum Beach** in the context of Oceanside's water sources and distribution systems.

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A wide-angle photograph of an indoor swimming pool. The pool is filled with clear blue water and has several lanes marked with black and white lane lines. The pool is surrounded by a white tiled deck. In the background, there are large windows that let in bright sunlight, creating reflections on the water. To the right, there is a colorful mural on the wall depicting a shark and a swimmer. A text box is overlaid on the upper part of the image, containing the text: "Approximately the amount of water a family uses in one year".

Approximately the amount of water a family uses in one year

Little Qualicum well field



Berwick well field



Qualicum Beach, BC, Canada

19

4

Image Town of Qualicum Beach
© 2011 Google
Image © 2011 IMTCAN
Data Living Ocean's Society

Google earth

10 U 395036.37 m E 5466832.74 m N elev 69 m

Eyealt 8.13 km

Imagery Date: 4/10/2009

**Kinkade Road
well field**

**Little
Qualicum
River**

**Possible groundwater
recharge flows**



Image Town of Qualicum Beach
© 2011 Google
Image © 2011 IMTCAN

10 U 392626 27 m E 5468559.51 m N elev 5 m

Eye alt 1.16 km

Imagery Date: 4/10/2009

Traffic Circle and
New Fire hall

Berwick
well field

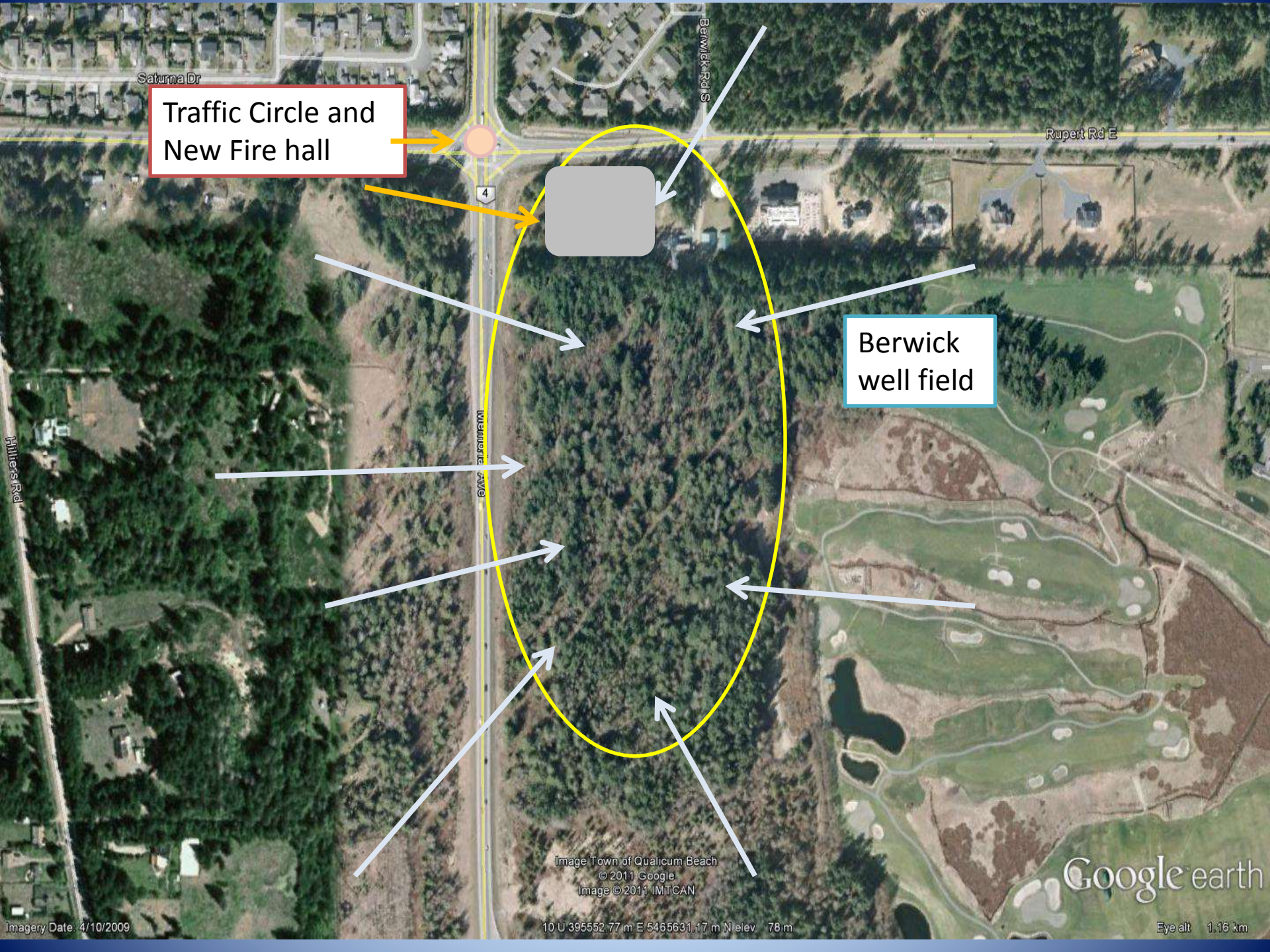


Image Town of Quailcum Beach
© 2011 Google
Image © 2011 IMTCAN

Google earth

A growing population of 40,000 – 50,000 are depending on the watersheds and aquifers of the Oceanside Area

None of these drinking water sources are protected

Dashwood

Qualicum Beach

Epcor

7 RDN Systems

Parksville

Little Qualicum

40 + private utilities

Coombs

San Pareil

Nanoose

Errington

10,000 + - private wells

Fairwinds
The proposed new development will need a lot of water

AWS



Protected
watersheds
provide a high
level of security

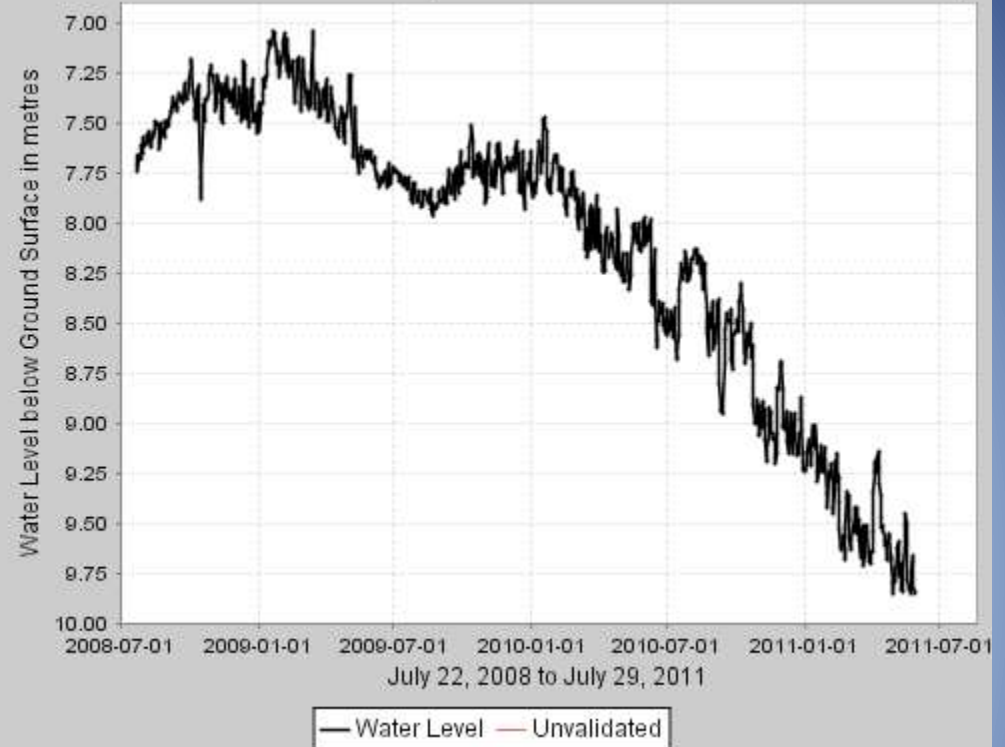
Groundwater source protection improves
drinking water quality and volume



Ground water levels have declined from historic levels many parts of the area.



OBS WELL 304 - PARKSVILLE (DESPARD RD. AT SPRINGWOOD PARK)



Draining land, hard surfacing and over extraction is causing hydrologic deficiencies

A simplified overview of two approaches to the options for supplying water in the future

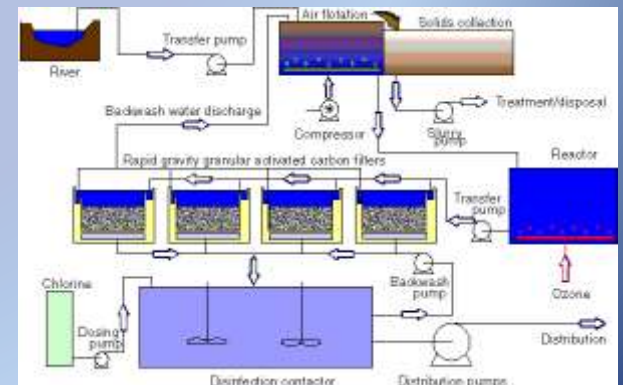
Heavily engineered approach:

Extensive planning and design component

Dependence on expensive construction resources i.e. concrete, pipe, pumps, labour

High level of maintenance costs i.e. electrical energy, chemicals, labour etc.

Infrastructure commitment is more centralised and not readily adaptable



Environmentally compatible approach
utilise the available natural assets

Protect water quality and quantity from the source

Take full advantage of surplus winter precipitation

Minimize the need for heavy infrastructure

Work with the natural topography

Develop decentralised, adaptable systems

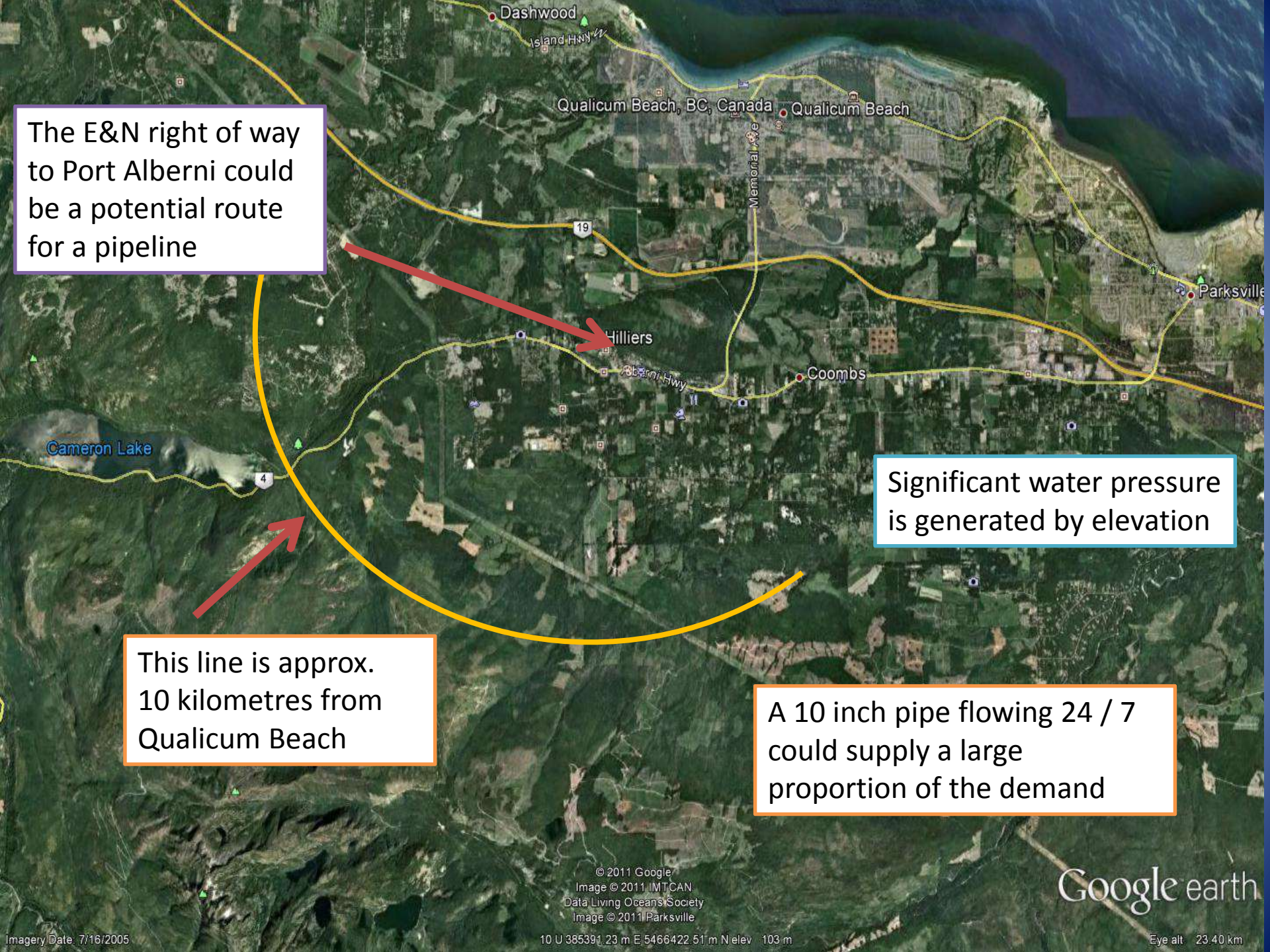


The E&N right of way to Port Alberni could be a potential route for a pipeline

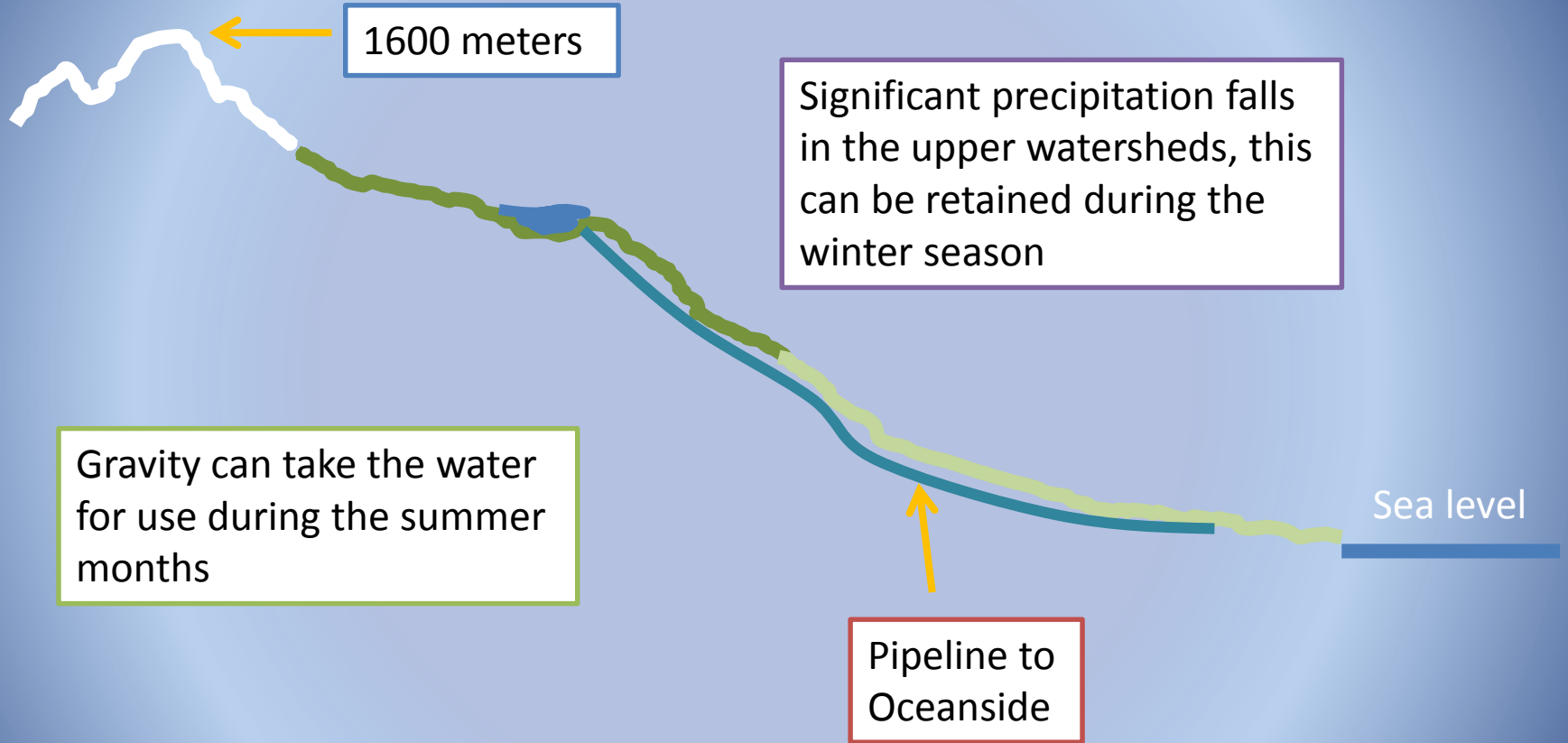
Significant water pressure is generated by elevation

This line is approx. 10 kilometres from Qualicum Beach

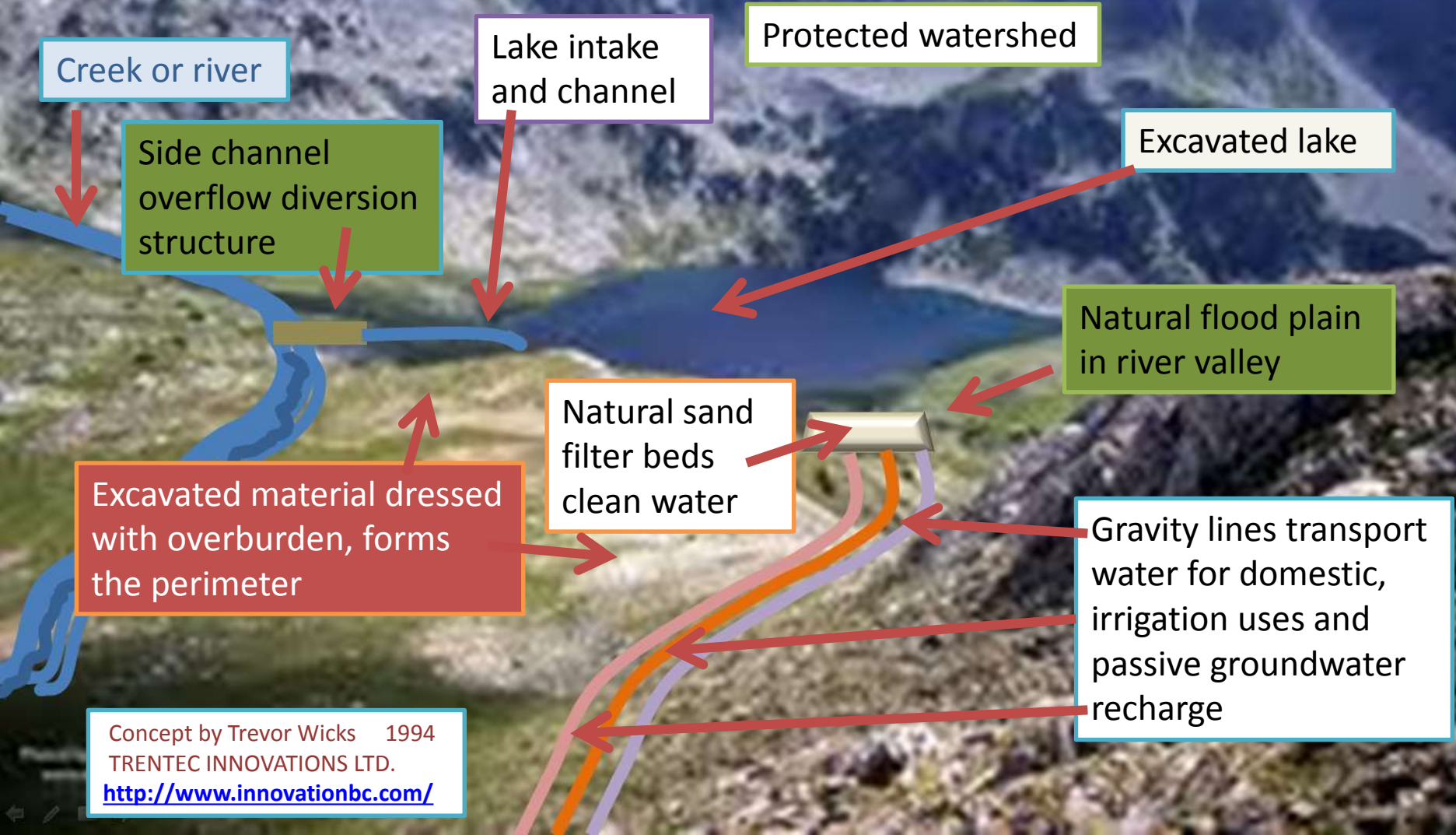
A 10 inch pipe flowing 24 / 7 could supply a large proportion of the demand



We have abundant clean water at high elevation



Winter **surplus** storm-water can be diverted from an upstream river or creek and retained in off channel storage, constructed wetlands or passive groundwater recharge. This water can then be channelled or piped by gravity for direct use after treatment.



The preceding is one of many options that should be considered for the town of Qualicum Beach and the Oceanside area

Many factors need to be evaluated in order to make informed decisions about sustainable and cost effective water supply options.

My request is that council, and staff consider producing an '**action plan**' to investigate and implement a water source protection and supply strategy within the next twelve months.

More information relating to: Water Source Protection

Local Water Supplies

Causes and Effects of Local Climate Change

On my website <http://www.innovationbc.com>

<http://www.ouroceansidewater.com>

THANK YOU