



Imagine the Possibilities

Friends of Bowker Creek Society *Presentation to Greater Victoria School District Trustees*

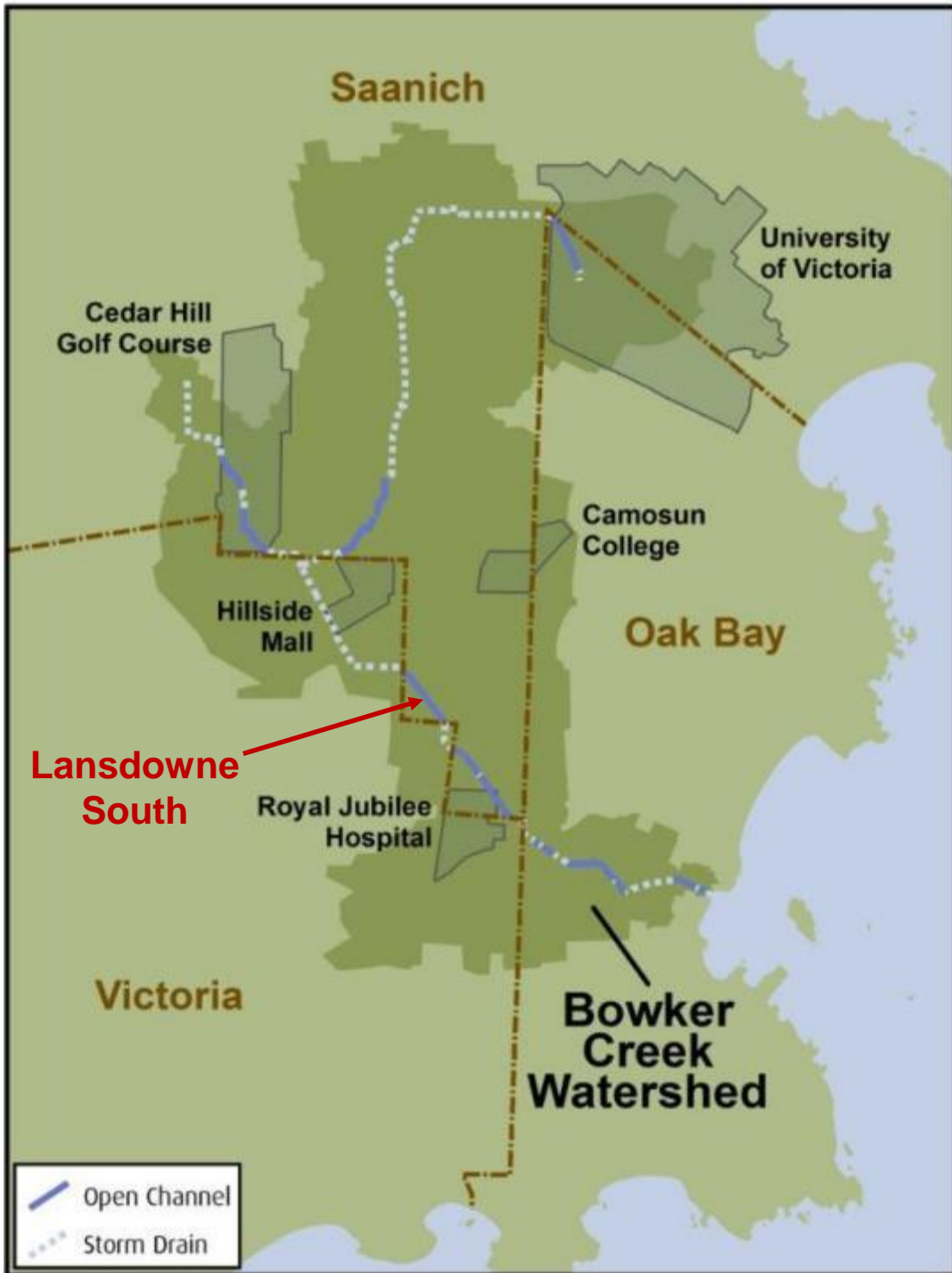
Soren Henrich

Susan Haddon

Ian Graeme



December 13, 2021



Bowker Creek Watershed

- 1850 ha
- 56% impervious
- 2/3 of creek is piped underground
- ~30,000 residents

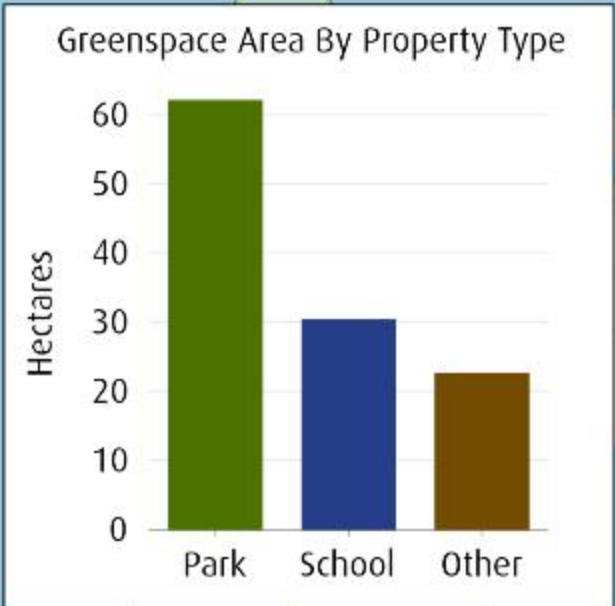
Bowker Creek Initiative (BCI)

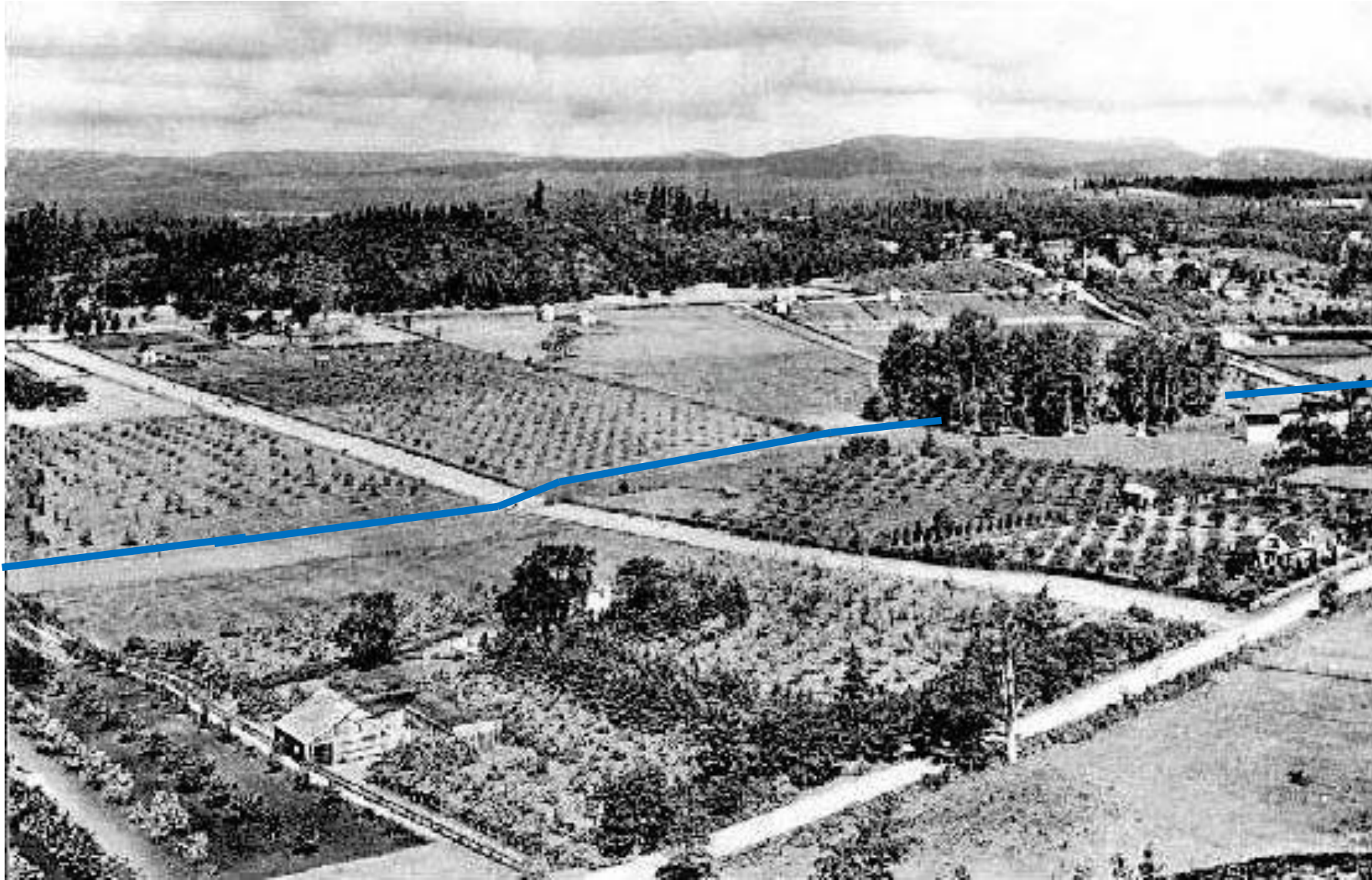
- 3 municipalities (Saanich, Victoria, Oak Bay)
- Regional District (CRD)
- University of Victoria
- 6 Community Associations
- Friends of Bowker Creek Society

Key SD61 Properties in the Bowker Creek Watershed

- Bowker Creek
- Park
- SD61 Property
- Other Greenspace
- Bowker Creek Watershed

CEDAR HILL
DONCASTER
CAMPUS VIEW
LANSDOWNE NORTH CAMPUS
LANSDOWNE SOUTH CAMPUS
OAK BAY HIGH SCHOOL





Shelbourne Valley - 1901



Flooding





Erosion





Decreased Water Quality



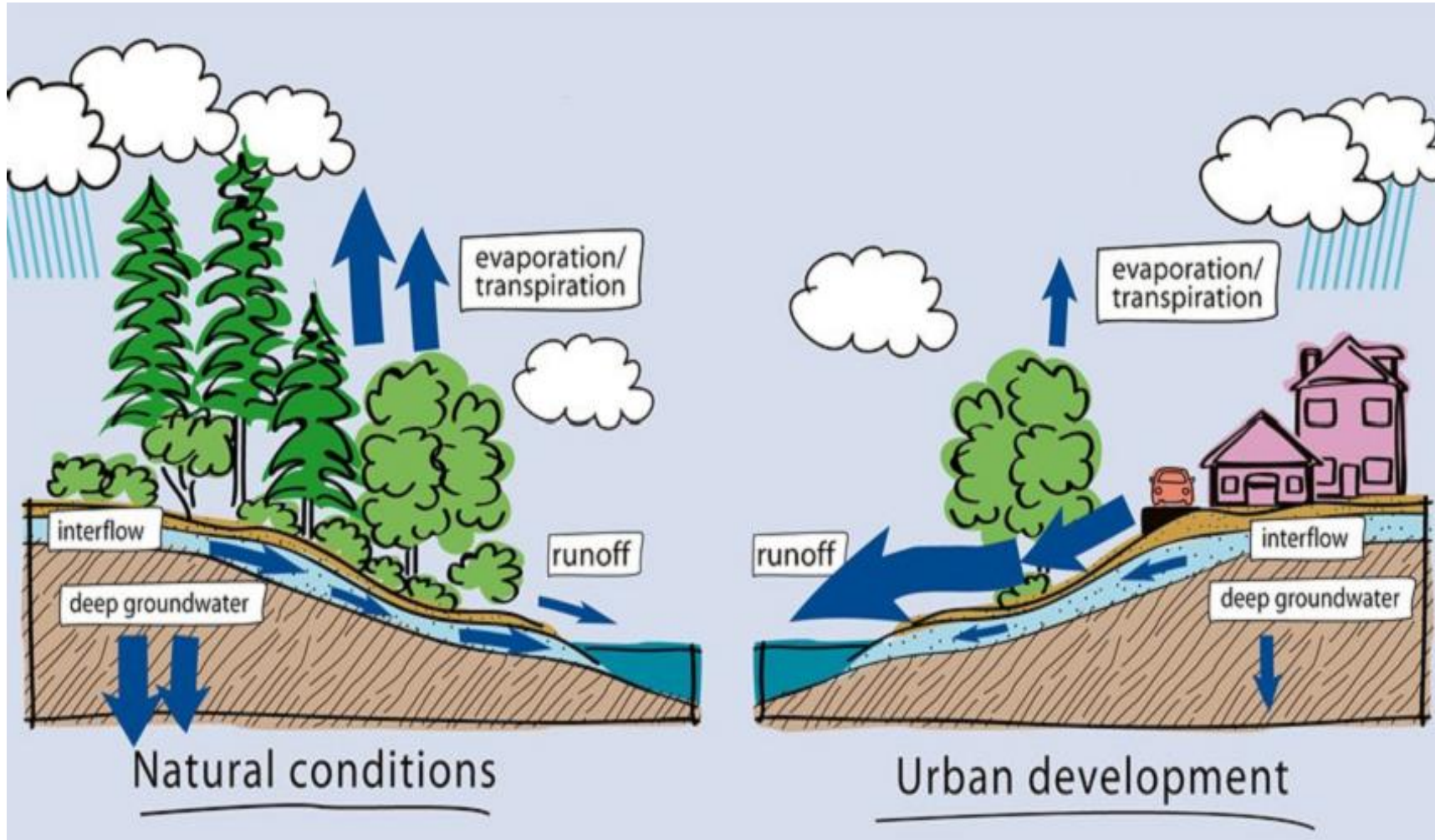


Culverting and channelization





Natural and Urban Watersheds





Action was needed

- Bowker Creek Assessment (2000)
- 28 Member Forum established (2002)
- Draft Management Plan (2002)
- Public Consultation (2002)
- Interim Steering Committee (2003)
- CRD Board and Municipal Council Approval (2003)
- Steering Committee (2004)

Bowker Creek Watershed Management Plan Goals

- ❖ Take responsibility for actions that affect the watershed
- ❖ Manage flows effectively
- ❖ Improve and expand public areas, natural areas and biodiversity
- ❖ Achieve and maintain acceptable water quality



Reach 9 – Lansdowne Middle School South Campus



- Currently the most eroded section of the creek
- Severe bank erosion, highly entrenched
- 90% invasive plants (e.g. golden willow)
- Public hazard (surrounded by a fence)
- Property is bisected by creek



Master Drainage Plan

- Understanding hydrology of the watershed
- Examining areas of erosion
- Modeling to predict flows and areas at risk of flooding
- Incorporated climate change
- Developed engineering solutions to flooding and erosion



After the storm: Cleaning up flooded basements throughout Greater Victoria

Flooded homes days before Christmas seem like a final poke in the eye from the year of the pandemic, Oak Bay Mayor Kevin Murdoch said Tuesday, as he fielded calls from residents dealing with sodden basements.

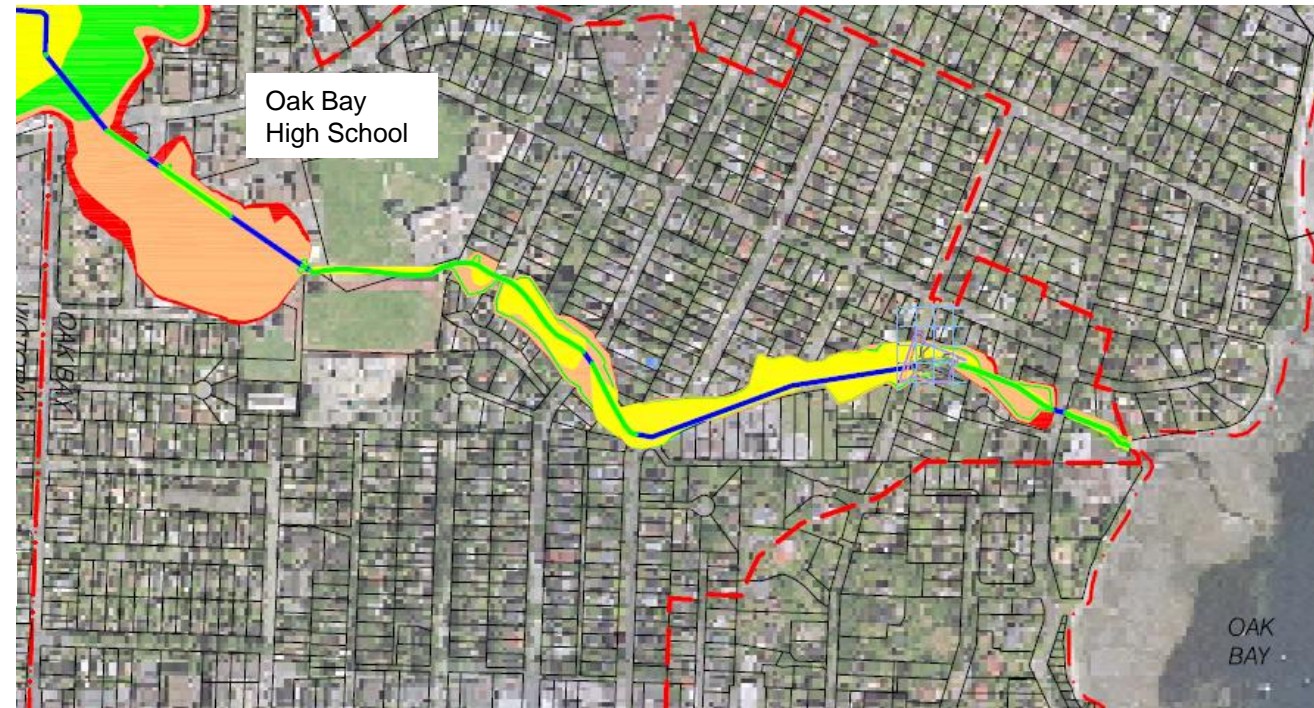
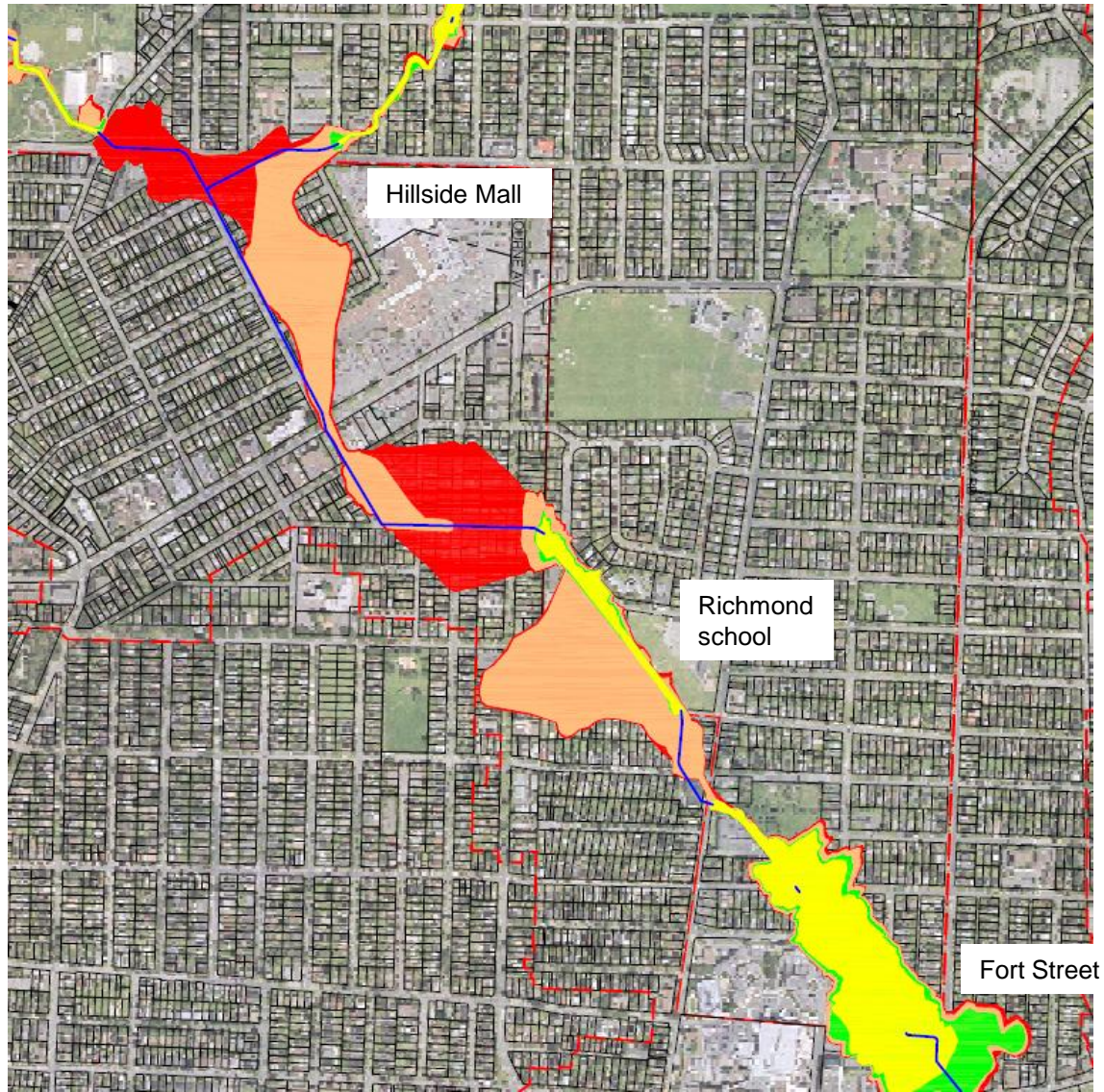
Cindy E. Harnett
Dec 22, 2020 9:19 AM



Jason Morrow with Downs Construction removes soaking wet carpet liners from a home on Pacific Street in Oak Bay after flooding along Bowker Creek. ADRIAN LAM, TIMES COLONIST

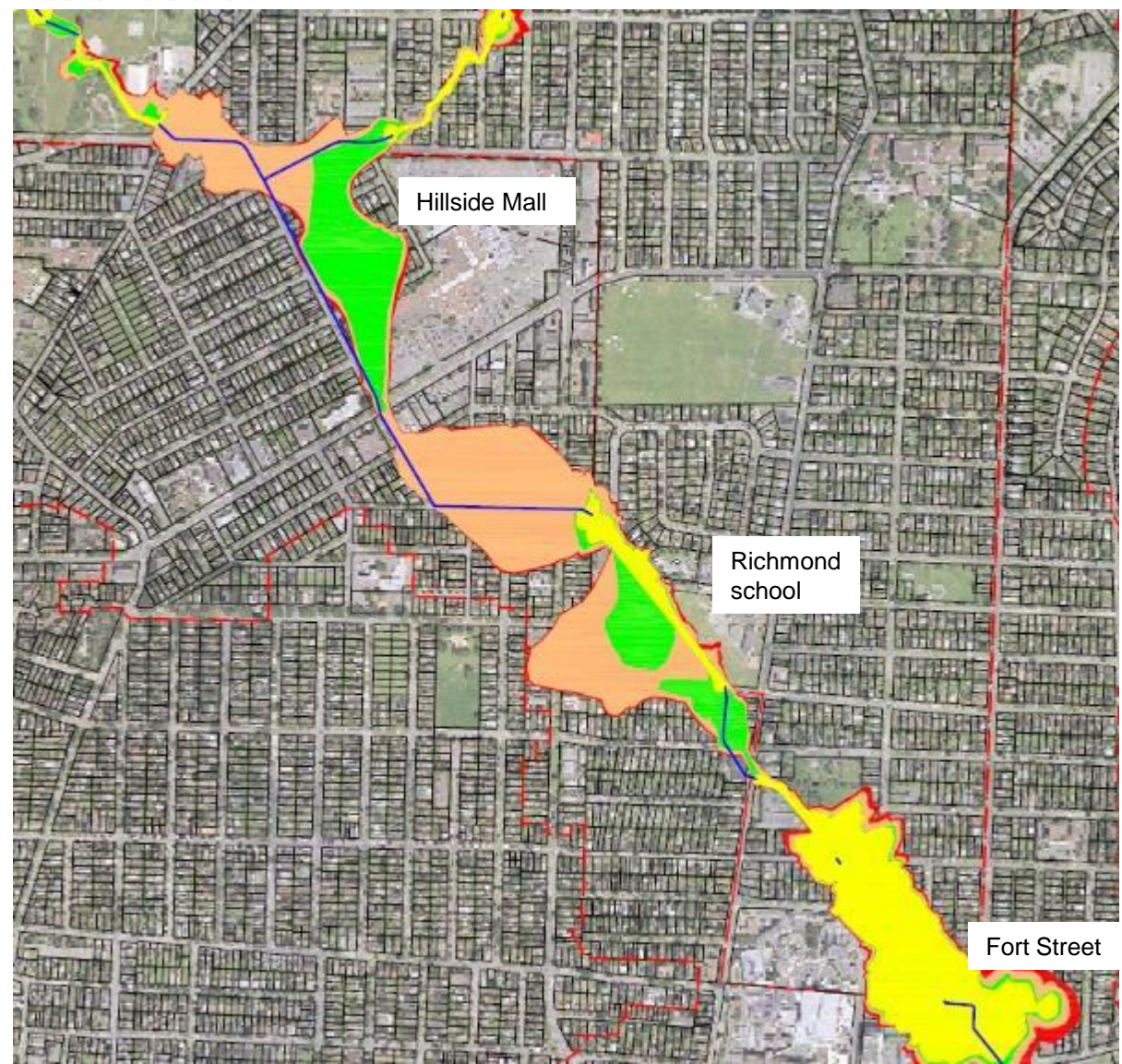


Current Flooding (2006 modeling)





Projected Future Flooding (do nothing)





Number of flooded houses or buildings per Scenario (watershed)

	Currently	Future w no upgrades	With upgrades (pipes)	With upgrades (daylight)	With upgrades (d&d)
10 year flood	38	53	0	0	0
25 year flood	72	143	0	0	0
100 year flood	193	301	72	27	20
200 year flood	297	305	78	44	36



Flooding Nov 2021





Bowker Creek Blueprint: 100-year Vision

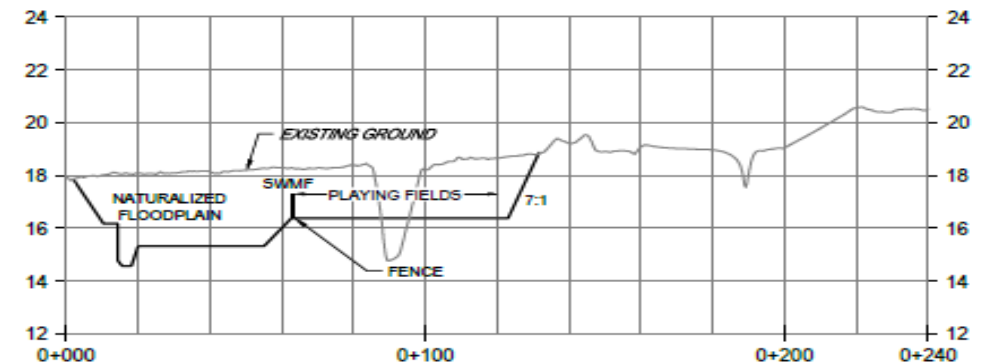


- 9 key principles
- 33 Watershed actions
- 17 reaches (piped and open sections) each with a set of specific integrated actions
- 10 short-term priority actions
- Monitoring program
- Illustrative images to depict the 100-yr vision



Daylighting Feasibility Study

- Define route to daylight all closed sections of Bowker Creek
- Options for large Stormwater Management Facility (SWMF)
- Incorporate creation of greenways
- Phase of re-development and major infrastructure renewal – want to be ready for opportunities when they arise





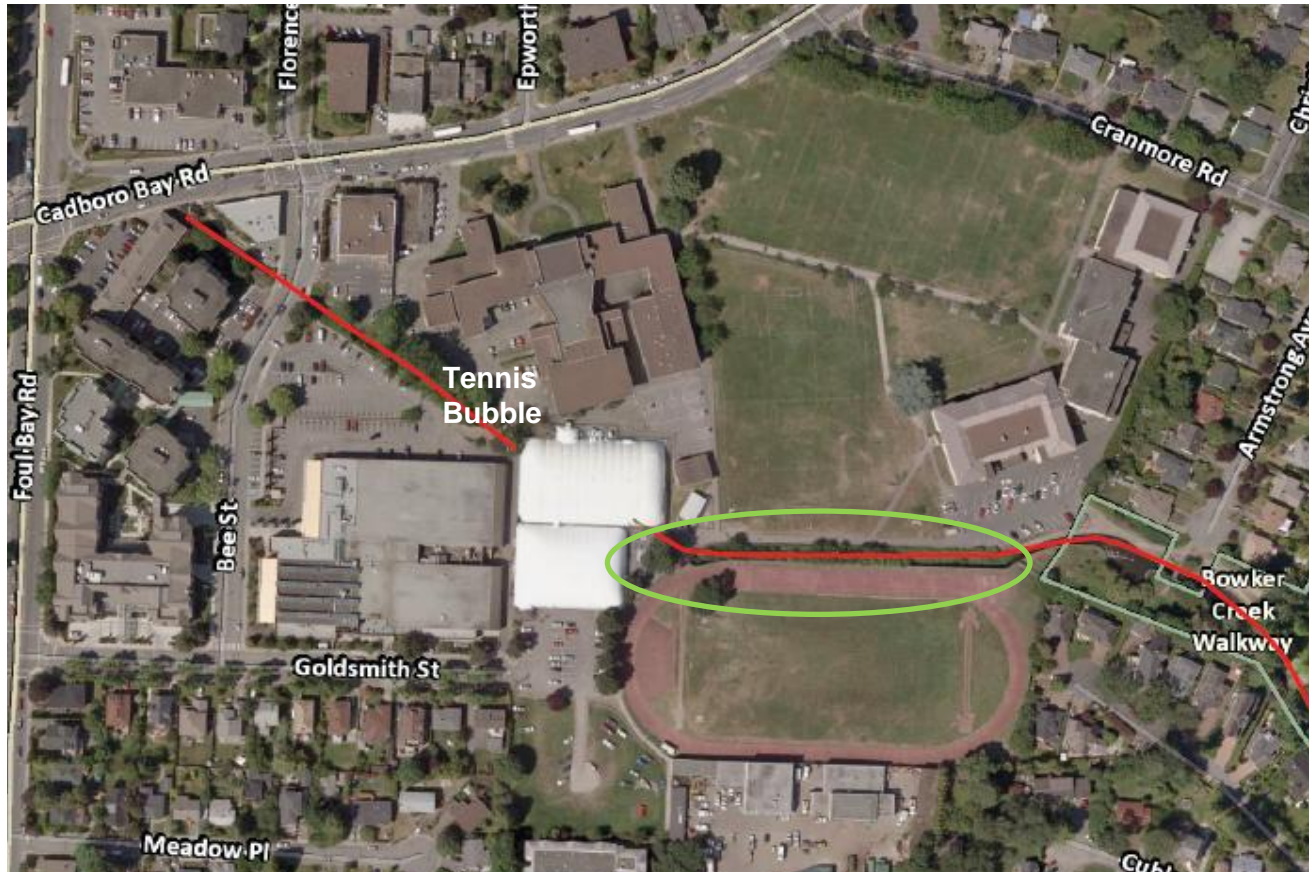
Imagine the possibilities...

Restoration of Bowker Creek through Oak Bay High School





First the vision... then the opportunity!



Restoration of Bowker Creek at Oak Bay High was a key short term action in Blueprint

2010	<ul style="list-style-type: none">- Blueprint finalized- Design charette for re-design of school grounds – space for creek
2011	<ul style="list-style-type: none">- Feasibility Analysis- Funding application submitted- Blueprint endorsed DoS/CoV- Received \$478K Innovations Grant
2012	<ul style="list-style-type: none">- Blueprint endorsed DOB- MOUs with SD61/DOB
2013	<ul style="list-style-type: none">- Teacher Champions- Creek focused curriculum development- Student engagement workshops
2014	<ul style="list-style-type: none">- Design Team engaged- Creeks and Careers workshops- Design charette for the Creek
2015/16	<ul style="list-style-type: none">- Tendering and Construction- Grand Opening of Classroom



Project Partners



Making a difference...together



Bowker
Creek



Funding Provided by:

Federal Gas Tax Innovation Fund

Federal/Provincial fund administered by the Union of British Columbia Municipalities (UBCM)








Outdoor Classroom!





Student Stewards

OAK BAY NEWS
Black Press Wednesday, August 26, 2015



Students from Oak Bay High and the Netherlands take samples from Bowker Creek where it runs behind the high school. The samples are part of an international water quality study.

Creek study sends students overseas

Christina van Beerswijk
Oak Bay News

Students at Oak Bay High got involved early in the Bowker Creek restoration project. We also looked at the riparian vegetation to get a sense of where the water flows.





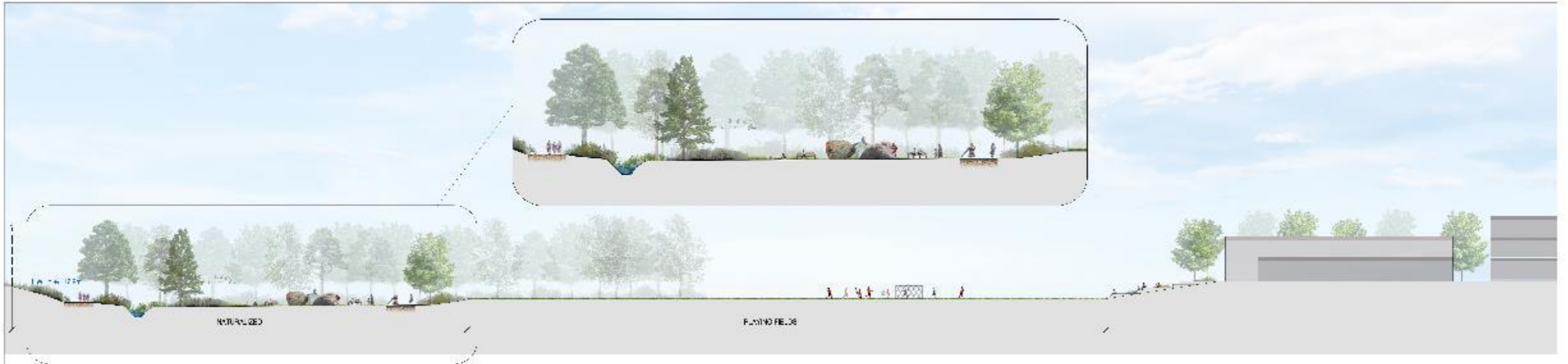
Recommendation: Reach 9



- Meander the creek to improve habitat (currently shown to the west) and expand greenspace adjacent to the school
- Widen and naturalize the creek with native species and a riparian buffer
- Safe, sloping creek banks with slower flow to limit erosion and improve safety
- Stormwater management to mitigate local and downstream flood risk
- Excellent opportunities for a greenway and outdoor classroom



Vision for Reach 9: A naturalized creek with stormwater feature



Fenced riparian area beside creek would flood during frequent storm events (~2 year)

Dual use dry pond (playing field) would flood during infrequent storm events (~25 year) for less than 24 hours



Connecting the School to the Stream

“A young person’s surroundings are always a silent educator and the best way to inoculate a sense of environmental responsibility and stewardship in youth is to model it.

Allowing an important waterway to pass through our property in a ditch silently teaches students that the environment doesn’t really matter – whereas a rehabilitated and healthy creek, with safe and reasonable access, speaks volumes about how one should value the environment”

Garrett Brisdon, Vice Principal, Oak Bay High School