

# OPEN HOUSE

## Keith Road Bridge Replacement Project



Thank you  
for attending!

**Welcome!**

# The Project

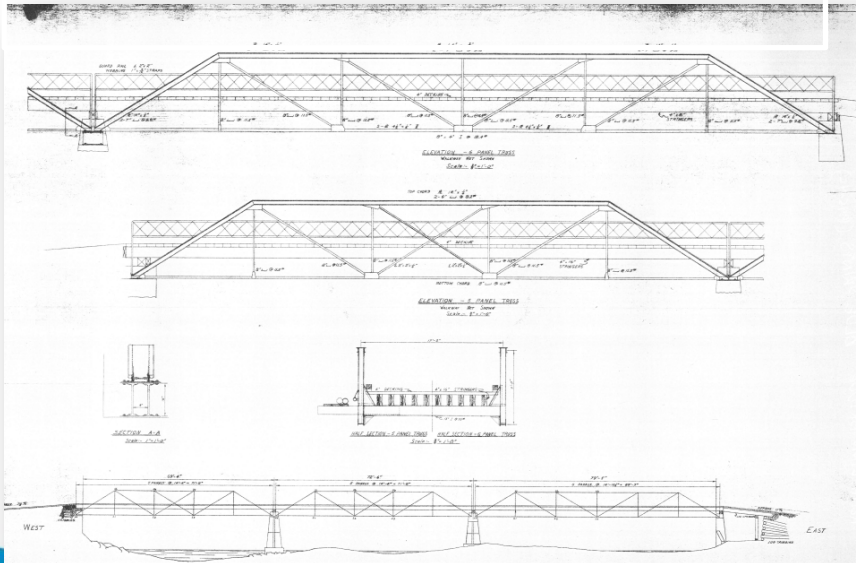
## History of the Keith Road Bridge

The current bridge is not the first bridge in this location. This photograph – taken in 1913 – is of one of the earlier bridges.



The existing bridge was designed by W.G. Swan, Consulting Engineering in 1946.

## Blueprints for the existing Keith Road Bridge



## Lower Lynn is changing...

- Identified as new centre in Official Community Plan
- Implementation Plan adopted by Council
- Seylynn development now in construction
- Keith Road extension underway
- New sanitary sewer being finished now
- Upgrade to Phibbs Exchange planned
- Planning for Highway 1 Interchanges
- Seylynn and Bridgman Parks Conceptual Master Plan underway



# Project Origin

Keith Road provides an important transportation connection for all modes in the District and City of North Vancouver.

This project was initiated because the Keith Road bridge is reaching the end of its lifespan. Replacing the bridge provides the opportunity to make transportation improvements in the area.

## Why are we doing this project now?

- The current two-lane bridge prevents vehicles from accessing the Seymour area when Highway 1 queues back up
- Sidewalks are needed on both sides of this major arterial road
- A cycling route is needed across Lynn Creek
- The bridge is a gateway to the new Lower Lynn town centre and will provide a key link for the new residents of Lower Lynn
- If not replaced, the bridge would have been due for a multi-million dollar rehabilitation

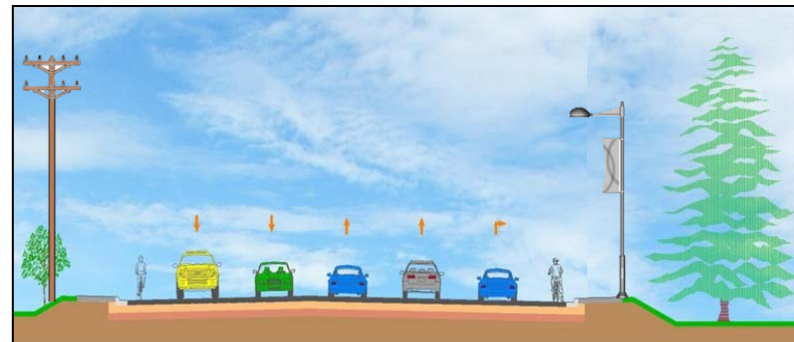


Paths near the bridge



Keith Road Bridge today

# New Bridge and Road



## Features of New Bridge

- Clear span (no piers)
- No overhead structure
- Art incorporated into railings
- Barrier to protect pedestrians



## Upgrades to East Keith Road by the Bridge

- Four through travel lanes for vehicles
- Additional turn lanes: westbound left turn lane and eastbound right turn lane
- Marked bike lanes
- Sidewalks (both sides)
- Lighting upgrades

# Keith Road Roadway Arrangement

## Opening Day

Two-way left turn lane provided in centre section for improved Bridgman Park and residential access.



## Long Term

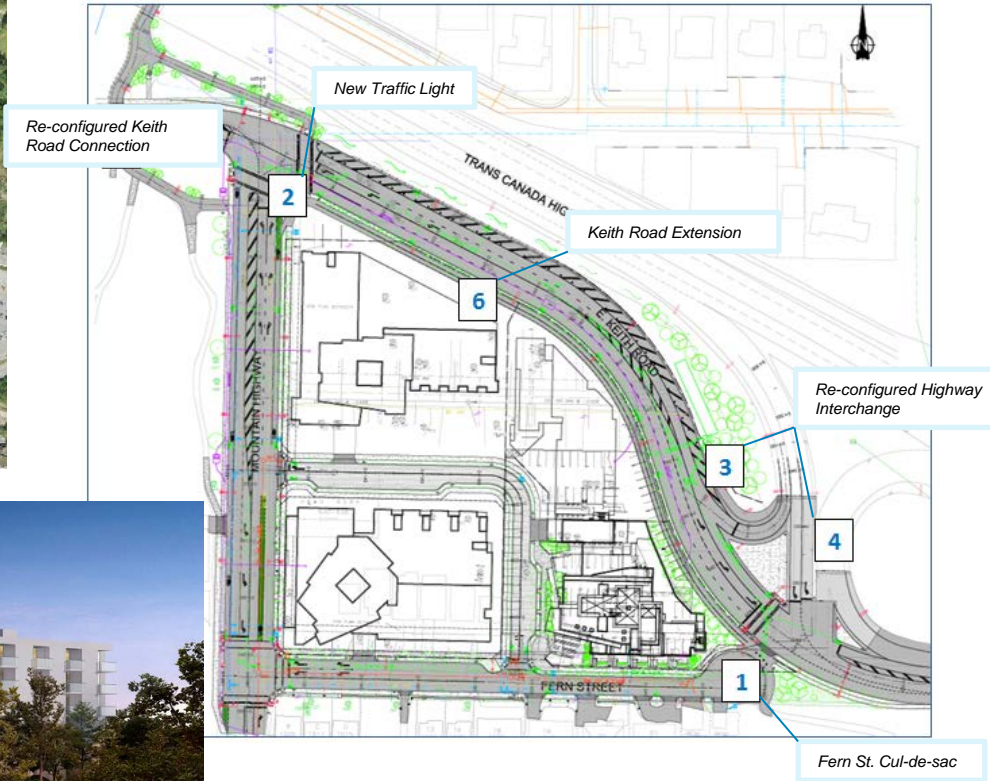
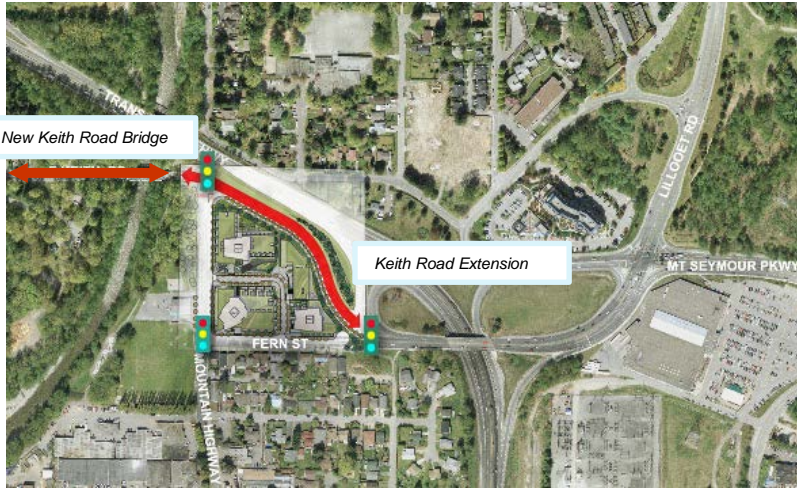
Two-way left turn lane no longer provided as area redevelops and longer eastbound right turn lane provided.



# Keith Road Roadway Arrangement



# Keith Road Extension Seylynn Arrangement



# Keith Road Extension Arrangement





# How would it be built?

Existing Bridge

First Half Built

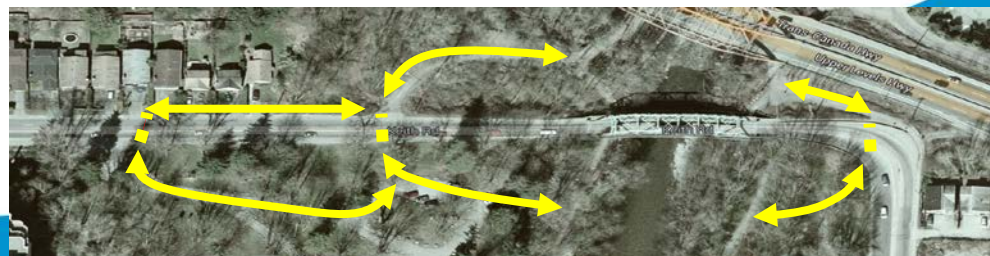
Second Half Built

## Construction Sequence



1. A new structure is built to the south of the existing bridge, traffic remains on existing bridge.
2. Traffic is diverted to the new structure, a second structure is built to replace the existing bridge
3. The two new structures are joined, creating the completed bridge

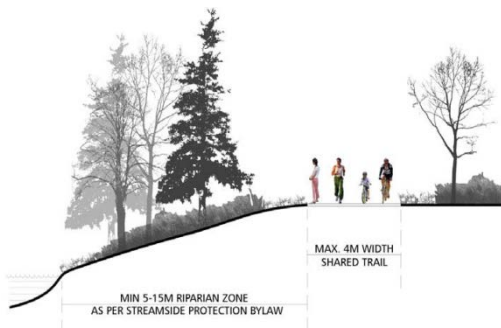
Trail detours would be provided in all phases



# Trail Improvements

## Goals for Trails

- Improve connectivity and access points to the parks
- Improve the quality of trails
- Improve safety and accessibility
- Provide access to trails at all four corners of the bridge
- Reconfigure parking to maintain existing number of spaces with smaller footprint and to improve circulation
- Relocate trails out of riparian areas where feasible and designate areas where interpretive opportunities exist
- Rehabilitate decommissioned trails with planting of native trees and shrubs
- Establish view corridors to keep the character of the park
- Land needed for road improvements would need be removed as per the community charter process



*Trail Alignment adjacent to Riparian Area*



**Part of future bike route network**  
(Bicycle Master Plan)



*Improved habitat protection  
fencing along stream corridors*

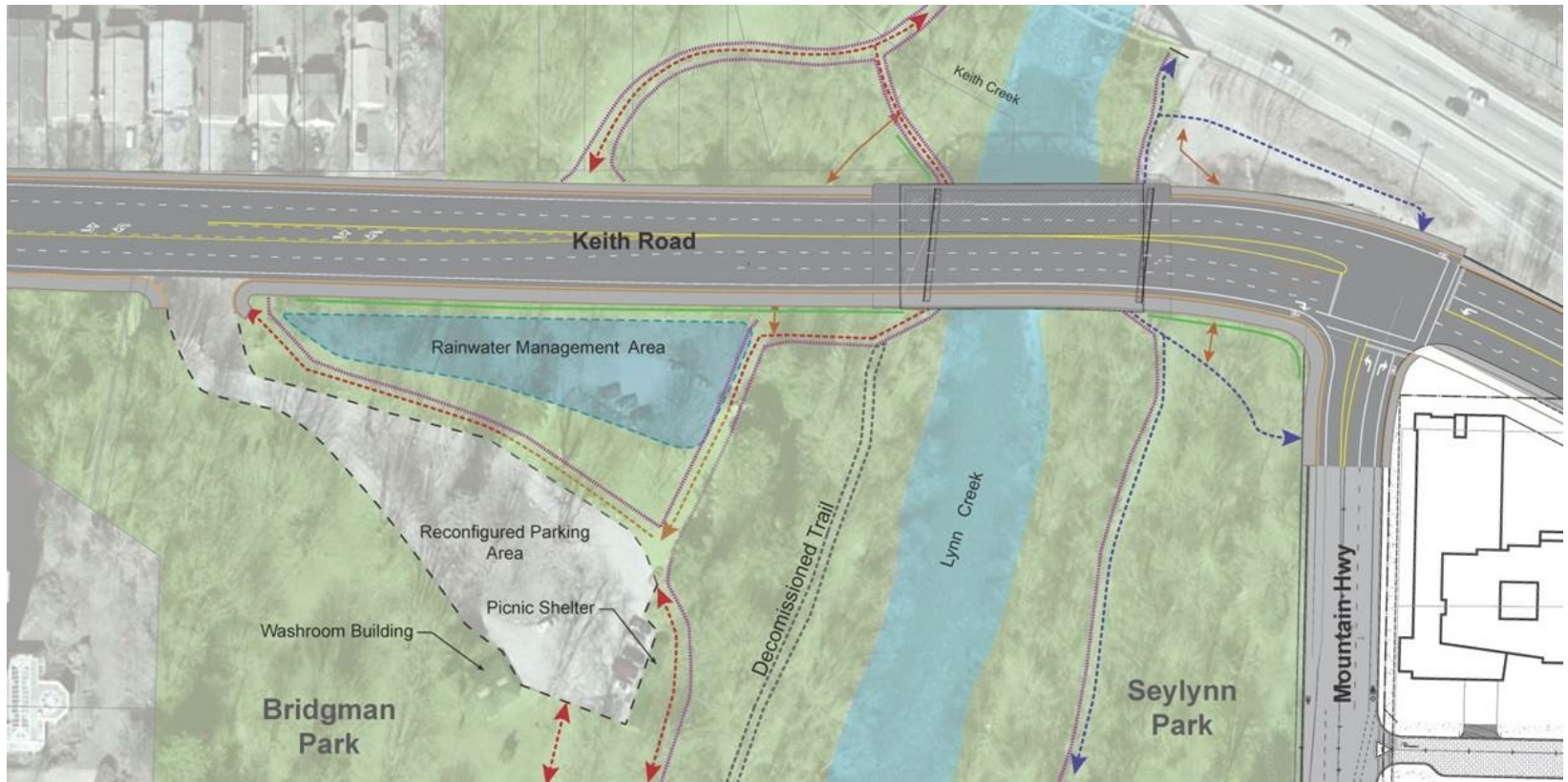


*Permeable rock dust pathway  
along western segments of  
upgraded trails*



*Paved multi-user surface with  
multi-use pathway surface on  
east side*

# Trail Improvements

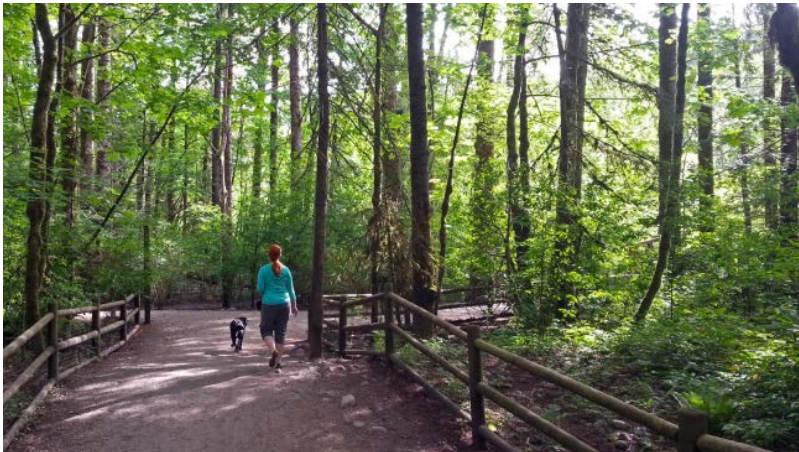


-  Upgraded or New Trails
-  Upgraded Paved Trails
-  Habitat Protection Fencing
-  Stair Connections
-  Rainwater Management Locations
-  Parking Limits
-  Retaining Walls

# Tree Strategy

## Goals for Trees

- Retain trees and stumps for large woody debris placement wherever possible
- Replace trees at a 3:1 ratio
- Improve riparian habitat as part of the tree restoration strategy
- Improve key habitat areas along Lynn Creek and Keith Creek
- Restore riparian area along Lynn Creek in Bridgman and Seylynn Parks
- Limit access to riparian areas and protect restored habitat with habitat protection fencing at key locations



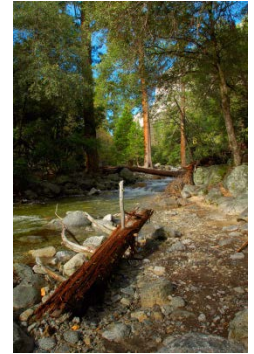
*Habitat Protection Fencing*



*Replant trees in riparian area*



*Re-use for Habitat*



*Relocate*



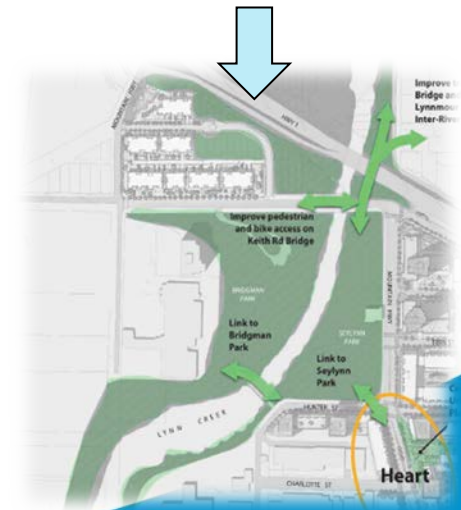
*Repurpose*

# Tree Strategy



-  Tree Planting Areas
-  Rainwater Management including tree planting
-  Riparian Habitat Improvement
-  Retained Trees
-  Trees to be Removed

Design coordinated with Seylynn and Bridgman Parks Conceptual Master Plan (underway)



# Rainwater Management

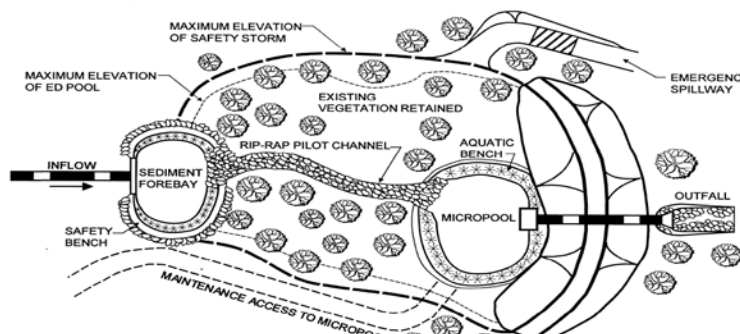


## Protecting the water quality of the creeks around Keith Road Bridge:

- Best Management Practice approach for Rainwater Management
- Improvement in rainwater quality and reducing the runoff volume to a more natural level
- Bridge, road and existing parking lot runoff directed into rainwater management infrastructure, e.g.
  - Rain Gardens
  - Infiltration Galleries
  - Drainage Swales
  - Engineered Wetlands



Harbourview Park Rain Garden



Example Rainwater Facility

# Environmental Goals

## Goals to protect the environment:

- **Clear Span Bridge Best Choice for Stream**
  - Abutments and supporting structures out of the riparian area
- **Essential Salmonid and Fish Habitat Enhanced**
  - Protection and restoration of the spawning areas
  - Sediment and erosion control during construction
  - Abiding by all DFO and MoE construction windows and approvals



*Chum in Lynn Creek*



*Red-Legged Frog*



*Western Toad*

- **Wildlife Species Protected**
  - Raptor survey and construction sensitivity
  - Project clearing to be done outside breeding window.
  - Species identified and protected as much as feasible
    - Red-legged frog
    - Coastal tailed frog
    - Western toad
- **Habitat Protection Fencing**
  - Along riparian area and environmentally sensitive areas
  - Interpretive areas

# How could it look?



**Standard Railing**



**Textured or Art Wall**



**Art Incorporated in Structure**

## Art to be incorporated in

- Railings
- Abutments
- Lighting

The District is seeking artists to creatively integrate public art into the the new components such as railings, lighting, sidewalks and retaining walls.

All artistic enhancements to the bridge design will be subject to safety and transportation standards and must be accessible, durable, vandal-proof, weather-resistant, technically feasible, affordable, and site-specific.



**Aesthetically-Pleasing Railing**  
(Port Coquitlam example)



# Expected Timeline

**Public Open House**  
May 15, 2014

**Design Completion**  
August 2014

**Construction Start**  
Winter 2015

**Construction Completion**  
Mid-2016



## Scheduling

- We expect that two lanes of traffic will be kept open most of the time.
- Although the contractor may propose an alternative way to build the bridge, currently we expect that there may be two to three full weekend closures.

# Stay in Touch

Thank you for taking the time to attend!

You are invited to fill out a comment form here or online. Feedback may be submitted until May 30, 2014.

To find out more, visit [dnv.org/krbridge](http://dnv.org/krbridge)

- Up-to-date information
- Short video about the project



These display materials will be available on the District's website starting May 15.



## How can we improve this project?

For drivers, pedestrians, cyclists, transit users, dog walkers?

## Would you like updates?

Please provide your contact information at the sign-in desk.

## How can we minimize disruption?

Would you prefer longer construction hours in the day, but a shorter project duration?

## How can we improve the natural environment?

Any suggestions or comments on how we can improve?

## Would you like to be on the art selection committee?

A nearby resident can volunteer.

**Thank You For Attending!**