Vancouver City Central Transmission Project

Presentation to Vancouver Board of Parks & Recreation

Planning & Environment Committee

April 9, 2009

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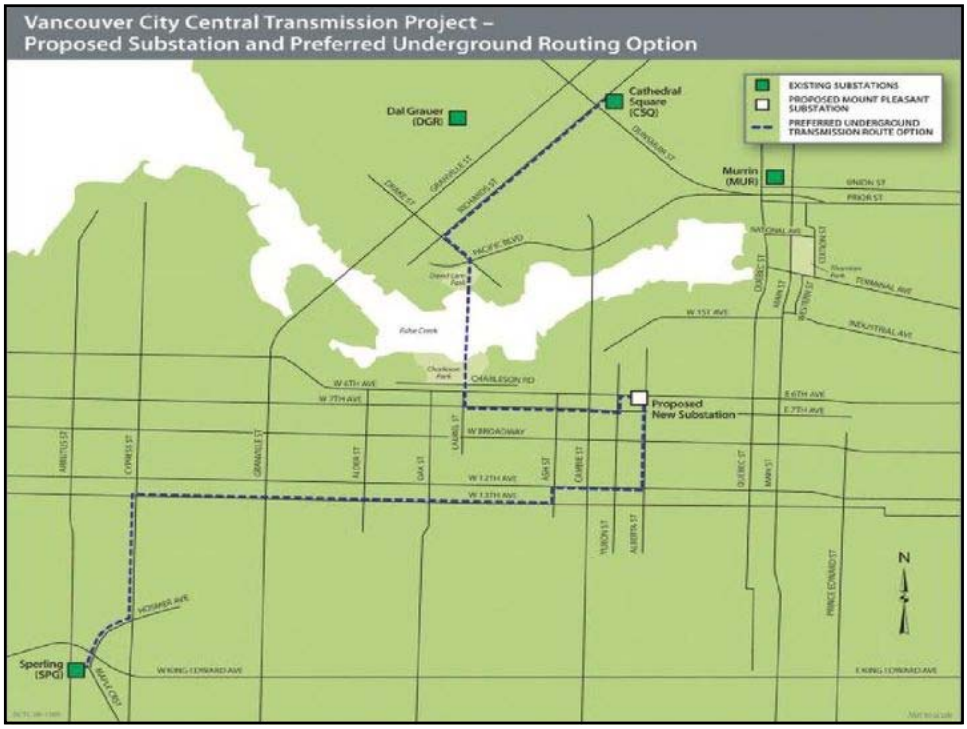

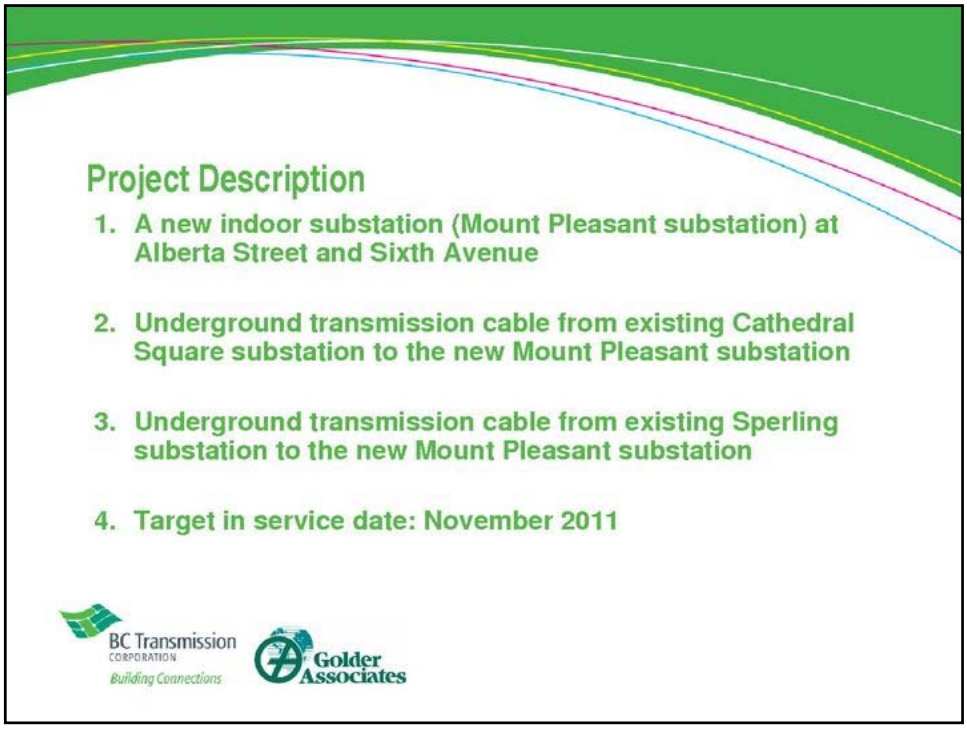
Project Description
1. A new indoor substation (Mount Pleasant substation) at Alberta Street and Sixth Avenue
2. Underground transmission cable from existing Cathedral Square substation to the new Mount Pleasant substation
3. Underground transmission cable from existing Sperling substation to the new Mount Pleasant substation
4. Target in service date: November 2011
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Project Need
1. Increase security of electricity supply to Vancouver homes and businesses by:
a) Replacing old and deteriorated distribution and transmission facilities
b) Providing a seismically secure transmission link between the south and north sides of False Creek
c) Providing a closer and seismically secure supply source through a new substation for distributing electricity to customers in the South False Creek area
2. Increase transmission capacity to south False Creek area to deal with future load growth
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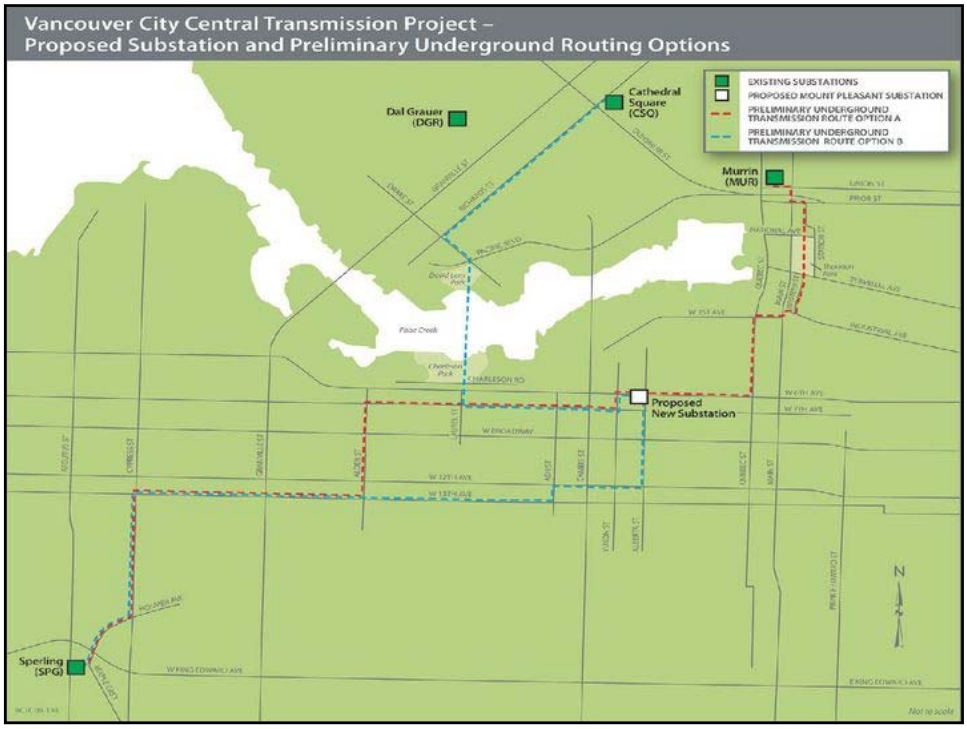
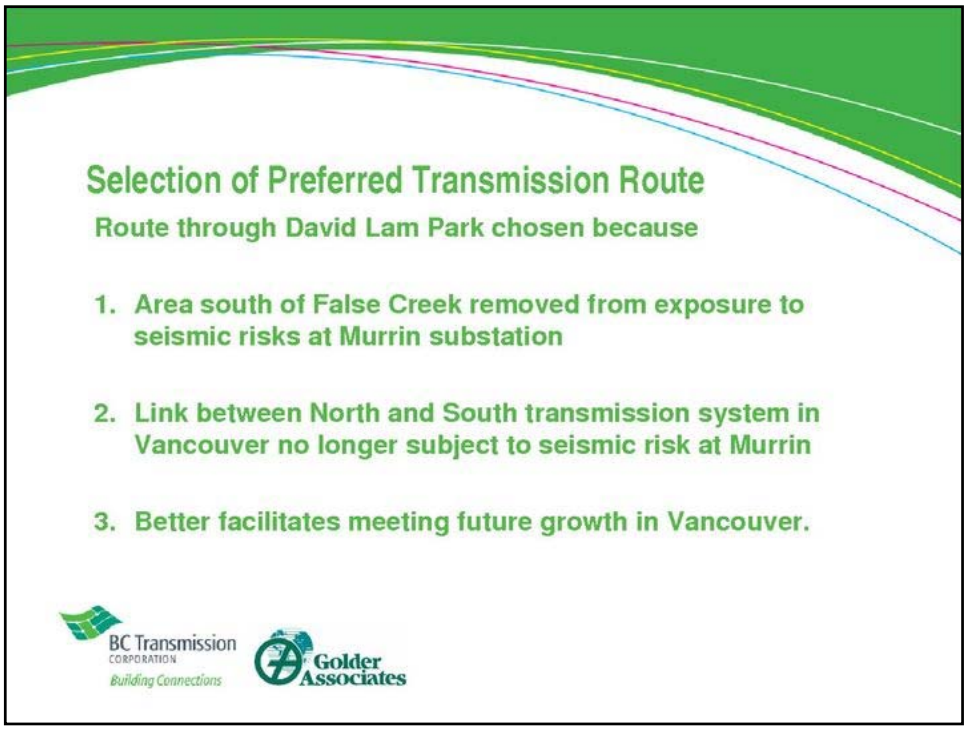

Vancouver City Central Transmission Project –
Proposed Substation and Preliminary Underground Routing Options
EXISTING SUBSTATIONS
PROPOSED MOUNT PLEASANT SUBSTATION
PRELIMINARY UNDERGROUND TRANSMISSION ROUTE OPTION A
PRELIMINARY UNDERGROUND TRANSMISSION ROUTE OPTION B
Dal Grauer (DGR)
Cathedral Square (CSQ)
Murrin (MUR)
Proposed New Substation
Sperling (SPG)
N
Not to scale


Selection of Preferred Transmission Route
Route through David Lam Park chosen because
1. Area south of False Creek removed from exposure to seismic risks at Murrin substation
2. Link between North and South transmission system in Vancouver no longer subject to seismic risk at Murrin
3. Better facilitates meeting future growth in Vancouver.
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Selection of Preferred Transmission Route

Factors considered:

- Security of electricity supply/electrical system reliability
- Public input
- City of Vancouver input
- First Nations input
- Potential environmental impacts
  - Archaeological and cultural resources
  - Aquatic resources
  - Socio-economic resources
  - Vegetation and wildlife resources
  - Encountering previously contaminated sites
- Geotechnical considerations
- Length
- Cost

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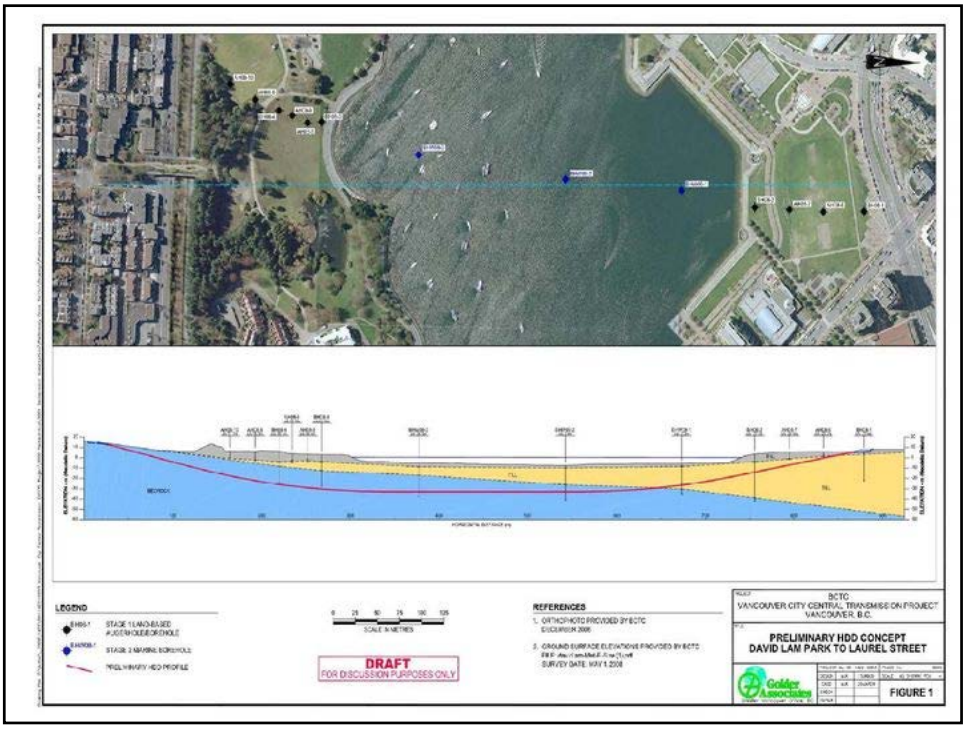

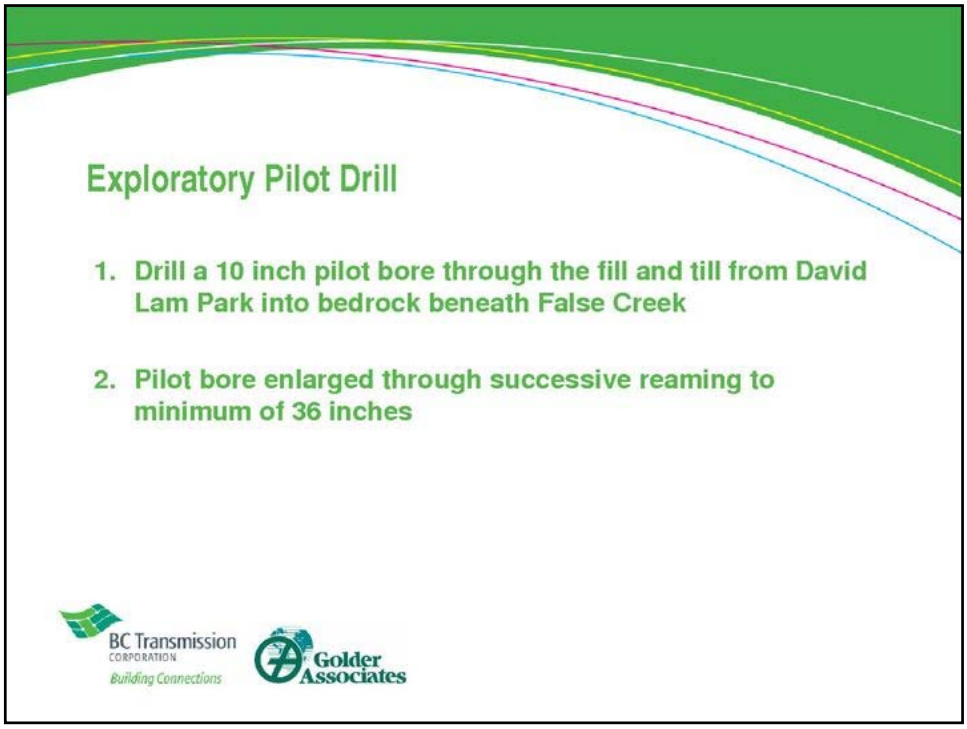
Exploratory Pilot Drill
1. Drill a 10 inch pilot bore through the fill and till from David Lam Park into bedrock beneath False Creek
2. Pilot bore enlarged through successive reaming to minimum of 36 inches
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Exploratory Pilot Drill
Purpose: To prove feasibility of Horizontal Directional Drilling for crossing beneath False Creek.
Benefits: If successful;
1. affected area of David Lam Park will be 40% smaller;
2. time to drill will be four months rather than more than eight months if a tunnel boring machine is used.
3. saves ratepayers $8 to $15 million.
Why Now: Not enough time after Olympics to conduct Exploratory Pilot Drill and complete crossing with tunnel boring machine if HDD not feasible, and to finish by November 2011.
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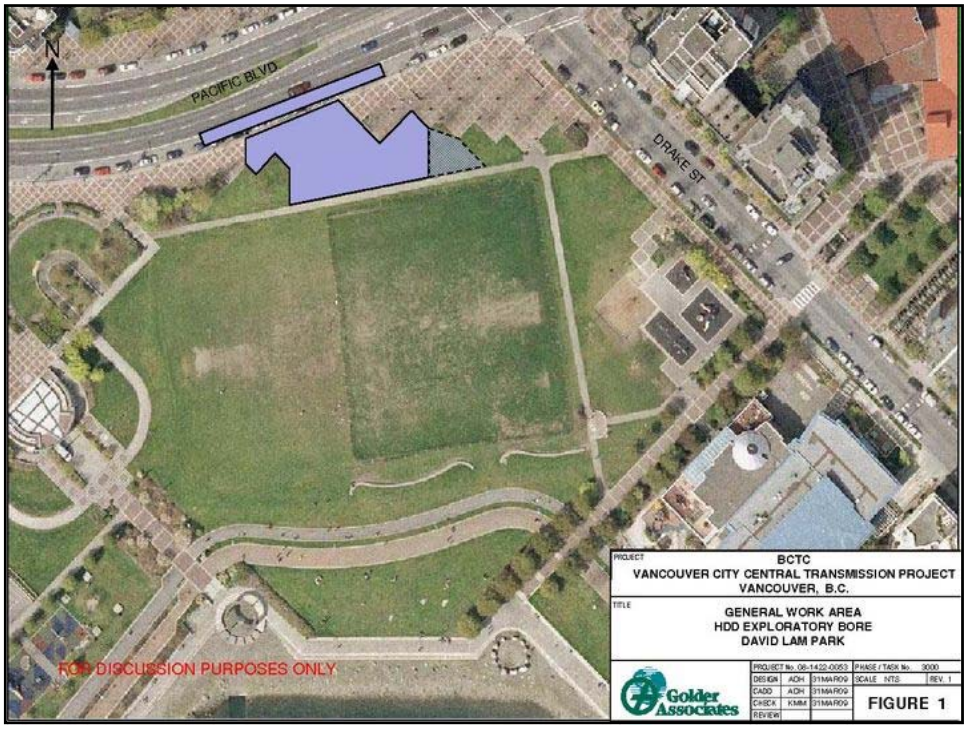
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PROJECT
BCTC
VANCOUVER CITY CENTRAL TRANSMISSION PROJECT
VANCOUVER, B.C.
TITLE
GENERAL WORK AREA
HDD EXPLORATORY BORE
DAVID LAM PARK
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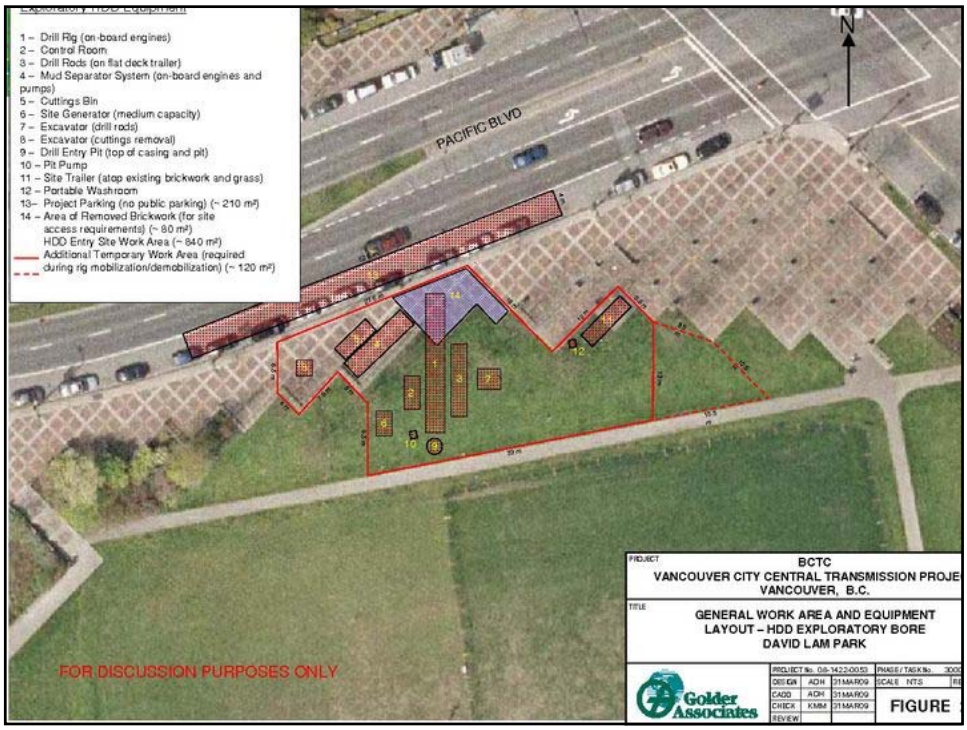
FIGURE 1


1 – Drill Rig (on-board engines)
2 – Control Room
3 – Drill Rods (on flat deck trailer)
4 – Mud Separator System (on-board engines and pumps)
5 – Cuttings Bin
6 – Site Generator (medium capacity)
7 – Excavator (drill rods)
8 – Excavator (cuttings removal)
9 – Drill Entry Pit (top of casing and pit)
10 – Pit Pump
11 – Site Trailer (atop existing brickwork and grass)
12 – Portable Washroom
13– Project Parking (no public parking) (~ 210 m²)
14 – Area of Removed Brickwork (for site access requirements) (~ 80 m²)
HDD Entry Site Work Area (~ 840 m²)
Additional Temporary Work Area (required during rig mobilization/demobilization) (~ 120 m²)
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VANCOUVER, B.C.
TITLE
GENERAL WORK AREA AND EQUIPMENT
LAYOUT – HDD EXPLORATORY BORE
DAVID LAM PARK
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FIGURE

Required Work Site

1. Approximately 2% of David Lam Park would be used for work site
2. 80 m^2 of paved area would need to be removed and will be restored upon completion
3. Four or five trees would need to be removed and will be replaced upon completion

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Time Frame for Activities Within David Lam Park

Site Preparation Activities	3 Weeks
Drilling Activities	36 to 48 Days
Restoring work area	3 to 4 Weeks
Total Estimated Time	**~ 13 - 15 Weeks**

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Maintaining the Park Experience

1. Pacific Boulevard sidewalk remains open
2. Walkway in park remains open
3. Playing field remains open
4. No work on Sundays
5. No work during special events (e.g. 2 day Soccer Festival and 2 day Jazz Festival)
6. Visually screened work area with 8 foot safety fencing
7. Noise controlled below noise bylaw requirements
8. Restoration and re-vegetated upon completion to Parks & Recreation satisfaction

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Visual Assessment of HDD Investigation David Lam Park

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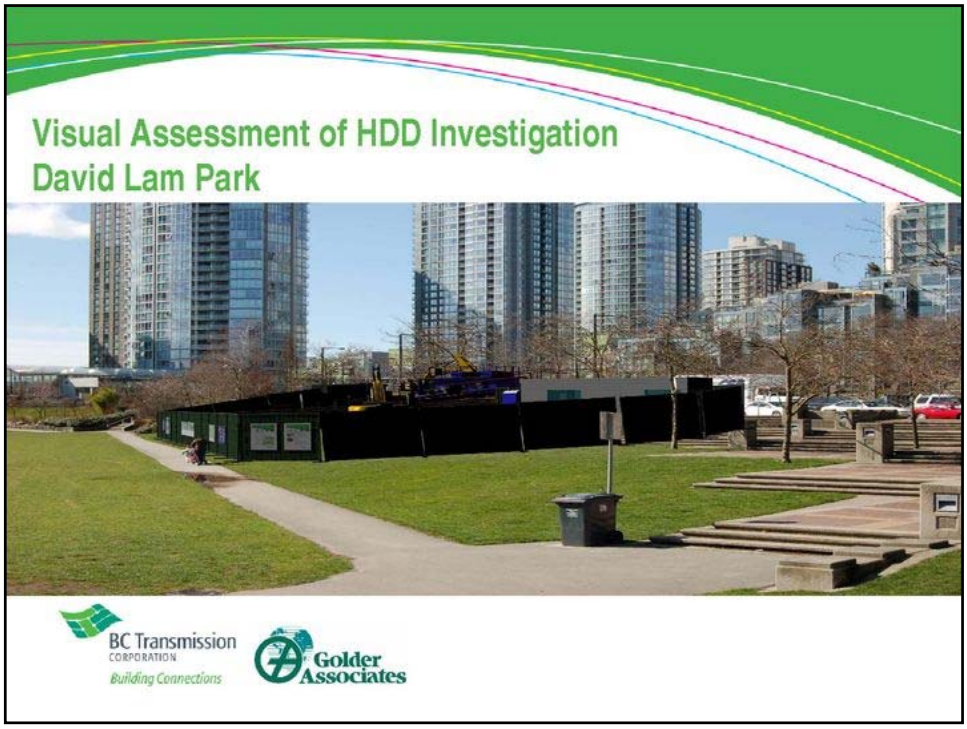
Visual Assessment of HDD Investigation
David Lam Park
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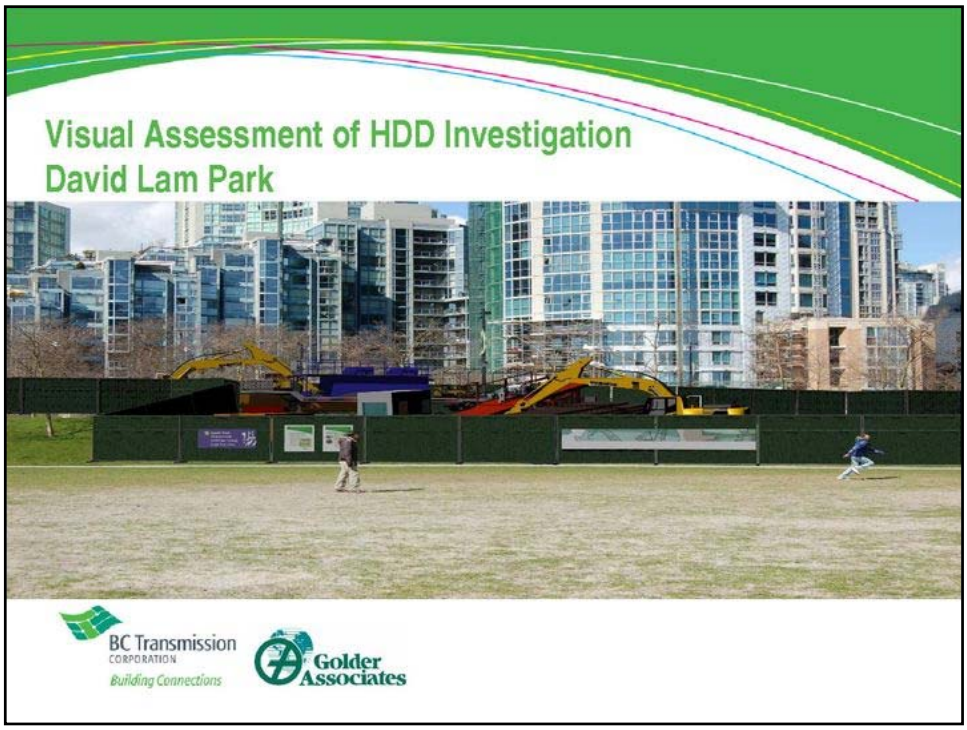
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Noise Management

Typical noise levels during drilling range from 60 - 75 dbA.

Vancouver Noise Control Bylaw construction noise limit is 85 dbA.

Typical Noise Sources and Levels:
- Lawn mower at 1 metre -92 dbA
- Diesel truck 50 kph at 20 metres - 85 dbA
- Conversation at 1 metre - 55 dbA
- Bird twitter outside at 15 metres - 50 dbA

Shrouded Pit Pump

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Project Consultation - Overall

- Introduced Project in mid-November 2008
- Notified over 27,000 residents and businesses in project area, including around David Lam Park
- Notified park neighbours in December 2008/January 2009 of initial geotechnical drilling
- Advertised in Vancouver Courier and Westender in November 2008 and February 2009
- Held two sets of public open houses – two in December 2008 (attended by 60+) and two in February 2009 (attended by 90+)

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Project Consultation – Pilot HDD Program
1. Presented Pilot HDD information at public open houses on February 18 and 25, 2009
2. Contacted all field and special event/festival park users for May through mid-August time period to provide information and answer questions
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