PORTLAND WATER BUREAU

Seismic Resilience Project – Washington Park Reservoir Improvements

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CITY OF PORTLAND
BUILDING PORTLAND BUSINESS

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Presentation Today

- Importance
- Site Challenges
- Costs
- Project Schedule
- Procurement Process for Construction Contract
- Equity Goals and Opportunities
- Ordinance for the 1% Community Benefits Funds

Introduction

- The project will strengthen our ability to serve **more than 360,000 people.**
- It will comply with LT2
- **Construction** is required to **start by July 1, 2016**

Estimated Seismic Risks to Portland Bridges – Oregon Department of Transportation

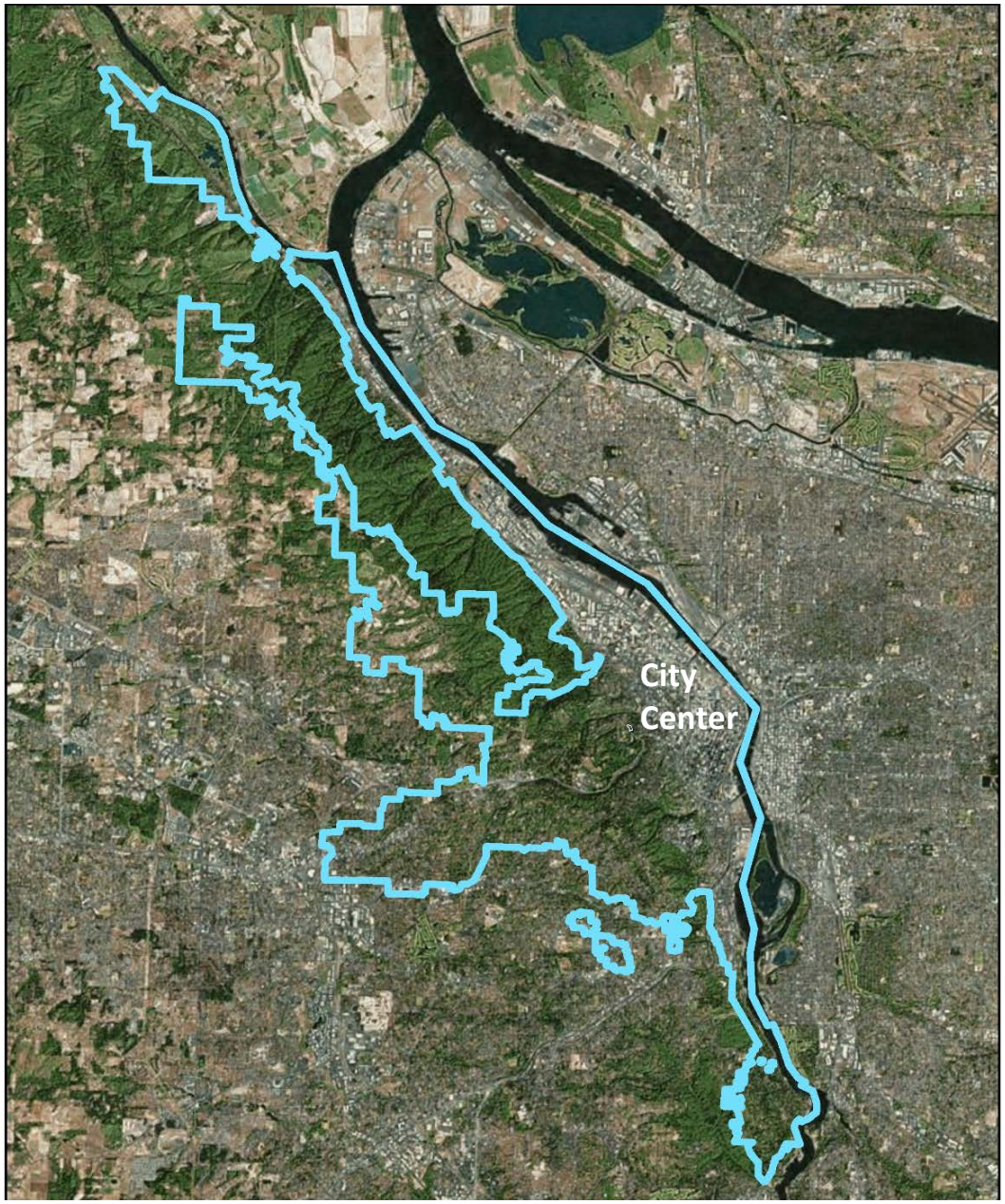
Background

- The Long Term 2 Enhanced Surface Water Treatment Rule **requires covering open reservoirs**

2008	2012	2013	2014 & 2015	2016
Bureau directed to prepare for conventional LT2 compliance.	**Council approves ordinances to authorize alternative contract and hire geotechnical and design consultants**	**Council directs the bureau to move forward with LT2 reservoir requirements**	**City hires Hoffman Construction Company as contractor (4/1/2014)** **Council Work Session (9/22/2015)**	**Report to Council for GMP and 1% CBP Funding Ordinance (5/25/2016)** **Start construction (7/1/2016)**

Importance

- This large water reservoir is **key for seismic resilience**
- **Hub for water** on west side
- Serves **three hospital complexes** and part of the **industrial Northwest**
- Serves **downtown core** that generates an estimated **$8 billion yearly in economic activity**
- The site is a **historic landmark**



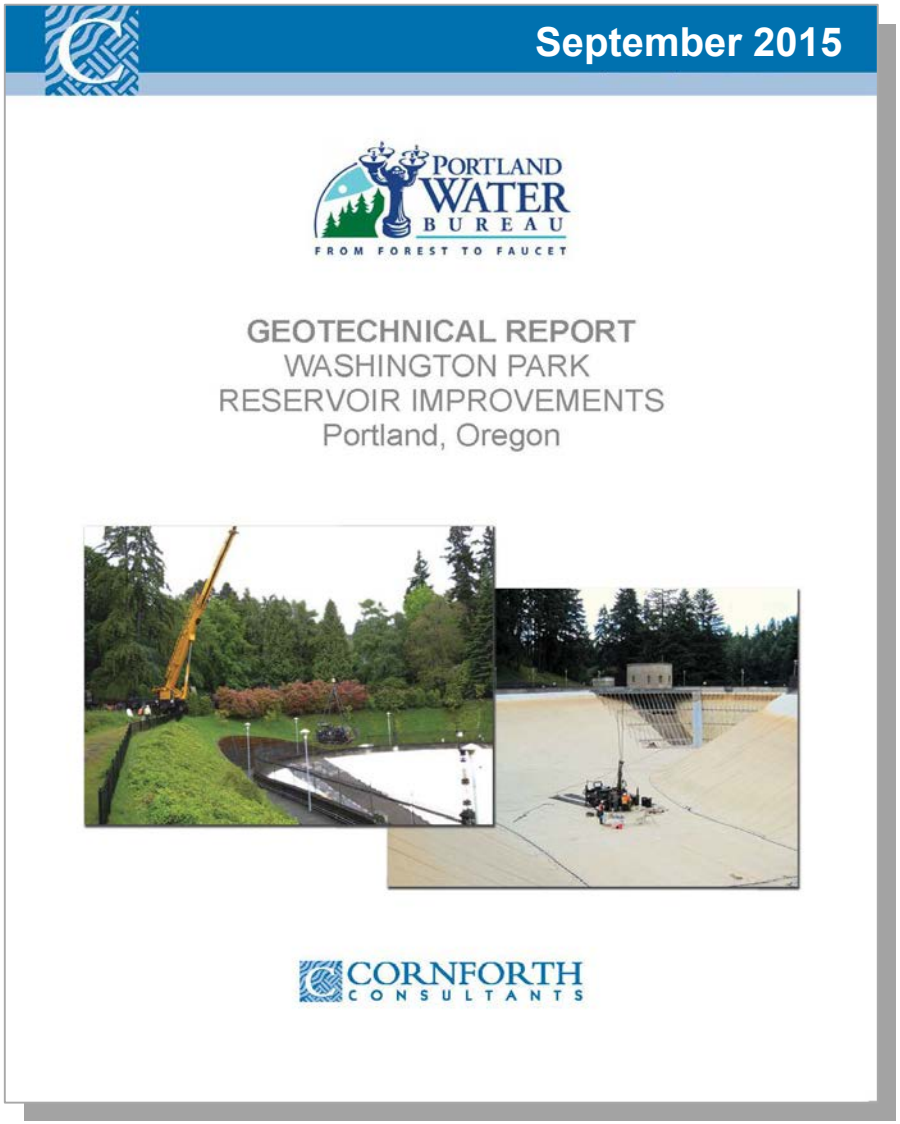
Area Served by Washington Park

Outreach

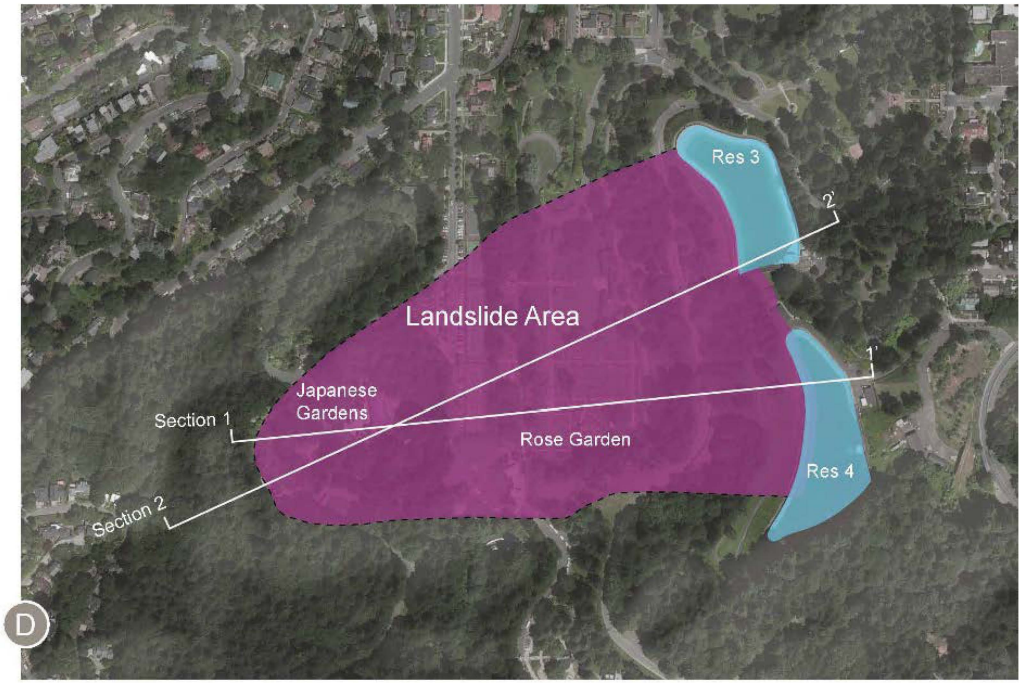
- **More than 3 years** of meetings and events with the community
- Outreach **started before** the **design began**
- **Community partnered with Bureau to design** the project

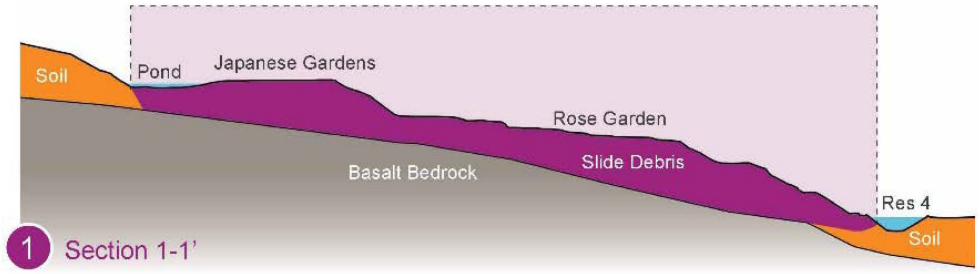
- **Continuing community work** includes monthly stakeholder emails, online updates, a project hotline, on-site signage, informational sessions and tours, in-person briefings, door-to-door canvassing, and traffic management

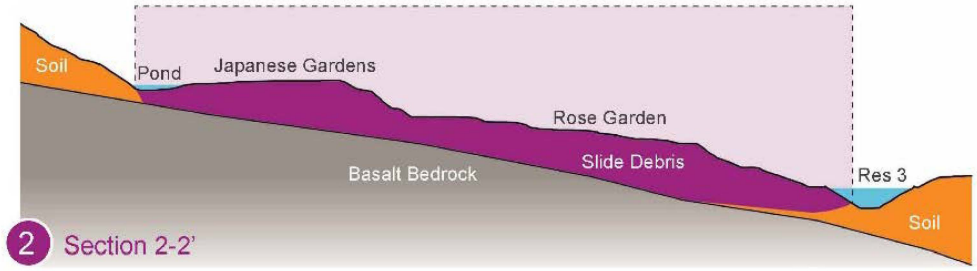
Washington Park Site Challenges



- **100% design** phase gives clear picture of site challenges:
  - **Large ancient landslide**
  - **Weak soils on top of bedrock**
  - **Limited space and access**
- Geotechnical investigation revealed **more complex site**


Res 3
2'
Landslide Area
1'
Japanese Gardens
Section 1
Rose Garden
Res 4
Section 2
D

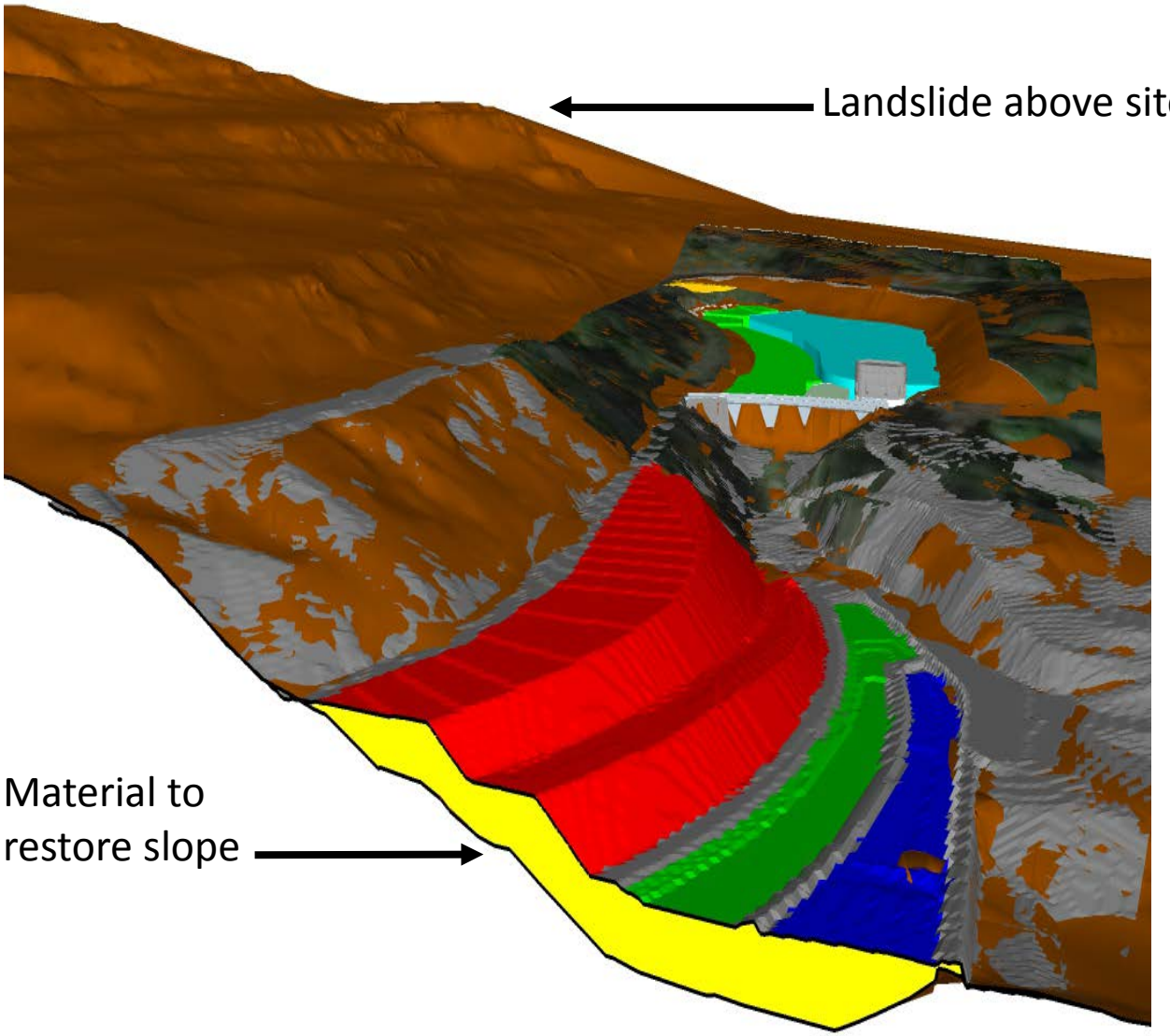

Soil
Pond
Japanese Gardens
Rose Garden
Slide Debris
Basalt Bedrock
Res 4
Soil
1 Section 1-1'


Soil
Pond
Japanese Gardens
Rose Garden
Slide Debris
Basalt Bedrock
Res 3
Soil
2 Section 2-2'

Plan to Address Challenges

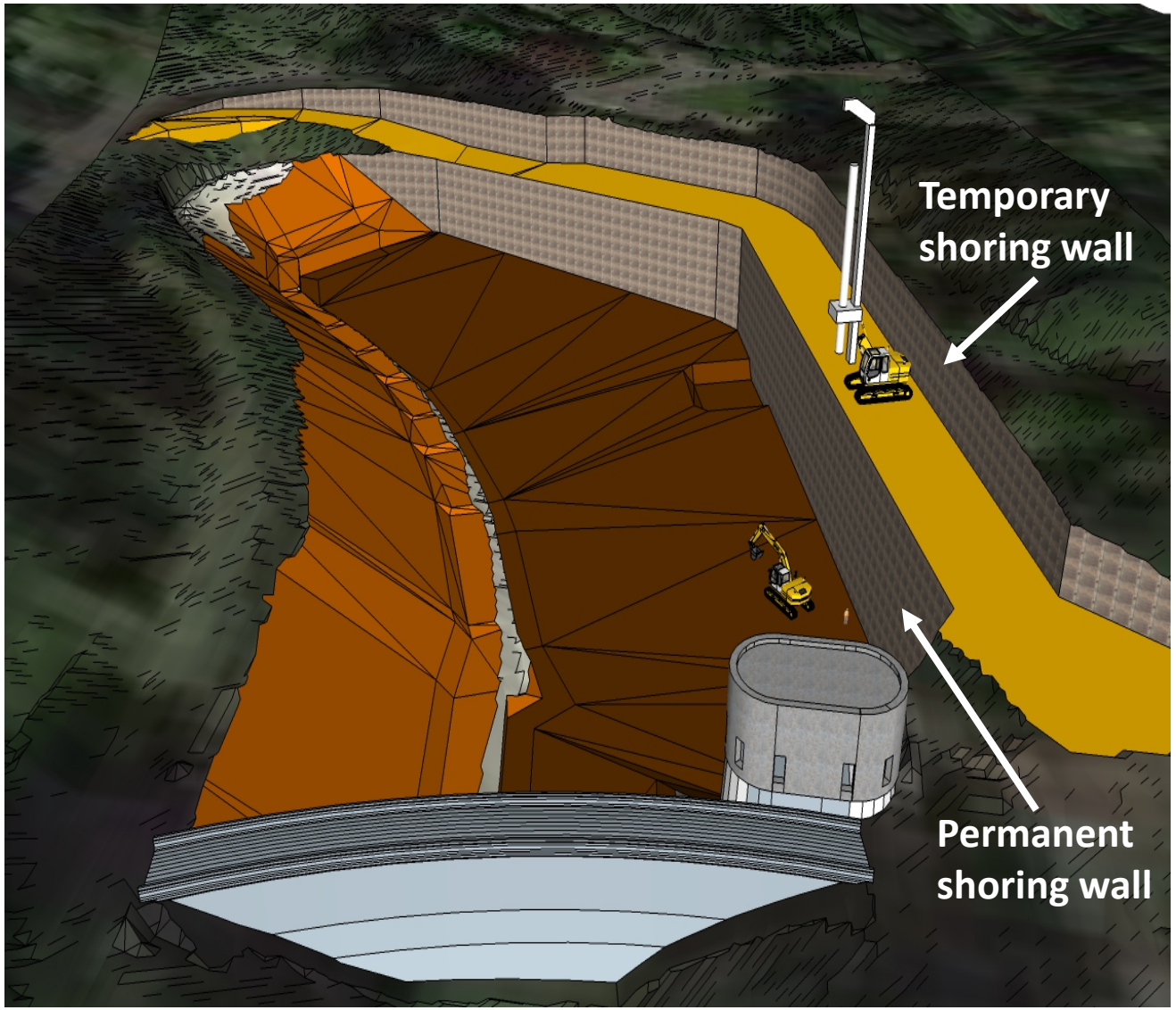
- **Reservoir 3—Drinking Water Storage**
  - Strong temporary walls (called shoring)
  - Thick permanent earth wall
  - Compressible buffer layers and anchors
  - Drilled shafts embedded in bedrock
- **Reservoir 4 Site**
  - Fill material to restore hillside slope
- **Limited Space and Access**
  - Move soils between site with conveyor belt
  - Provide traffic management and security

Cross Section of Reservoir 4 Area



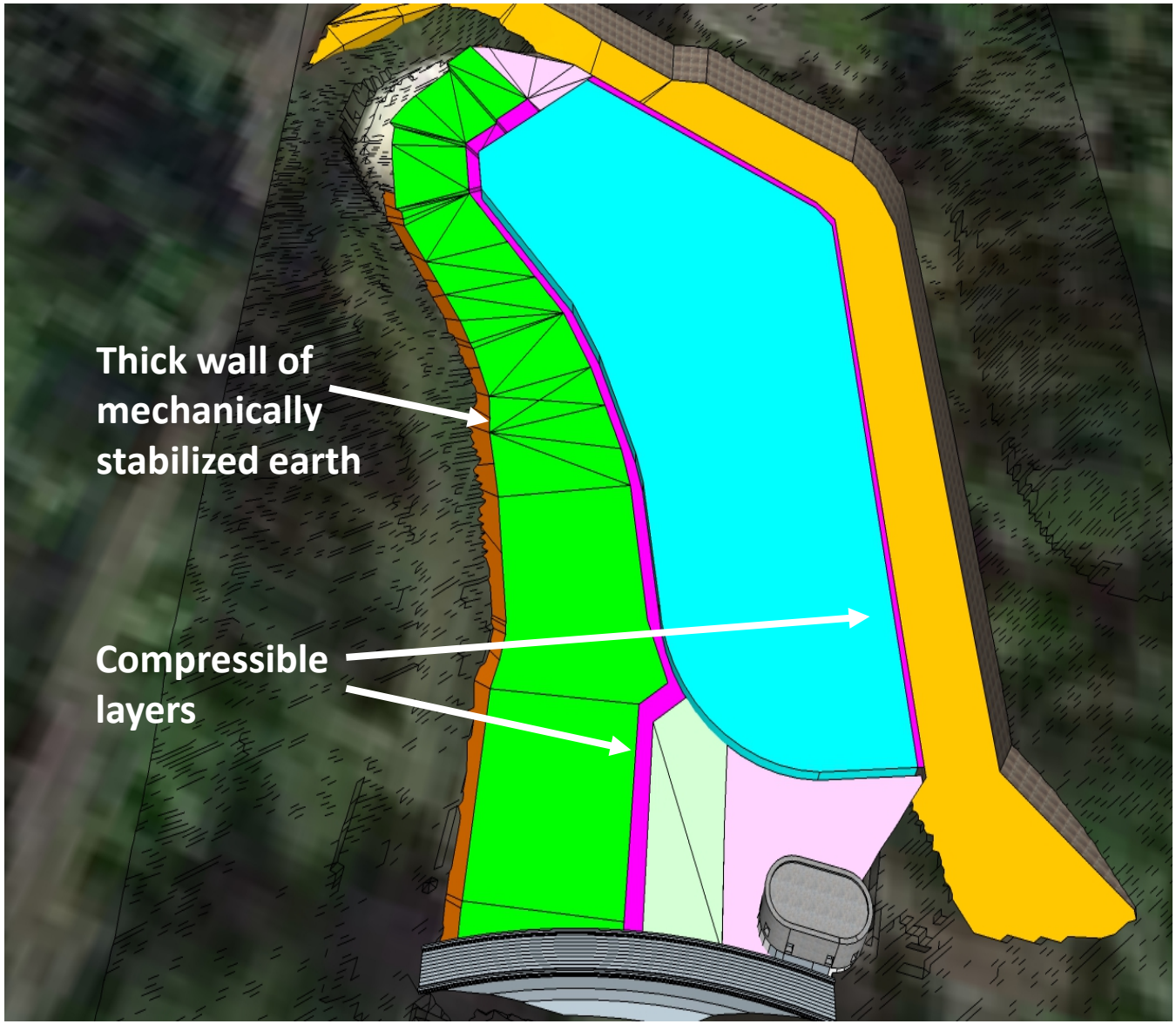
Strengthening the Reservoir 3 Site

Shoring walls to protect the site from earth movement.

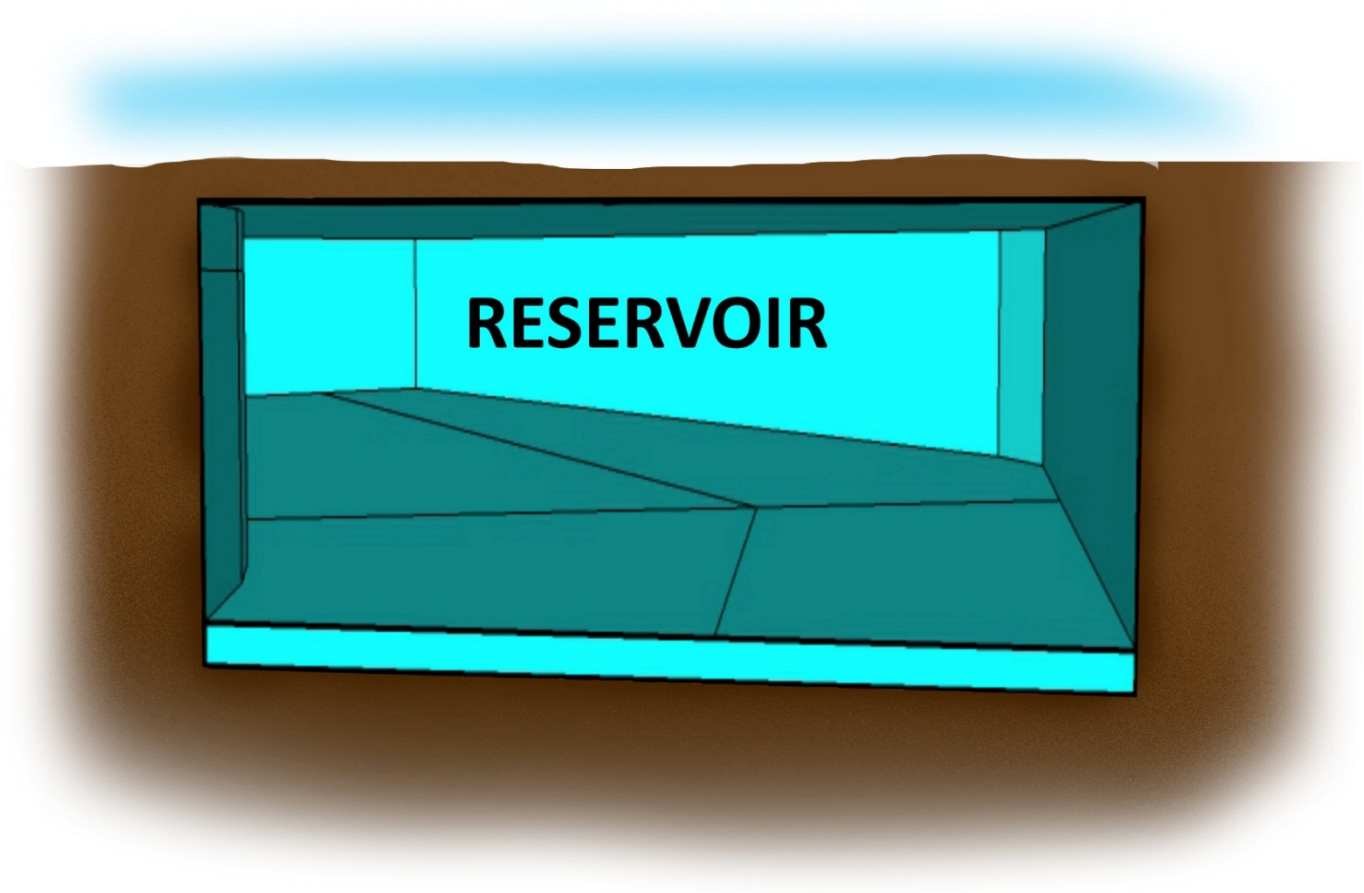


Reservoir 3 Landslide and Seismic Resilience

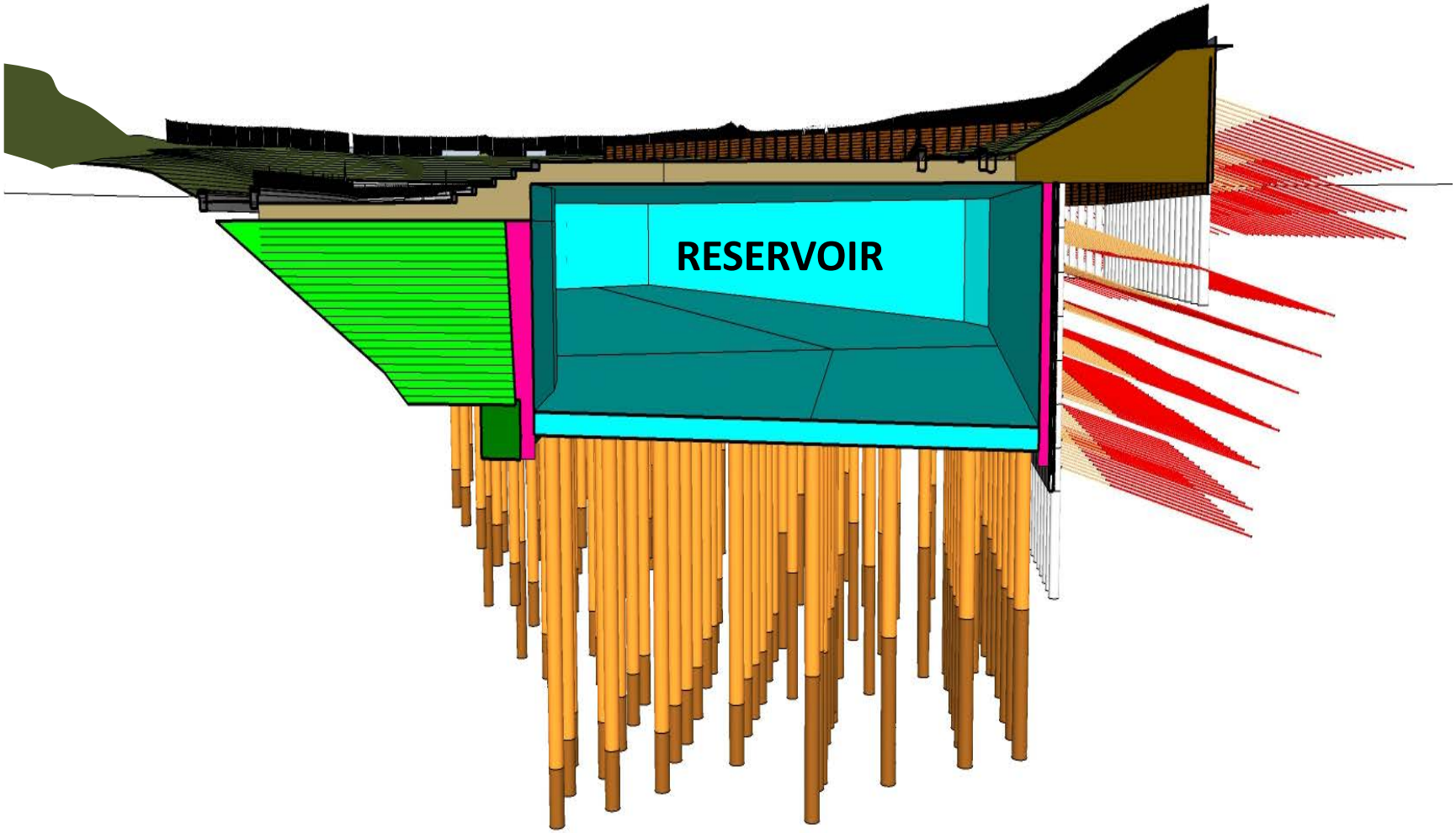
Measures to protect the reservoir from landslides and earthquake movement.



Cross Section of Typical Underground Reservoir



Cross Section of Completed Reservoir 3



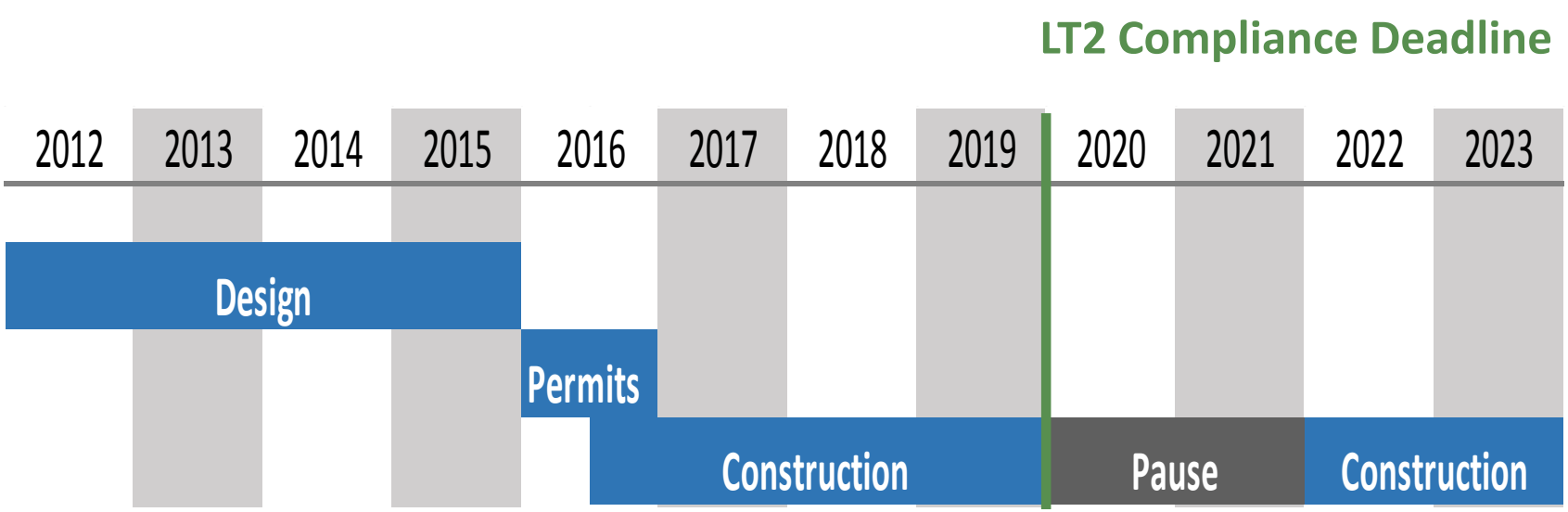
Updates Since 90% Design

	90 % Design (Sept 2015)		100% Design (May 2016)
Construction	$140 M		$152 M
Design	$22 M		$ 24 M
Other	$ 8 M		$ 13 M
Community Benefits			$1.14 M
Total	$170 M ± 20%		$190 M ± 10 %
Confidence Rating	Low-Moderate		High

Rationale for Cost Changes

- Now at 100% design
- Changes in design as result of further structural analysis of the reservoir and pipe connections to seismic event
- Construction market changes – materials and labor
- Constructability, further refining of construction details

Proposed Schedule



Key LT2 Compliance Dates	
Start Construction	July 1, 2016
Reservoir 3 Construction Complete	December 31, 2019
Reservoir 4 Disconnected *	December 31, 2020

* Disconnected means physically separated from the public water system. Reservoirs are currently offline, but connected and could be put in service.

Procurement Process

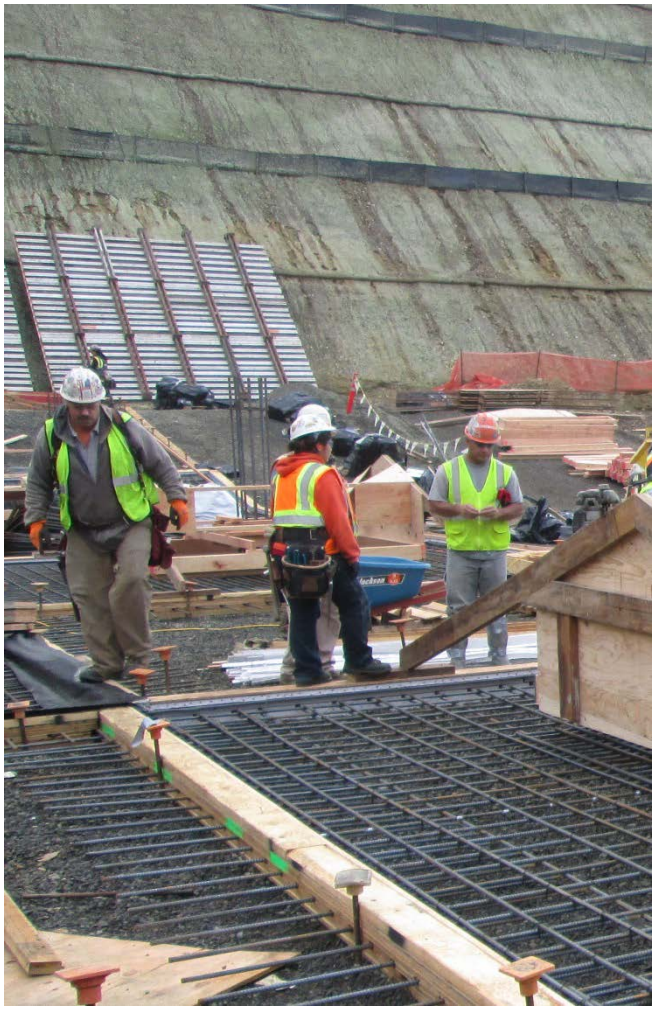
- Authorization of CM/GC – December 2012
- CM/GC RFP Issued – October 2013
- Pre-Construction Services - April 2014
  - $1,359,980
- Construction Services GMP – May 2016
  - $152,181,850
- Construction Starts - July 1, 2016
- Construction Completed – FY 2023-24

Community Benefits Plan Goals

- D/M/W/ESB Subcontractor Utilization
  - 22% of Hard Construction Costs
  - (12% Minority, 5% Women, 5% ESB)
- Apprentice Workers
  - 31% workforce diversity goal
  - (22% Minority, 9% Women)
- Journey Workers
  - 28% workforce diversity goal
  - (22% Minority, 6% Women)

Community Benefits Ordinance

- Approximately $1.14 million
- Up to 75% to training and support for workforce
  - Opportunities for community through pre-apprenticeship programs and community based organizations
  - Recruitment, training, and hiring of qualified, diverse workforce
  - Technical assistance and support for individual workers
- 25% to D/M/W/ESB subcontractor
  - Assistance to secure bonding and business support
  - Technical assistance, training, outreach, and recruitment



Community Benefits Plan Development

- City staff – City Attorneys, Procurement, PWB
- Community Representatives
  - MAWE
  - Carpenters' Union
  - Building Trades
  - Work Systems Inc.
- Over a period of 2 months

Questions?