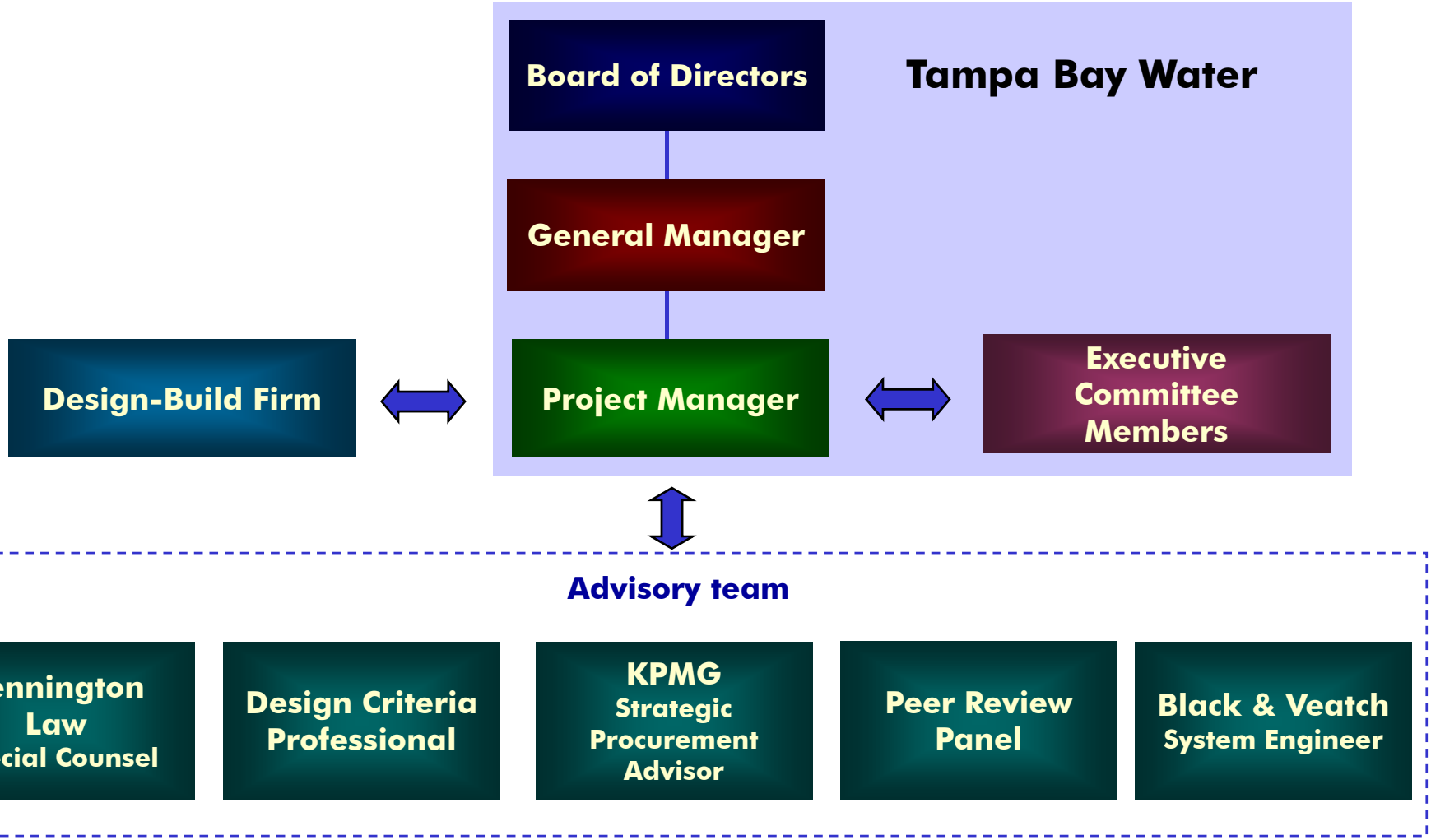
C.W. Bill Young Regional Reservoir Renovation Project

Industry Briefing
April 9, 2010

Tampa Bay Water Team With You Today

- **Jerry Seeber, General Manager**
- **Rick Lotspeich, General Counsel**
- **Koni Cassini, Director of Finance and Administration**
- **Jon Kennedy, Reservoir Renovation Project Manager**
- **Mandi Rice, Construction Manager**
- **Janice Swenson, Facility Engineer**
- **Michelle Rapp, Public Affairs Officer**

Renovation Project Team



Industry Briefing – Purpose

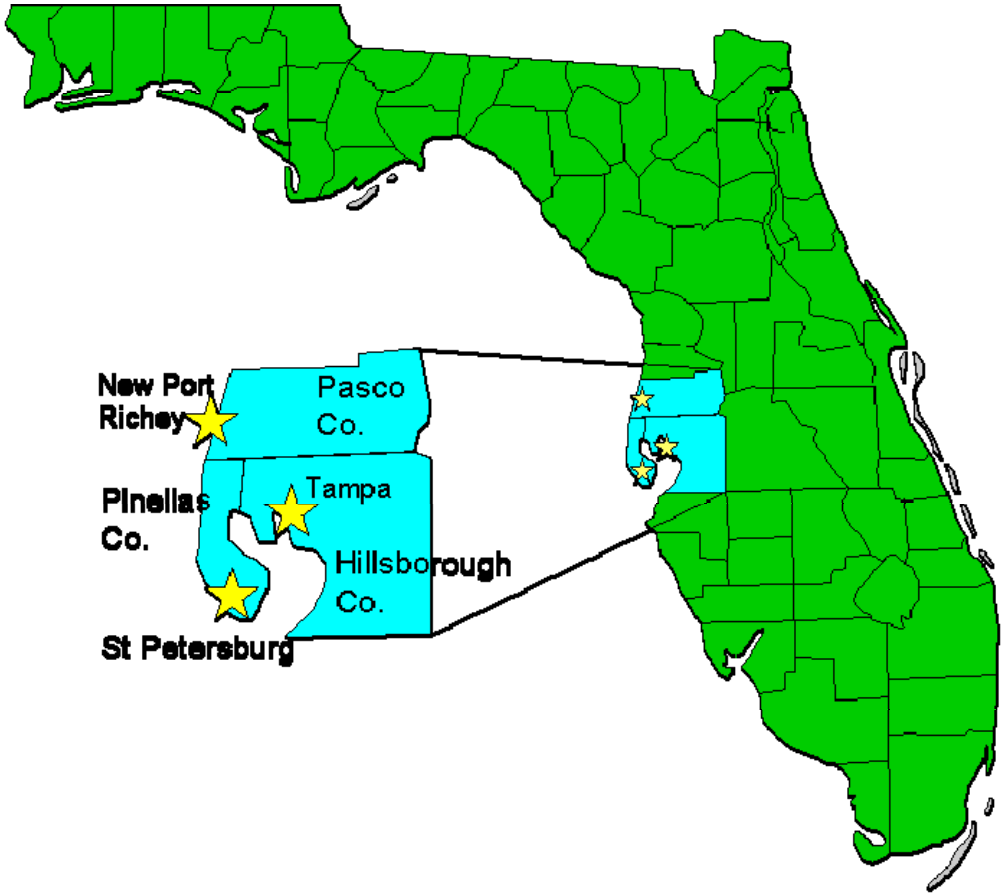
- **Introduce Tampa Bay Water**
  - Services provided, facilities and key staff
- **Present a new design/build opportunity**
  - Project background and objectives
  - Key events to date
  - Needs and contemplated solutions
- **Procurement options and process overview**
- **Proposed schedule**
- **Define next steps and answer questions**

Sole-Purpose, Special District

- **9-member Board of Directors**
  - 2 elected officials from each member county
  - 1 elected official from each member city
- **Special district of the state created by Interlocal Agreement among our member governments**
- **Non-taxing agency; revenues from wholesale water rate**
- **Operate a "take or pay" monopoly to the 6 member governments**
- **$164 million operating budget**
- **AA credit rating**

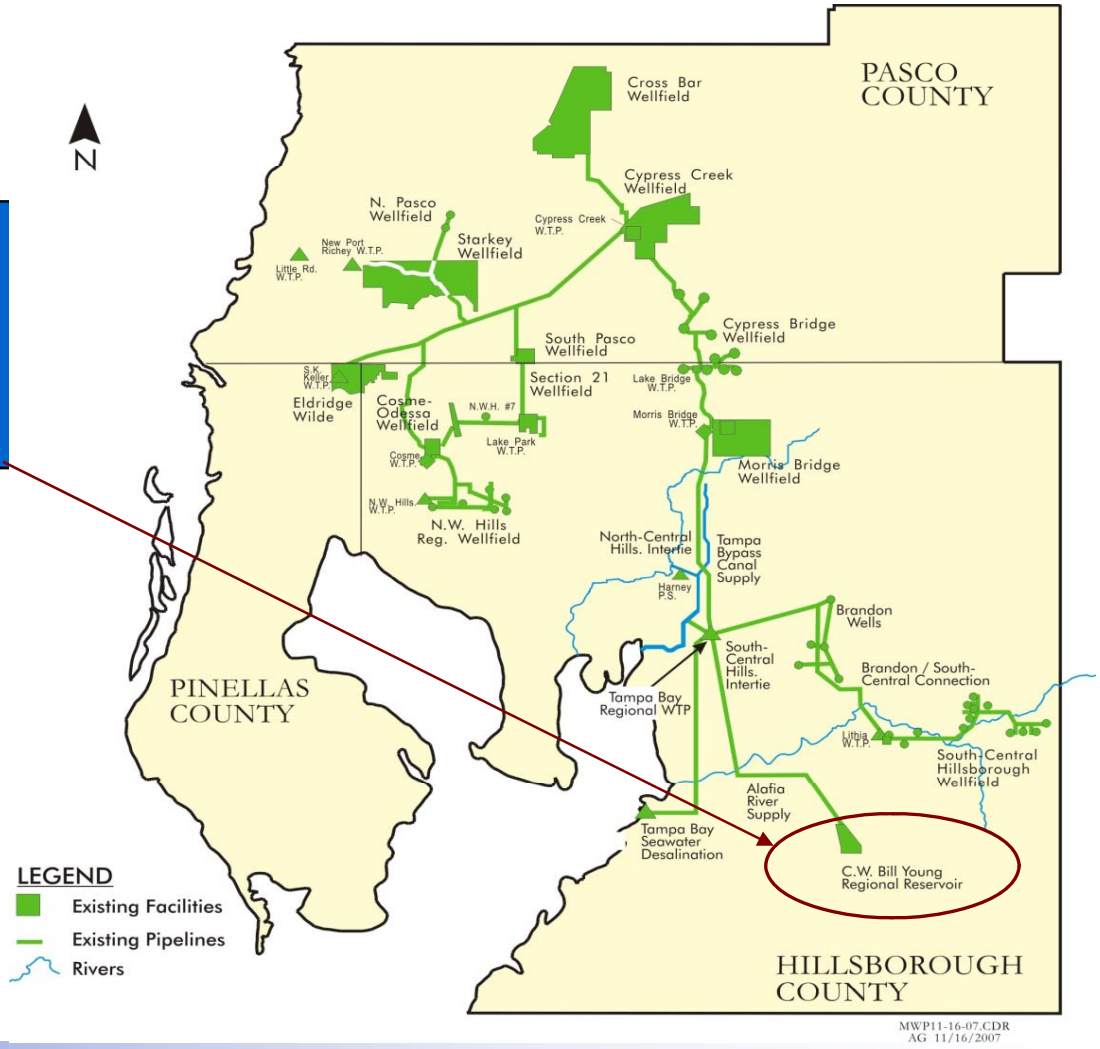
Who We Are

- **Regional wholesale drinking water supplier**
  - 6 member governments
  - 2,000 square mile service area
  - Serving 2.5 million people
  - 160-180 million gallons per day
  - Three water sources:
    - Groundwater
    - Surface water
    - Desalinated seawater



Reservoir is Essential Part of Regional System

Reservoir is region's 15.5 billion gallon water savings account

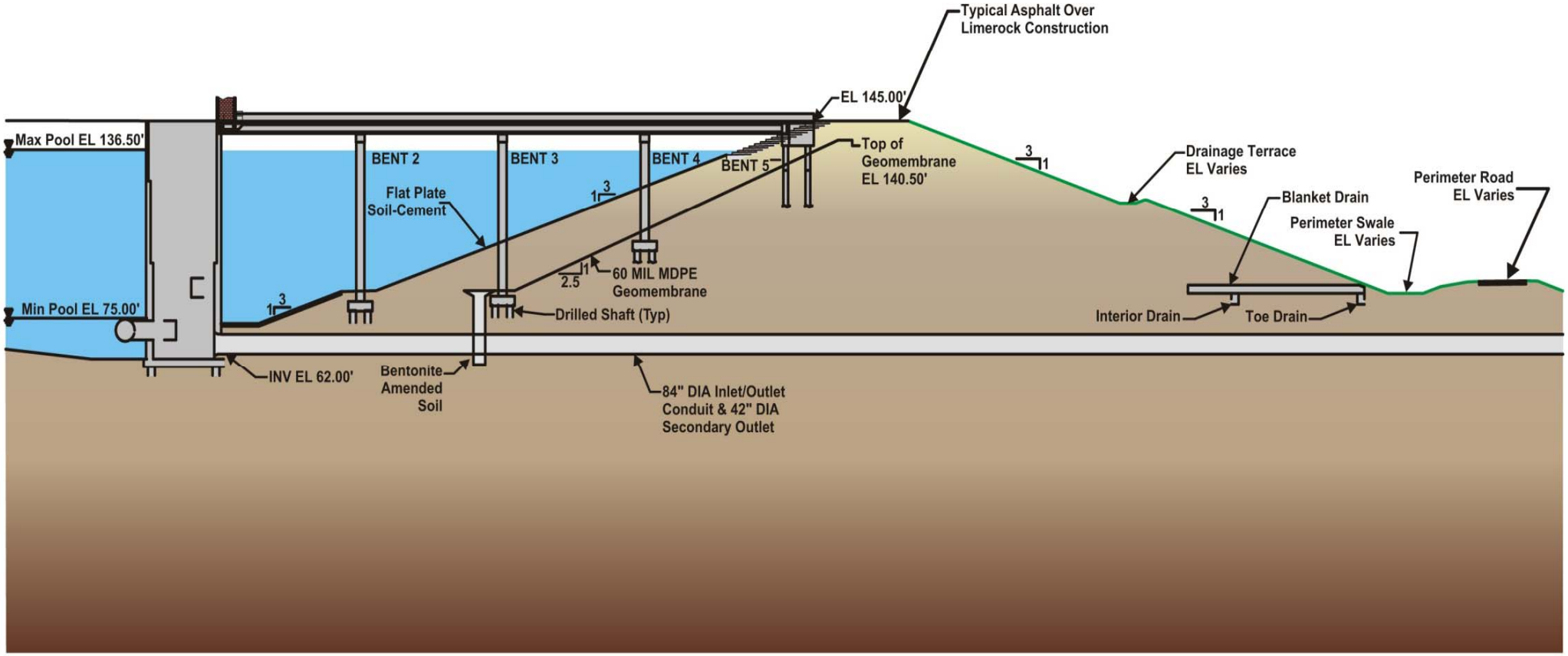


Reservoir Facts

- **15.5 billion gallons storage capacity**
  - Above ground
  - Pumped storage
  - Off stream
- **Located in southeastern Hillsborough County**
- **Essential part of Tampa Bay Water's Enhanced Surface Water System**
- **Supplies water to surface water treatment plant**

Cross-Section at Water Control Structure and Bridge

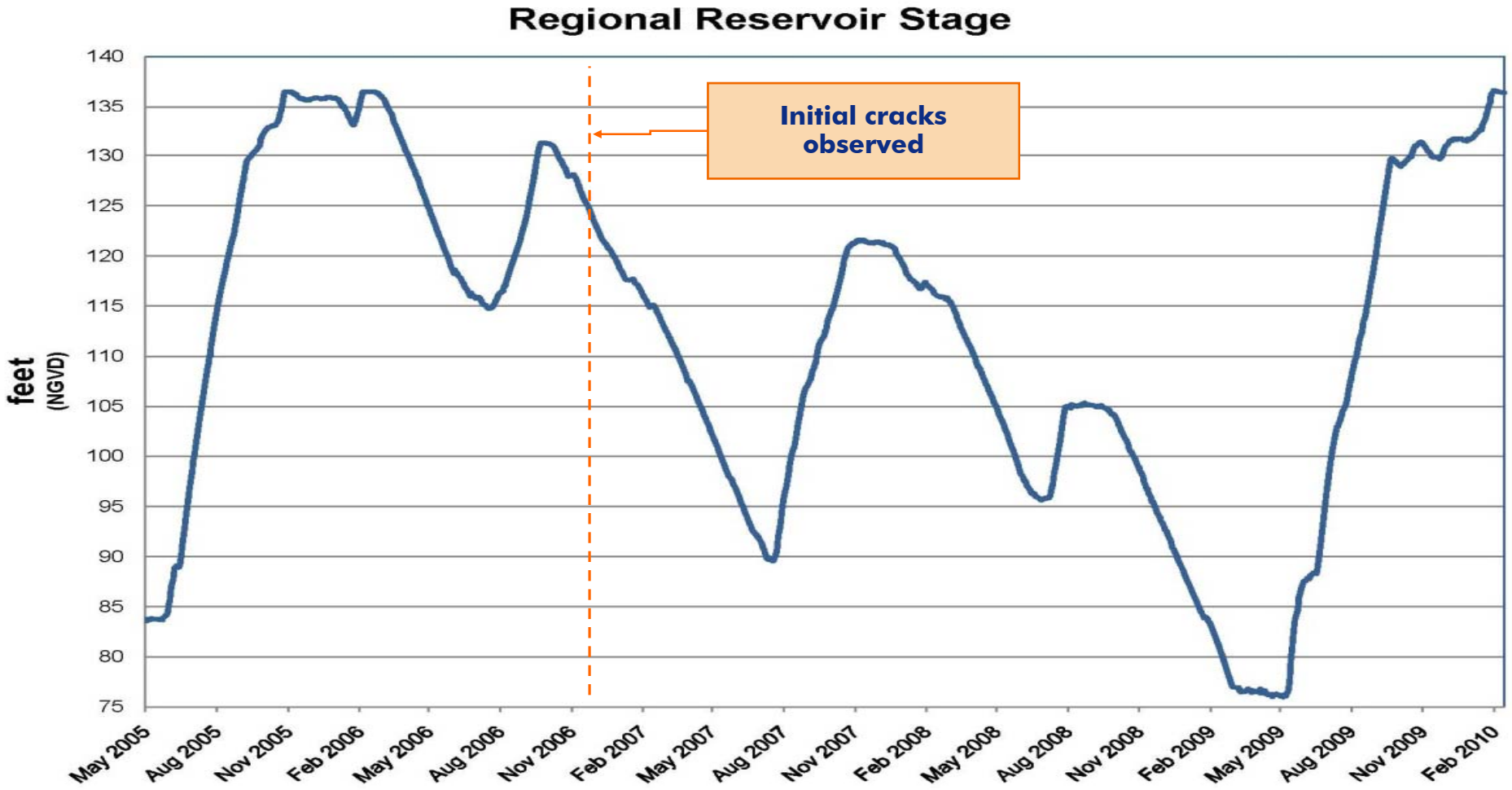
- **Earthen embankment - 300-feet wide at its base**
- **Geomembrane and soil-bentonite (clay) cutoff wall**
- **Upstream erosion control layer is flat-plate soil cement**



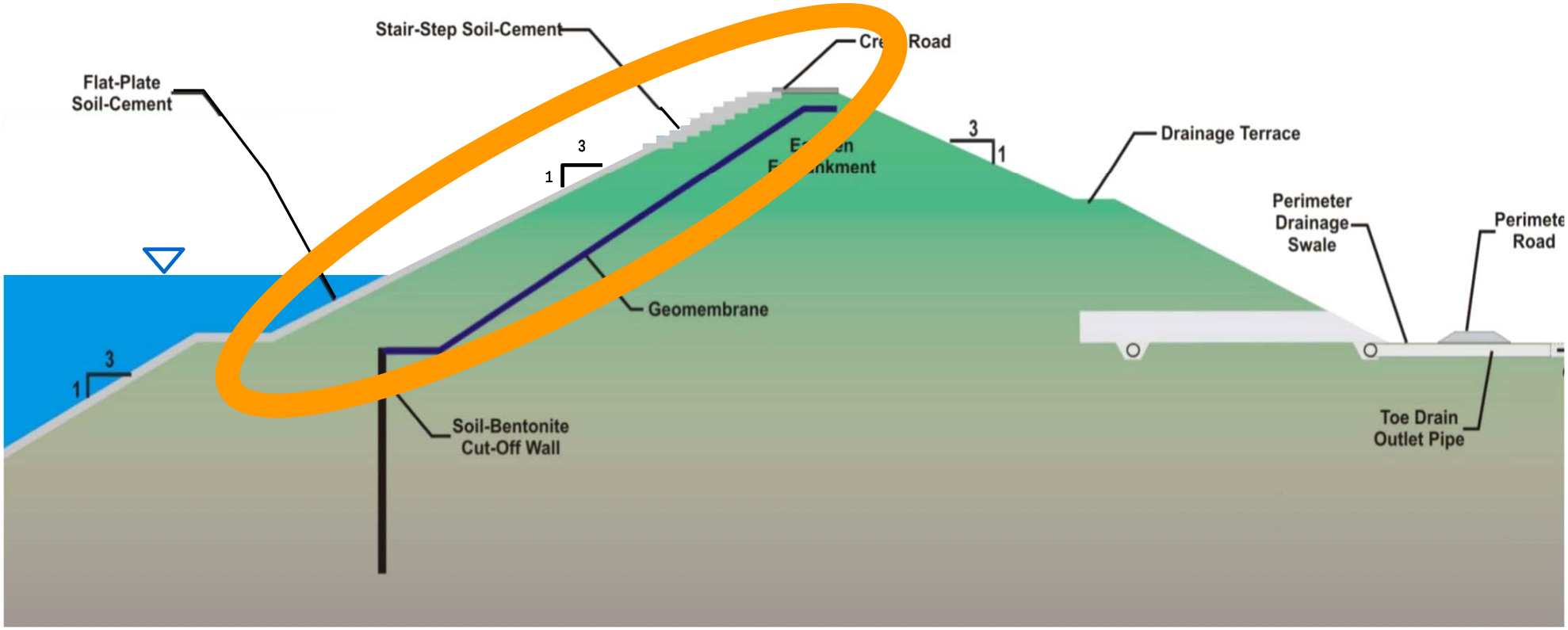
Reservoir Project History

- **Original construction 2003–2004**
- **Operational June 2005; full November 2005**
- **Larger-than-expected cracks in soil cement observed in December 2006 during 2nd drawdown cycle**
- **Monitoring and studies began January 2007**
- **More than 75 studies completed to date**
- **Spring 2009 – Extensive short-term repair program began**

Reservoir Operations

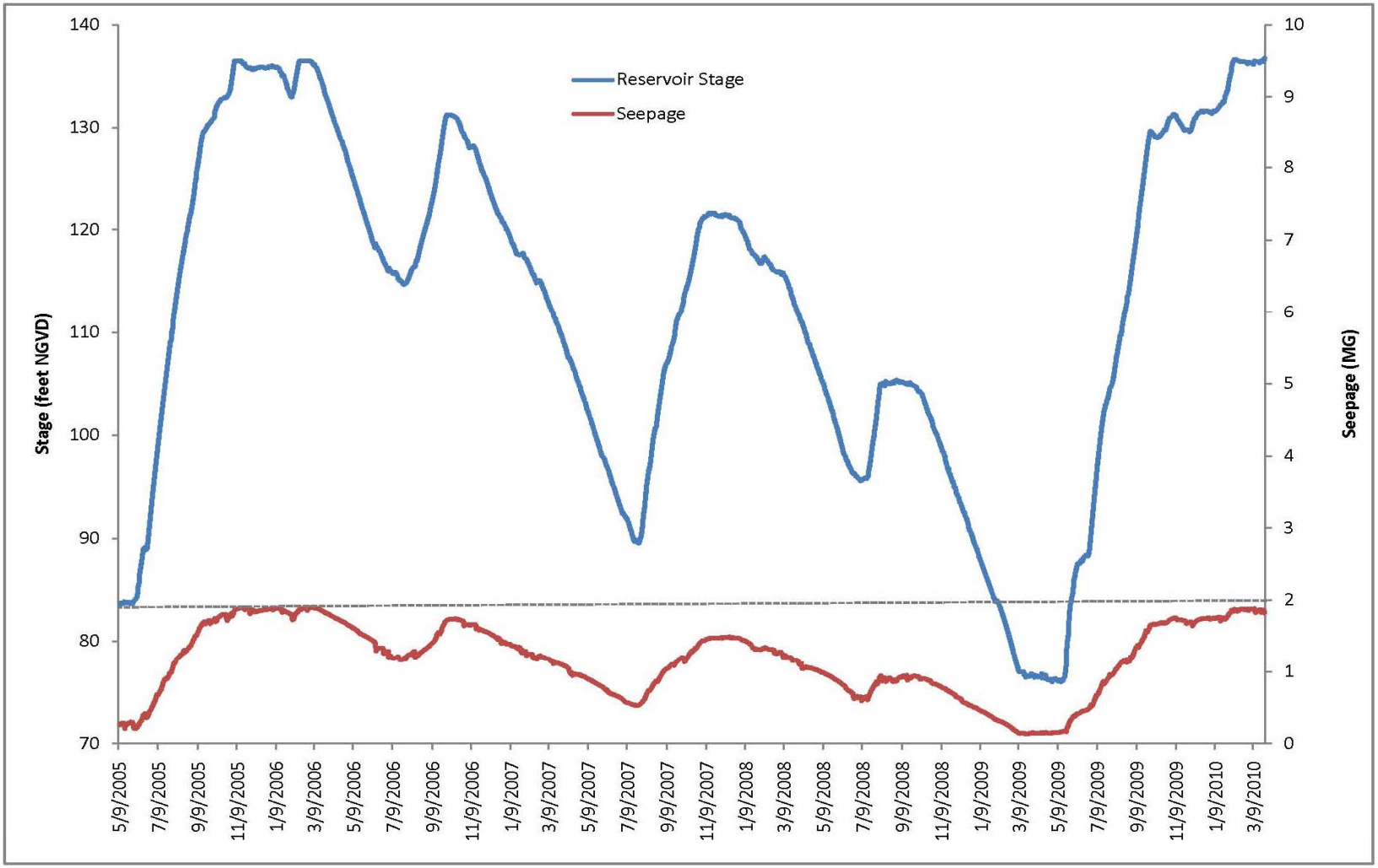


Cracking Appeared in Soil-Cement, Erosion-Control Layer



Soil Cement Cracking

Estimated Seepage Less Than 2MGD

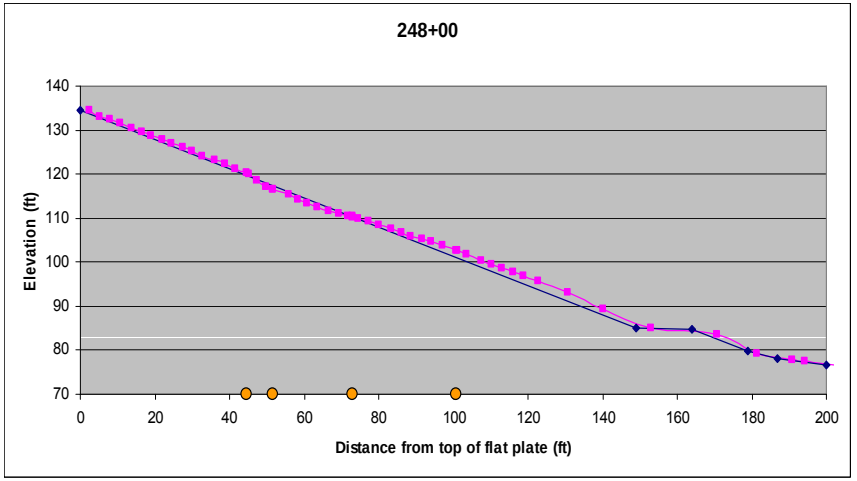


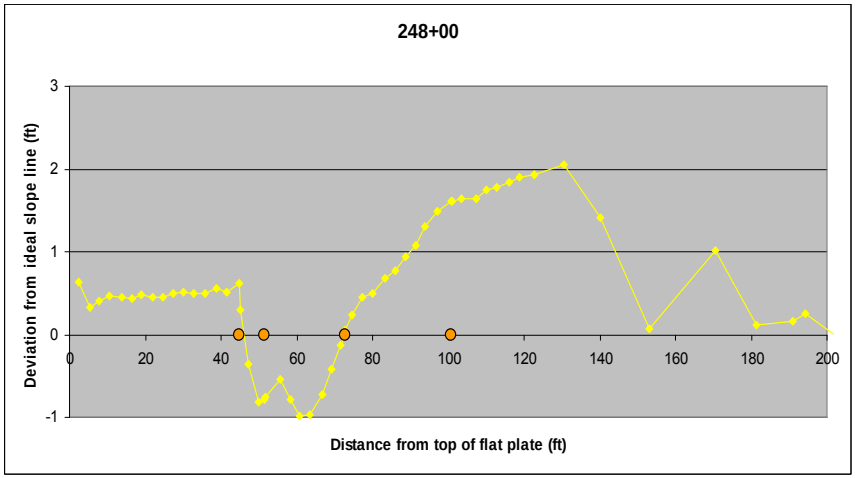
Comprehensive Data Collection to Determine Cause of Cracking

- **Embankment transect surveys**
- **Test pits**
- **Supplemental drilling and testing**
- **Instrumentation**
  - Piezometers
  - Inclinometers
  - Extensometers
- **Visual observations**

Embankment Transect Survey Results

- **Geometry of the slope differs from the as-designed slope**
- **Corresponds to areas with significant cracking**
- **Lower at higher elevations and higher at points lower on the slope**





Test Pits Were Used to Investigate Areas with Varying Degrees of Damage

- **Investigated the variability of gradation and permeability of soil wedge**
- **Evidence of movement**
- **Shearing and disturbance in soil wedge**

Supplemental Drilling and Testing Observations

- **No observed trends between heavily and less damaged areas**
- **Heavily damaged and less damaged areas have similar percentages of smaller soil particles**
- **Permeability decreases with increasing percentages of smaller soil particles**
- **Permeability impacts build up of pore pressure**

Piezometers

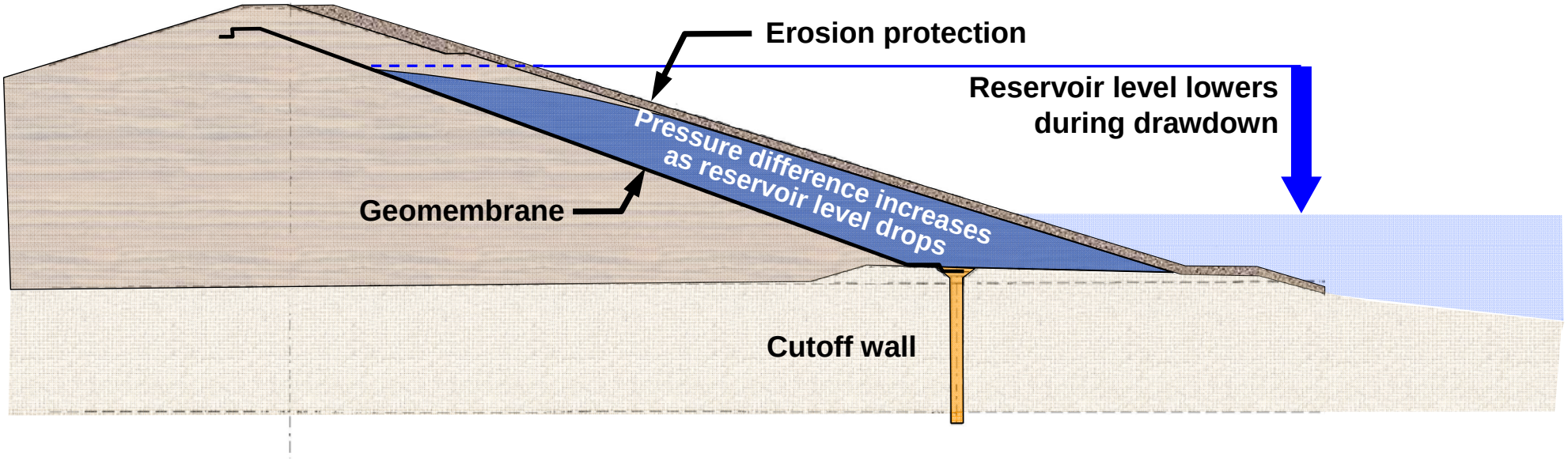
Purpose:

- **Collect pore pressure data in soil wedge at varying depths (damaged and less damaged areas)**
- **Evaluate response to fill and drawdown cycles**

Observations:

- **Soil wedge is not draining at same rate as reservoir stage**
- **Excess net pressures are increasing as reservoir stage declines**

Excess Pore Pressure in Soil Wedge Causing Cracking



Solutions Sought for Soil Cement Cracking

- **Short-term Repair Program**
  - Completed repair of known cracks
  - Repair will continue on as-needed basis to fully operate until renovation work begins
- **Long-term Fix**
  - Required to fully restore the facility for its intended use
  - Additional details are discussed in the next phase of our presentation

C.W. Bill Young Regional Reservoir Renovation Project Overview

Renovation Project Objectives

- **Procurement process –** The Agency must ensure that the procurement process is fair, transparent and highly competitive, and communicates clearly with all stakeholders.
- **Reliability –** The selected solution (including the design and the contracting approach) must provide the Agency with the highest possible certainty of success over the long term.
- **Performance –** The solution must meet the long term performance requirements and may incorporate certain betterments (e.g., added storage capacity, enhanced monitoring).
- **Cost –** The renovation must be completed in a manner that provides the lowest lifecycle cost to the Agency with the highest possible certainty of success.
- **Schedule –** The renovation should be completed in a timely manner.
- **Risk –** The Agency must protect the public's long term investment in the facility.

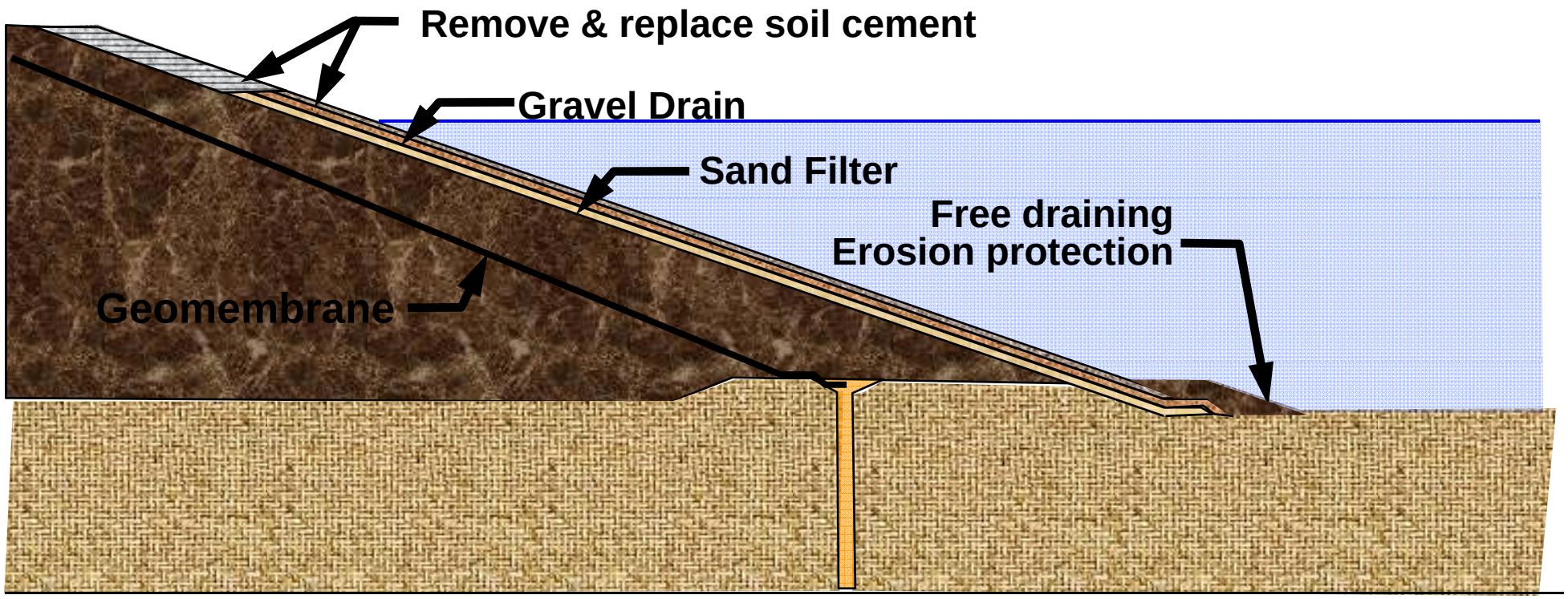
Reservoir Renovation Project Must Result in Fully-Functional Operation

- **Reliable erosion control is necessary**
- **Current surface water system yields 60 million gallons per day (mgd)**
- **Properly functioning reservoir increases surface water system yield to 85 mgd**
  - Renovation to correct the existing deficiencies is cost-effective alternative to building a new desalination facility.
  - Possibility to increase facility capacity as part of the Renovation Project is under study

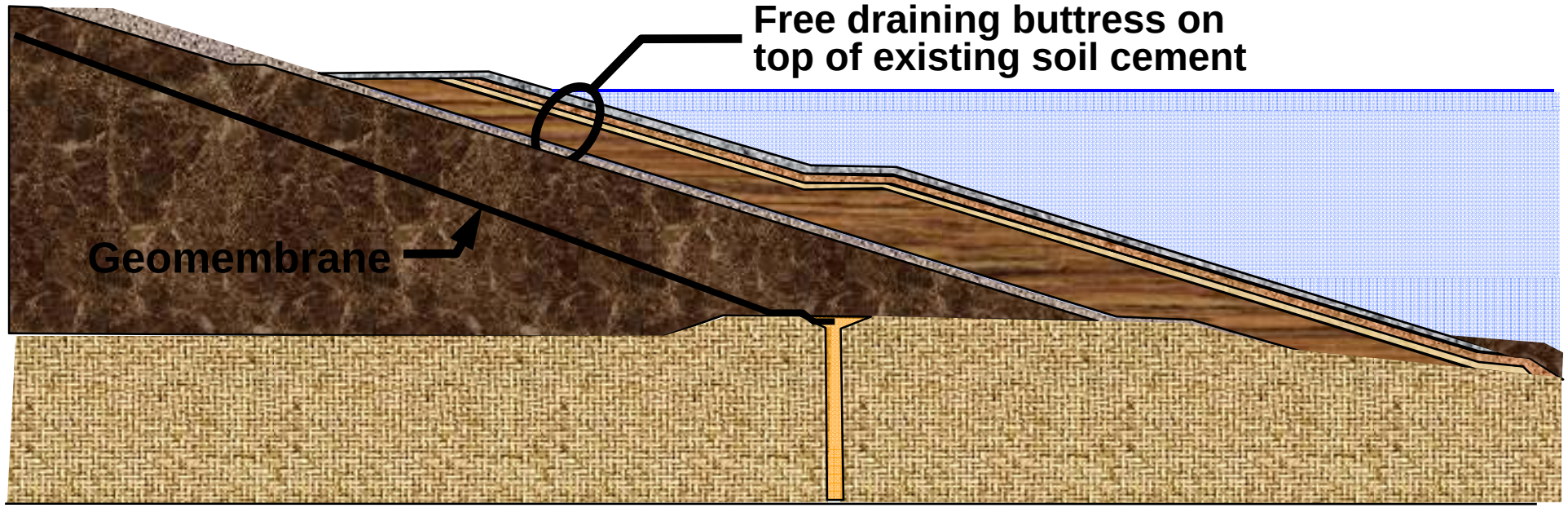
3 Basic Approaches to Fixing the Reservoir Identified From Studies

- **Three basic approaches identified:**
  - Add drainage to the soil wedge
  - Add weight on top of the soil wedge
  - Remove soil wedge
- **Agency welcomes and will consider other approaches**
- **Whole solution needed**
- **Wet or dry reservoir fixes will be considered**

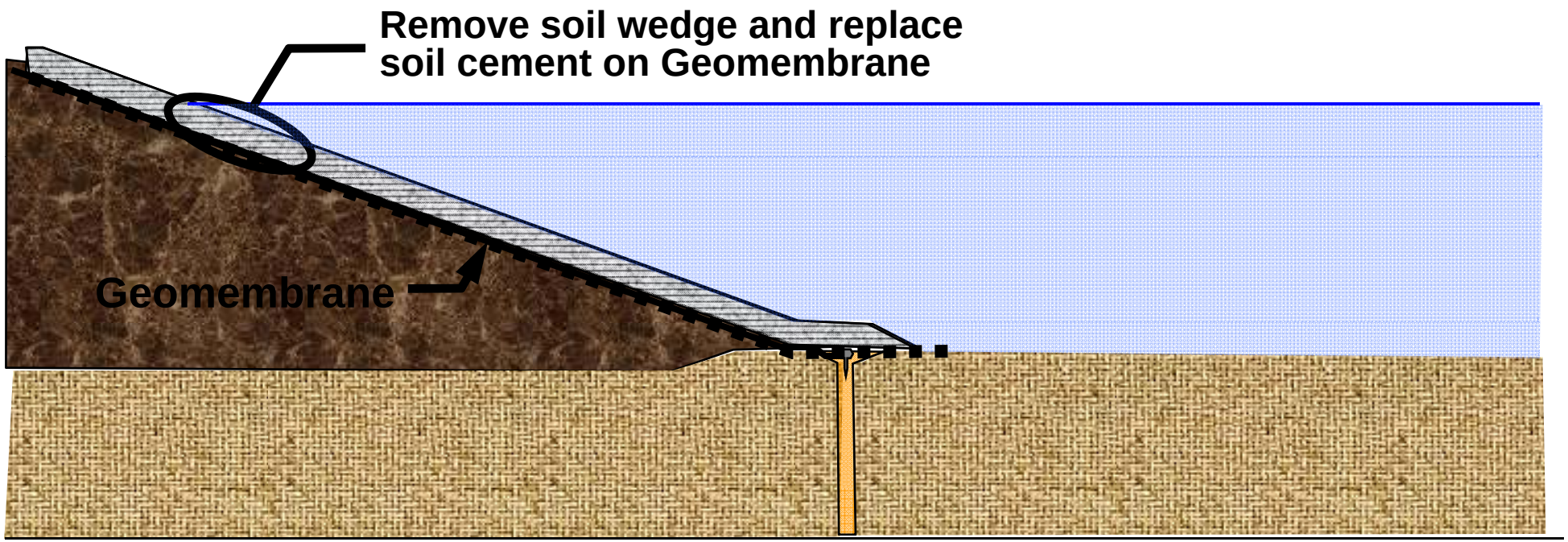
Add Drainage to the Soil Wedge



Add Weight on Top of the Soil Wedge



Remove Soil Wedge



Reservoir Renovation Project
Procurement Process Overview

Procurement Process Overview

- **Two-step process**
  - Request for Design-Builder Qualifications
    - Financial, technical and performance capabilities
  - Request for Proposals
    - Design concept(s) and technical approach
    - Price proposals
- **Design-Build-Maintain**
  - Industry standard performance security package
  - Facility maintenance during a defined post-construction period
  - May explore short-term contractor financing

Design-Build-Maintain With or Without Financing

- **Same as Design-Build, but also requires the contractor to take fixed price responsibility for facility maintenance during a defined post-construction period**
- **Developer responsibilities:**
  - Design
  - Scheduling
  - Construction
  - Maintenance and upkeep during a defined post-construction period
    - Soil cement monitoring and maintenance
    - Landscaping
    - Permit compliance
    - Other
- **Financing by the Agency or developer or in combination**

Approach to Risk Allocation

- **Preliminary view of project risk allocation:**

Retained Risks:	Shared Risks:	Transferred Risks:
• Public Policy and Communication	• Permitting and Regulatory Approvals	• Project Cost and Schedule
• Procurement Process	• Geotech / Differing Site – Known Conditions	• Latent Defects – Known Conditions
• Geotech / Differing Site – Unknown Conditions	• Latent Defects – Unknown Conditions	• Design
• Agency Furnished Information	• Design Changes / Exception	• Permit Preparation
• Capacity Expansion	• Economic Factors	• Construction / Defects
• Change in Law / Requirements	• Force Majeure	• Site Contamination During Construction
• R/W and Utilities	• Financing?	• Performance
• Financing?		• Maintenance
		• Financing?

Key Project Elements

- **Permitting**
  - Working with permitting agencies to define requirements, level of effort required, and process
  - Procurement process and timeline will incorporate Florida Department of Environmental Protection (FDEP) requirements
  - Discussions with FDEP already underway
- **Property**
  - Project site is acquired
- **Funding**
  - Agency has access to capital
  - Rate impacts must be managed

Key Project Elements Continued

- **Performance and security package**
  - RFP will define performance requirements
  - Will balance cost against security requirements
  - Security package may include:
    - Performance & payment bonds
    - Letter of credits
    - Contractor financing
- **Latent defects**
  - Studies on existing structure, defects are well understood
  - Studies will be made available to bidders

Renovation Project – Progress to Date

- June 2009 the Board approved process for long-term fix
- Assembled project team and advisors
- December 2009 the Board approved the project's public policy objectives
- Assessing project risks and mitigations strategies
- Assessing procurement options to ensure lasting fix and project viability
- Exploring feasibility of enhanced coordination with Florida Department of Environmental Protection

Proposed Project Schedule

Activity / Key Milestone	Date
Industry Day / Briefing	April 9, 2010
Board Approval of Procurement Approach	April 19, 2010
Issue Request for Qualifications	June 2010
Receive RFQ Responses	July 2010
Approve Short List	October 2010
Issue Request for Proposals	November 2010
Receive Proposals	February 2011
Award Contract	May 2011
Notice to Proceed	Summer 2011

Note: For updates to the proposed project schedule, visit our Web site.

Process for Submitting Questions

- **Interested parties can submit their questions via e-mail or in writing to:**

Jonathan M. Kennedy, P.E.
Reservoir Renovation Project Manager
Tampa Bay Water
2575 Enterprise Road
Clearwater, FL 33763
Email: jkennedy@tampabaywater.org

- **The deadline for submitting questions is <u>Friday, April 16, 2010</u>**

- **Responses to questions received will be posted on the Agency Web site and provided to registered participants**

- **Your interaction with the Agency for this project is limited to the Project Manager**

Site Visit

- **Agency has arranged transportation for the site visit**
- **Bus will depart @ noon – Boxed lunches on bus**
- **Site visit from 1 to 2:30 p.m.**
- **Return to this location at 3:30 PM**
- **Follow up questions and answers**
- **Briefing session ends at 4:30 PM**

Reservoir Renovation Project
Questions & Answers Session