East Branch
Dam Safety Modification Project

PUBLIC INFORMATION MEETING

April 11, 2013

Johnsonburg, Pa

BUILDING STRONG®

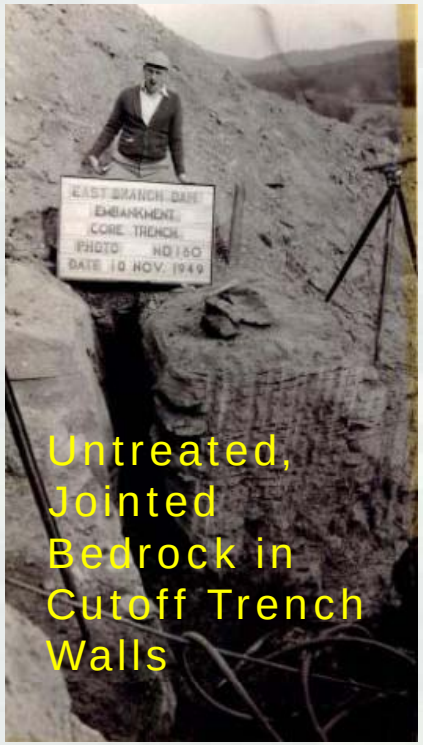
WHY WE ARE HERE

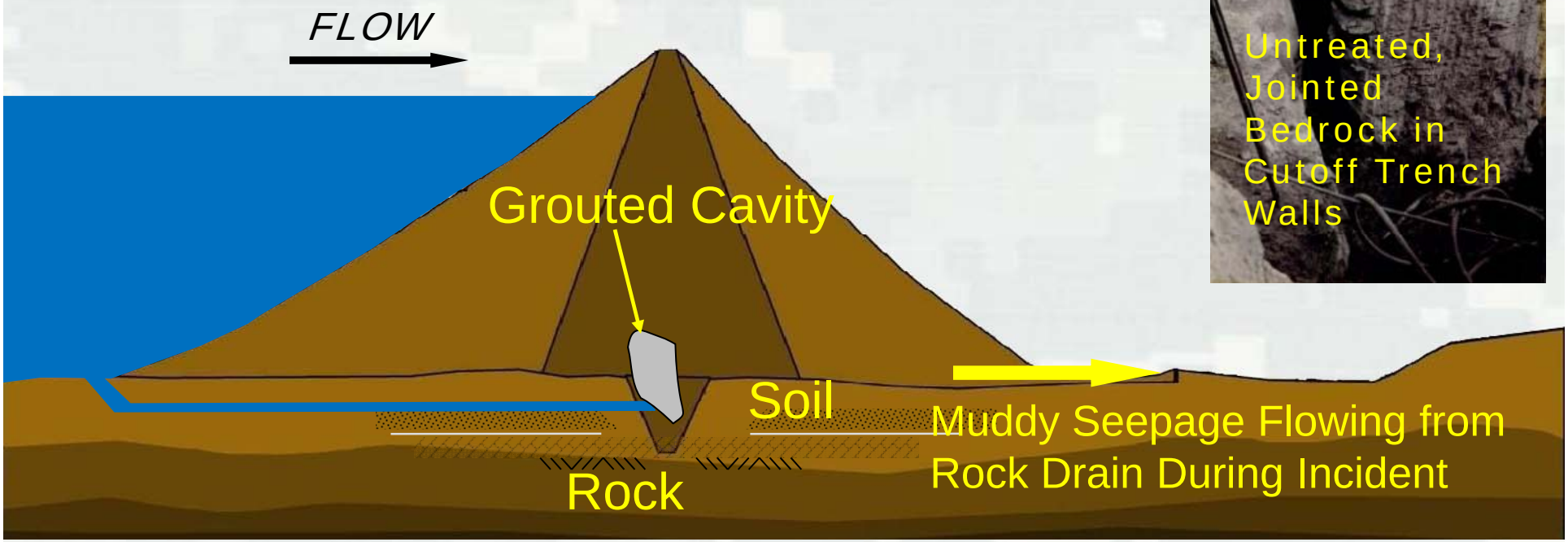
- Communicate actions to improve dam safety
  - What's The Problem
  - What's Been Done
  - The Way Ahead
  - Questions

WHAT'S THE PROBLEM

Risk of Internal Erosion

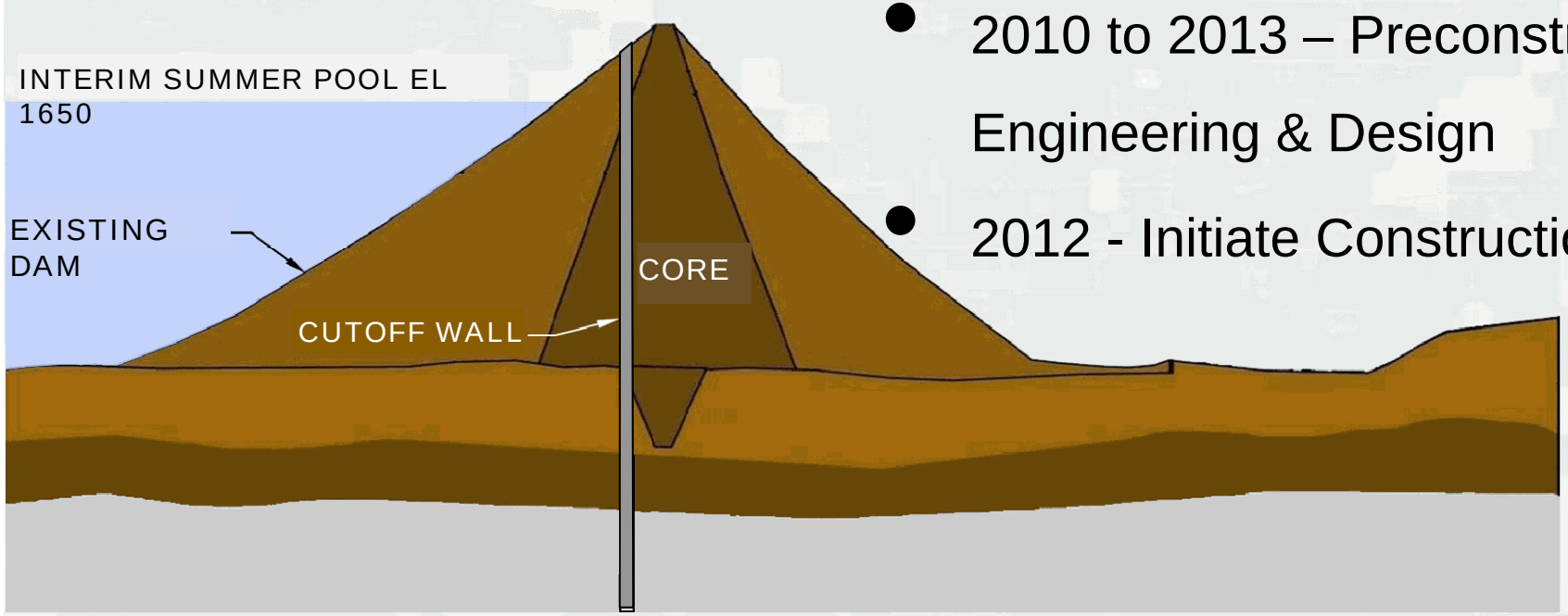
Dam failure averted in 1957, but risk for re-initiation of internal erosion remains.





WHAT'S BEEN DONE

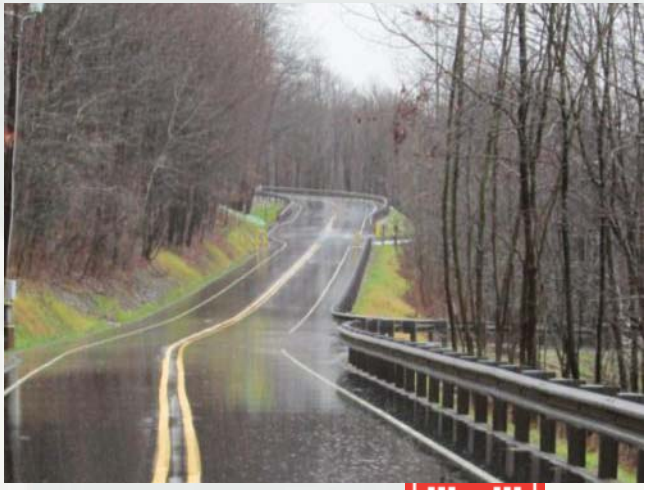
- 1957 to 2008 – Monitor Dam
- 2008 – Interim Risk Reduction
- 2008 to 2010 – Dam Safety Study
- 2010 to 2013 – Preconstruction, Engineering & Design
- 2012 - Initiate Construction



WHAT'S BEEN DONE

Construction - Site Development

- Sep 2011 – Award Site Development Contract
- Dec 2012 – Physically Complete
- Spring 2013 – Complete Punch List Items



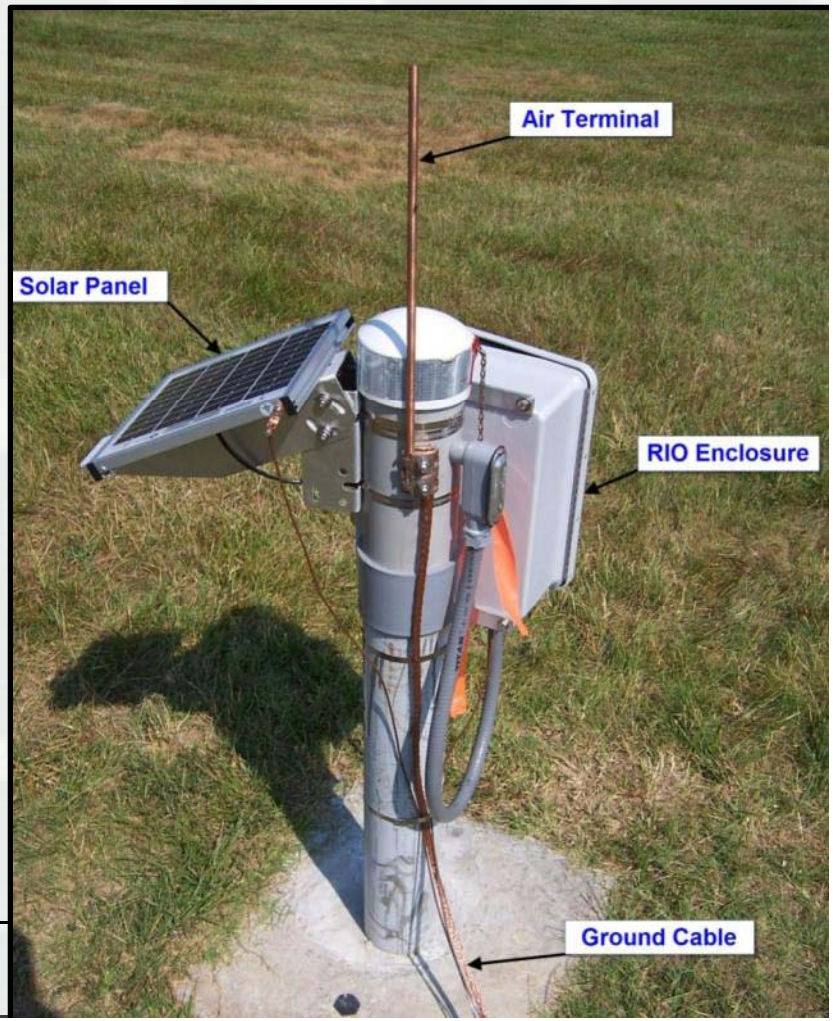
WHAT'S BEEN DONE

- Jul 2012 – 9 New Piezometers Installed
- Feb 2013 – Data Loggers Installation Complete
- Mar 2013 – Manual Data Collection Contract Initiated

THE WAY AHEAD

Instrumentation Automation

- Automate readings of:
  - water levels within the dam
  - movements within the dam
  - outflow parameters
- Installation this summer



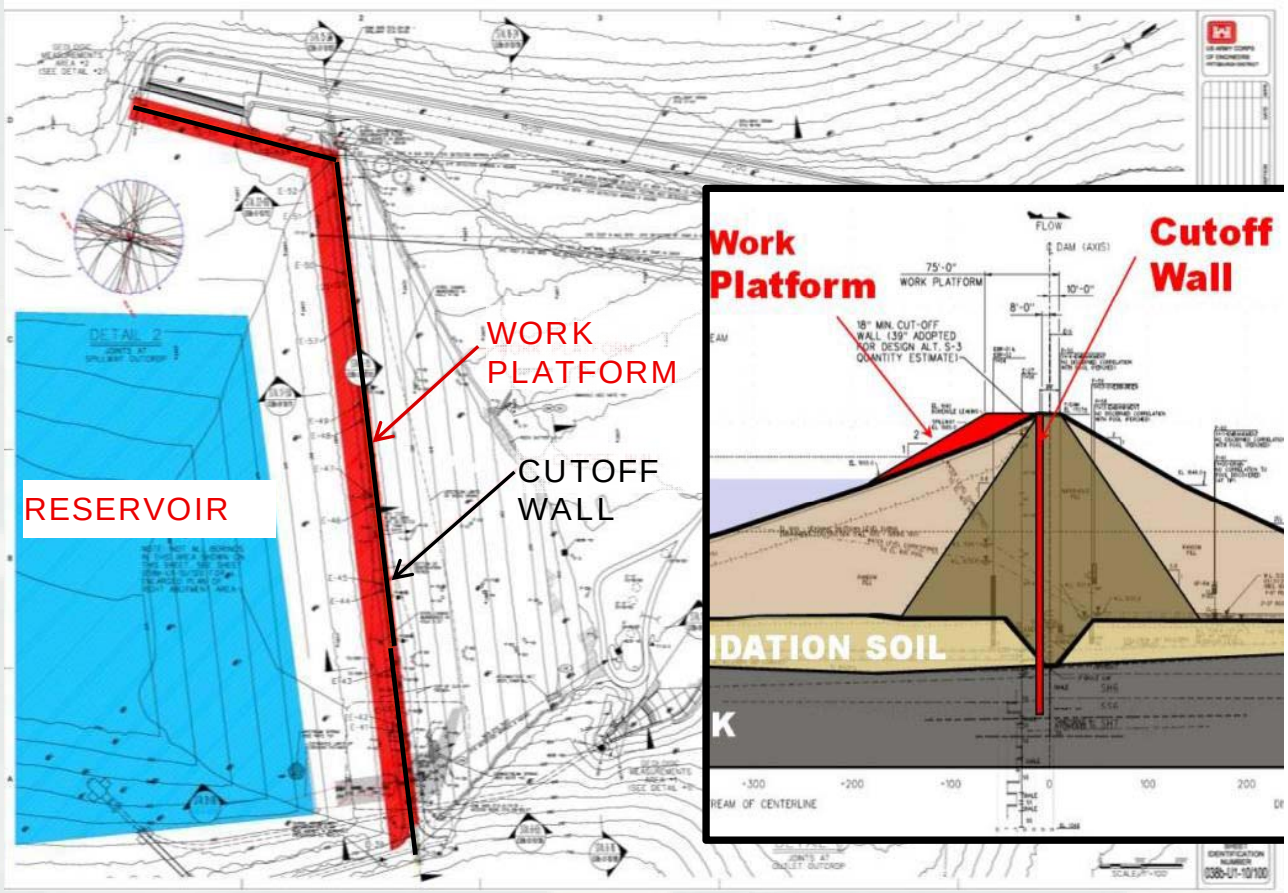
THE WAY AHEAD
New Office Building

- Sep 2012 – Award contract
- Apr 2013 – Break Ground
- 2013 – Construction complete

WHAT'S BEEN DONE

Cutoff Wall Design

- Sep 2012 – 95% Design complete for review
- Dec 2012 – Industry comments on draft contract documents
- Mar 2013 – Design reviews complete
- Apr 2013 – Submit contract documents for final review



WHAT'S BEEN DONE

Cutoff Wall Design

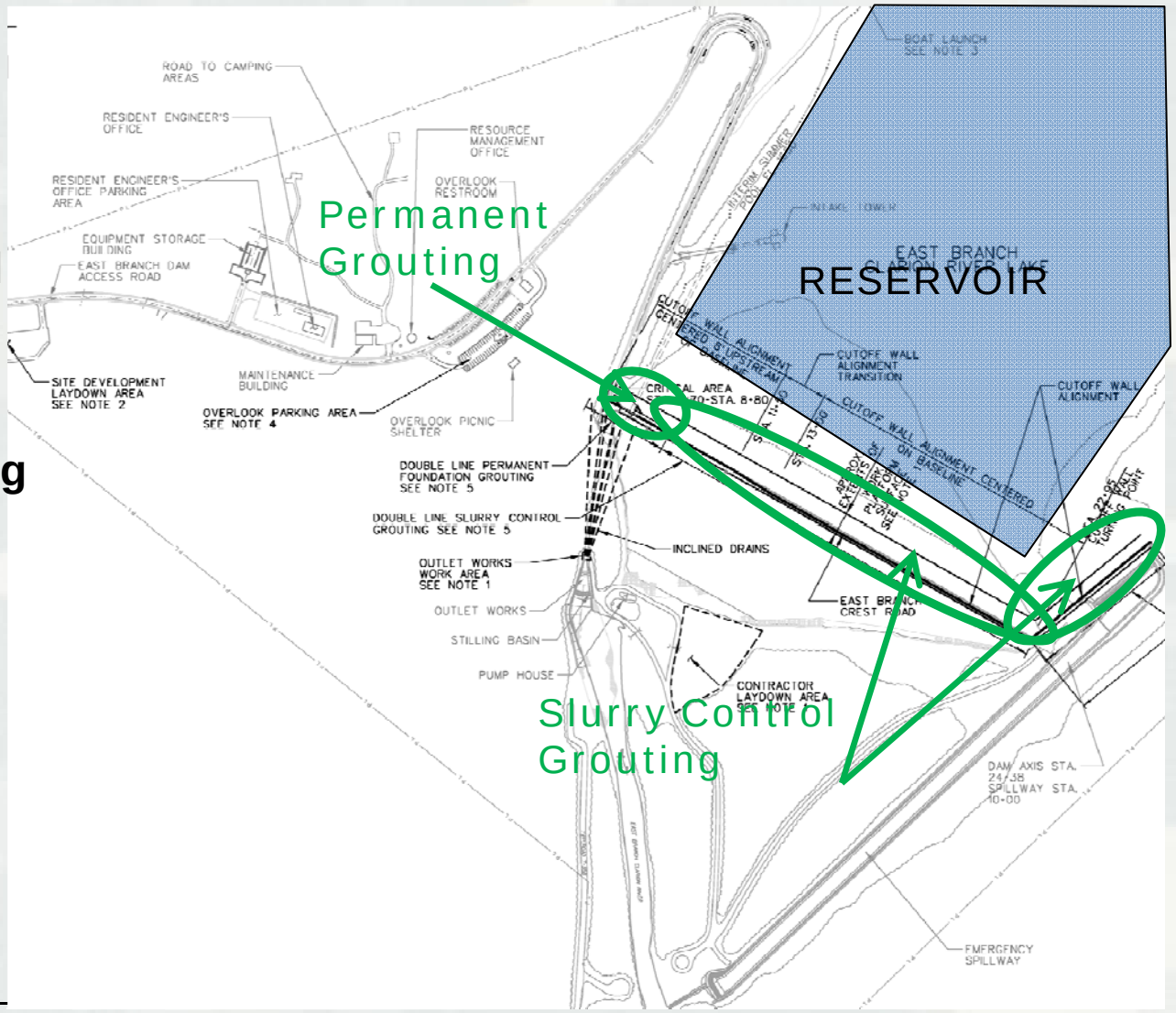
Work Platform Design

- Maximum Geometry
  - 100 ft maximum width
  - 30° maximum slope (Slope Stability)
- Concrete Paved Work Surface
- Borrow Area Suitability
  - Work platform requires higher quality material to ensure stability
  - Suitable material may be too deep

WHAT'S BEEN DONE

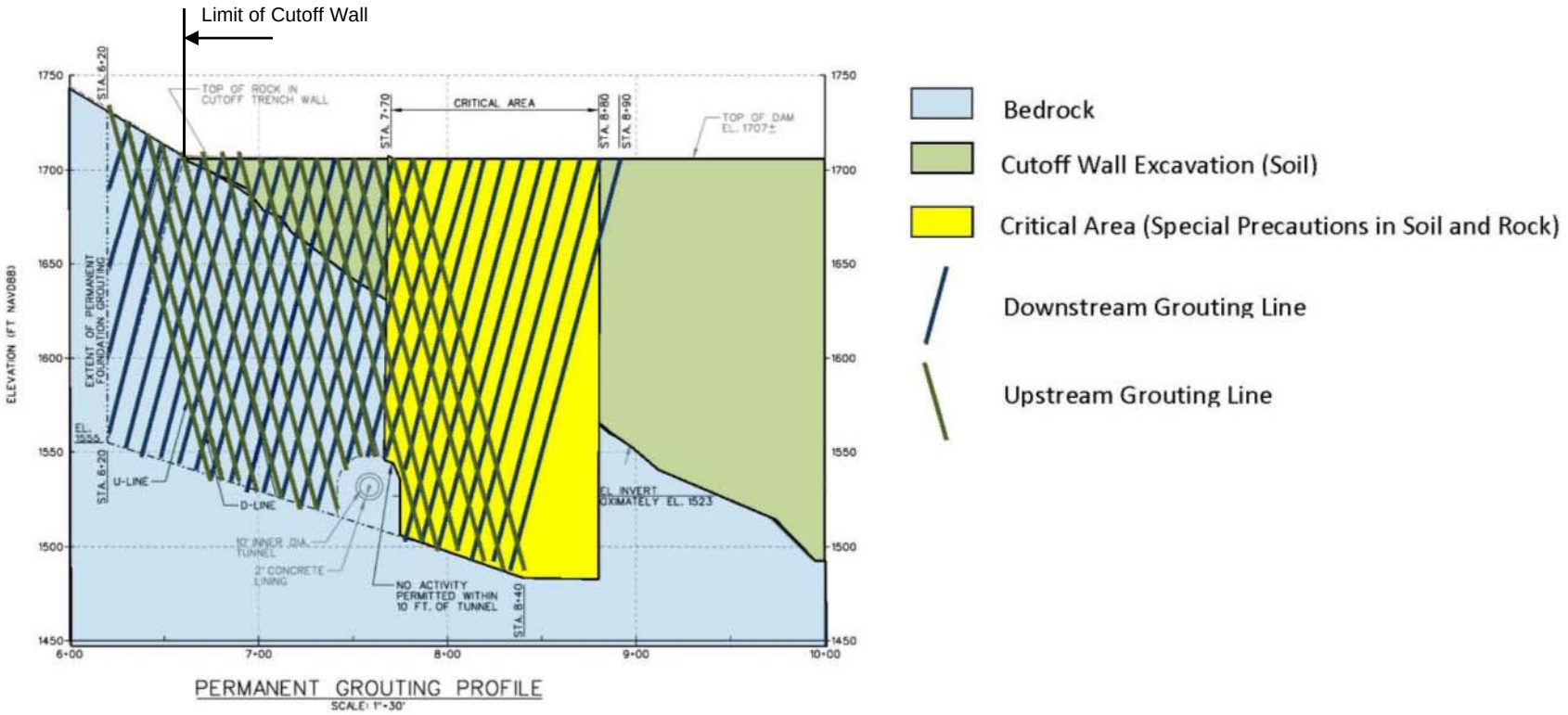
Grouting Design

- **Permanent Grouting** – in the right abutment to provide seepage control beyond the edge of the Cutoff Wall
- **Slurry Control Grouting** -Grouting along the remaining portion of the cutoff wall is to prevent loss of slurry and maintain excavation stability



WHAT'S BEEN DONE

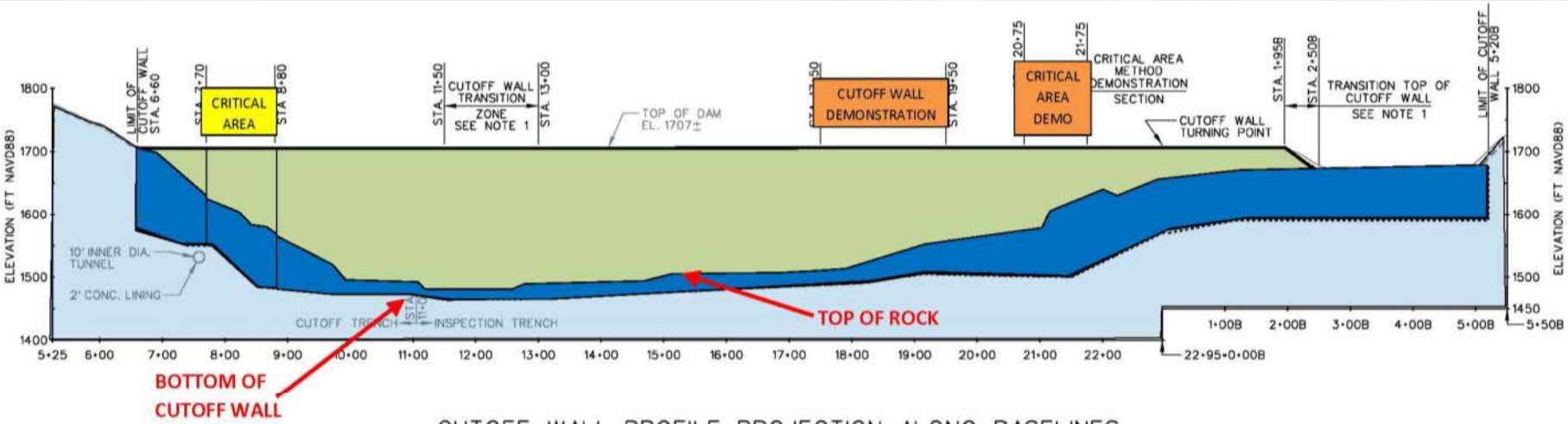
Grouting Design



Permanent Grouting Profile

WHAT'S BEEN DONE

Cutoff Wall Design



CUTOFF WALL PROFILE PROJECTION ALONG BASELINES

STA. 5+25 TO 22+95 AND STA. 0+00B TO 5+50B

(FACING UPSTREAM)
SCALE: 1"=100'

- Bedrock
- Cutoff Wall Excavation (Soil)
- Cutoff Wall Excavation (Rock)
- Critical Area (Special Precautions in Soil and Rock)
- Demonstration Sections

THE WAY AHEAD

Cutoff Wall Construction

- Spring 2013
  - Final review & approval of contract documents
  - Advertise cutoff wall contract
- Summer 2013 – Receive Proposals
- Fall 2013 – Award cutoff wall contract
- 2018 Construction Completion
  - No Bid Protests
  - Public, Environmental, and Dam Safety
  - Contractor Performance
  - Weather
  - Funding

Reverse Circulation Drill

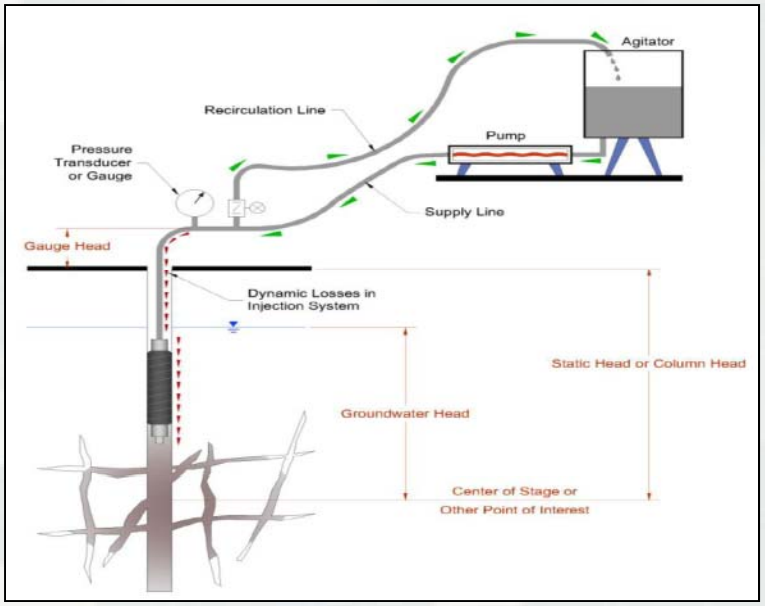
Hydromill

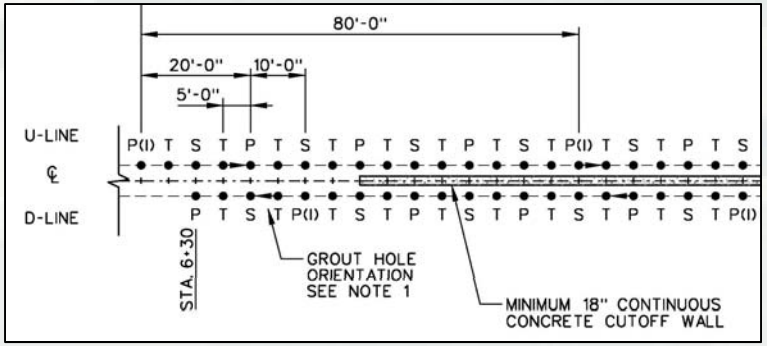
THE WAY AHEAD

Cutoff Wall Construction

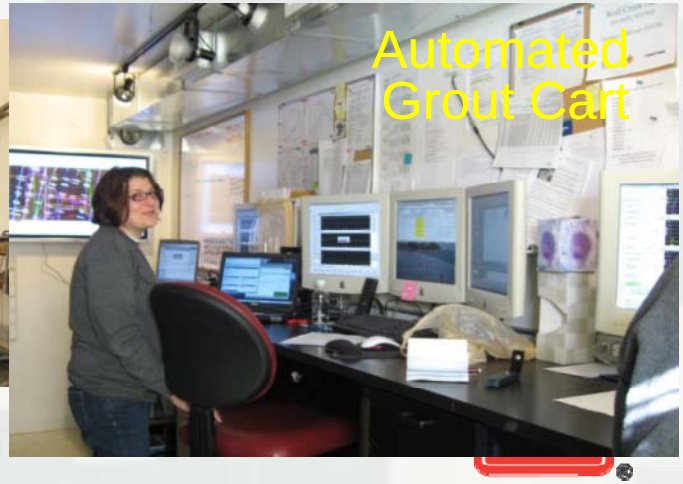
Grouting Techniques

Technique Schematic

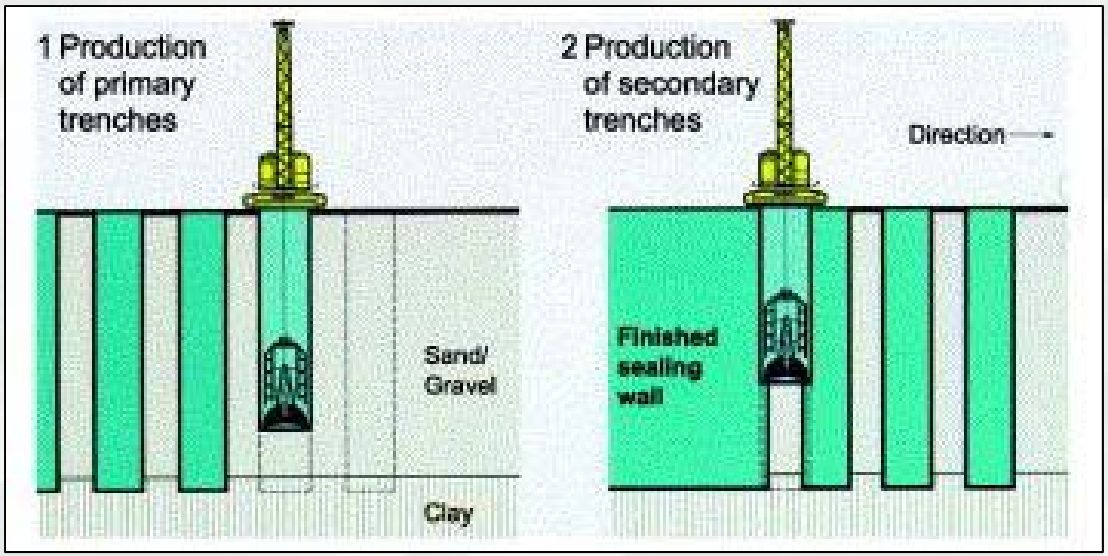




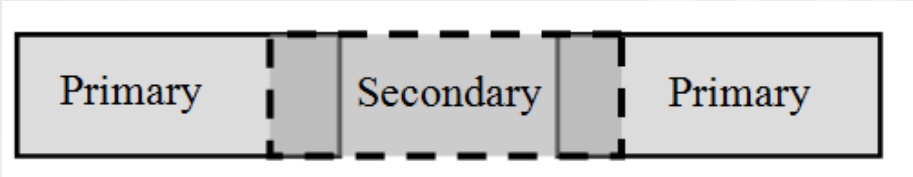
Overhead View



THE WAY AHEAD
Cutoff Wall Construction
Cutoff Wall Techniques

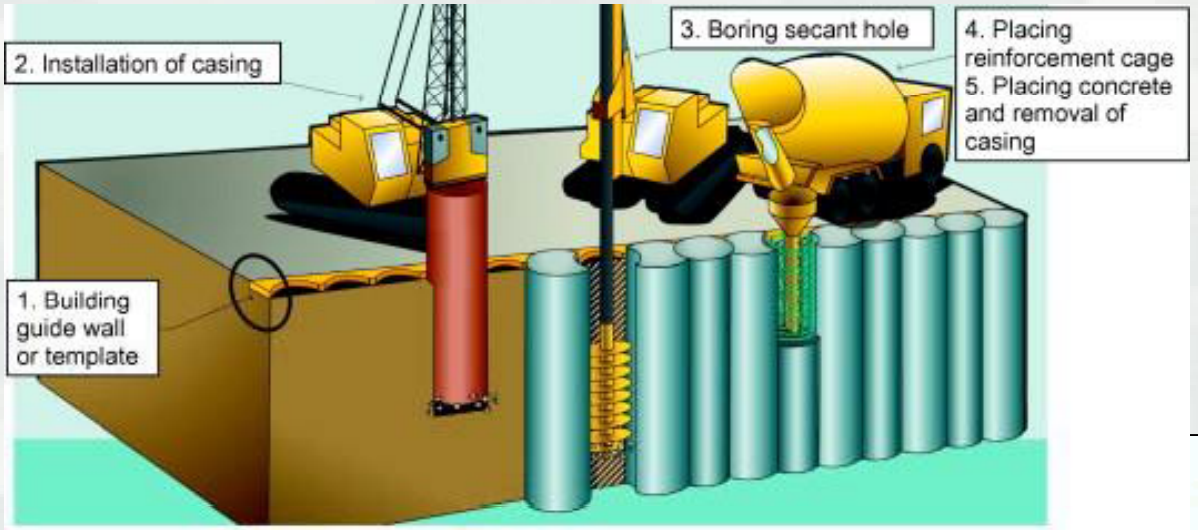


Hydromill

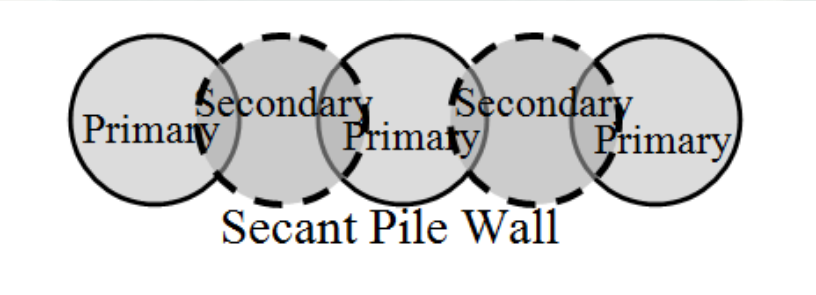


Overhead View

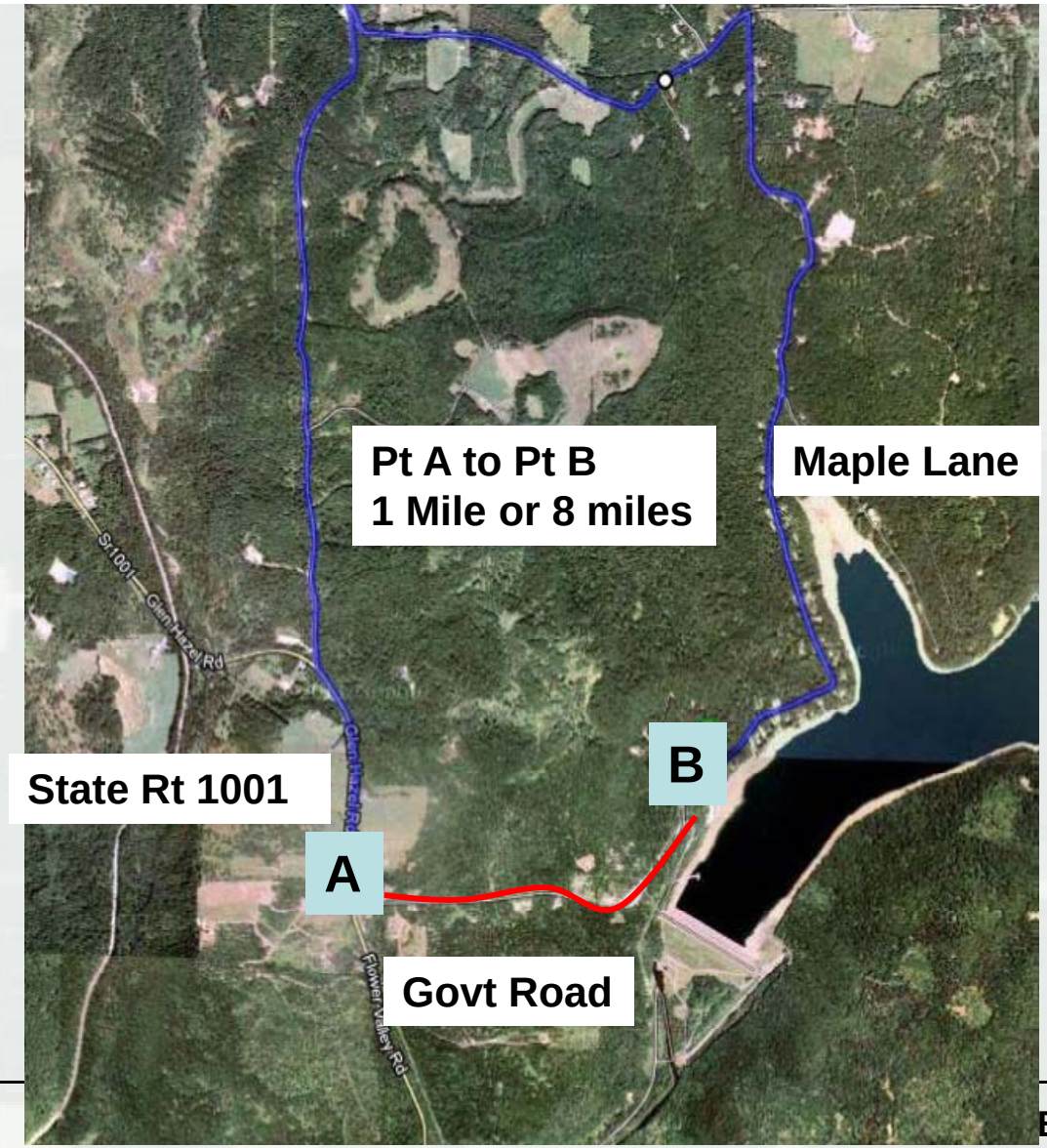
THE WAY AHEAD
Cutoff Wall Construction
Cutoff Wall Techniques



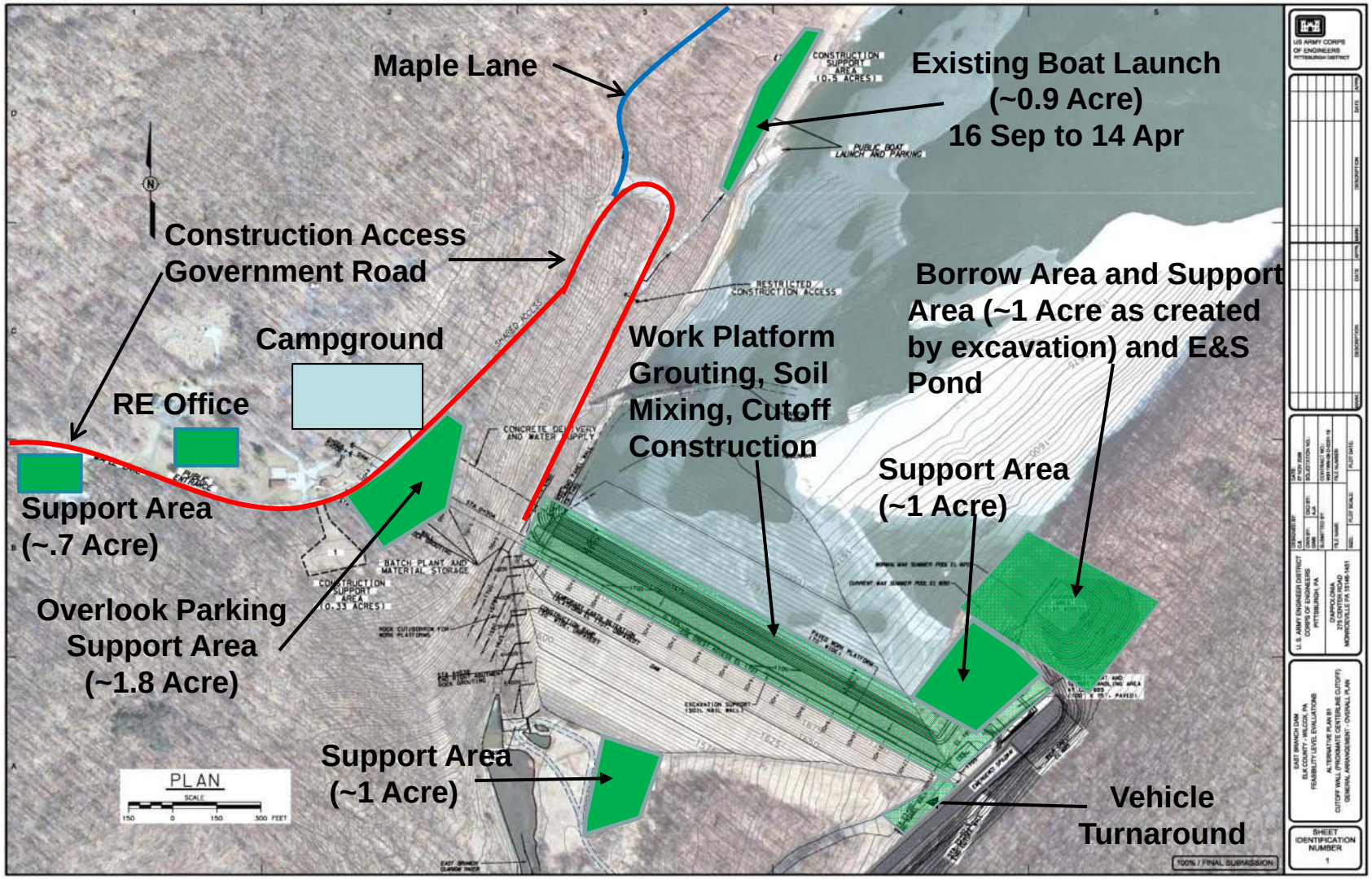
Secant Pile Wall



THE WAY AHEAD
Cutoff Wall Construction
Access to Maple Lane



THE WAY AHEAD
Cutoff Wall Construction
Support Areas



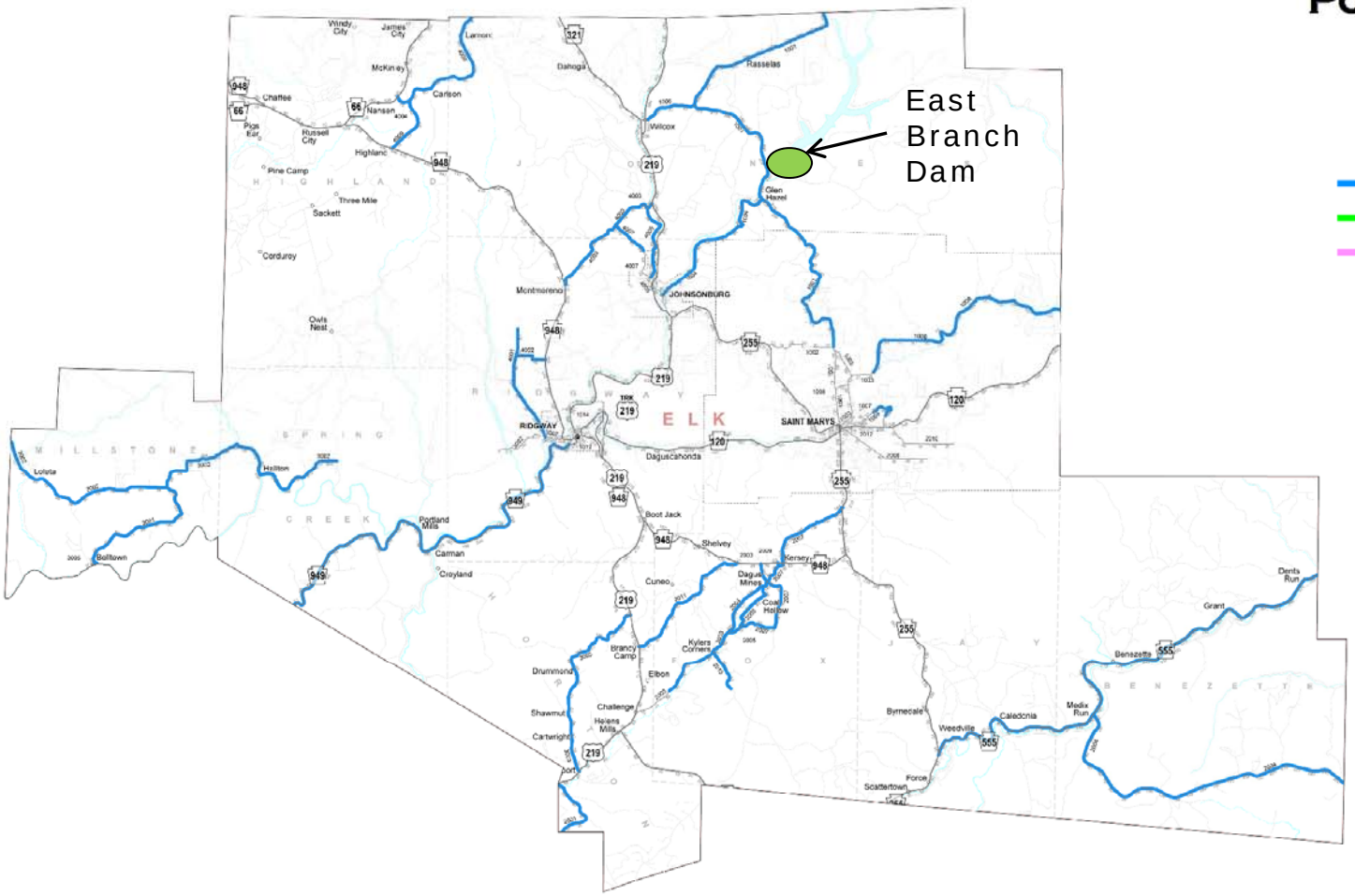
THE WAY AHEAD

Cutoff Wall Construction

Increased Traffic

Activity	Minimum No. of Trucks	Maximum No. of Trucks	Projected Timeframe
Work Platform Construction	8,475	16,950	2014
Work Platform Paving	275	455	2014
Cutoff Wall Excavation (Disposal)	3,210	6,675	2015-2017
Cutoff Wall Concrete Placement)	5,900	12,280	2015-2017
Work Platform Disposal	4,250	12,750	2017- 2018
Slope Protection	2,420	2,420	2018
Crest Roadwork	830	830	2018
TOTAL	**25,360**	**52,360**	**2014-2018**

ELK COUNTY POSTED HIGHWAYS



Legend

- Posted Highways - 10 Ton Limit
- Seasonal Posting (Feb. 1 to Apr. 30)
- Seasonal Posting (Jan. 1 to Apr. 30)

N
W E
S

pennsylvania
DEPARTMENT OF TRANSPORTATION

DISTRICT GEOGRAPHIC INFORMATION DIVISION
ENGINEERING DISTRICT 2-0
FOR FURTHER INFORMATION OR COMMENTS CONTACT:
GIS COORDINATOR AT (814) 768-0728
GIS PRODUCT NO. 1254
01-14-13

THE WAY AHEAD
Cutoff Wall Construction
Safety During Construction

- Best Value not Low Bid Contract – allows evaluation of non cost factors like technical approach including emergency response methods and traffic management, experience, and past performance
- Limit contractor work hours and days to 20 hours a day 6 days a week with no work on Federal Holidays and Memorial, Fourth of July and Labor Day weekends
- Communicate and coordinate with stakeholders, businesses, Elk County and surrounding municipalities and state and local agencies/offices
- Conduct exercises with Contractor(s), State, County and Local Emergency Management Offices and responders
- Maintain access to Maple Lane from Government Road
- Federal boat launch and parking area open 15 Apr – 15 Sep
- Overlook picnic area closed after 2013 thru completion of construction
- Campground closed after 2013 thru completion of construction

THE WAY AHEAD

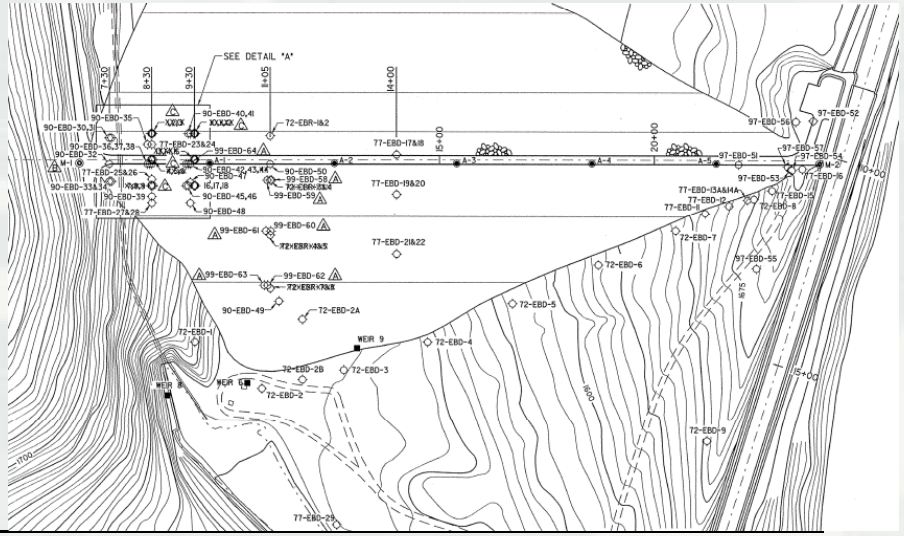
Cutoff Wall Construction

Safety During Construction

- **Instrumentation**
  - Automated readings will trigger alerts if thresholds are exceeded
  - Emergency Response Plans will be in place throughout construction

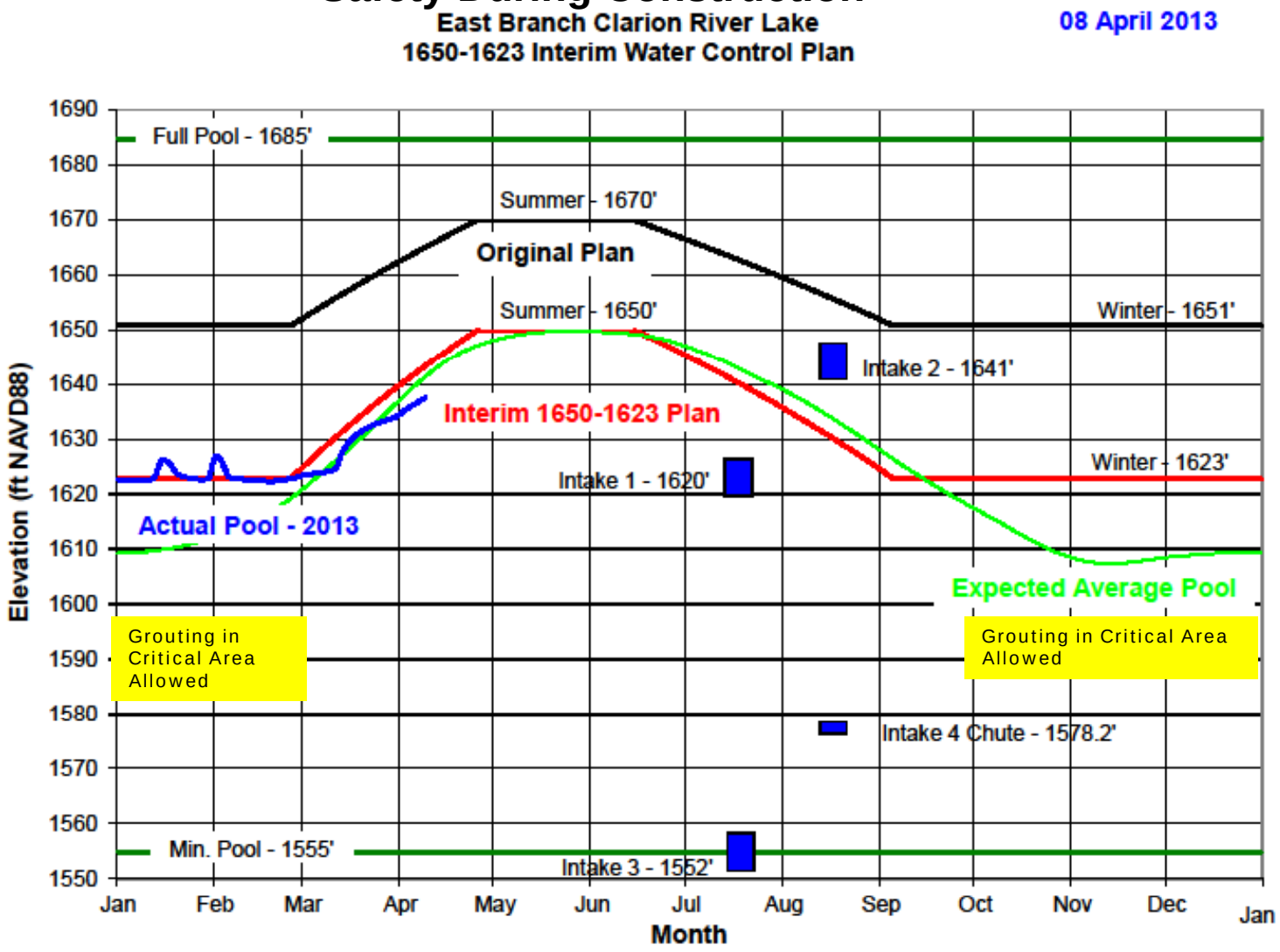
- **Visual Inspection**
  - Continued 24-hour presence throughout construction
  - Trained surveillance crews
  - Notification plans will be revised as appropriate during construction

- **Incident Response Plan**
  - Slurry Loss
  - Hydrofracture
  - Slope Movement



THE WAY AHEAD

Cutoff Wall Construction
Safety During Construction



BUILDING STRONG®

THE WAY AHEAD
Cutoff Wall Construction
Safety During Construction

- Comply with Federal, State, and County Environmental Regulations
  - National Pollutant Discharge Elimination System (NPDES) Permit

- Monitor Lake
  - Temperature
  - Water Quality

- Monitor Outflow
  - Turbidity
  - Temperature
  - pH
  - Disolved Oxygen
  - Conductivity

THE WAY AHEAD
Cutoff Wall Construction
Data Management

- Requirements based on Lessons Learned from similar USACE projects
- Assists with safety monitoring during construction
- Contractor designed database including:
  - Historical data
  - Instrumentation data throughout construction
  - Grouting data (location and volume)
  - Quality Assurance test results
  - Cutoff wall “as-built geometry”

- Provides the basis for acceptance of completed features of work
- Provides the underlying data used for Post-Construction Risk Assessment which is key to return reservoir to normal operations

CONTACT INFORMATION

Resources

East Branch Dam Operations
Mike Setlock
East Branch Park Manager, 814-965-2065
E-mail: Michael.J.Setlock@usace.army.mil

Media & General Inquiries
Dan Jones
Public Affairs, 412-395-7500
E-mail: Daniel.W.Jones@usace.army.mil

Website:
www.lrp.usace.army.mil/rec/lakes/eastbran.htm

Email: Celrp-pa@usace.army.mil

NEW – Community Information System

QUESTIONS ?