



Presentation to

WSCAC

Quinapoxet Dam Removal – Part 2

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April 8, 2025



Today's presentation

- MWRA
- Brief overview: rational for dam removal, design components

Project commencement October 2024

- River bypass methods
- Turbidity monitoring
- Physical dam removal
- Urgent acceleration of critical component
- Time-lapsed video
- Current site work

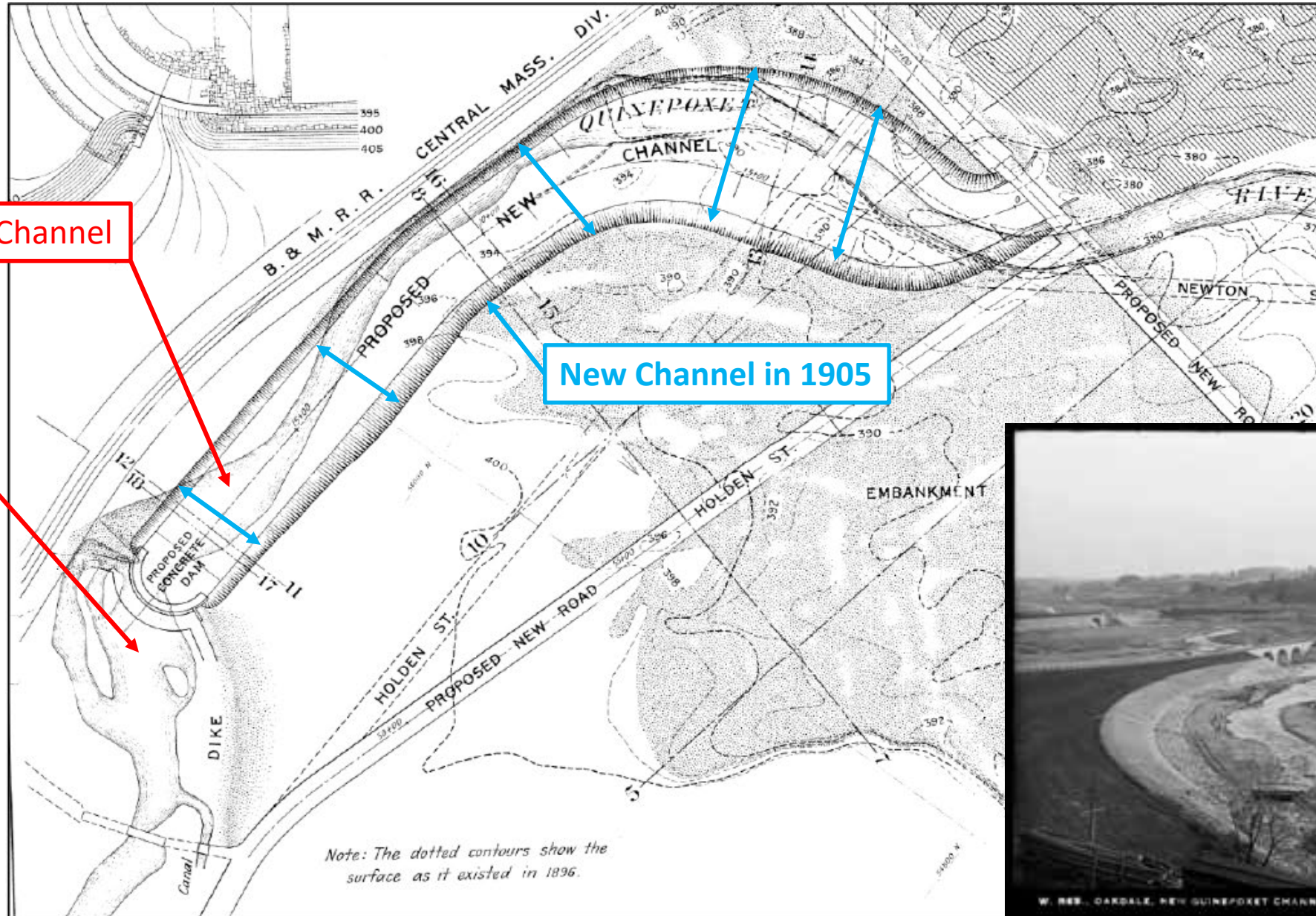


Project Location – Wachusett Reservoir, West Boylston, MA





Historic River Channel ca. 1902





Rationale for dam removal

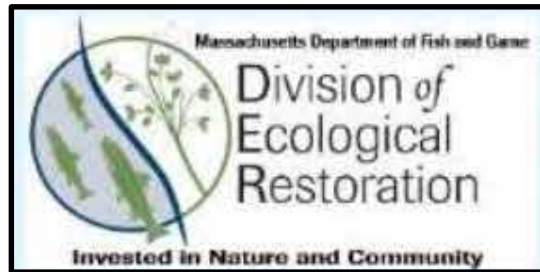
- Original dam sediment control function obsolete due to modern reservoir operations, WQ monitoring and water treatment,
- Restore fish passage (landlocked salmon and native trout) up the Quinapoxet River,
- Dam in disrepair requiring expensive investment, ~ \$1M
- Return River to a natural riverine hydrology aids in climate resilience.



LL Salmon at Wachusett Reservoir



Project Team



... and Supporters





Permitting

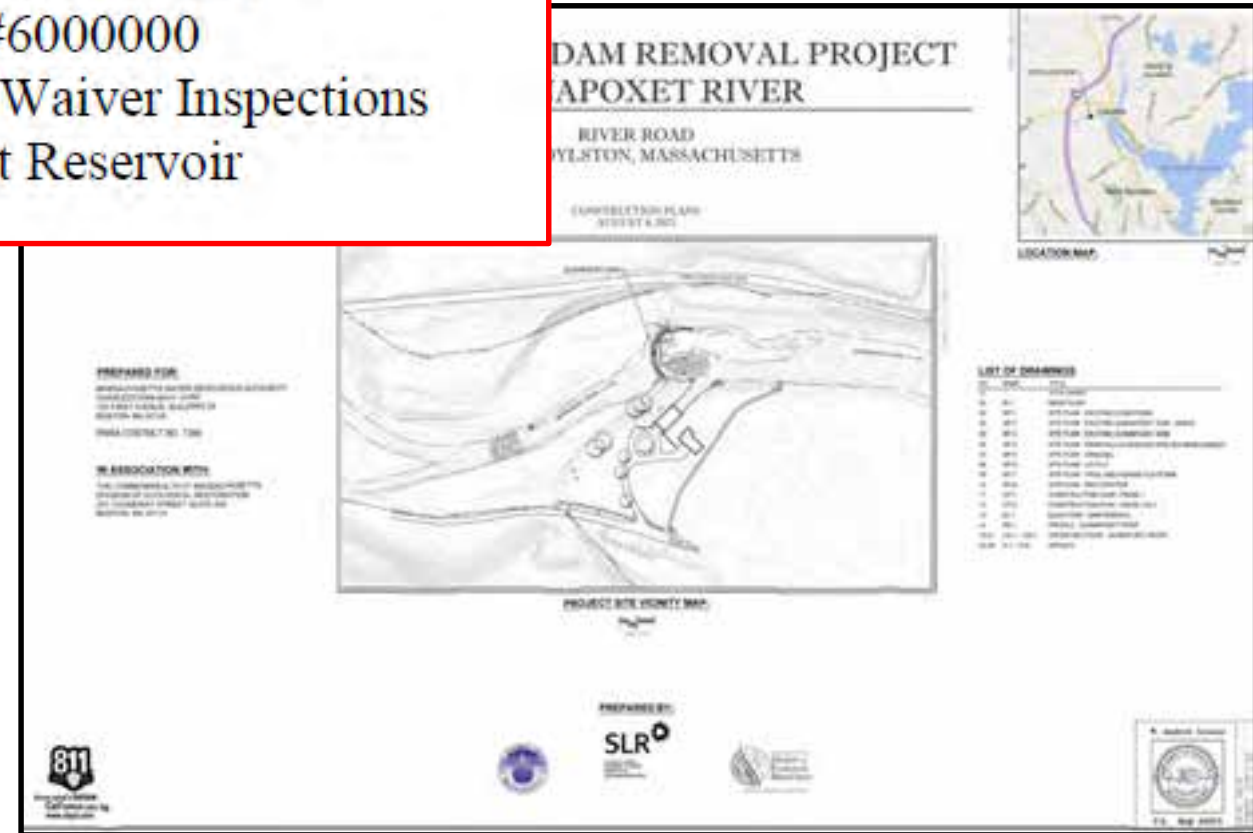
- Local, State, and Federal jurisdiction of the project.
- Permits required:
 - MA Environmental Protection Act
 - West Boylston ConCom
 - Waterways/C. 91 US ACOE 404 dredge and fill/NPDES General Construction Permit
 - MA DEP 401 WQ Cert
 - MA Endangered Species Review
 - MA Historic Commission



Design Components

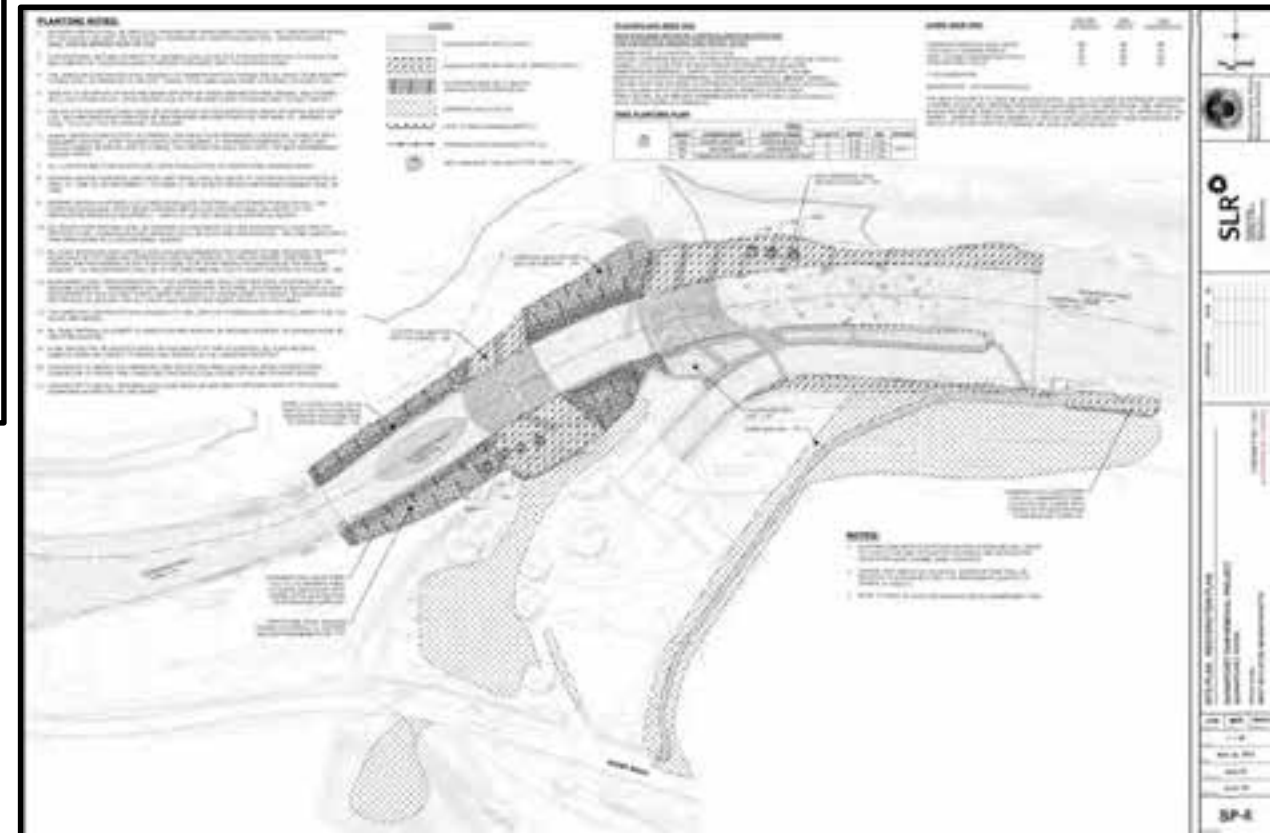
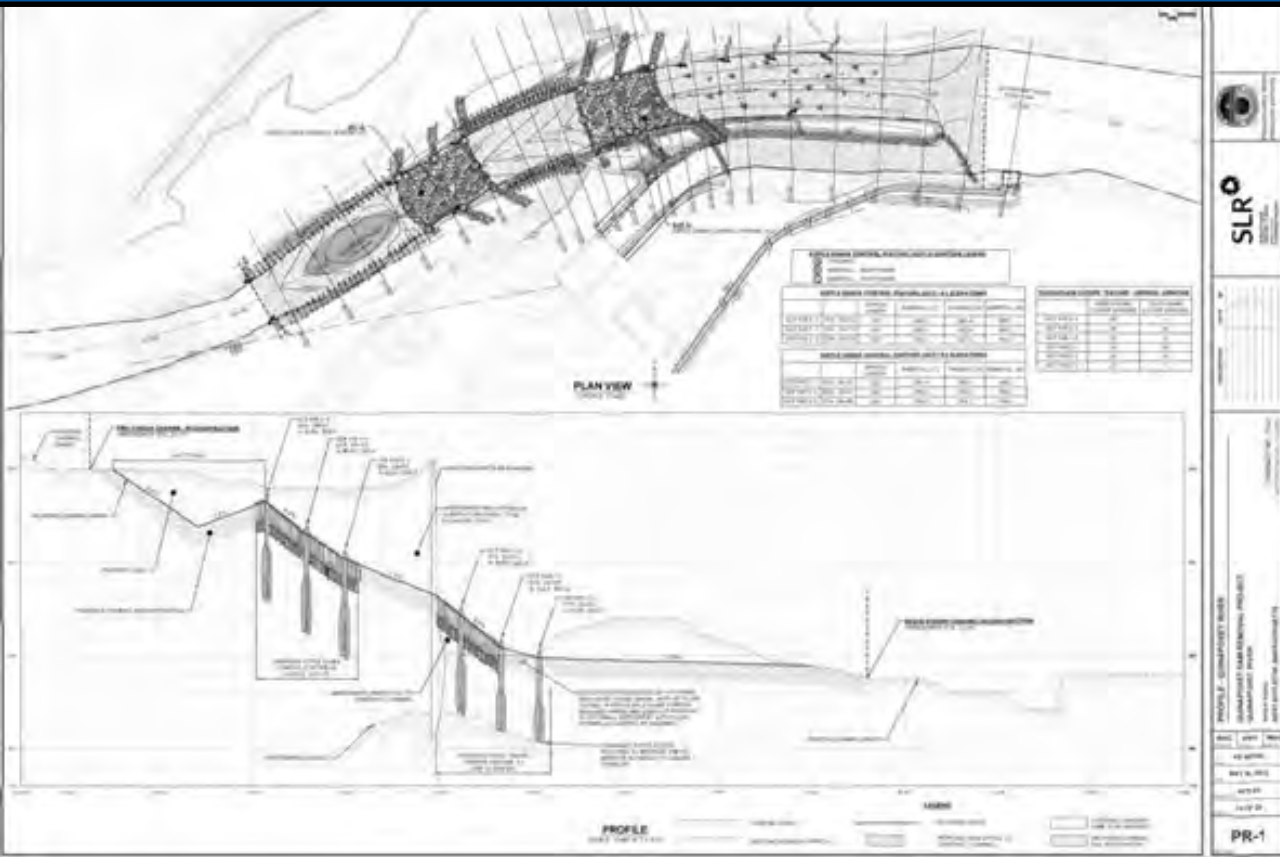
- Water Control Plan
- Sediment Mgmt. Plan
- **Turbidity Monitoring Plan**
- Demolition
- Temp access
- Tree work
- Stockpiling materials
- Infrastructure Protection (Shaft 1)
- Construction Videography
- Riverine restoration and post construction monitoring

PWS Name: MWRA
PWS ID #6000000
Filtration Waiver Inspections
Wachusett Reservoir





Design components





Original Construction Phasing

Phase I. Cofferdam upstream river, removal of southern portion of dam to accommodate install bypass piping

Phase II. Water gravity bypass and limited groundwater pumping to dry out the work area. Culvert crossings over flow path for river and dam access. Demo of masonry weir, fish ladder, appurtenances and removal of existing islands.

Phase III. Installation of tailrace channel, riverine reconstruction, ADA fishing platform, floodplain bioengineering restorations



WQ Monitoring Locations upstream and downstream

Upstream WQ-B-1



Downstream WQ-C-1





Bypass Pumping – Low-flow Conditions < 20 cfs





Open Channel Bypass – high-flow conditions





Demo details...



Capstone removal 11.06 -11:16

Spillway core demo 11.16 – 11.25 (Sat 11.16, Mon. 11.18 – Fri. 11.22, and then Mon. 11.25)

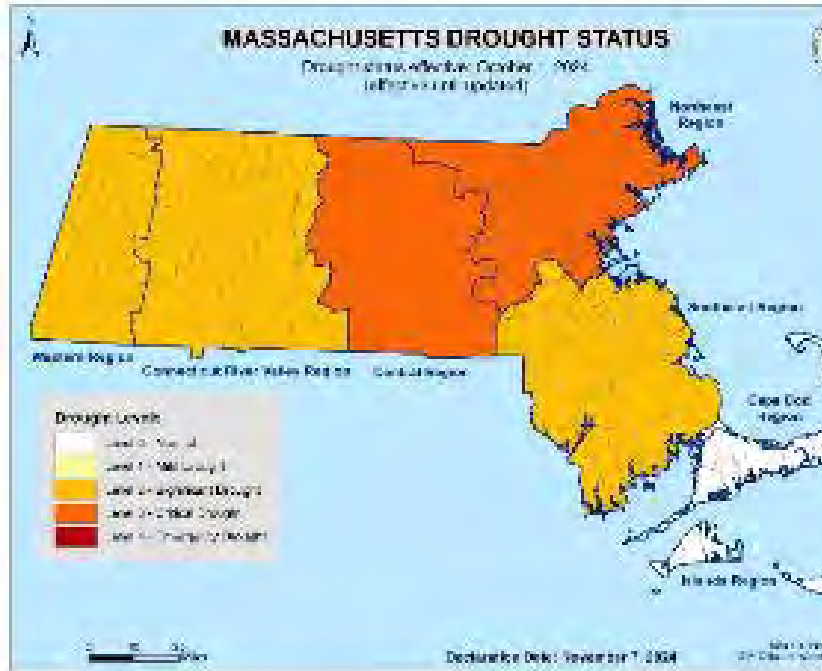
Total of 7 days to take it down.





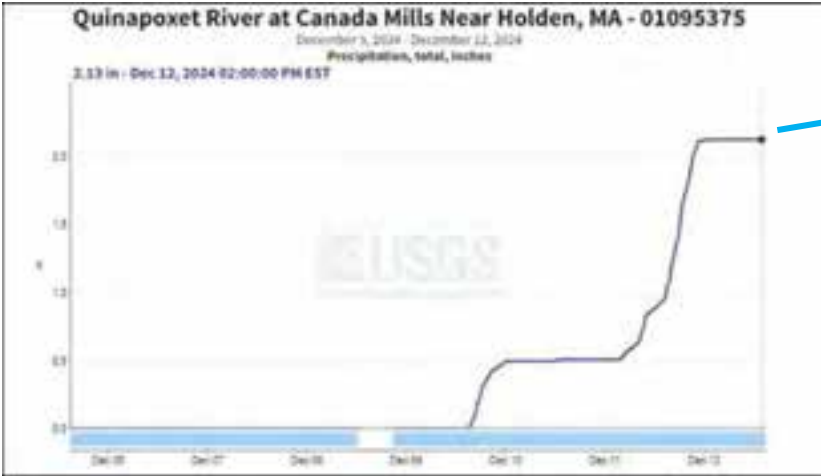
Accelerated Tailrace Berm Extension due to critical drought

Nov. 2024





How channel responded ot 12.10.24 rain event



70 cfs



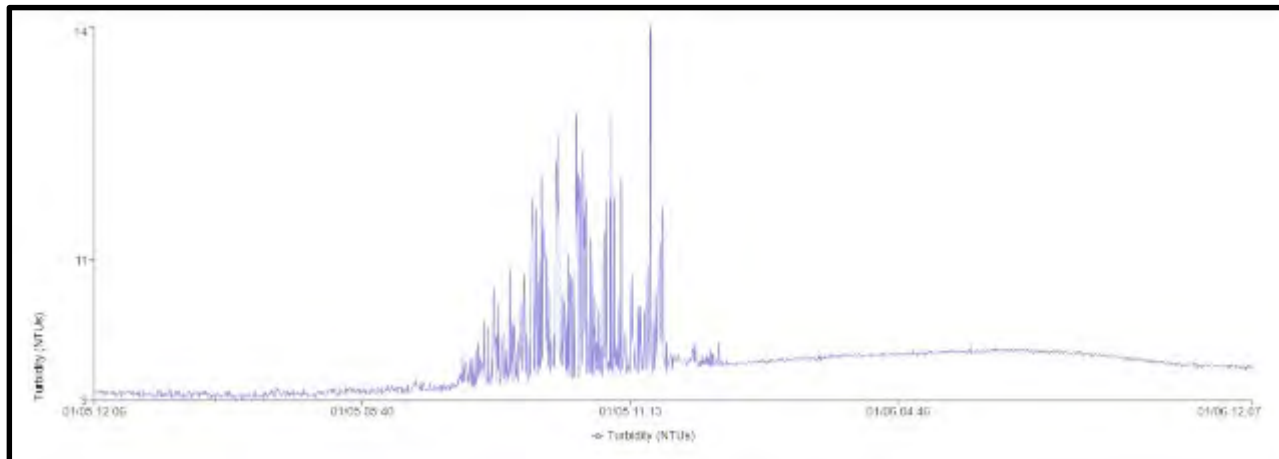


Turbidity Monitoring during the project

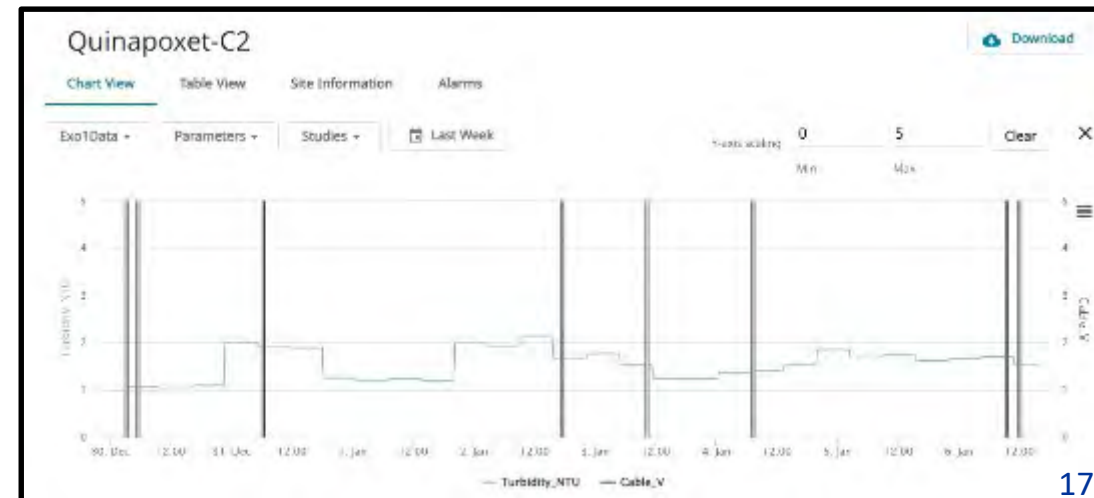
USGS gage upstream of site



WQ -C1 downstream of site

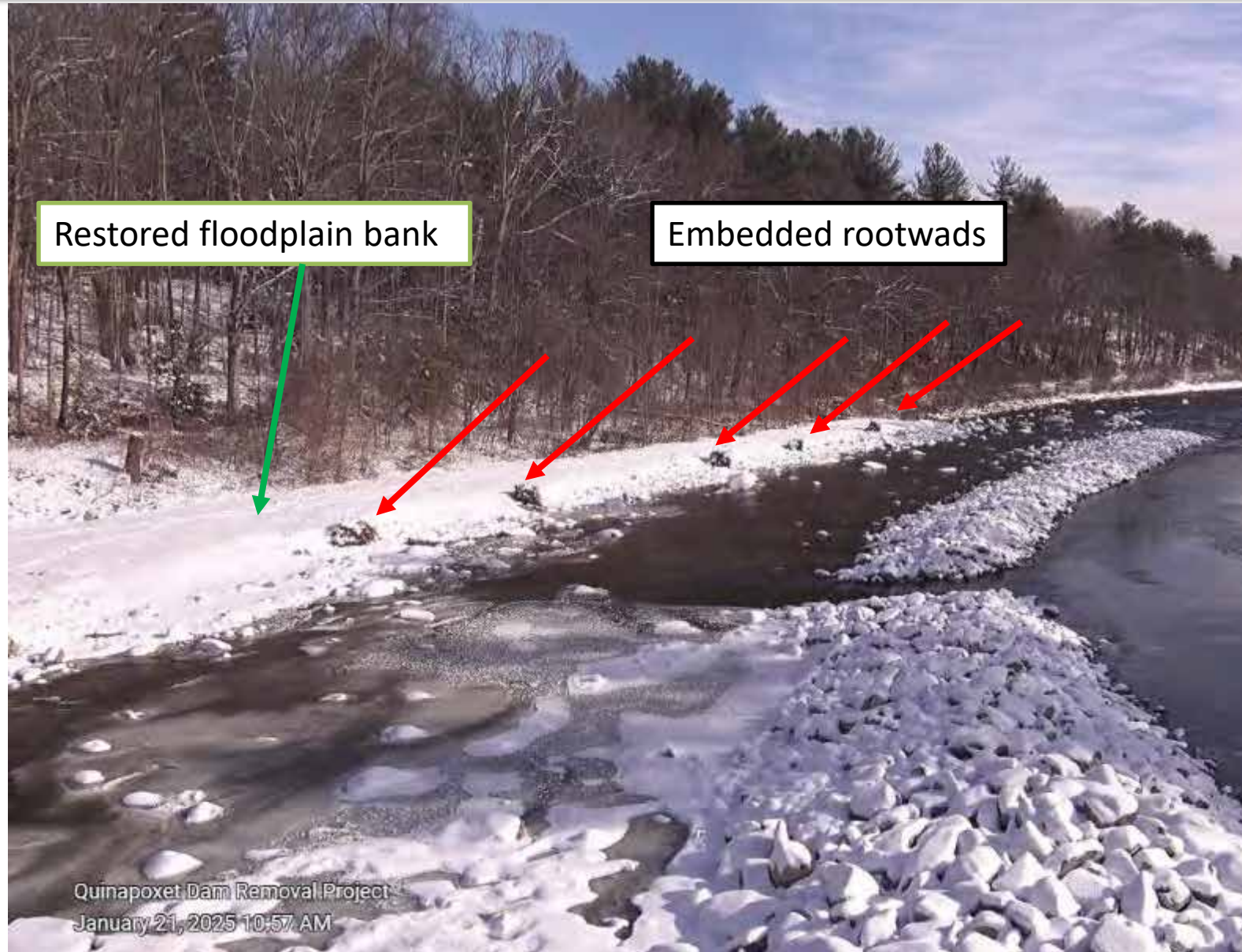


C2 FD Buoy, Quinapoxet Basin



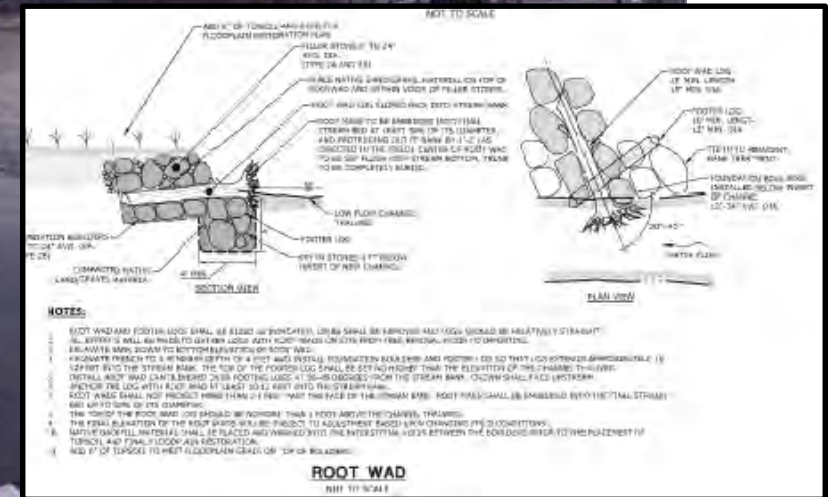


Restored river channel downstream



Restored floodplain bank

Embedded rootwads



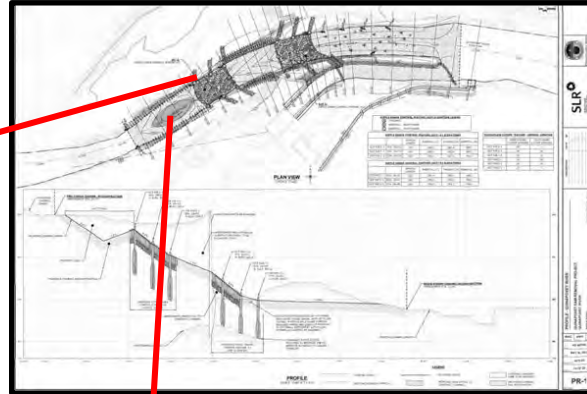
Quinapoxet Dam Removal Project
January 21, 2025 10:57 AM



Upstream riffle and pool construction



Placement of rock for riverbed riffle



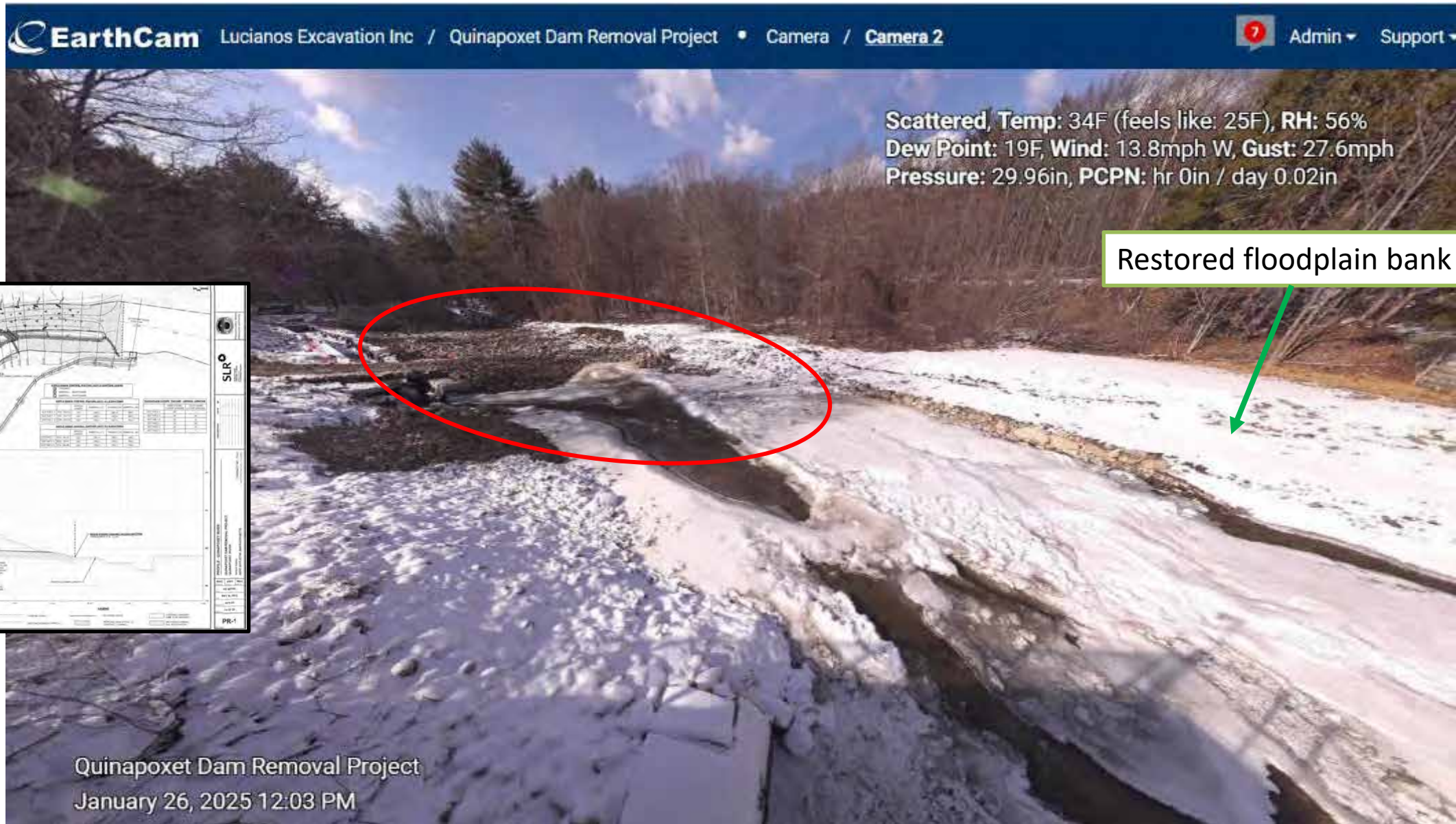
Checking riverbed grades



Downstream view of pool area.

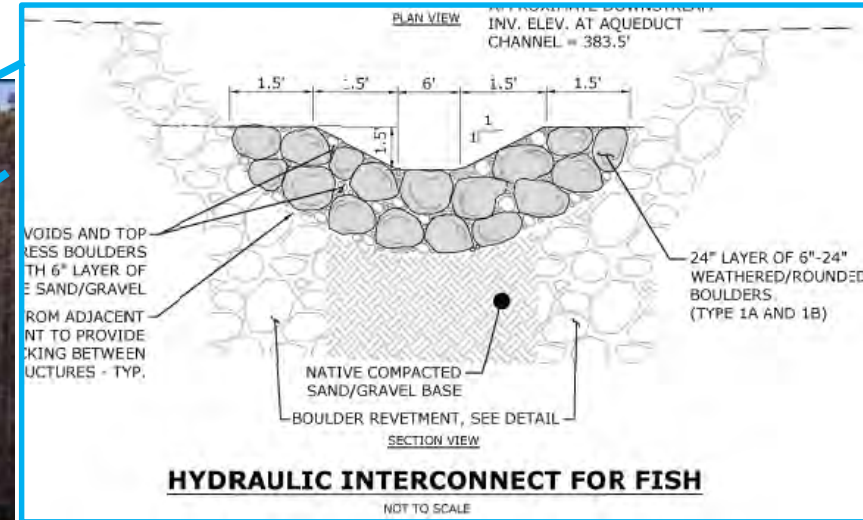


Second Riffle and Pool Completed

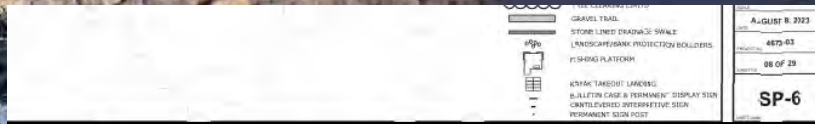




Tailrace extension fish structures and kayak takeout



Fish deterrent structures





Back in time 120 years ago...





...back to the future: River free flowing as of 01.31.25



“All water has a perfect memory and is forever trying to get back to where it was.”

- Toni Morrison





Quinapoxet River yesterday... and today





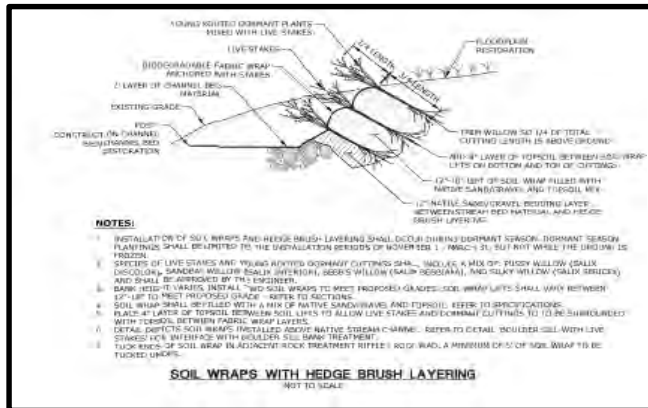
Project Time-lapsed Video



Next up: Bioengineering

April:

- Soil wraps



Live Stakes



- Ribbon Cutting Ceremony for restored Quinapoxet River



Public Access Amenities



ALLOCATION: FISHING PLATFORM SITE ASSET AND DETAILS		SLR SLR CONSULTING 1000 STATE STREET SUITE 200 BOSTON, MA 02116 TEL: 617.552.1200 WWW.SLRCONSULTING.COM	
DESCRIPTION	DATE	BY	
DR. CONTOUR			
DR. CONTOUR			
ICE			
ENCE			
RAINAGE SWALE			
AK PROTECTION BOULDERS			
MIN			
PERMANENT DISPLAY SIGN			
INTERPRETIVE SIGN			
SITE PLAN - TRAIL AND FISHING PLATFORM QUINAPOXET DAM REMOVAL PROJECT QUINAPOXET RIVER HYDE PARK WEST BOYLSTON, MASSACHUSETTS			
MTD	HK	MTD	
AS NOTED			
DATE			
APPROVED			
PROJECT NO.	4473-03		
SHEET NO.	09 OF 29		
SP-7			



Cheers for attending this presentation!



Big thanks to:

- Designer: SLR International
 - Contractor: Lucianos Excavation, Inc.
 - RE: Kleinfelder
 - MWRA Water Quality, Operations, Permitting and Construction Teams
 - Town of West Boylston
 - MA DCR Watershed Division
 - MA DER
- ... and many more who influenced and touched this project

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