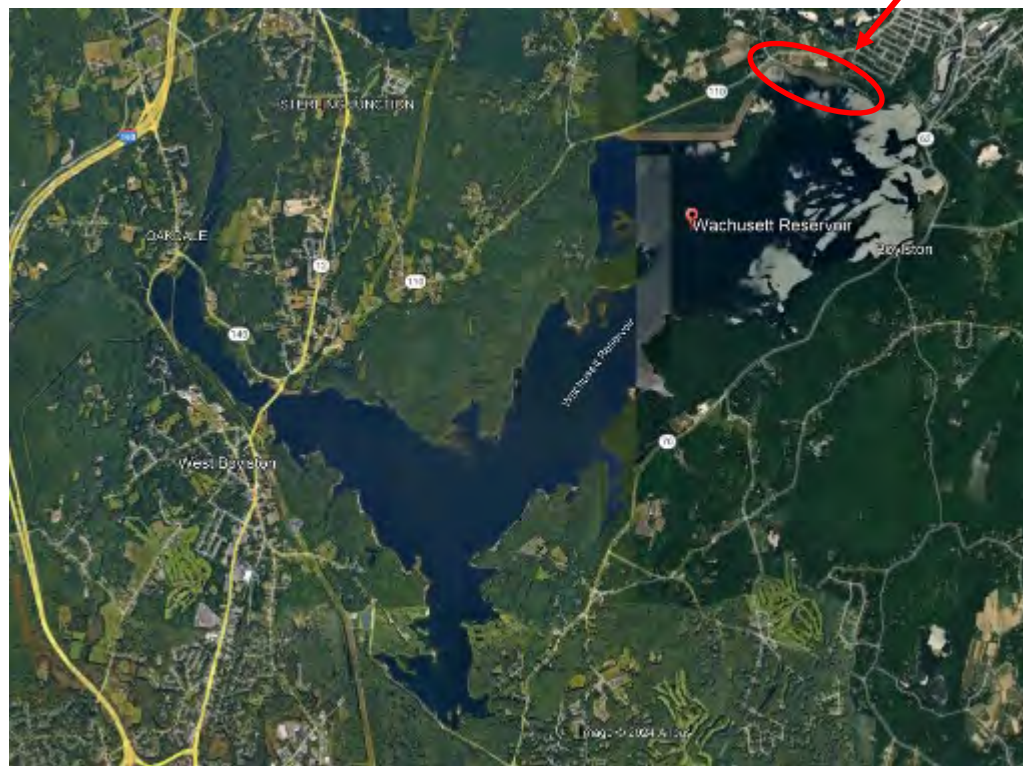
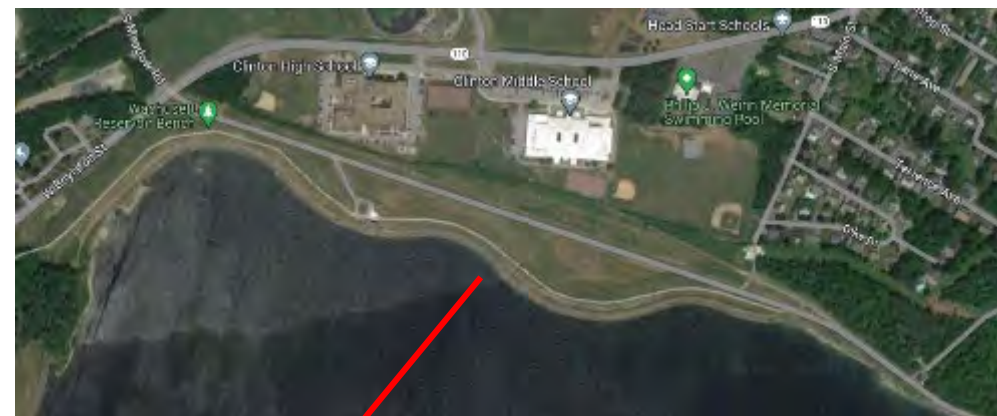




Update to WSCAC on  
Sudbury Spillway Masonry/  
Gatehouse Vent Repair  
and  
North Dike Overtopping Protections

12.11.24

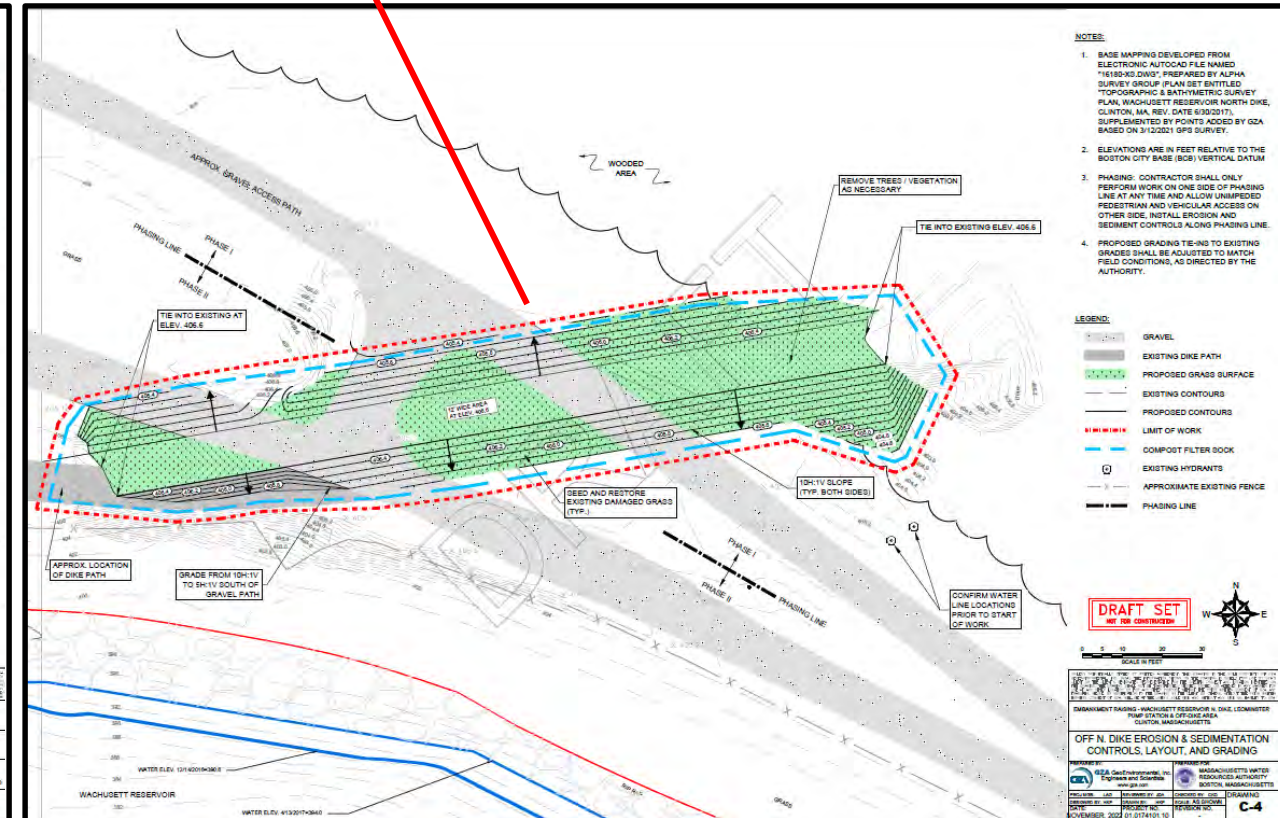
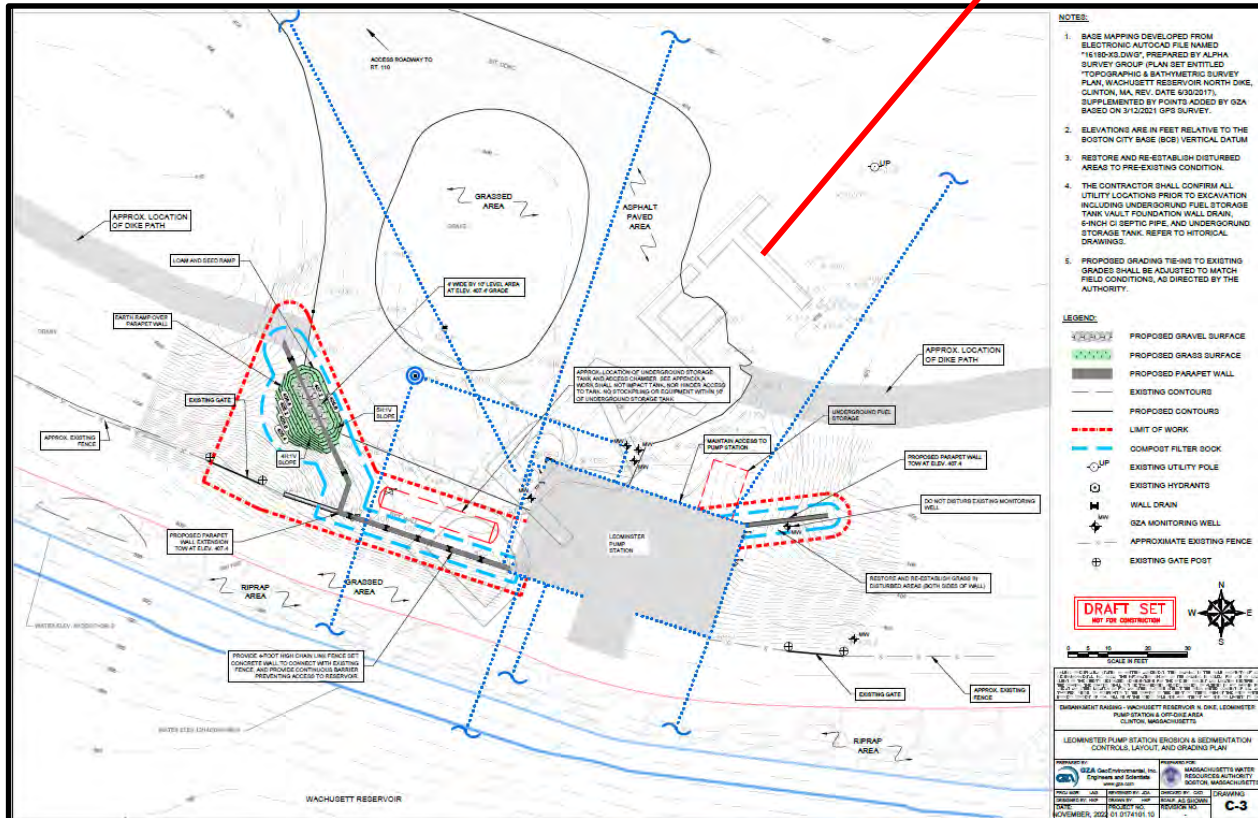
John J. Gregoire







# North Dike Overtopping Protection: Parapet wall at LPS and berm at end of North Dike







# Contract #7615 Project Sign







# 03.27.24 Removal of abandoned CMP







# Parapet walls formed, rebarred and concrete pour







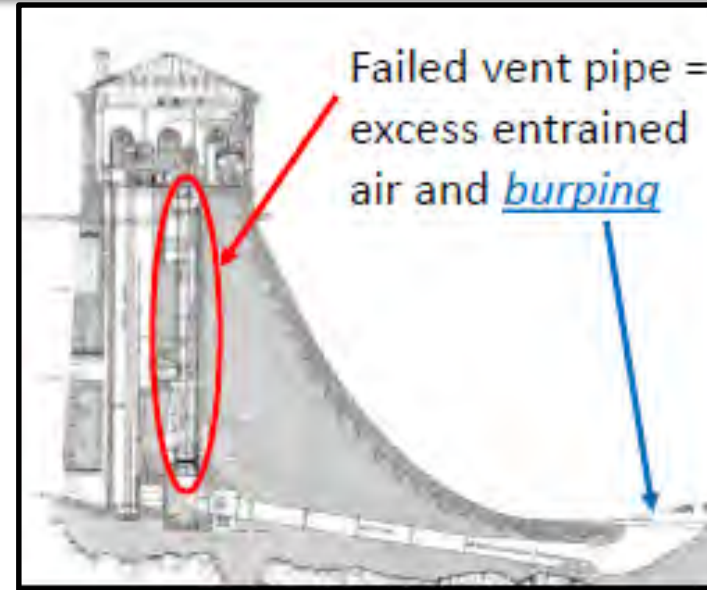
# Before and After



**Status: Substantial Completion**



# CIP: Sudbury Dam Spillway Masonry Repair and GH Vent Pipe

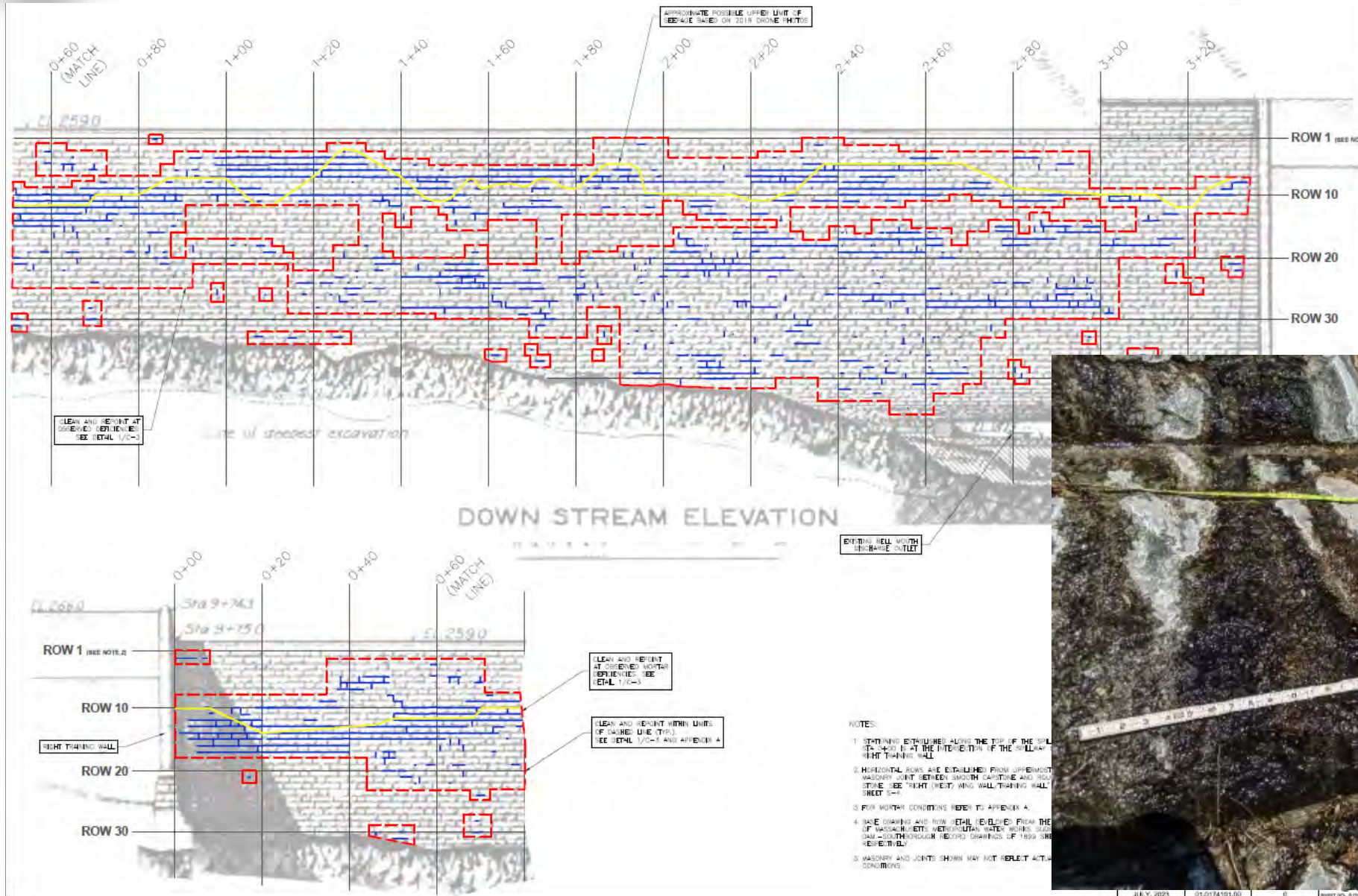


- Clean masonry and remove vegetation and efflorescence.
- Repair of mortar on the Sudbury Dam spillway and GH. Restore weepholes.
- Abandon 2 obsolete piezometers
- Repair of the Sudbury Dam gatehouse vent pipe
- Cost for engineering design: \$87,151
- Cost for ESDC: \$36,140
- Construction: \$1,600,000





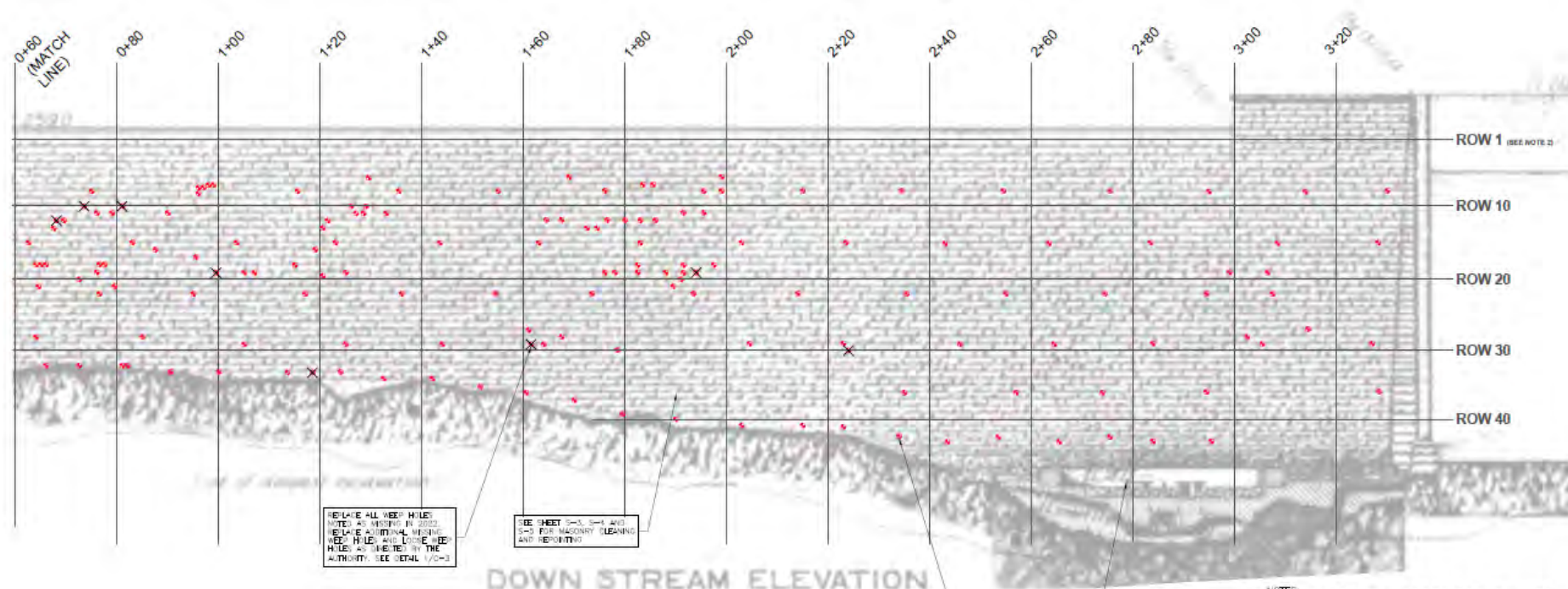
# Spillway Face mortar deficiencies and repair



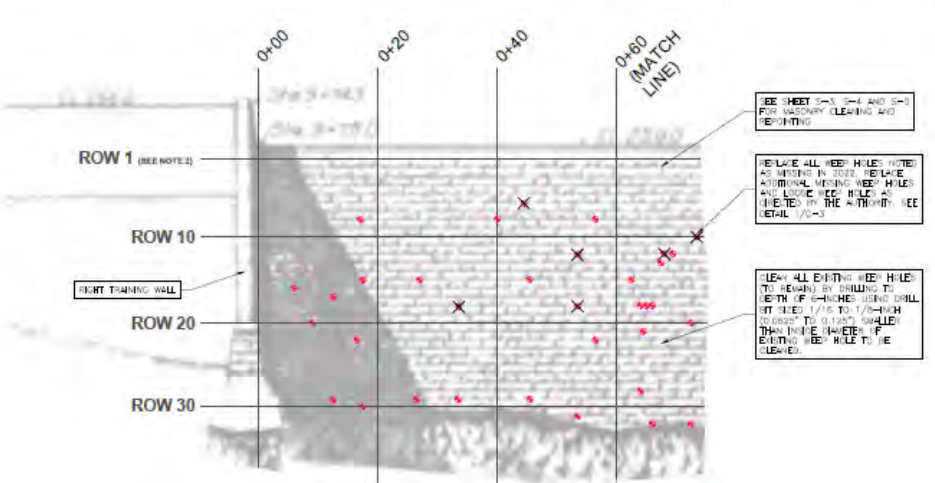




# Weep Holes



DOWN STREAM ELEVATION



5. TOTAL OF 178 WEEP HOLES 3" LONG x 3/8" DIAMETER SS PIPES OVERDRILLED TO 18" MAX INSTALLED 1997.

- NOTES:
1. STATIONING ESTABLISHED ALONG THE TOP OF THE SPILLWAY CHEST. STA 0+80 IS AT THE INTERSECTION OF THE SPILLWAY CHEST AND THE RIGHT TRAINING WALL.
  2. HORIZONTAL ROWS ARE ESTABLISHED FROM UPPERMOST HORIZONTAL MASONRY JOINT BETWEEN SMOOTH FACING AND ROUGHEN FACING STONE (SEE RIGHT (WEST) WALL TRAINING WALL DRAWING ON SHEET S-1).
  3. WEEP HOLE LOCATIONS ON DRAWING ARE APPROXIMATELY WITHIN ±2 FEET OF THEIR ACTUAL LOCATION.
  4. FOR WEEP HOLE CONDITIONS REFER TO APPENDIX A.
  5. TOTAL OF 178 WEEP HOLES 3" LONG x 3/8" DIAMETER SS PIPES OVERDRILLED TO 18" MAX INSTALLED 1997.
  6. THIS DRAWING AND ROW DETAIL DEVELOPED FROM THE CORONA-DEPTH OF MASSACHUSETTS METROPOLITAN WATER BODIES SUDBURY DAM-2008 THROUGH RECORD DRAWINGS OF 1989 SHEETS 1 AND 2 IDENTICALLY.
  7. MASONRY AND JOINTS SHOWN MAY NOT REFLECT ACTUAL FIELD CONDITIONS.

REVISION	DATE	BY	CHKD

DATE: 07/25/23  
 PROJECT NO.: SU231745101\_00  
 SHEET NO. OF 9

Before weep hole cleaning



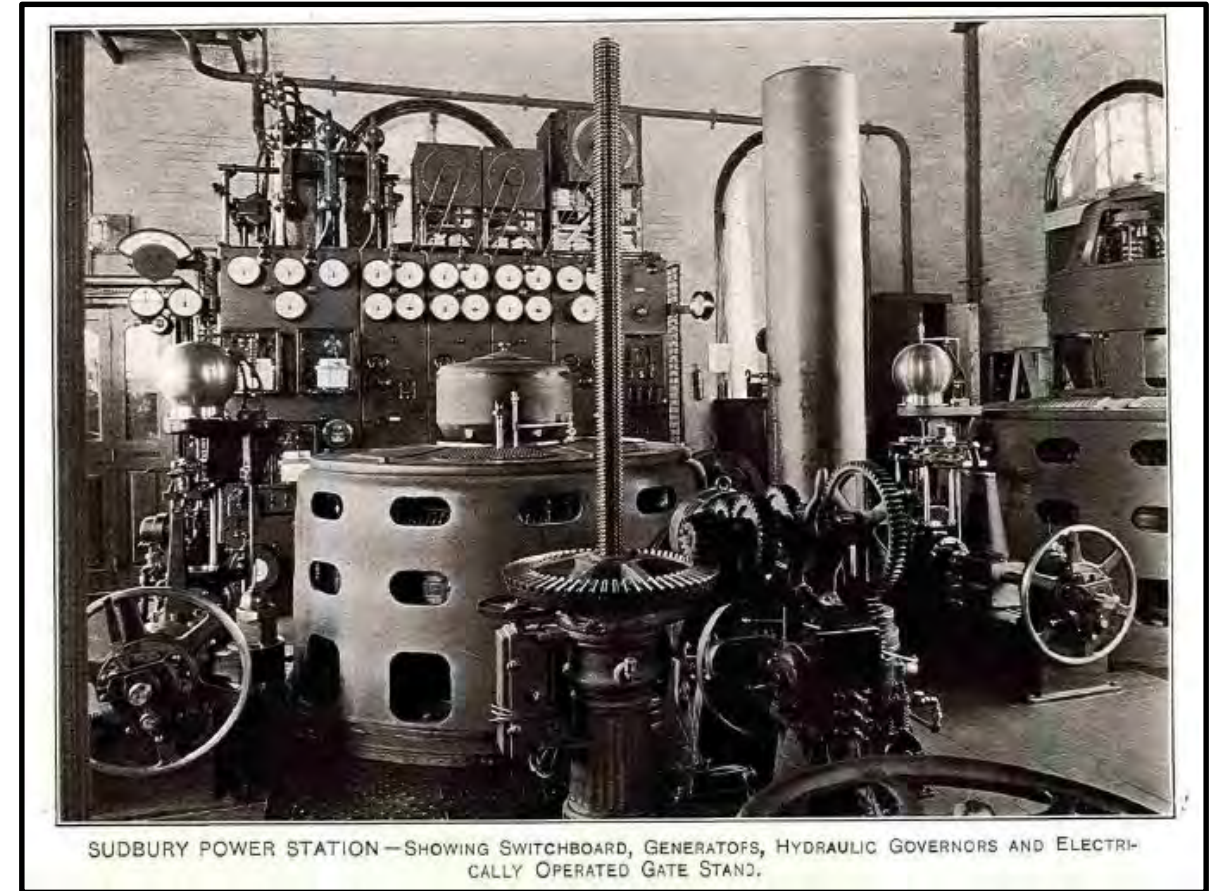
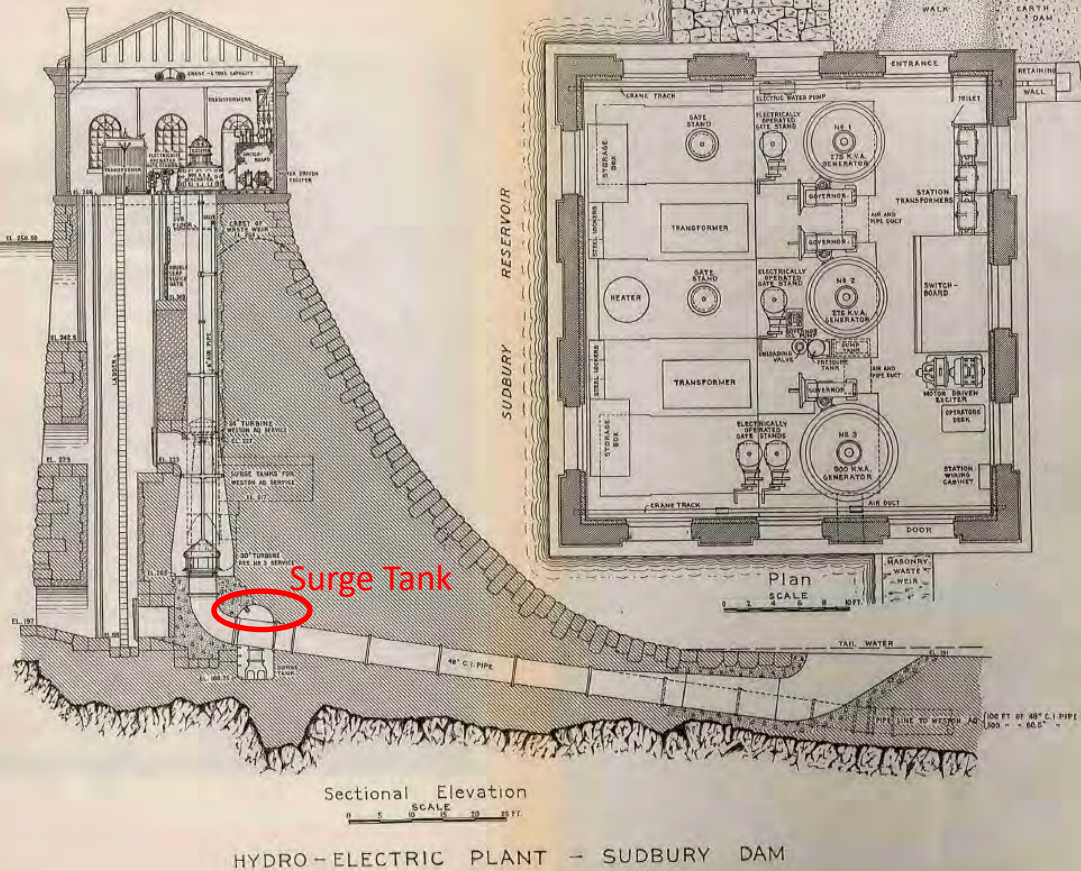
After weep hole cleaning







# Sudbury Dam Hydro-electric Plant installed in 1914/5

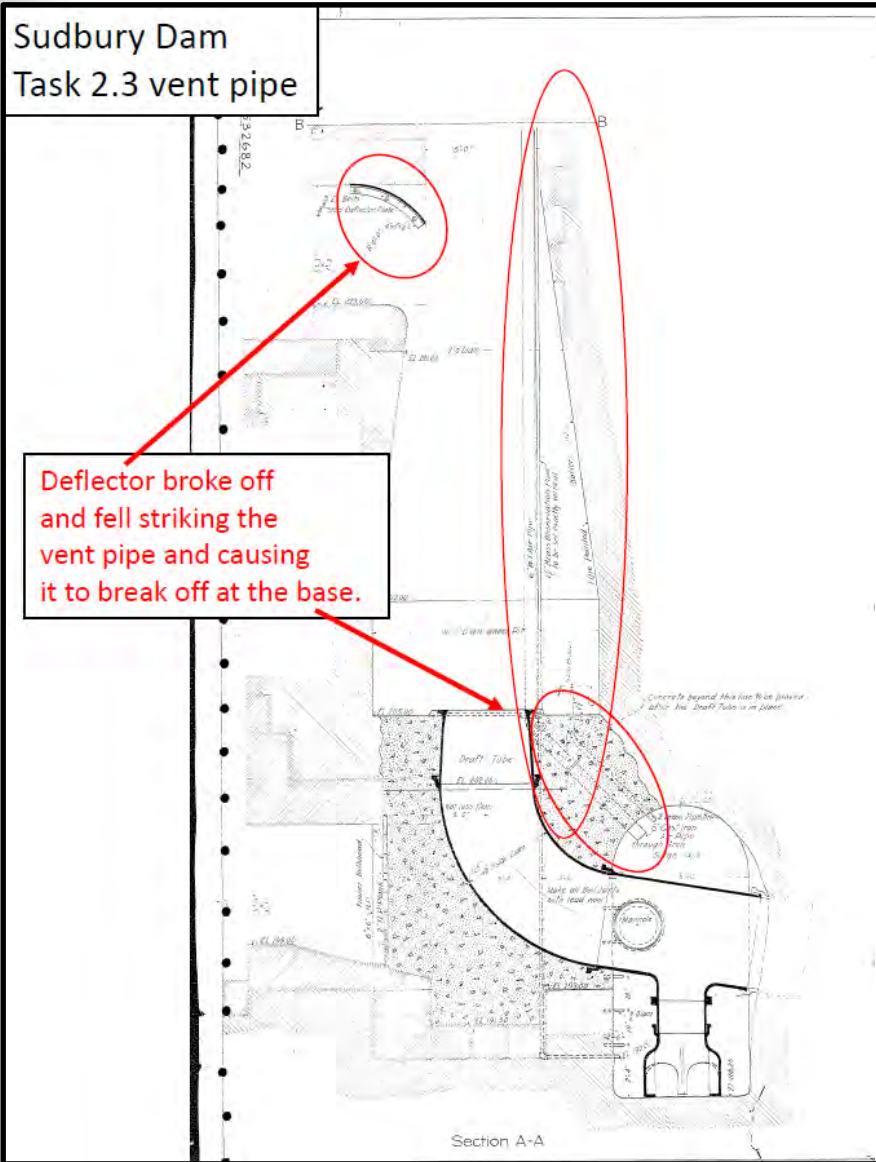




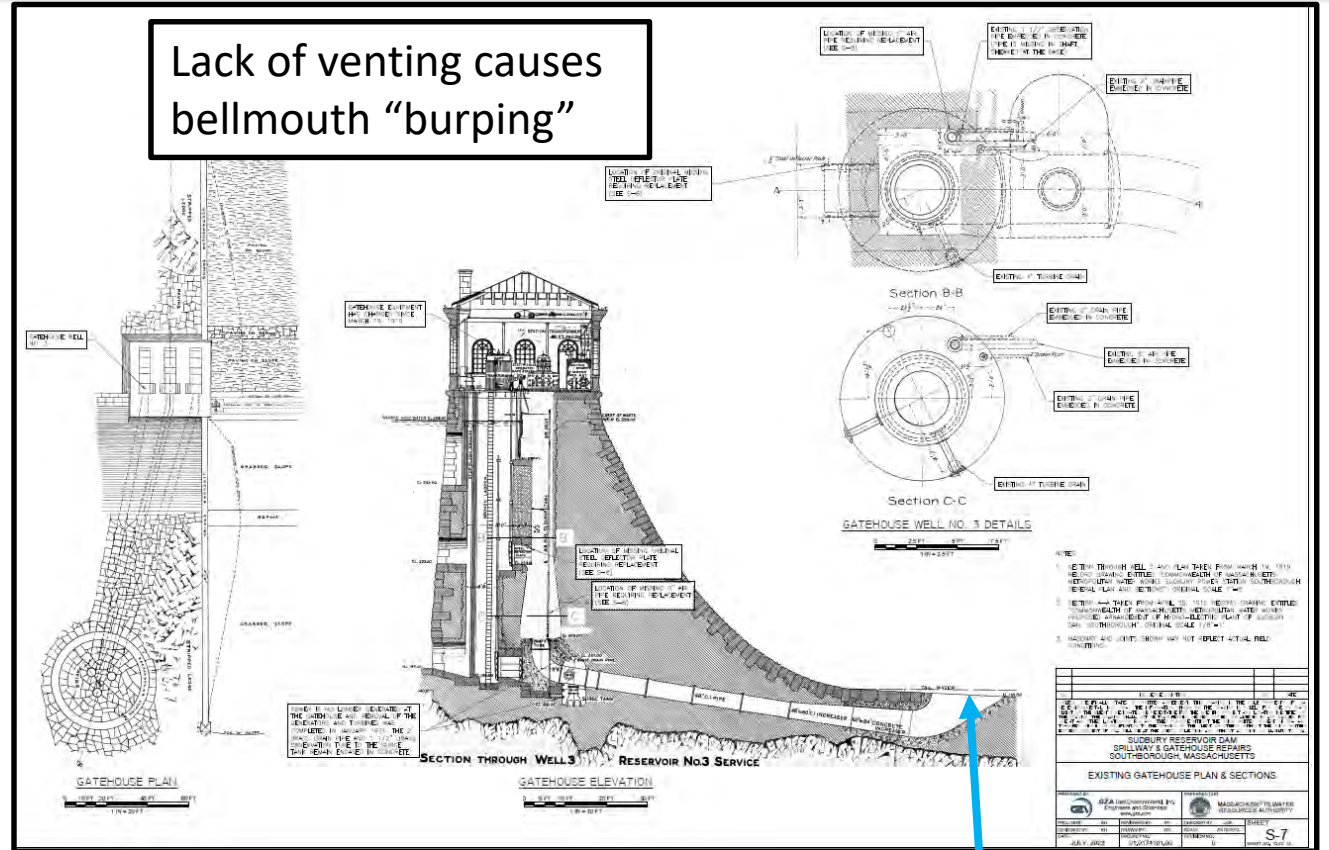


# Gatehouse Vent Repair

Sudbury Dam  
Task 2.3 vent pipe



Lack of venting causes bellmouth "burping"





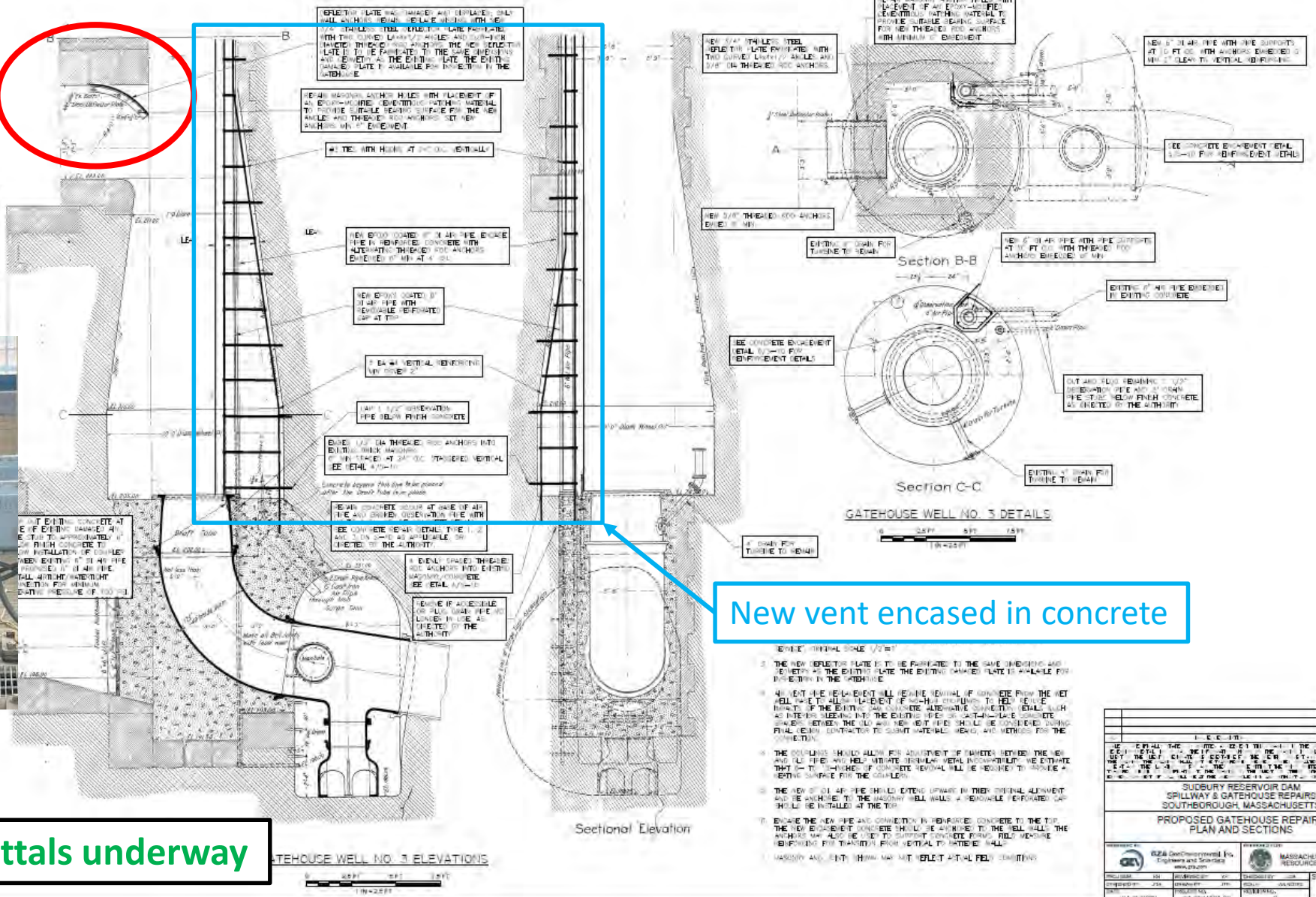


# Gatehouse vent repair

Deflector plate position



Damaged deflector plate



New vent encased in concrete

Status: NTP 05.31.24 – Submittals underway

SUDBURY RESERVOIR DAM SPILLWAY & GATEHOUSE REPAIRS SOUTHBOURGH, MASSACHUSETTS	
PROPOSED GATEHOUSE REPAIRS PLAN AND SECTIONS	
PROJECT NO. 224 DESIGNED BY JPL CHECKED BY JPL DATE JUL 9, 2022	DRAWN BY JPL DATE JUL 9, 2022
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	MASSACHUSETTS WATER RESOURCES AUTHORITY
SHEET S-8	