Kevin Mooney
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Global Operations - Environment, Health & Safety

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Via Electronc Mail

February 9, 2024

Mr. Joshua Fontaine
Project Manager
U.S. Environmental Protection Agency, Region I
Five Post Office Square, Suite 100
Boston, MA 02109

Re: GE-Pittsfield/Housatonic River Site
Rest of River (GECD850)
Phase 1 Inspection/Evaluation Report for Rising Pond Dam

Dear Mr. Fontaine

Enclosed is GE's Phase 1 Inspection/Evaluation Report for Rising Pond Dam, prepared for GE by GZA GeoEnvironmental, Inc. This report presents the results of GZA's November 15, 2023 biennial Phase 1 Inspection/Evaluation of Rising Pond Dam.

Please let me know if you have any questions about this report.

Very truly yours,

Kevin G. Mooney
Senior Project Manager – Environmental Remediation

Enclosure

Cc: (via electronic mail)
Dean Tagliaferro, EPA
Anni Loughlin, EPA
Tim Conway, EPA
John Kilborn, EPA
Alexander Carli-Dorsey, EPA
Christopher Ferry, ASRC Federal
Thomas Czelusniak, HDR Inc.
Scott Campbell, Taconic Ridge Environmental

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Jonathan Andrew and Seth Krause, GZA
James Bieke, Sidley Austin
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GE Internal Repository

RISING POND DAM

PHASE 1

INSPECTION / EVALUATION REPORT

Dam Name: Rising Pond Dam

NID ID#: MA00250

Owner: General Electric Company

Town: Great Barrington

Consultant: GZA GeoEnvironmental, Inc.

Date of Inspection: November 15, 2023

Date of Report: February 9, 2024

EXECUTIVE SUMMARY

This report summarizes the results of the Phase 1 visual dam inspection conducted by GZA GeoEnvironmental, Inc. (GZA) on behalf of the General Electric Company (GE) on November 15, 2023 at Rising Pond Dam in Great Barrington, Massachusetts (the Dam). This inspection was conducted in accordance with GE's revised Operation, Monitoring, and Maintenance Plan (OM&M Plan) for Rising Pond Dam, dated August 14, 2019, and subsequent amendment dated September 14, 2020, approved by the United States Environmental Protection Agency (EPA) on August 27, 2019 and October 6, 2020, respectively.

In general, the overall condition of the Rising Pond Dam during the November 15, 2023 Phase 1 visual inspection was judged to be **SATISFACTORY**. This overall condition rating remains unchanged from the previous Phase 1 inspection conducted in November 2021. Based on the results of this inspection, the Dam is in compliance with Massachusetts Department of Conservation and Recreation (MassDCR) Office of Dam Safety (ODS) regulations.

During the November 15, 2023 visual inspection, the Dam was found to have the following unusual conditions of note (several of which had also been noted in the prior Phase 1 inspection and/or in intervening quarterly inspections):

1. Some rust was present on the forebay trash rack. The rust appears similar to that observed during prior inspections and does not appear to be affecting the trash rack integrity.
2. Minor woody vegetation was observed on the upstream slopes of the left and right embankments.
3. There were two small cracks in the gate operator casing with accompanying minor grease leaks which do not affect gate operation.
4. A crack in the forebay concrete was visible on the upstream face below the abandoned operator. This crack has been observed in prior inspections and appears to be a stable condition.
5. A crack was observed in the concrete step to the left of the gate platform. The crack does not affect use of the step.
6. Logs were observed caught on the safety buoys upstream of the spillway. Two logs were also observed to be caught in the energy dissipators downstream of the spillway – one on the left and one on the right. These logs did not appear to be impacting flow.
7. The three staff gages installed at the Dam are becoming difficult to read due to faded numbers, particularly where water levels typically fluctuate.
8. Previously observed apparent seeps through the left spillway training wall were noted during this inspection. Photographs indicate that these seeps have been intermittently present over the past decade and do not appear to be affecting dam function.
9. A low area of riprap stones was observed at the downstream toe of slope on right embankment, as it was in prior inspections, and appears to be a stable condition.
10. Monitoring well GZ-6 is slightly tilted, as was previously observed; this condition appears to be stable.
11. Broken / missing Lexan panels and a non-functional gate latch were observed along the top of the right spillway training wall.

12. A low area in the penstock, indicating a possible settled area or "belly," was observed during previous inspections. An internal penstock inspection was not conducted as part of the November 15, 2023 Phase 1 inspection; however, the "belly" was observed in 2023 during the ongoing penstock investigations.

GZA recommends that specific activities be conducted to address the above-described conditions observed during the November 15, 2023 Phase 1 inspection, in addition to complying with the regular maintenance and repair requirements specified in Sections 4.1 and 4.2 of the OM&M Plan. Those recommended activities and their current status are as follows:

Studies and Analyses

GZA recommends that the following analyses be performed:

Recommendation	Current Status/Schedule
1. Investigate the low area in the penstock.	Investigations are ongoing.
2. Perform an updated dam break analysis in accordance with current Massachusetts Department of Conservation and Recreation (DCR) Office of Dam Safety (ODS) guidelines.	It is recommended that the updated dam break analysis be performed and incorporated into the 2024 Emergency Action Plan (EAP) update by the end of 2024.
3. Establish Design Basis Values (DBVs) for the observation wells (OWs) and vibrating wire piezometers (VWPs) by determining the maximum allowable reading that will meet current MassDCR ODS stability criteria. Threshold and action levels should also be established as early warning signs of a potential dam safety concerns. DBVs and threshold / action levels should be established for critical instrumentation (as determined during the evaluation).	It is recommended that DBVs and threshold / action levels be established by the end of 2024.

Monitoring and Maintenance

GZA recommends that the Dam be maintained and monitored in accordance with the OM&M Plan. In addition, the following items should be monitored and maintained:

Recommendation	Current Status/Schedule
1. Monitor the gate operator grease leak until the cracks are repaired.	This condition will continue to be monitored during quarterly and biennial inspections until the repair recommended in Item #2 under Minor Repairs (below) is made.
2. Continue to monitor the rust on the trash rack.	This condition is monitored during quarterly and biennial inspections, as well as during dive inspections, which are completed every five years. The next dive inspection is scheduled for 2025.
3. Continue to monitor the cracking and efflorescence in the forebay concrete upstream face below the abandoned operator.	This condition is monitored during quarterly and biennial inspections.
4. Monitor the crack at gate platform concrete step for potential future repair if needed.	This condition will be monitored during quarterly and biennial inspections.
5. Continue to monitor the location of the two apparent seeps through the left spillway training wall.	These conditions are monitored during quarterly and biennial inspections.
6. Continue to monitor the debris on tailrace, forebay trashracks, area around forebay, spillway, upstream buoys, and energy dissipators for potential removal where needed.	These conditions are monitored during quarterly and biennial inspections.
7. Continue to visually monitor the low area of riprap stones at the downstream toe of slope on the right embankment.	This condition is monitored during quarterly and biennial inspections.
8. Continue to monitor the slight tilt in well GZ-6.	This condition is monitored during quarterly and biennial inspections.

Minor Repairs

GZA recommends the following minor repairs be performed at the Dam:

Recommendation	Schedule
1. Remove the woody vegetation that was observed on the upstream slopes of the left and right embankments.	Vegetation management is performed regularly in accordance with the OM&M Plan. Vegetation will be removed during 2024 scheduled maintenance activities.
2. Repair the gate operator where two small cracks and a minor grease leak were observed.	The gate operator will be repaired during 2024 scheduled maintenance activities.
3. Repair / restore the legibility of the three staff gages that are installed at the Dam – one each on the upstream right and left spillway training walls and one on the downstream right training wall. In addition, install another staff gage within the forebay.	The staff gages will be replaced or restored and a new staff gauge installed during a low-flow period in 2024.
4. Repair the broken Lexan panels and gate latch along the top of the right spillway training wall and replace the missing panels.	The panels and latch will be repaired / replaced in the first quarter in 2024.

Remedial Modifications

In GZA's opinion, no remedial modifications are necessary at this time.

Dam Evaluation Summary Detail Sheet

1. NID ID:	**MA00250**	**4. Inspection Date:**	**November 15, 2023**
2. Dam Name:	**Rising Pond Dam**	**5. Last Insp. Date:**	**November 11, 2021**
3. Dam Location:	**Great Barrington, MA**	**6. Next Inspection:**	**November 15, 2025**
7. Inspector:	**Jonathan D. Andrews, P.E.**		
8. Consultant:	**GZA GeoEnvironmental, Inc.**		
9. Hazard Code:	**Significant**	**9a. Is Hazard Code Change Requested?:**	**No**
10. Insp. Frequency:	**5 Years**	**11. Overall Physical Condition of Dam:**	**SATISFACTORY**
12. Spillway Capacity (% SDF)	**>100% SDF w/ no actions by Caretaker**		

E1. Design Methodology:	**4**	**E7. Low-Level Discharge Capacity:**	**5**
E2. Level of Maintenance:	**5**	**E8. Low-Level Outlet Physical Condition:**	**4**
E3. Emergency Action Plan:	**5**	**E9. Spillway Design Flood Capacity:**	**5**
E4. Embankment Seepage:	**4**	**E10. Overall Physical Condition of the Dam:**	**4**
E5. Embankment Condition:	**4**	**E11. Estimated Repair Cost:**	**Not applicable**
E6. Concrete Condition:	**4**		

Evaluation Description

E1: DESIGN METHODOLOGY
1. Unknown Design – no design records available
2. No design or post-design analyses
3. No analyses, but dam features appear suitable
4. Design or post design analysis show dam meets most criteria
5. State of the art design – design records available & dam meets all criteria

E2: LEVEL OF MAINTENANCE
1. Dam in disrepair, no evidence of maintenance, no O&M manual
2. Dam in poor level of upkeep, very little maintenance, no O&M manual
3. Dam in fair level of upkeep, some maintenance and standard procedures
4. Adequate level of maintenance and standard procedures
5. Dam well maintained, detailed maintenance plan that is executed

E3: EMERGENCY ACTION PLAN
1. No plan or idea of what to do in the event of an emergency
2. Some idea but no written plan
3. No formal plan but well thought out
4. Available written plan that needs updating
5. Detailed, updated written plan available and filed with MADCR, annual training

E4: SEEPAGE (Embankments, Foundations, & Abutments)
1. Severe piping and/or seepage with no monitoring
2. Evidence of monitored piping and seepage
3. No piping but uncontrolled seepage
4. Minor seepage or high volumes of seepage with filtered collection
5. No seepage or minor seepage with filtered collection

E5: EMBANKMENT CONDITION (See Note 1)
1. Severe erosion and/or large trees
2. Significant erosion or significant woody vegetation
3. Brush and exposed embankment soils, or moderate erosion
4. Unmaintained grass, rodent activity and maintainable erosion
5. Well maintained healthy uniform grass cover

E6: CONCRETE CONDITION (See Note 2)
1. Major cracks, misalignment, discontinuities causing leaks, seepage or stability concerns
2. Cracks with misalignment inclusive of transverse cracks with no misalignment but with potential for significant structural degradation
3. Significant longitudinal cracking and minor transverse cracking
4. Spalling and minor surface cracking
5. No apparent deficiencies

E7: LOW-LEVEL OUTLET DISCHARGE CAPACITY
1. No low level outlet, no provisions (e.g. pumps, siphons) for emptying pond
2. No operable outlet, plans for emptying pond, but no equipment
3. Outlet with insufficient drawdown capacity, pumping equipment available
4. Operable gate with sufficient drawdown capacity
5. Operable gate with capacity greater than necessary

E8: LOW-LEVEL OUTLET PHYSICAL CONDITION
1. Outlet inoperative needs replacement, non-existent or inaccessible
2. Outlet inoperative needs repair
3. Outlet operable but needs repair
4. Outlet operable but needs maintenance
5. Outlet and operator operable and well maintained

E9: SPILLWAY DESIGN FLOOD CAPACITY
1. 0 - 50% of the SDF or unknown
2. 50-90% of the SDF
3. 90 - 100% of the SDF
4. >100% of the SDF with actions required by caretaker (e.g. open outlet)
5. >100% of the SDF with no actions required by caretaker

E10: OVERALL PHYSICAL CONDITION OF DAM
1. UNSAFE – Major structural, operational, and maintenance deficiencies exist under normal operating conditions
2. POOR - Significant structural, operation and maintenance deficiencies are clearly recognized under normal loading conditions
3. FAIR - Significant operational and maintenance deficiencies, no structural deficiencies. Potential deficiencies exist under unusual loading conditions that may realistically occur. Can be used when uncertainties exist as to critical parameters
4. SATISFACTORY - Minor operational and maintenance deficiencies. Infrequent hydrologic events would probably result In deficiencies.
5. GOOD - No existing or potential deficiencies recognized. Safe performance is expected under all loading including SDF

E11: ESTIMATED REPAIR COST

Estimation of the total cost to address all identified structural, operational, maintenance deficiencies. Cost shall be developed utilizing standard estimating guides and procedures

Changes/Deviations to Database Information since Last Inspection

Owner conducts biennial inspections (every 2-years) in accordance with the current Operations, Monitoring, and Maintenance Plan.

PREFACE

The assessment of the general condition of the Rising Pond Dam reported herein was based upon available data and visual inspections. Detailed investigations and analyses involving topographic mapping, subsurface investigations, testing and detailed computational evaluations were beyond the scope of this report unless reported otherwise.

In reviewing this report, it should be realized that the reported condition of the dam was based on observations of field conditions at the time of inspection, along with data available to the inspection team.

It is critical to note that the condition of the dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the reported condition of the dam will continue to represent the condition of the dam at some point in the future. Only through continued care and inspection can there be any chance that unsafe conditions be detected.

Jonathan D. Andrews, P.E.

Massachusetts License No.: 46462
Principal-In-Charge
GZA GeoEnvironmental, Inc.

Seth D. Krause, P.E.

Massachusetts License No.: 54114
Project Manager
GZA GeoEnvironmental, Inc.

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1.0 DESCRIPTION OF PROJECT

1.1 GENERAL

1.1.1 Authority

The General Electric Company (GE) retained GZA GeoEnvironmental, Inc. (GZA) to perform a visual inspection/evaluation and develop a report of conditions for the Rising Pond Dam (the Dam) along the Housatonic River in Great Barrington, Berkshire County, Massachusetts, as required by GE's revised Operation, Monitoring, and Maintenance Plan (OM&M Plan) for Rising Pond Dam, dated August 14, 2019, and subsequent amendment dated September 14, 2020, which were approved by the United States Environmental Protection Agency (EPA) on August 27, 2019 and October 6, 2020, respectively. This inspection was performed on November 15, 2023, and this report was prepared in accordance with Section 3.2 of that OM&M Plan (which requires biennial Phase 1 engineering inspections of this Dam) and with M.G.L. Chapter 253, Sections 44-50 of the Massachusetts General Laws as amended by Chapter 330 of the Acts of 2002. This report is subject to the Limitations in **Appendix A**.

GE's OM&M Plan was developed and submitted pursuant to a Permit that was initially issued by EPA in 2016 under the federal Resource Conservation and Recovery Act (RCRA) for the Rest of River portion of the GE-Pittsfield/Housatonic River Site. That Permit was subsequently revised and re-issued by EPA on December 16, 2020.

1.1.2 Purpose of Work

The purpose of the Phase 1 engineering investigation/evaluation was to inspect and evaluate the present condition of the dam and appurtenant structures in accordance with Section 3.2 of the OM&M Plan and 302 CMR 10.07 to provide information that will assist in both prioritizing dam repair needs and planning/conducting maintenance and operations.

The investigation was divided into three parts: (1) obtain and review available reports, investigations, and data previously submitted to the owner pertaining to the dam and appurtenant structures; (2) perform a visual inspection of the Dam; and (3) prepare and submit a final report presenting the evaluation of the structure, including recommendations for maintenance, repair, and remedial actions (if warranted).

1.1.3 Definitions

To provide the reader with a better understanding of the report, definitions of commonly used terms associated with dams are provided in **Appendix E**. Many of these terms may be included in this report. The terms are presented under common categories associated with dams which include: (1) orientation; (2) dam components; (3) size classification; (4) hazard classification; and (5) miscellaneous.

Elevations used in this report are referenced to the National Geodetic Vertical Datum of 1929 (NGVD29).

1.2 DESCRIPTION OF PROJECT

1.2.1 Location

Town: Great Barrington

County: Berkshire

Rising Pond Dam is a run-of-the-river structure located on the Housatonic River in the Housatonic or Risingdale section of Great Barrington, Massachusetts.

The left abutment of Rising Pond Dam is on Route 183 (at 285 Park Street, the Hazen Paper Mill). To access the right abutment from Route 183, one turns west onto Division Street, continues for 0.9 miles and proceeds north on Van Deusenville Road for about 1.1 miles to a railroad access gate on the right. On the east, a 0.3 mile path, capable of passing vehicular traffic, leads to the right side of the Dam.

The location of the Dam is shown on the United States Geological Survey (USGS) Great Barrington, MA topographic map (see **Figure 1**). The approximate coordinates are:

Latitude: 42.2424 N Longitude: 73.3577 W

1.2.2 Owner/Caretaker

The Dam is owned and operated by the General Electric Company. See **Table 1.1** (in Section 1.4 below) for the Owner and Caretaker names and contact information.

1.2.3 Purpose of the Dam

The original construction date, details, and purpose of the Rising Pond Dam are not known, but it is likely that Rising Pond Dam was constructed in the 1800s. The impoundment formerly provided water to power machinery in the adjacent mill complex. Sometime after 1934, the dam was used for power generation, which likely ceased in 1953, but certainly prior to 1979. The right embankment of the dam was previously used as a railroad embankment/bridge abutment. The purpose of the current Dam is to impound Rising Pond. It is GZA's understanding that this purpose includes impounding existing sediments that are impacted by polychlorinated biphenyls.

1.2.4 Description of the Dam and Appurtenances

The Rising Pond Dam currently consists of left and right earth embankments, with a spillway and outlet works. The outlet works consists of a low-level outlet controlled by a gate, an underground penstock pipe, a surge chamber, and a diversion channel. An aerial photograph of the Dam and its appurtenances is shown on **Figure 2**.

The spillway consists of a concrete facing with steel crest plate. The spillway is approximately 127 feet wide and 30 feet high, with a crest elevation of approximately 716.7 feet on the left side to 716.1 feet on the right side, with an average elevation of about 716.4 feet. Spillway training walls are a combination of concrete, grouted stone masonry, and steel sheetpile.

The low-level outlet is located directly to the left of the spillway. The low-level outlet works consist of a grouted stone masonry forebay with a steel trash rack, a concrete-walled gate chamber with sluice gate and a 14-foot-diameter steel penstock that extends approximately 110 feet downstream to a surge chamber next to the mill. The surge chamber is drained by an open diversion channel reinforced concrete tailrace that discharges to the Housatonic River approximately 150 feet downstream. The invert of the penstock is reported to be at elevation 699 feet. In the past, gate chamber drainage was provided by a 12-inch-diameter well drain that discharged through the left downstream training wall. Well drain flow was controlled by a valve located in a covered pit between the gate chamber and left training wall. The well drain is no longer needed because the diversion channel now provides gravity drainage for the penstock and the valve has not been operated in years. A fire protection pumphouse that services the mill building is located on the left embankment crest to the left of the forebay.

A wide embankment/fill area is present on the left side of the spillway and outlet structures. The upstream slopes are steep and have some riprap protection near the low-level outlet. The downstream slope is poorly defined and consists of the mill.

The right earthen embankment is approximately 38 feet high, with upstream and downstream slopes of approximately two horizontal to one vertical (2H:1V). Slope protection at the waterline consists of a combination of steel sheetpiles and riprap. A shed for instrumentation leads has been installed at the crest near the right spillway training wall.

The shores of Rising Pond are generally wooded. Route 183 extends parallel to the east bank of the impoundment/river. An abandoned railroad bridge abutment and center pier are located immediately upstream of the dam. The western railroad bridge pier was formerly integral with the right embankment. The immediate downstream area includes the mill and wooded riverbanks. A USGS gaging station is located on the Division Street bridge approximately one mile downstream of the dam.

In accordance with the OM&M Plan, an updated topographic survey of the dam was conducted in February 2020 and an updated bathymetric survey was completed in August 2020. A plan showing the results of those surveys is included in **Appendix F.**

At EPA's direction, GE has installed and maintains warning signs at Rising Pond Dam. On August 10, 2020, GE submitted a proposal for the format, wording, and locations of those signs; and EPA issued a conditional approval letter for that proposal on September 4, 2020. The signs were installed in November and December of 2020, with one installed at a temporary location and later moved to its permanent location in October 2021.

1.2.5 Dam Construction History

The dam was originally constructed in the 1800s. The embankment was constructed of alluvial sand and gravel excavated from the west riverbank. Original upstream slopes ranged from 1.5H:1V to 4H:1V, and downstream slopes ranged from 1H:1V to 1.5H:1V. The original embankment height was about 17 feet. The spillway and railroad bridge abutment were reportedly constructed on rock-filled timber cribbing over grouted cobbles in timber cribbing laid on the original river bottom. The original spillway was about 17 feet high and was faced with wooden planks laid at a 1H:1V slope.

In 1934, the embankments and spillway were reportedly raised by about 10.5 feet and spillway flashboards were added. Rock-filled timber cribbing was placed above the original structure and new wooden facing was placed on the spillway.

In 1953, the dam was reportedly raised to elevation 716.5 feet. The stone masonry outlet channel training walls were replaced with a headgate and 14-foot diameter steel penstock. The downstream timber plank spillway facing was demolished and replaced with a concrete slab. The spillway crest was rebuilt with a concrete slab faced with a steel plate. The upstream timber plank facing was covered with sand and gravel fill covered by a new concrete apron slab and an upstream concrete wall was added.

Between 1991 and 1993, the dam was significantly rehabilitated. The rehabilitation generally included: installation of an upstream steel sheetpile cutoff wall; removal of the upstream timber plank spillway facing; filling of voids in the timber cribbing with peastone and sandy gravel; flowable fill placement in voids below the crest and upstream slab; installation of tiedowns and passive H-pile shear keys in the downstream apron; replacement of deteriorated areas of spillway training wall concrete; repointing of the forebay walls and floor; replacement of forebay trash racks; construction of a concrete tailrace outlet channel and plugging of the former penstock where it entered the mill; placement of riprap slope armor; and raising of the right embankment to elevation 727.0 feet. In addition, piezometers and observation wells were installed in and below the embankment and spillway. In 2002, the forebay walls and right downstream training wall were repaired, and riprap was placed and reworked at the upstream slope and downstream toe of the right embankment.

By the early 2000s, the 14-foot sluice gate stem had become inoperable due to a broken gate stem. A replacement slide gate was installed in 2005. In 2010, new steel plate covers, fencing, bollards, and ladders were installed for the gate platform and well drain platform.

In 2011 through 2013, the dam underwent repairs and rehabilitations to address embankment depressions that had formed behind the right downstream training wall and to address undermining of the downstream spillway apron and downstream right training wall. During this rehabilitation, sheetpiles were installed along the upstream edge of the right embankment crest. The new sheetpiles overlapped the existing crest sheetpiles and extended the line of sheeting approximately 60 feet westward (right). The right embankment was regraded, including levelling the crest to a uniform elevation 728.0 feet. The right training wall at the top of the embankment was extended upward by two feet to accommodate the crest levelling.

As part of the 2011 through 2013 repairs, a row of sheetpiles was installed at the downstream end of the spillway apron and a new 2-foot-thick reinforced concrete downstream spillway apron was constructed. The timber cribbing and rubble fill underneath the apron slab was filled with un-reinforced, high-slump concrete. Concrete energy dissipaters were constructed on the downstream end of the apron. Riprap was refreshed in the discharge channel adjacent to the spillway apron. The downstream portion of the right training wall was refaced and raised by up to two feet. Voids under the downstream portion of the right training wall were filled with diver-placed grout bags and a two-phase program of cementitious grouting was performed within the embankment adjacent to the training wall. Riprap was placed behind (right of) the right training wall, including placement of geomembrane within the riprap to help convey training wall splash-over downstream. Right training wall splash-over occurs adjacent to the energy dissipators during high flow events. Lexan panels were placed in the fence (in lieu of chain-link fabric) to mitigate the splash-over and help reduce ice formation during winter months. Areas of the left side stone masonry training wall were repointed. Piezometers were rewired to the instrument shed and anchors for warning buoys were installed upstream of the spillway.

In August 2021, the penstock slide gate underwent inspection, repairs, and rehabilitation to address the seating of the gate. This work included the installation of new gate seals, which was completed with the gate removed. During the rehabilitation, a gap was observed between the gate and sill where leakage had previously been observed. A stainless-steel shim was fabricated and welded onto the bottom of the gate to help match the gate

bottom to the sill. The gate was reset, and the leakage rate was found to be reduced by an order of magnitude or two. After repair, personnel could approach the gate for close inspection, probing, and measurements. This was a marked improvement over the 2015 condition, which prevented the inspector from getting within four feet of the gate.

In addition, in the fall of 2021, pursuant to a design submitted by GE and approved by EPA on September 4, 2020, the left embankment was raised (by about 1.2 feet next to the fire protection pumphouse and tying into natural ground about 25 feet to the east) to bring the top elevation of the embankment above the 500-year flood pool level.

In November 2021, deteriorated railings around the forebay were replaced, along with steel plates to provide forebay overtopping protection during a 500-year flood event. The concrete walking surface was also replaced in November 2021. In November 2021, the impoundment was lowered, and low-flow conditions were present at the dam, allowing for the removal of debris stuck on the spillway and cleaning of the weepholes. In 2023, repairs were made to deteriorated brick masonry on the left forebay wall.

A low area in the penstock was observed during a visual inspection conducted by GZA in October 2021, indicating a possible settled area or "belly". The area of possible settlement was observed about 110 feet upstream of the tailrace. As a result, penstock investigations began in 2022 / 2023 to determine the potential cause of the possible settled area and determine if there is active movement or settlement of the penstock.

As of the end of 2023, a series of penstock investigations had been performed. The investigations included topographic surveys of the area above the penstock and the invert, crown and springlines of the penstock; penstock ovality measurements; a ground penetrating radar (GPR) survey of the area above the penstock; a dive inspection in the forebay upstream of the intake gate / penstock; test borings; test pits; ultrasonic thickness (UT) testing; and internal visual inspections. A mid-year status report summarizing the results of the investigations through June 2023 was submitted to EPA on August 16, 2023. An end-of-year status report summarizing the results of the investigations from June 2023 through the end of 2023 is currently being developed as of the date of this report.

A list of previous reports and references is included in **Appendix D**.

1.2.6 Operations and Maintenance

GE is the owner of the Rising Pond Dam and is responsible for overseeing the operations and maintenance of the dam. The current Caretaker on GE's behalf is:

Kevin Mooney
General Electric Company
Global Operations – Environment, Health & Safety
1 Plastics Avenue
Pittsfield, MA 01201
Daytime Phone: 413-553-6610 (Direct Office Number)
Cell Phone: 413-441-4619

On GE's behalf, GZA personnel conduct visual inspections of the Dam on a quarterly basis as required by the approved OM&M Plan. Inspection checklists for those quarterly inspections are included in Appendix C of the OM&M Plan. Operations and maintenance requirements of the Dam are also described in the OM&M Plan.

1.2.7 DCR Size Classification

Rising Pond Dam has a height of approximately 40 feet and a maximum storage capacity of 710 acre-feet. Refer to **Appendix E** for definitions of height of dam and storage. Therefore, in accordance with the classification procedures of the Massachusetts Department of Conservation and Recreation (MassDCR) Office of Dam Safety (ODS), under the Massachusetts Dam Safety Regulations in 302 CMR 10.00 as amended by Chapter 330 of the Acts of 2002, Rising Pond Dam is an **Intermediate** size structure based on maximum storage between 50 and 1,000 acre-feet.

1.2.8 DCR Hazard Potential Classification

In accordance with MassDCR classification procedures, under the Massachusetts Dam Safety Regulations, Rising Pond Dam is classified as a Dam with **Significant** hazard potential. This hazard class (Significant Hazard) assessment is consistent with the hazard class for the Dam on record with the MassDCR ODS. No change in hazard classification is recommended.

1.3 PERTINENT ENGINEERING DATA

1.3.1 Drainage Area

The drainage area for Rising Pond Dam is approximately 279 square miles and encompasses a large portion of western Massachusetts along the New York border. The drainage area includes large areas of agricultural and residential development, wooded mountainous terrain, and several small urban areas. The upstream watershed is delineated on **Figure 3** and the downstream area plan is shown on **Figure 4**.

1.3.2 Reservoir

See **Summary Data Table 1.1** in Section 1.4 for data regarding normal, maximum, and spillway design flood (SDF)pools. Reservoir surface area and storage volume data presented are based on previous analyses, as well as data presented in the 1979 U.S. Army Corps of Engineers Phase I Inspection Report.

1.3.3 Discharges at the Dam Site

Rising Pond Dam's run-of-the-river spillway constantly discharges water unless the low-level sluice gate is opened to reduce the level of the impoundment.

1.3.4 General Elevations (feet, NGVD29)[1]

A.	Top of Dam Embankment:	728.0 (right side); 727.0 (left side)
B.	Spillway Design Flood Pool:	724.4
C.	Normal Pool:	716.4 (average spillway crest el.)
D.	Spillway Crest:	716.1 to 716.8
E.	Low Level Outlet Invert:	699 ± (Foresight, 1990)
F.	Upstream Water at Time of Inspection:	718.0±

[1] These elevations have been updated based on the 2020 topographic and bathymetric survey.

G. Downstream Water at Time of Inspection: 694.5±

H. Streambed at Toe of the Dam: 692±

1.3.5 Main Spillway Data

A. Type: Concrete and steel -faced rock filled timber crib, ogee-shaped

B. Weir Length: 127.0 feet NGVD29

C. Weir Crest Elevation: 716.5± feet NGVD29

D. Upstream Channel: Housatonic River/Rising Pond

E. Downstream Channel: Housatonic River

F. Channel Bottom Elevation: 692.0 feet NGVD29

1.3.6 Intake/Outlet Works

A. Intake Type: Slide gate-controlled penstock

B. Outlet Size: 14-foot-diameter

C. Intake Invert El: 699 ± NGVD29 (Foresight, 1990)

1.3.7 Key Elevations to be Monitored

The following table of elevations at key points are required to be monitored by survey in accordance with the requirements of the OM&M. Locations are shown on the most recent topographic and bathymetric plan in **Appendix F**.

Point	Location	Elevation, feet NGVD 29
A	Right side top of spillway training wall at top of dam	728.5
B	Right side spillway training wall at angle	703.8
C	Right side top of spillway training wall at bottom of slope	703.2
D	GZ-2-OW top of casing	729.8
E	GZ-5-OW/PZ top of casing	726.4[1]
F	GZ-7-OW top of casing	712.6
G	Right end of right side sheetpile wall	725.4
H	Upstream, right corner of left side forebay sheetpile wall	723.3
I	Center gate mount	729.3
J	Centerline downstream end of concrete spillway	695.5
K	Left side corner of downstream end of concrete spillway	695.6
L	Right end downstream end of concrete spillway	695.6
M	Centerline spillway crest	716.4
N	Left end spillway crest (at wall)	716.8
O	Right end spillway crest (at wall)	716.1
P	Rebar monitoring point at low area	700.7

1. The casing for well GZ-5 was repaired after the second quarterly inspection for 2022. The casing elevation will be surveyed during the next scheduled topographic survey in 2025.

1.3.8 Design and Construction Records and History

Construction drawings for the early 1990s rehabilitation; the construction from 2011 through 2013; and the 2021 right embankment raising are available. Drawings and records from construction prior to the 1990s were not available to GZA at the time of the inspection. Drawings and construction records are available through the Caretaker.

1.3.9 Operating Records

Quarterly visual inspections of the dam include readings of the vibrating wire piezometers and open standpipe piezometers. These records are maintained by the Caretaker and submitted to EPA in the quarterly inspection reports. A summary of collected instrumentation data and water level records is included as **Appendix G**.

1.4 SUMMARY DATA TABLE

See the following page for **Table 1.1, Summary Data Table**.

1.1 Summary Data Table

Required Phase 1 Report Data	Data Provided
National ID #	MA00250
Dam Name	Rising Pond Dam
Dam Name (Alternate)	Rising Paper Company Dam, Rising Dam
River Name	Housatonic River
Impoundment Name	Rising Pond
Hazard Class	Significant
Size Class	Intermediate
Dam Type	Earthfill embankment with gravity spillway
Dam Purpose	Impound Rising Pond Reservoir / PCB sediments
Structural Height of Dam (feet)	38
Hydraulic Height of Dam (feet)	30
Drainage Area (sq. mi.)	279
Reservoir Surface Area (acres)	441
Normal Impoundment Volume (acre-feet)	195 at El. 716.4
Max Impoundment Volume ((top of dam) acre-feet)	710 at El. 726.2
SDF Impoundment Volume (acre-feet)	710
Spillway Type	Ogee overflow weir
Spillway Length (feet)	130
Freeboard at Normal Pool (feet)	10.3
Principal Spillway Capacity (cfs)	17,093 at El. 726.2 (500-year flood)
Auxiliary Spillway Capacity (cfs)	Not applicable
Low-Level Outlet Capacity (cfs)	±3,300 at El. 726.2
Spillway Design Flood* (flow rate - cfs)	100-year / 11,700
Winter Drawdown (feet below normal pool)	Not applicable
Drawdown Impoundment Vol. (acre-feet)	Not applicable
Latitude	42.2424 N
Longitude	73.3577 W
City/Town	Great Barrington
County Name	Berkshire
Public Road on Crest	No
Public Bridge over Spillway	No
EAP Date (if applicable)	12/14/2023
Owner Name	General Electric Company
Owner Address	1 Plastics Avenue
Owner Town	Pittsfield, MA 01201
Owner Phone	413-448-6610
Owner Emergency Phone	413-441-4619
Owner Type	Private
Caretaker Name	Kevin Mooney, Senior Project Manager
Caretaker Address	1 Plastics Avenue
Caretaker Town	Pittsfield, MA 01201
Caretaker Phone	413-448-6610
Caretaker Emergency Phone	413-441-4919
Date of Field Inspection	11/15/2023
Consultant Firm Name	GZA GeoEnvironmental, Inc.
Inspecting Engineer	Jonathan D. Andrews, P.E.
Engineer Phone Number	(781) 983-2881

2.0 INSPECTION

2.1 VISUAL INSPECTION

Rising Pond Dam was inspected on November 15, 2023 by Jonathan Andrews, P.E., Seth Krause, P.E., and Leslie DeCristofaro, E.I.T. of GZA. Tom Czelusniak of HDR, Inc. (representing EPA) was also present during the inspection.

It should be noted that, on September 14, 2020, in response to a directive from EPA, GE submitted an Amendment to the OM&M Plan stating that the biennial Phase 1 inspections of Rising Pond Dam would be conducted on a schedule that alternates between normal-flow and low-flow river conditions, so that the spillway could be dewatered and observed under low-flow conditions every four years. The 2021 Phase 1 Inspection included dewatered spillway observations. Accordingly, the November 15, 2023 Phase 1 inspection was conducted under normal-flow river conditions. The 2025 Phase 1 inspection will be conducted under low-flow conditions in accordance with the current approved OM&M Plan, subject to river flow conditions at the time of the inspection.

At the time of the November 2023 inspection, the weather was partly cloudy, and the temperature was in the 40s °F. Elevated river flow hindered observations of some components of the Dam. Photographs to document the current conditions of the Dam were taken during the inspection and are included in **Appendix B**. A site plan with photograph locations is provided on **Figure 5**, and a site sketch showing unusual conditions of note is provided on **Figure 6**. The approximate elevation of the impoundment at the time of inspection was about El. 718.0 feet. Underwater areas were not inspected during this inspection.

2.1.1 General Findings

In general, the Dam was found to be in **SATISFACTORY** condition, which remains unchanged from the previous Phase 1 inspection conducted in November 2021. Specific conditions identified during this Phase 1 inspection are described in more detail in the sections below. A copy of the inspection checklist is provided in **Appendix C**.

2.1.2 Dam

The top (crest) of the left and right embankment is grassed. Although the ground is slightly uneven, signs of sinkholes, puddles, or depressions in the embankment crests were not observed. The top of the right embankment can be used as vehicular access to the instrumentation shed and for vegetation and other maintenance. Erosion and rutting were not observed along the top of the dam.

The right embankment downstream slope is mostly grassed. At the right training wall groin and along the toe, the slope is protected by riprap. There is a slight “low area” in the downstream riprap near the toe of the right embankment. Its approximate dimensions are ±9 feet (left to right) by ±7½ feet (upstream to downstream) by ±4 inches deep. The low area was observed to be of similar size to that observed in past inspections and continues to remain stable since it was marked in February 2020.

Standing water was present beyond the downstream toe of the slope, which is a typical condition during high-flow periods. The water does not appear to be seepage through the embankment.

The upstream slope of the right embankment is protected with riprap and steel sheet piling. The upstream slope of the left embankment includes steel sheet piling and a soil slope. Overall, no signs of settlement, sliding, unusual movement, or erosion were observed. The steel sheeting on both the left and right embankments appeared to be in good condition. Minor overgrown vegetation on the upstream slope of both the right and left embankments was observed.

2.1.3 Appurtenant Structures

Primary Spillway

Observation of and access to the spillway were limited by flow. Generally, the ogee flow appeared to be fairly smooth and laminar. The next low-flow inspection is scheduled for 2025.

Two areas of apparent seepage through the stone masonry left training wall had been observed during previous site visits. Photographs indicate that these areas of apparent seepage have been intermittently present over the past decade or so and do not appear to be a condition affecting dam function. Based on these observations, the seepage source is likely the forebay and not groundwater. The surrounding masonry will continue to be visually observed for changes in seepage or signs of movement.

Debris was observed to be caught in the safety buoys upstream of the spillway, as well as in the energy dissipators at the toe of the spillway on the left and right sides of the spillway. The debris did not appear to be impacting flow.

Damage to the fencing / paneling along the right-side concrete spillway training wall was observed during the inspection. One Lexon panel was missing and the gate at the training wall slope transition was loose / unable to be latched.

Low-Level Outlet

The low-level outlet structure was accessed via the locked gate to the left of the structure. A crack was observed in the concrete step to the left of the forebay platform.

The intake / penstock gate was operated by the caretaker prior to the inspection. No operability issues were reported. Minor cracks and grease leaks were observed in the penstock / intake gate operator. This condition has been observed since at least the 2021 Phase 1 inspection.

Minor surficial rusting of the trashracks upstream of the low-level outlet was observed. This condition is similar to that observed in previous inspections.

The left brick forebay training wall was repaired with a concrete overlay in the fall of 2023. The repair was observed to be in good condition.

Minor cracking and efflorescence on the upstream and downstream faces of the low-level outlet gate platform concrete structure was observed. This condition on the upstream face appears to be similar to that observed in previous inspections.

A low area in the penstock was observed during a visual inspection conducted by GZA in October 2021, indicating a possible settled area or "belly." The area of possible settlement was observed about 110 feet upstream of the tailrace. As a result, penstock investigations began in 2022 / 2023 to determine the potential cause of the possible settled area and to determine whether there is active movement or settlement of the penstock. As of the end of 2023, a series of penstock investigations have been performed, including the following: topographic surveys of the area above the penstock and the invert, crown and springlines of the penstock; penstock ovality measurements; a ground penetrating radar (GPR) survey of the area above the penstock; a dive inspection in the forebay upstream of the intake gate / penstock; test borings; test pits; ultrasonic thickness (UT) testing; and internal visual inspections. A mid-year status report summarizing the results of the investigations through June 2023 was submitted to EPA on August 16, 2023. An end-of-year status report summarizing the results of the investigations from June 2023 through the end of 2023 is currently being developed as of the date of this report.

The grassy area above the buried penstock was observed during this inspection. Areas of disturbance due to ongoing penstock investigations were observed. Based on discussion with mill staff, the previously observed "three parallel shallow linear surficial depressions" that were observed during quarterly inspections in 2023 were intentionally created by the mill owners to direct rain runoff away from the mill building. These surficial depressions are not considered a dam safety concern.

2.1.4 Instrumentation

Three staff gages are installed at the spillway. There are two gages that measure headwater levels: one each on the upstream left and right training walls. There is one gage that measures tailwater on the right downstream training wall. The numbers on each of the three gages are fading and becoming difficult to read.

Active instrumentation at the Dam includes five observation wells (OWs) and 22 vibrating wire piezometers (VWPs). Instrumentation measurements are taken during quarterly inspections by GZA.

The OWs are read using a manual water level meter. The depth to water from the top of protective casing (i.e., standpipe or flush-mounted road box) is measured and recorded at each OW. These depths are converted to water elevations based on the known top of protective casing elevation.

The VWPs are read using a Geokon VWP readout unit (typically a GK-403 or GK-404). The readings are recorded in digits, a unit of measure relative to the frequency of the vibrating wire mechanism inside the piezometer. These digits are converted to frequencies, pressures, and water elevations using a series of conversion factors specific to each individual VWP.

The water elevations measured in each OW and the digits recorded at each VWP are compared to historically observed water elevations / digits based on data collected between 2011 and 2016, along with action levels established in 2007. Water elevations / digits that are outside of the action levels or 2011 to 2016 expected water elevation range are marked as such and reviewed by GZA to determine if action is required. The OW and VWP measurements that were collected during the quarterly and Phase 1 inspections are plotted (water elevation vs. time) every two years in conjunction with the Phase 1 inspection / evaluation.

The OW and VWP readings between the 2021 Phase 1 and 2023 Phase 1 were reviewed and evaluated as part of this 2023 Phase 1 inspection / evaluation. Overall, the OW and VWP readings remained within action levels and the 2011 to 2016 expected range during this review period. A few readings during this review period were noted

as slightly outside of the action levels and 2011 to 2016 expected range; however, these readings were not considered to be a dam safety concern and no action was required.

Since May 2022, grout bag measurements have been performed at the Dam to monitor scour below the downstream right spillway training wall. The depth is measured from the top of seven locations along the right downstream spillway training wall to the channel bottom. Currently, the goal has been to establish a baseline for future readings. To date, measurements have been taken quarterly by GZA with little to no fluctuation observed in the measurements.

Instrumentation plots showing all available readings for each active OW and VWP, and the grout bag measurements at each monitoring point, are included in **Appendix G**.

2.1.5 Downstream Area

The downstream area of the Dam is the Housatonic River. Downstream of the Dam are mostly homes, businesses, and secondary roads. USGS stream gage #01197500 is located at the Division Street Bridge, about one mile downstream of the Dam.

2.1.6 Reservoir Area

The reservoir is an impoundment of the Housatonic River.

2.2 CARETAKER INTERVIEW

Kevin Mooney, GE's Dam Caretaker, and GE's Dam Contractor, LB Corporation, were available prior to the visual inspection of the Dam. GZA maintains regular communication with both the Caretaker and the Dam Contractor regarding the operations, monitoring, and maintenance of the Dam.

2.3 INSPECTION AND MAINTENANCE PROCEDURES

The inspection and maintenance procedures for the Dam are specified in the August 2019 OM&M Plan and the September 14, 2020 amendment to it and are briefly summarized below.

2.3.1 Inspection Procedures

The dam is inspected by GZA personnel on GE's behalf on a quarterly basis using the forms in Appendix C to the OM&M Plan. In addition to visually inspecting the dam, the quarterly inspections include photographing specific locations and recording active piezometer and monitoring well levels. Collected instrumentation data are included in **Appendix G**. Additional inspections are conducted in accordance with Section 3 of the OM&M Plan.

GE monitors the USGS Advanced Hydrologic Prediction Service, which forecasts river flows on the Housatonic River in Great Barrington. Generally, the sluice gate is left in a closed position; however, during extreme weather events, it may be operated to allow river flow to pass.

The following inspections have been conducted since the 2021 Phase 1 inspection/evaluation:

- Quarterly Inspections on March 4, May 27, September 6, and November 21, 2022, and February 2, May 30, and August 17 2023.

- Post-storm inspections on July 17 and December 21, 2023.

The following have been performed in support of the ongoing penstock investigations:

- Penstock observations in conjunction with geophysical testing, performed on June 28 to 30, 2022;

- First topographic survey, ovality measurements, ground penetrating radar survey, performed on June 13 and June 15, 2023;

- A forebay dive inspection, performed on June 13, 2023;

- Installation of test pits and borings, performed on October 2 and 3, 2023; and

- Second topographic survey, ovality measurements, UT testing, penstock observations, performed on December 12, 2023.

As previously mentioned, a mid-year status report summarizing the results of the penstock investigations through June 2023 was submitted to EPA on August 16, 2023; and an end-of-year status report summarizing the results of the investigations from June 2023 through the end of 2023 is currently being developed.

2.3.2 Maintenance of Dam and Operating Facilities

Maintenance of the Dam is conducted in accordance with Sections 4.1 and 4.2 of the OM&M Plan. Maintenance includes, but is not limited to, vegetative maintenance, cleaning of the spillway and low-level outlet, gate system maintenance, minor erosion repair, rodent damage control, slope traffic damage control, seepage damage control, riprap damage control, sediment removal where necessary, weephole cleaning, concrete and masonry maintenance, metal component maintenance, spillway toe riprap maintenance, instrumentation repair, security item repair, access road maintenance, and sign maintenance. There is no quantitative action level for sediment removal; the criterion is whether the build-up interferes with the flow of water through flow control structures. GE performs additional maintenance activities as they are required after identification during inspections.

A summary of the monitoring, maintenance, and repair items that were identified at or since the 2021 Phase 1 inspection (including those observed during the November 15, 2023 Phase 1 inspection) and that had not been addressed as of the date of the last prior quarterly inspection is provided in the maintenance tracking table in **Appendix H**, along with their current status (e.g., completed, scheduled, subject to ongoing monitoring).

2.4 EMERGENCY WARNING SYSTEM

There is no physical early warning system at Rising Pond Dam. Quarterly inspections of the Dam are conducted by dam safety engineers. An Emergency Action Plan (EAP) was developed in 2000, and is updated annually, with the most recent major revision in August 2019, which was attached as Appendix B to the OM&M Plan, and the latest update submitted on December 14, 2023. Inundation mapping with updated base mapping from

December 2023 is included in **Appendix F**. As indicated in Section 3.2.1 below, an updated dam break analysis is recommended to support updated inundation mapping. The current inundation mapping was developed in 1991 using the National Weather Service dam break model available at that time. In the 30+ years since that time, updated dam break analytical tools have been developed.

2.5 AWARENESS OF POTENTIAL DAM RELATED SAFETY HAZARDS AT, NEAR, AND ON DAMS

The dam has chain link fencing to deter access on the left side. Access on the right side is deterred by a locked railroad gate and chain link fencing along the training wall. Access to the gate platform and spillway is deterred by locked gates in the fencing. Dam warning signs are installed upstream and downstream of the Dam, and a buoy line is installed upstream of the Dam.

2.6 HYDROLOGIC/HYDRAULIC DATA

Hydrologic and hydraulic (H&H) analyses had previously been performed by GZA as part of the Phase II evaluation in 2012. The conclusion of the Phase II evaluations was that the spillway has sufficient capacity to safely pass the 100-year Spillway Design Flood (SDF). An evaluation of the 500-year return period flood was also performed. The results of those analyses indicated that the spillway has sufficient capacity to safely pass the 500-year flood without overtopping the embankment. The penstock was assumed closed in the evaluations.

Results of the evaluation indicated that the maximum 500-year flood pool elevation is 726.2 feet, which would have overtopped the concrete forebay section by about 0.2 foot during a 500-year flood event prior to the left earthen berm and forebay raising projects completed in October and November 2021.

The H&H data compiled from previous reports made available by GE are as follows:

A.	SDF Return Period	100 year
B.	SDF Elevation	724.4 feet
C.	SDF Inflow (cubic feet per second [cfs])	11,700 cfs
D.	SDF Outflow (cfs)	11,700 cfs
E.	Principal Spillway Capacity (cfs)	17,093 cfs (500-year flood)
F.	Auxiliary Spillway Capacity (cfs)	Not applicable
G.	Low-level Outlet Capacity (cfs)	3,300 cfs (at El. 726.2')
H.	Percentage of the SDF passed	>100%
I.	Maximum Depth of Overtopping for SDF (ft)	Not applicable
J.	Maximum Duration of Overtopping for SDF (hours)	Not applicable

It is GZA's opinion that the Dam has sufficient spillway capacity to accommodate the SDF required by MassDCR ODS regulations.

2.6 STRUCTURAL AND SEEPAGE STABILITY

2.6.1 Spillway Structural Stability

Stability and seepage analyses for the spillway had been performed by GZA as part of the Phase II evaluation in 2012. GZA evaluated the sliding stability of the concrete/timber crib spillway of the dam using the gravity method of analysis per Federal Energy Regulatory Commission (FERC) guidelines. The gravity analysis conservatively neglected the contribution of the upstream and downstream spillway aprons to overall stability of the force equilibrium model. A reduction in uplift forces observed in the piezometers at the dam due to the presence of steel sheeting upstream of the spillway was accounted for in the analysis. The results of the analysis indicated that the calculated factors of safety against sliding meet the criteria contained in the Massachusetts Dam Safety Regulations.

No visual indications of structural instability of the spillway were observed during this inspection.

2.6.2 Embankment Structural Stability

Stability and seepage analyses for three sections along the right embankment had also been performed by GZA as part of the Phase II evaluation in 2012. Calculated factors of safety for sudden drawdown from normal and maximum (SDF) pool, steady state seepage at maximum (SDF) pool and seismic loading at normal pool were adequate based on minimum required factors of safety by current Massachusetts Dam Safety Regulations. These evaluations were based on the 100-year SDF pool elevation of 724.4 feet.

As part of the Phase II evaluations, liquefaction susceptibility of embankment soils and spillway foundation soils was evaluated using the criteria outlined in the Massachusetts State Building Code (8th Edition). The results of the liquefaction assessment indicated that the foundation and embankment soils are not susceptible to liquefaction during a seismic event less than or equal to a Magnitude 6.0 Richter scale event (approximate return period of 2,475 years).

Although not required by the Dam Safety Regulations, the Phase II evaluation also included estimated slope stability factors of safety for rapid drawdown and steady state seepage at the 500-year flood elevation of 726.2 feet. The factors of safety against slope instability for the 500-year flood elevation were greater than 1.0.

No visual indications of structural instability of the embankment were observed during the November 2023 Phase 1 inspection.

2.6.3 Embankment Seepage Stability

Seepage evaluations had been performed by GZA as part of the 2012 Phase II evaluation. The Phase II evaluations indicated that the upstream sheeting provides an effective groundwater cutoff through the embankment fill and underlying sand/gravel glaciofluvial soils and the embankment provides adequate resistance to seepage with calculated factors of safety against seepage-induced piping of about 4.5.

No visual indications of seepage instability of the embankment were observed during the November 2023 inspection.

Historical seepage has been intermittently observed at the toe close to the river during previous inspections but does not appear to be a dam safety concern at this time.

2.6.4 Design Basis Values

As previously mentioned, the water elevations measured in each OW and the digits recorded at each VWP are compared to action levels and historically observed water elevations / digits to determine if there may be a dam safety concern. While comparing current instrumentation water elevations to historic water elevations provides a good indication of a changed condition, it does not provide information relative to the stability of the Dam's structures.

As discussed in Section 3.2.1 below, GZA recommends that design basis values (DBVs) and threshold / action levels be established for the instrumentation installed at the Dam. DBVs for the OWs and VWPs may be defined as the maximum water elevation that an instrument may experience without initiating a potential dam safety concern. In other words, if an OW or VWP reading exceeds the DBV, this may be an indication of a potential dam safety concern.

Threshold / action levels are used to indicate a significant departure from the normal range of readings. Threshold / action levels are assigned to trigger before DBVs are reached to allow the dam owner time to evaluate if the instrumentation readings are indicative of a dam safety concern and take action accordingly.

Establishing DBVs and threshold / action levels will shift the quarterly and biennial evaluation of the instrumentation readings from a comparison to action levels and historical values to an evaluation with respect to stability of the Dam's structures, which, in GZA's opinion, is a more meaningful comparison with respect to the continued safety of the Dam.

3.0 ASSESSMENT AND RECOMMENDATIONS

3.1 ASSESSMENT

In general, the overall condition of the Rising Pond Dam during the November 15, 2023 Phase 1 visual inspection was judged to be **SATISFACTORY**. This overall condition rating remains unchanged from the previous Phase 1 inspection conducted in November 2021. Based on the results of this inspection, the Dam is in compliance with MassDCR ODS regulations.

During the November 15, 2023 visual inspection, the Dam was found to have the following unusual conditions of note (several of which had also been noted in the prior Phase 1 inspection and/or in intervening quarterly inspections):

1. Some rust was present on the forebay trash rack. The rust appears similar to that observed during prior inspections and does not appear to be affecting the trash rack integrity.
2. Minor woody vegetation was observed on the upstream slopes of the left and right embankments.
3. There were two small cracks in the gate operator casing with accompanying minor grease leaks which do not affect gate operation.
4. A crack in the forebay concrete was visible on the upstream face below the abandoned operator. This crack has been observed in prior inspections and appears to be a stable condition.
5. A crack was observed in the concrete step to the left of the gate platform. The crack does not affect use of the step.
6. Logs were observed caught on the safety buoys upstream of the spillway. Two logs were also observed to be caught in the energy dissipators downstream of the spillway – one on the left and one on the right. These logs did not appear to be impacting flow.
7. The three staff gages installed at the Dam are becoming difficult to read due to faded numbers, particularly where water levels typically fluctuate.
8. Previously observed apparent seeps through the left spillway training wall were noted during this inspection. Photographs indicate that these seeps have been intermittently present over the past decade and do not appear to be affecting dam function.
9. A low area of riprap stones was observed at the downstream toe of slope on right embankment, as it was in prior inspections, and appears to be a stable condition.
10. Monitoring well GZ-6 is slightly tilted, as was previously observed; this condition appears to be stable.
11. Broken / missing Lexan panels and a non-functional gate latch were observed along the top of the right spillway training wall.
12. A low area in the penstock, indicating a possible settled area or “belly,” was observed during previous inspections. An internal penstock inspection was not conducted as part of the November 15, 2023 Phase 1 inspection; however, the “belly” was observed in 2023 during the ongoing penstock investigations.

The locations of these conditions are shown on **Figure 6**.

The following tables presents a comparison of the unusual conditions of note identified during the prior Phase 1 inspection in November 2021 to current conditions and the actions taken to address them.

Unusual Condition Identified in Prior Phase 1 Inspection	***Resolution or Current Status***
Minor surface deterioration of concrete was observed on the walking surface of the gate operator platform and right forebay training wall, as had also been observed during prior inspections.	The walking surface was repaired in November 2021.
Right forebay training wall/platform handrails were observed to have deteriorated, as had also been observed during prior inspection.	The handrails were replaced in November 2021.
There was a minor grease leak from the gate operator.	No change observed. The minor cracking and grease leaks do not affect gate operation.
Some rust was present on the forebay trash rack, as was also true during prior inspections, but it was not affecting the integrity of the trash rack.	No change observed. The condition is not considered to be affecting trash rack integrity and will continue to be monitored.
A crack in the forebay concrete was visible on the upstream face below the abandoned operator, as it was in prior inspections, and appears to be a stable condition.	No change observed. The condition is not considered to be affecting the integrity of the structure and will continue to be monitored.
Two vibrating wire piezometers were inoperable, as was true during prior inspections, and should be abandoned.	The vibrating wire piezometers were abandoned and are no longer monitored.
Some debris was observed on the upstream side of the trash rack at the forebay, as was also observed during prior inspections.	The debris was cleared during the 2021 inspection. No debris was observed upstream of the trash rack at the forebay during November 2023 Phase 1 inspection.
A low area of riprap stones was observed at the downstream toe of slope on right embankment, as it was in prior inspections, and appears to be a stable condition.	No change observed. This condition appears to be stable and will continue to be monitored.
Monitoring well GZ-6 was slightly tilted, as was previously observed, but appeared to be stable.	No change observed. Monitoring well GZ-6 appears to be stable and will continue to be monitored.

Unusual Condition Identified in Prior Phase 1 Inspection	*Resolution or Current Status*
Monitoring well/piezometer GZ-5 was inoperable due to bent casing.	The GZ-5 casing was repaired in 2022 and is now operable. The top of casing will be surveyed during the next scheduled topographic survey in 2025.
A low area in the penstock, indicating a possible settled area or "belly," was observed approximately 110 feet upstream of the tailrace, corresponding approximately to a previously filled-in surficial depression above the conduit.	No change observed. This condition is currently being investigated as part of the ongoing penstock investigations.
A previously observed seep through the left spillway training wall was not active during the dewatered spillway inspection on November 11, 2021, but was observed during the November 19, 2021 site visit. Photographs indicate that this seep has been intermittently present over the past approximately 10 years and does not appear to be a condition affecting dam function.	This apparent seepage was observed during the 2023 Phase 1 inspection. An additional apparent seepage location in the left spillway training wall was observed during intervening quarterly inspections in 2022 and 2023. These conditions have been observed intermittently over the past decade and do not appear to be a condition affecting dam function. These conditions will continue to be monitored.

3.2 RECOMMENDED ACTIVITIES

GZA recommends the activities described below to address the unusual conditions listed at the beginning of Section 3.1, in addition to complying with the regular maintenance and repair requirements specified in Sections 4.1 and 4.2 of the OM&M Plan.

Note the investigations into the low area in the penstock are currently ongoing. A mid-year status report summarizing the results of the investigations through June 2023 was submitted to EPA on August 16, 2023. An end-of-year status report summarizing the results of the investigations from June 2023 through the end of 2023 is currently being developed as of the date of this report. The results of the investigations will include recommendations for studies, analyses, monitoring, maintenance, or repairs to the penstock.

3.2.1 Studies and Analyses

GZA recommends the following studies and analyses.

Recommendation	Current Status/Schedule
1. Investigate the low area in the penstock.	Investigations are ongoing.
2. Perform an updated dam break analysis in accordance with current MassDCR ODS guidelines.	It is recommended that the updated dam break analysis be performed and incorporated into the 2024 EAP update by the end of 2024.
3. Establish DBVs for the OWs and VWPs by determining the maximum allowable reading that will meet current MassDCR ODS stability criteria. Threshold and action levels should also be established as early warning signs of a potential dam safety concerns. DBVs and threshold / action levels should be established for critical instrumentation (as determined during the evaluation).	It is recommended that DBVs and threshold / action levels be established by the end of 2024.

3.2.2 Monitoring and Maintenance

GZA recommends that the Dam be maintained and monitored in accordance with the OM&M Plan. In addition, the following items should be monitored and maintained:

Recommendation	Current Status/Schedule
1. Monitor the gate operator grease leak until the cracks are repaired.	This condition will continue to be monitored during quarterly and biennial inspections until the repair recommended in Item #2 under Minor Repairs (below) is made.
2. Continue to monitor the rust on the trash rack.	This condition is monitored during quarterly and biennial inspections, as well as during dive inspections, which are completed every five years. The next dive inspection is scheduled for 2025.
3. Continue to monitor the cracking and efflorescence in the forebay concrete upstream face below the abandoned operator.	This condition is monitored during quarterly and biennial inspections.

Recommendation	Current Status/Schedule
4. Monitor the crack at gate platform concrete step for potential future repair if needed.	This condition will be monitored during quarterly and biennial inspections.
5. Continue to monitor the location of the two apparent seeps through the left spillway training wall.	These conditions are monitored during quarterly and biennial inspections.
6. Continue to monitor the debris on tailrace, forebay trashracks, area around forebay, spillway, upstream buoys, and energy dissipators for potential removal where needed.	These conditions are monitored during quarterly and biennial inspections.
7. Continue to visually monitor the low area of riprap stones at the downstream toe of slope on the right embankment.	This condition is monitored during quarterly and biennial inspections.
8. Continue to monitor the slight tilt in well GZ-6.	This condition is monitored during quarterly and biennial inspections.

3.2.3 Minor Repairs

GZA recommends the following minor repairs be performed at the Dam:

Recommendation	Schedule
1. Remove the woody vegetation that was observed on the upstream slopes of the left and right embankments.	Vegetation management is performed regularly in accordance with the OM&M Plan. Vegetation will be removed during 2024 scheduled maintenance activities.
2. Repair the gate operator where two small cracks and a minor grease leak were observed.	The gate operator will be repaired during 2024 scheduled maintenance activities.
3. Repair / restore the legibility of the three staff gages that are installed at the Dam – one each on the upstream right and left spillway training walls and one on the downstream right training wall. In addition, install another staff gage within the forebay.	The staff gages will be replaced or restored and a new staff gauge installed during a low-flow period in 2024.
4. Repair the broken Lexan panels and gate latch along the top of the right spillway training wall and replace the missing panels.	The panels and latch will be repaired / replaced in the first quarter in 2024.

3.3 REMEDIAL MODIFICATIONS

There are no remedial modifications recommended at this time.

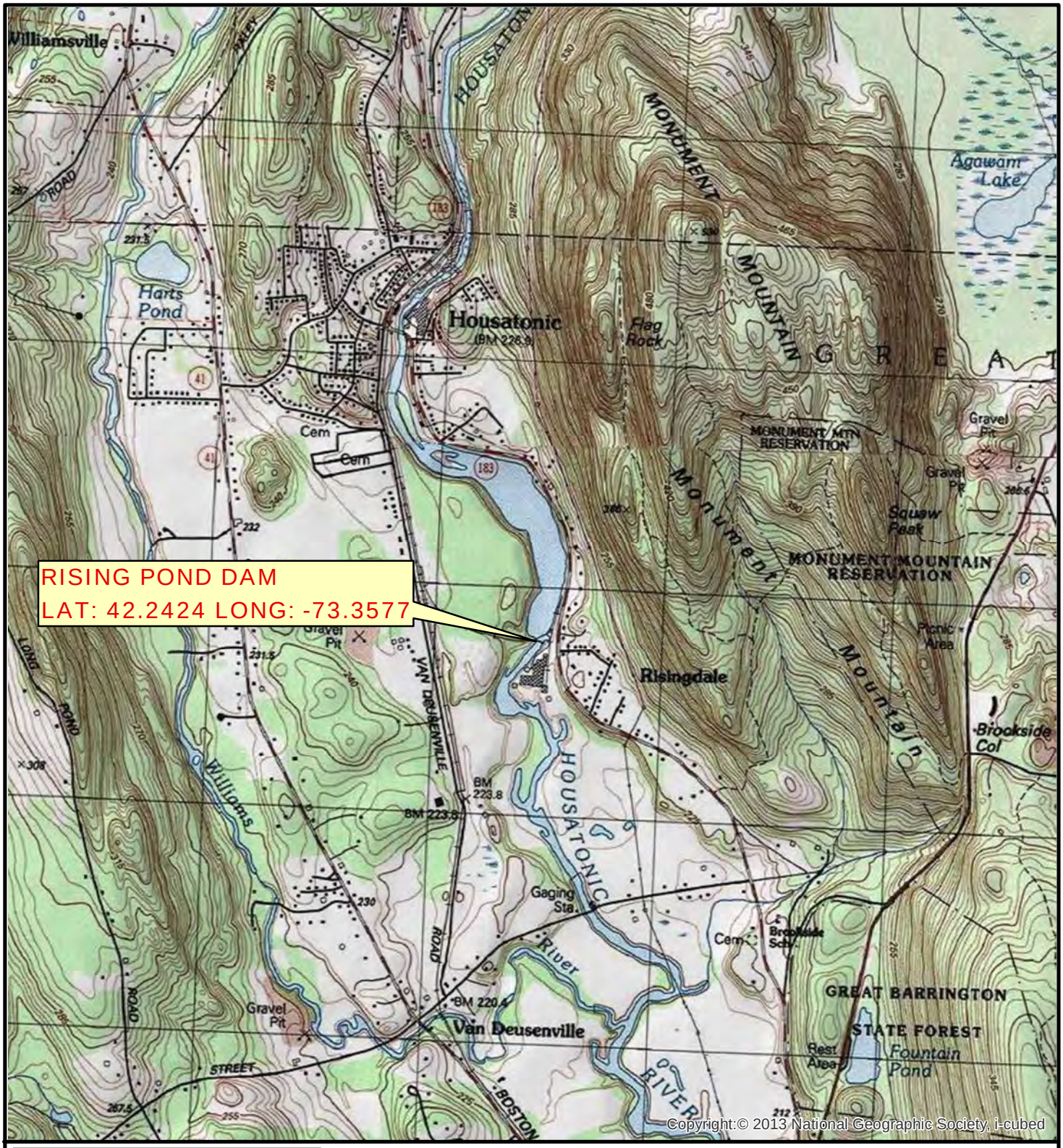
3.4 ALTERNATIVES

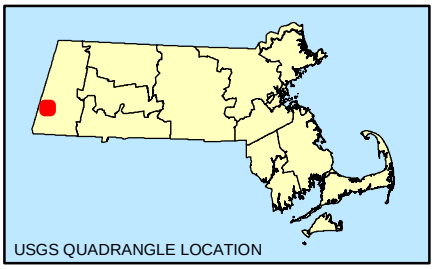
There are no alternatives that need to be considered at this time. Dam removal is not considered a feasible alternative due to the importance of the impoundment to local flood control and impounding existing sediments that are impacted by polychlorinated biphenyls. Maintenance-level work and minor repairs are considered necessary to maintain the safety and functionality of the Dam in the long term.

3.5 OPINION OF PROBABLE CONSTRUCTION COSTS

Since only minor repairs and no remedial modifications are recommended at this time, an opinion of probable construction costs has not been prepared.

FIGURES





BASEMAP SOURCE:
USGS Topographic Maps for the United States,
hosted by FDEP, accessed through ArcGIS Online

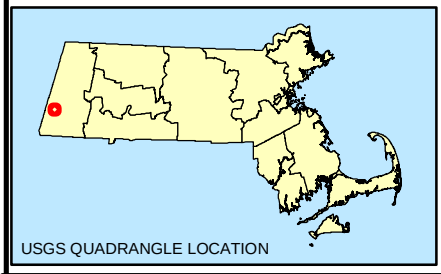
0 1,000 2,000 4,000
Feet

Data Supplied by : esri

N W E S

GZA	PROJ. MGR.: SDK DESIGNED BY: RSG REVIEWED BY: JDA OPERATOR: RSG DATE: 1/31/2024	SITE LOCATION MAP RISING POND DAM (MA00250) GREAT BARRINGTON, MASSACHUSETTS	JOB NO. 19896.50 FIGURE NO. 1

J:\19,000-20,999\19772\19772-40.MAT\Reports\lower roberts meadow res dam\Figures\Figure1-SiteLocus.mxd



BASEMAP SOURCE
Massachusetts 2019 USGS Ortho Imagery,
hosted by MassGIS, accessed through ArcGIS Online

0 500 1,000 2,000
Feet

Data Supplied by : esri

N
W E
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GZA

PROJ. MGR.: SDK
DESIGNED BY: RSG
REVIEWED BY: JDA
OPERATOR: RSG

DATE: 1/31/2024

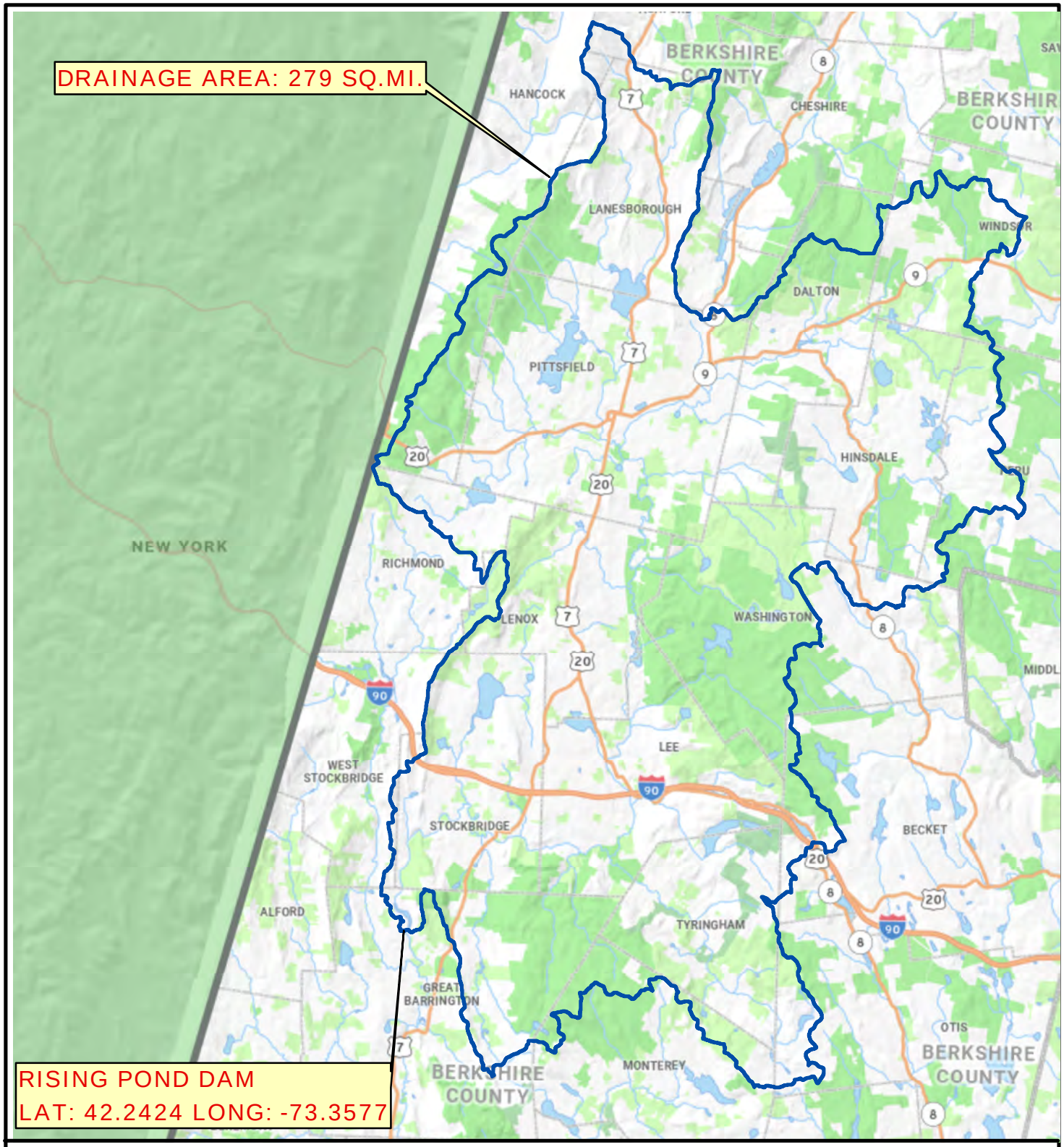
AERIAL PHOTOGRAPH

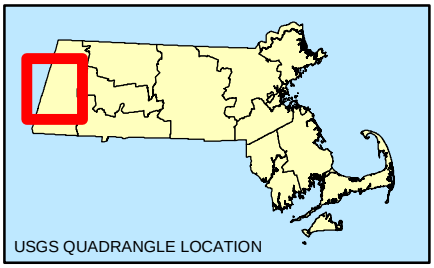
RISING POND DAM (MA00250)
GREAT BARRINGTON, MASSACHUSETTS

JOB NO. 19896.50

FIGURE NO. 2

J:\19,000-20,999\19772\19772-40.MAT\Reports\lower roberts meadow res dam\Figures\Figure1-SiteLocus.mxd





BASEMAP SOURCE:
MassGIS Basemap, hosted by
MassGIS, accessed through ArcGIS Online

Data Supplied by : esri

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Feet

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W E
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PROJ. MGR.: SDK
DESIGNED BY: RSG
REVIEWED BY: JDA
OPERATOR: RSG

DATE: 1/31/2024

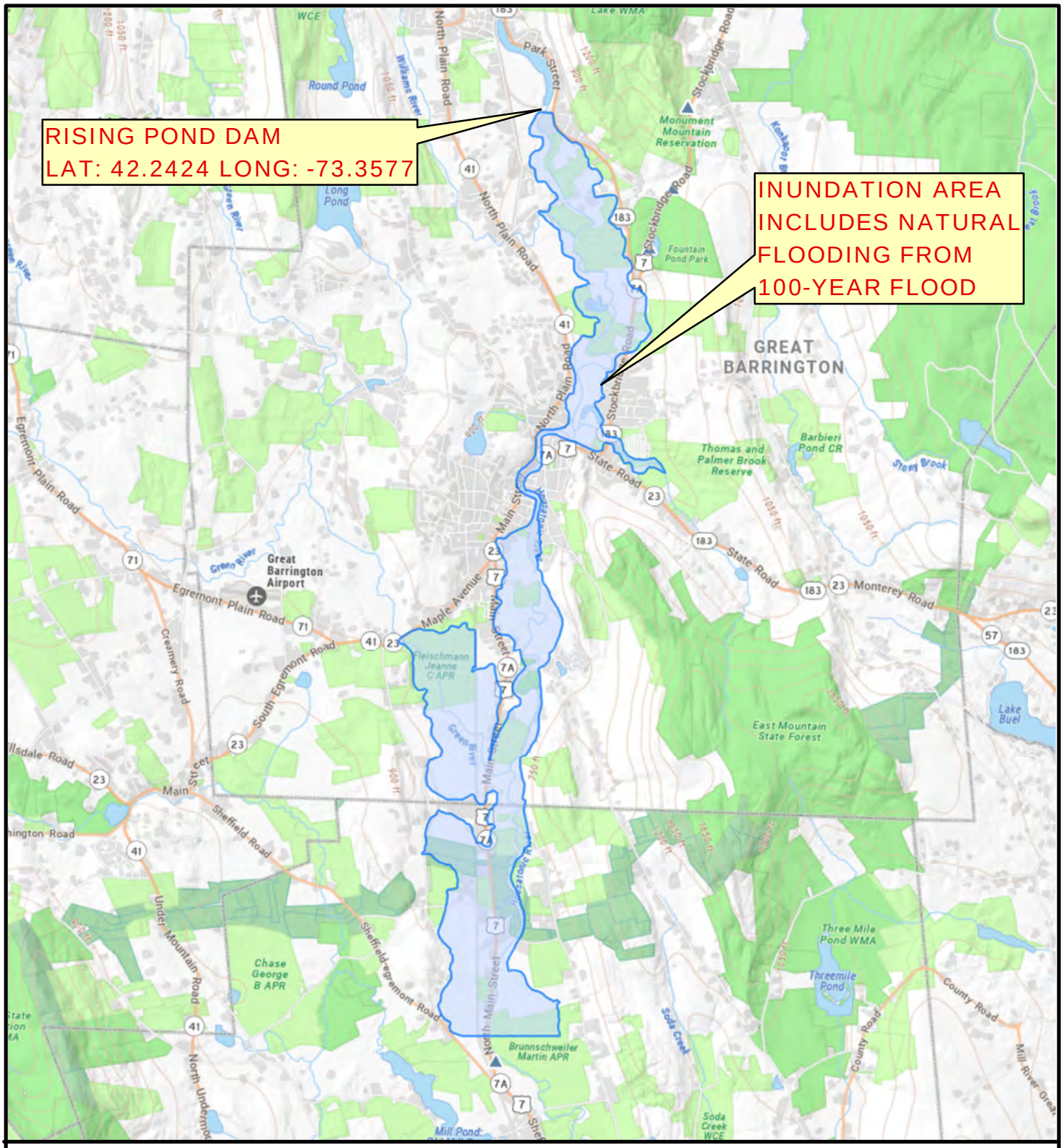
DRAINAGE AREA MAP

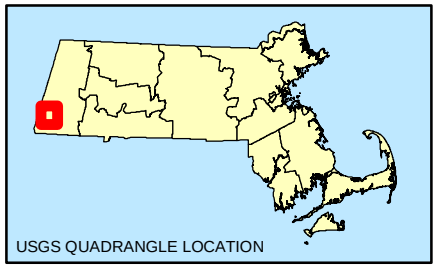
RISING POND DAM (MA00250)
GREAT BARRINGTON, MASSACHUSETTS

JOB NO. 19896.50

FIGURE NO. 3

J:\19,000-20,999\19772\19772-40.MAT\Reports\lower roberts meadow res dam\Figures\Figure1-SiteLocus.mxd





BASEMAP SOURCE:
MassGIS Basemap, hosted by
MassGIS, accessed through ArcGIS Online

Data Supplied by : esri

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Feet

N
W E
S

PROJ. MGR.: SDK
DESIGNED BY: RSG
REVIEWED BY: JDA
OPERATOR: RSG

DATE: 1/31/2024

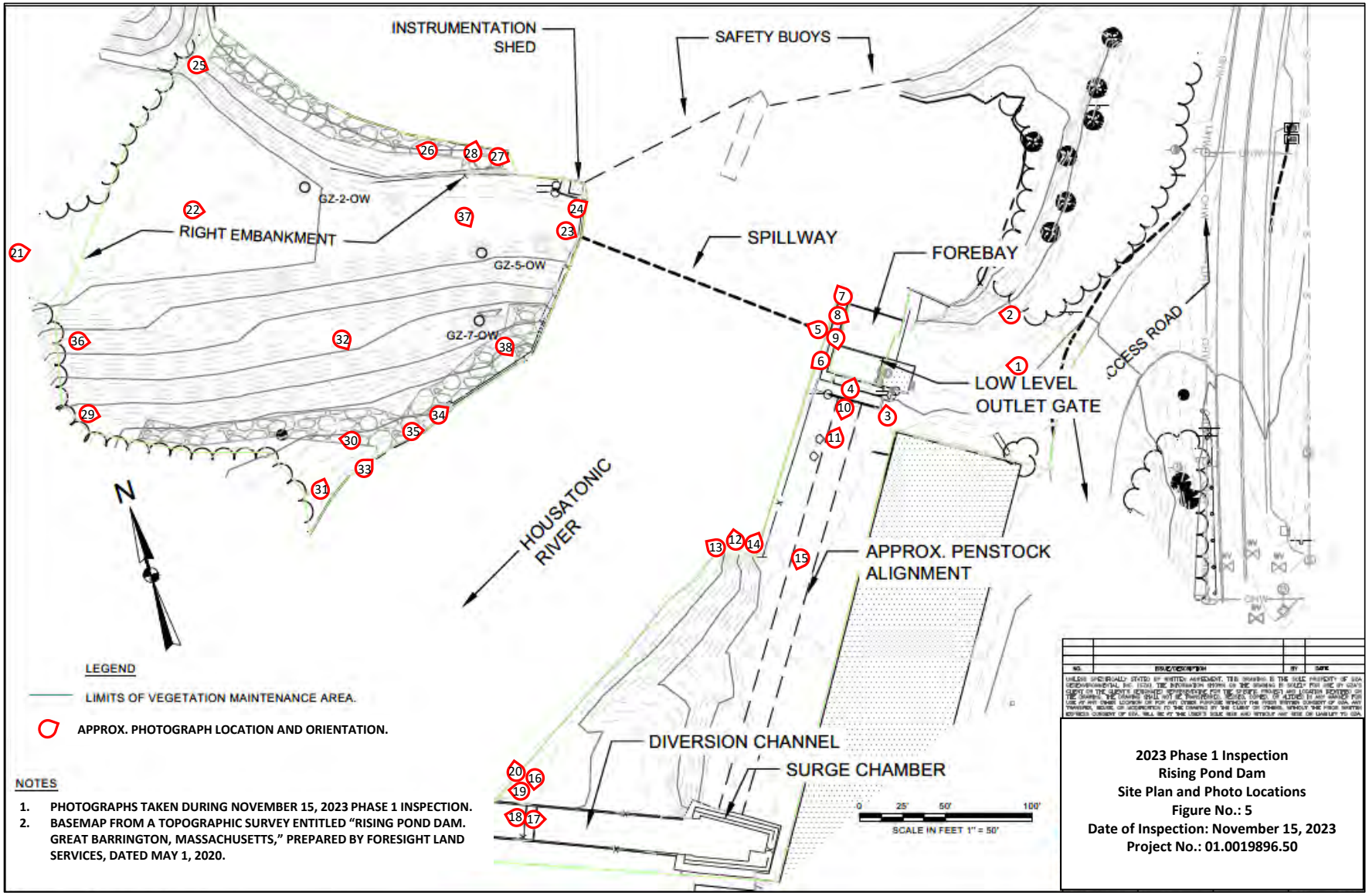
DOWNSTREAM AREA MAP

RISING POND DAM (MA00250)
GREAT BARRINGTON, MASSACHUSETTS

JOB NO. 19896.50

FIGURE NO. 4

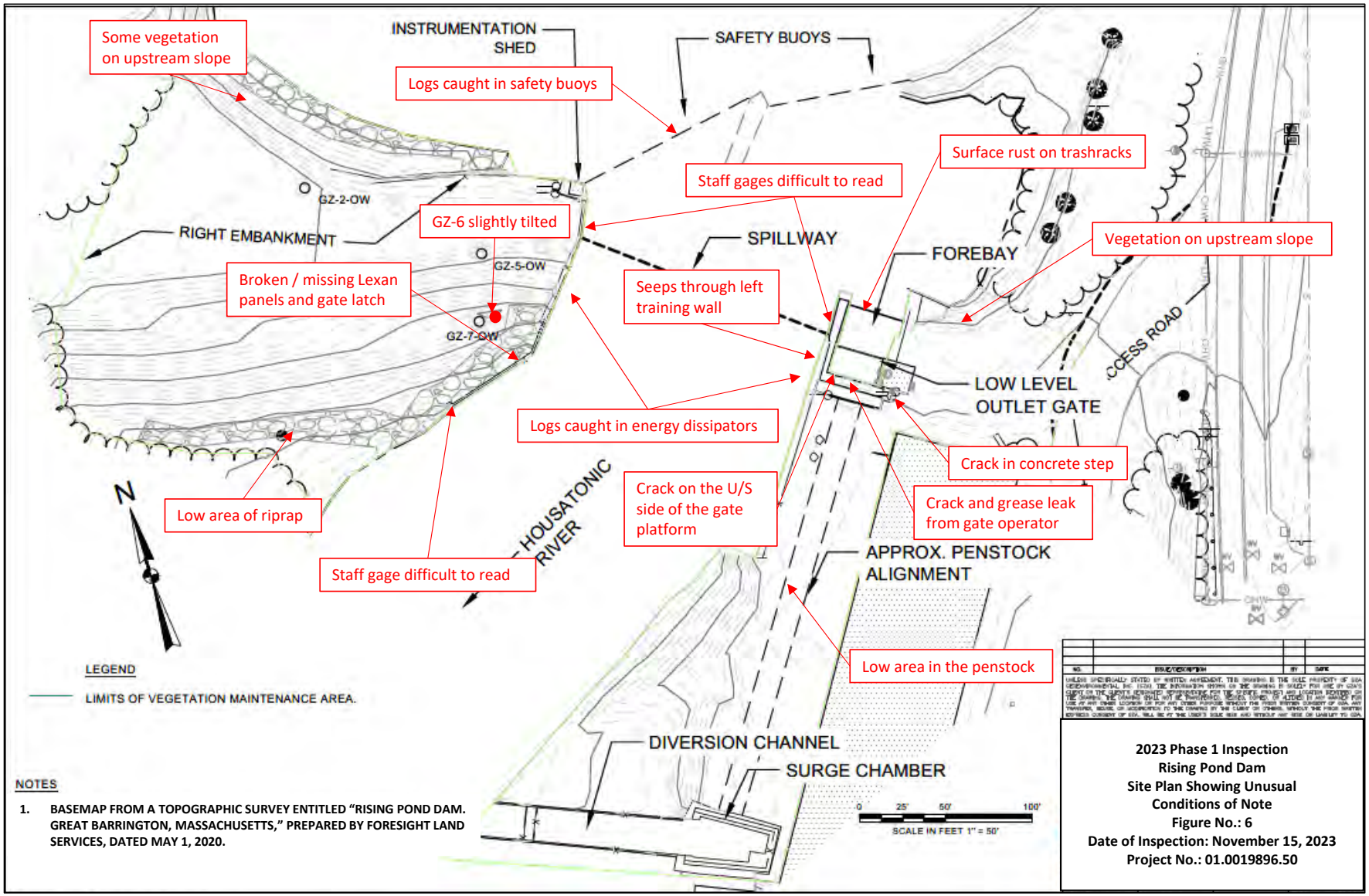
J:\19,000-20,999\19772\19772-40.MAT\Reports\lower roberts meadow res dam\Figures\Figure1-SiteLocus.mxd



NOTES

1. PHOTOGRAPHS TAKEN DURING NOVEMBER 15, 2023 PHASE 1 INSPECTION.
2. BASEMAP FROM A TOPOGRAPHIC SURVEY ENTITLED "RISING POND DAM. GREAT BARRINGTON, MASSACHUSETTS," PREPARED BY FORESIGHT LAND SERVICES, DATED MAY 1, 2020.

2023 Phase 1 Inspection
Rising Pond Dam
Site Plan and Photo Locations
Figure No.: 5
Date of Inspection: November 15, 2023
Project No.: 01.0019896.50



NOTES

1. BASEMAP FROM A TOPOGRAPHIC SURVEY ENTITLED "RISING POND DAM. GREAT BARRINGTON, MASSACHUSETTS," PREPARED BY FORESIGHT LAND SERVICES, DATED MAY 1, 2020.

2023 Phase 1 Inspection
Rising Pond Dam
Site Plan Showing Unusual Conditions of Note
Figure No.: 6
Date of Inspection: November 15, 2023
Project No.: 01.0019896.50

APPENDIX A – LIMITATIONS

DAM ENGINEERING REPORT LIMITATIONS

Use of Report

1. GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of the General Electric Company, (Client) for the stated purpose(s) and location(s) identified in the Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

Standard of Care

2. Our findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Report and/or proposal, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. Our services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

General

4. The observations described in this report were made under the conditions stated therein. The conclusions presented were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by the Client.
5. in preparing this report, GZA relied on certain information provided by the Client, state and local officials, and other parties referenced therein available to GZA at the time of the evaluation. GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.
6. Any GZA hydrologic analysis presented herein is for the rainfall volumes and distributions stated herein. For storm conditions other than those analyzed, the response of the site's spillway, impoundment, and drainage network has not been evaluated.
7. Observations were made of the site and of structures on the site as indicated within the report. Where access to portions of the structure or site, or to structures on the site was unavailable or limited, GZA renders no opinion as to the condition of that portion of the site or structure. In particular, it is noted that water levels in the impoundment and elsewhere and/or flow over the spillway may have limited GZA's ability to make observations of underwater portions of the structure. Excessive vegetation, when present, also inhibits observations.
8. In reviewing this Report, it should be realized that the reported condition of the dam is based on observations of field conditions during the course of this study along with data made available to GZA. It is important to note that the condition of a dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the dam will continue to represent the condition of the dam at some point in the future. Only through continued inspection and care can there be any chance that unsafe conditions be detected.

Compliance with Codes and Regulations

9. We used reasonable care in identifying and interpreting applicable codes and regulations. These codes and regulations are subject to various, and possibly contradictory, interpretations. Compliance with codes and regulations by other parties is beyond our control.
10. This scope of work does not include an assessment of the need for fences, gates, no trespassing signs, swimming or boating barriers, repairs to existing fences and railings and other items which may be needed to minimize trespass and provide greater security for the facility and safety to the public. An evaluation of the project for compliance with OSHA rules and regulations is also excluded.

Additional Services

11. It is recommended that GZA be retained to provide services during any future: site observations, explorations, evaluations, design, implementation activities, construction and/or implementation of remedial measures recommended in this Report. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

APPENDIX B – PHOTOGRAPHS

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
1	11/15/2023

Direction Photo Taken:
Right.

Description:
Overview of the left abutment.

Photo No.	Date:
2	11/15/2023

Direction Photo Taken:
Right.

Description:
Upstream slope of the left abutment.

Note overgrown vegetation on the upstream slope of the abutment.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
3	11/15/2023

Direction Photo Taken:
Upstream and right.

Description:
Crack in step leading to gate platform.

Photo No.	Date:
4	11/15/2023

Direction Photo Taken:
Upstream.

Description:
Intake gate operator. Note minor cracks and grease leak from the operator.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
5	11/15/2023

Direction Photo Taken:
Right.

Description:
Overview of the spillway and right side of the Dam.

Note log(s) caught in the energy dissipators on the right-side toe of the spillway (see red circle).

Also note painted staff gage on the right training wall at the crest of the spillway. Staff gage numbering was faded.

Photo No.	Date:
6	11/15/2023

Direction Photo Taken:
Downstream.

Description:
Overview of the area downstream of the Dam.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
7	11/15/2023

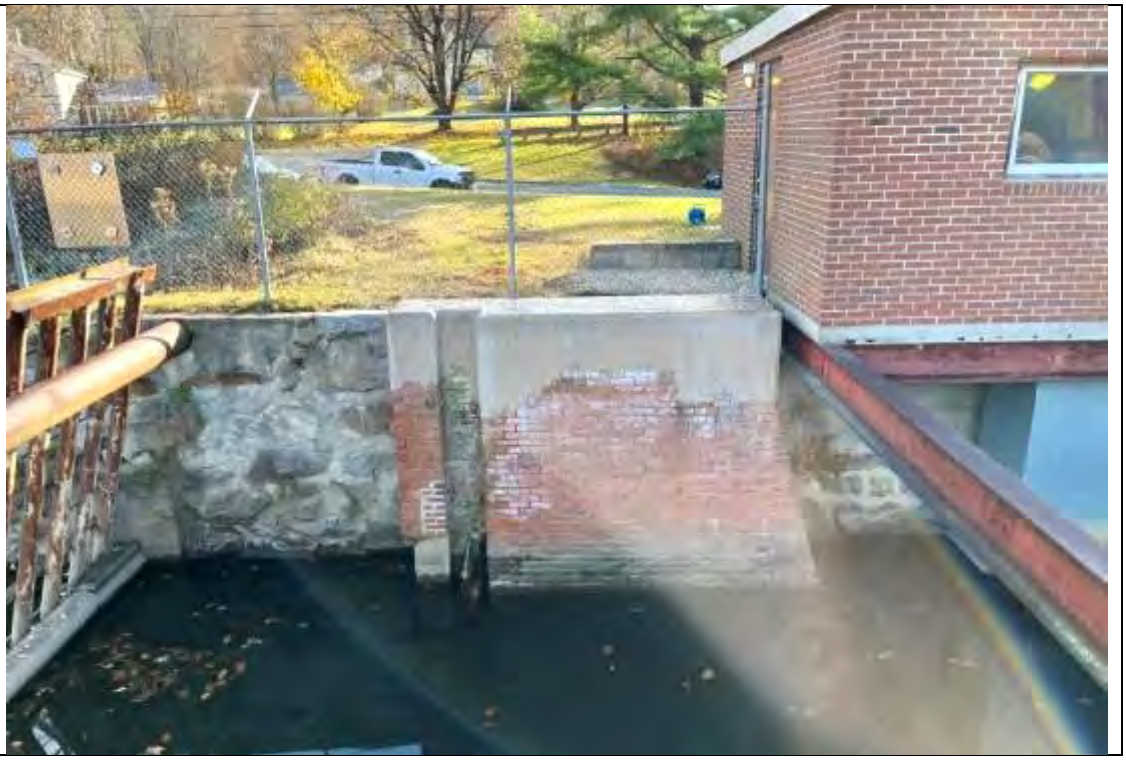
Direction Photo Taken:
Upstream.

Description:
Overview of the area upstream of the Dam. Note safety buoys in place.

Photo No.	Date:
8	11/15/2023

Direction Photo Taken:
Left.

Description:
Left forebay training wall. Note recent concrete repair at previously deteriorated area of brick masonry. Repair observed to be in good condition.



Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
9	11/15/2023

Direction Photo Taken:
Downstream and left.

Description:
Downstream wall of forebay / upstream face of the gate platform.

Photo No.	Date:
10	11/15/2023

Direction Photo Taken:
Downstream.

Description:
Grassy area above the buried penstock. Note areas of surficial disturbance due to ongoing penstock investigations. The previously observed surficial depressions along the mill building wall (to the left of the photo) were intentionally created by the mill owners to direct rain runoff away from the mill.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
11	11/15/2023

Direction Photo Taken:
Upstream.

Description:
Downstream face of the gate platform structure. Note minor cracking and efflorescence.

Photo No.	Date:
12	11/15/2023

Direction Photo Taken:
Upstream and right.

Description:
Downstream face of the spillway and right training wall. Note logs caught in the energy dissipators at the left and right sides of spillway.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
13	11/15/2023

Direction Photo Taken:
Right.

Description:
Overview of the right training wall and downstream slope of right embankment.

Photo No.	Date:
14	11/15/2023

Direction Photo Taken:
Upstream.

Description:
Left downstream face of the spillway and left masonry training wall. Note debris caught in the energy dissipators at the toe of the spillway.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
15	11/15/2023

Direction Photo Taken:
Downstream.

Description:
Area above the penstock at about 100-to-130-feet downstream of the low-level outlet.

The concrete structure in the photo was exposed during the ongoing penstock investigations.

Photo No.	Date:
16	11/15/2023

Direction Photo Taken:
Downstream.

Description:
Walkway across the diversion channel discharge downstream of the Dam.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
17	11/15/2023

Direction Photo Taken:
Left.

Description:
Diversion channel perpendicular to the penstock, facing the penstock discharge.

Photo No.	Date:
18	11/15/2023

Direction Photo Taken:
Right.

Description:
Diversion channel discharge into the Housatonic.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
19	11/15/2023

Direction Photo Taken:
Right.

Description:
Warning sign posted just upstream of the diversion channel.

Photo No.	Date:
20	11/15/2023

Direction Photo Taken:
Upstream and right.

Description:
Overview of the downstream slope of the right embankment. Note well maintained vegetation and grass cover.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
21	11/15/2023

Direction Photo Taken:
Left.

Description:
Overview of the right abutment.

Photo No.	Date:
22	11/15/2023

Direction Photo Taken:
Left.

Description:
Top of the right embankment.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
23	11/15/2023

Direction Photo Taken:
Left.

Description:
Overview of the spillway and left side of the Dam. Areas of apparent seepage through left training wall joints / weep holes noted with red circles. Seepage areas appeared similar to previous observations.

Also note painted staff gage on the left training wall at the crest of the spillway. Staff gage numbering was faded.

Photo No.	Date:
24	11/15/2023

Direction Photo Taken:
Left.

Description:
Safety buoys upstream of the Dam. Note debris caught in the buoy line.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
25	11/15/2023

Direction Photo Taken:
Left.

Description:
Upstream slope of the right embankment.

Note area of overgrown vegetation on the upstream slope of the embankment.

Photo No.	Date:
26	11/15/2023

Direction Photo Taken:
Right.

Description:
Upstream slope of the right embankment and abutment.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
27	11/15/2023

Direction Photo Taken:
Left.

Description:
Sheet pile wall upstream of the right embankment, adjacent to the spillway. Note dam warning sign.

Photo No.	Date:
28	11/15/2023

Direction Photo Taken:
Upstream.

Description:
Impoundment upstream of the Dam.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
29	11/15/2023

Direction Photo Taken:
Left.

Description:
Downstream slope and toe of the right embankment.

Photo No.	Date:
30	11/15/2023

Direction Photo Taken:
Right.

Description:
Previously observed low area in the downstream riprap. The area appeared similar in size to that measured in prior inspections.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
31	11/15/2023

Direction Photo Taken:
Upstream.

Description:
Previously identified (Q2 2020) and staked area of standing water and apparent erosion channel. Residual iron staining was not present at the time of this inspection. Standing water was observed downstream of the Dam. Standing water likely tied to fluctuations in tailwater (see Photo 32).
Note recently cut vegetation on lower portion of of riprap.

Photo No.	Date:
32	11/15/2023

Direction Photo Taken:
Downstream.

Description:
Note standing water downstream of the Dam. This standing water has been observed to approach the toe of the right embankment during periods of high tailwater. This water does not appear to be seepage through the embankment.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
33	11/15/2023

Direction Photo Taken:
Upstream.

Description:
Downstream slope of the right embankment at the waterline. Riprap armoring appeared to be in good condition.

Photo No.	Date:
34	11/15/2023

Direction Photo Taken:
Upstream.

Description:
Right downstream training wall. Note staff gage numbering.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
35	11/15/2023

Direction Photo Taken:
Left.

Description:
Left masonry training wall and sheetpile wall downstream of the spillway.

Photo No.	Date:
36	11/15/2023

Direction Photo Taken:
Left.

Description:
Downstream slope of the right embankment at the mid-slope bench. Note good grass cover.

Photographic Log

Client Name:	Site Location:	Project No.
General Electric Company	Rising Pond Dam (MA00250), Great Barrington, MA	01.0019896.50

Photo No.	Date:
37	11/15/2023

Direction Photo Taken:
Downstream and left.

Description:
Embankment slope upstream of the right spillway training wall. riprap.

Photo No.	Date:
38	11/15/2023

Direction Photo Taken:
Left.

Description:
Fence along the top of the right spillway training wall.

Note broken gate (held in place by a piece of riprap) and missing Lexan panel.

APPENDIX C – INSPECTION CHECKLIST

DAM SAFETY INSPECTION CHECKLIST

NAME OF DAM: Rising Pond Dam

STATE ID #: 1-2-113-14

REGISTERED: ☑ YES ☐ NO

NID ID #: MA00250

STATE SIZE CLASSIFICATION: Intermediate

STATE HAZARD CLASSIFICATION: Significant

CHANGE IN HAZARD CLASSIFICATION REQUESTED?: No

DAM LOCATION INFORMATION

CITY/TOWN: Great Barrington

COUNTY: Berkshire

DAM LOCATION: 295 Park St, Housatonic, MA 01236
(street address if known)

ALTERNATE DAM NAME: Rising Paper Company Dam, Rising Dam

USGS QUAD.: Housatonic

LAT.: 42.2424 N

LONG.: 73.3577 W

DRAINAGE BASIN: Housatonic

RIVER: Housatonic River

IMPOUNDMENT NAME(S): Rising Pond

GENERAL DAM INFORMATION

TYPE OF DAM: Earthfill embankment with gravity spillway

OVERALL LENGTH (FT): 670

PURPOSE OF DAM: Impound Rising Pond Reservoir / PCB sediments

NORMAL POOL STORAGE (ACRE-FT): 195 at El. 716.4'

YEAR BUILT: Late 1800s

MAXIMUM POOL STORAGE (ACRE-FT): 710 at El. 726.2'

STRUCTURAL HEIGHT (FT): 38.0

EL. NORMAL POOL (FT): 716.4±

HYDRAULIC HEIGHT (FT): 30

EL. MAXIMUM POOL (FT): 726.2

FOR INTERNAL MADCR USE ONLY

FOLLOW-UP INSPECTION REQUIRED: ☐ YES ☐ NO

CONDITIONAL LETTER: ☐ YES ☐ NO

NAME OF DAM: Rising Pond Dam | STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 | NID ID #: MA00250

INSPECTION SUMMARY

DATE OF INSPECTION: November 15, 2023 | DATE OF PREVIOUS INSPECTION: November 11, 2021

TEMPERATURE/WEATHER: 40s F / Partly Cloudy | ARMY CORPS PHASE I: ☑ YES ☐ NO | If YES, date September 1979

CONSULTANT: GZA GeoEnvironmental, Inc. | PREVIOUS DCR PHASE I: ☑ YES ☐ NO | If YES, date 11/11/2021

BENCHMARK/DATUM: NGVD29

OVERALL PHYSICAL CONDITION OF DAM: SATISFACTORY | DATE OF LAST REHABILITATION: Early 1990s major modifications

SPILLWAY CAPACITY: >100% SDF w/ no actions by Caretaker

EL. POOL DURING INSP.: 718.0± | EL. TAILWATER DURING INSP.: 694.5±

PERSONS PRESENT AT INSPECTION

NAME	TITLE/POSITION	REPRESENTING
Jonathan D. Andrews, P.E.	Principal-in-Charge	GZA GeoEnvironmental, Inc.
Seth D. Krause, P.E.	Project Manager	GZA GeoEnvironmental, Inc.
Leslie DeCristofaro	Engineer I	GZA GeoEnvironmental, Inc.
Tom Czelusniak	Regulator	HDR, Inc. (representing EPA)

EVALUATION INFORMATION

	Click on box to select E-code
E1) TYPE OF DESIGN	4
E2) LEVEL OF MAINTENANCE	5
E3) EMERGENCY ACTION PLAN	5
E4) EMBANKMENT SEEPAGE	4
E5) EMBANKMENT CONDITION	4
E6) CONCRETE CONDITION	4
E7) LOW-LEVEL OUTLET CAPACITY	5

	Click on box to select E-code
E8) LOW-LEVEL OUTLET CONDITION	4
E9) SPILLWAY DESIGN FLOOD CAPACITY	5
E10) OVERALL PHYSICAL CONDITION	4
E11) ESTIMATED REPAIR COST	Not applicable
ROADWAY OVER CREST	NO
BRIDGE NEAR DAM	NO

NAME OF INSPECTING ENGINEER: Jonathan D. Andrews, P.E. | SIGNATURE: 

NAME OF DAM: Rising Pond Dam

STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023

NID ID #: MA00250

OWNER:		CARETAKER:	
ORGANIZATION	General Electric Company	ORGANIZATION	General Electric Company
NAME/TITLE	Kevin Mooney, Senior Project Ma	NAME/TITLE	Kevin Mooney, Senior Project Manager
STREET	1 Plastics Avenue	STREET	1 Plastics Avenue
TOWN, STATE, ZIP	Pittsfield, MA 01201	TOWN, STATE, ZIP	Pittsfield, MA 01201
PHONE	413-448-6610	PHONE	413-448-6610
EMERGENCY PH. #	413-441-4619	EMERGENCY PH. #	413-441-4919
FAX	-	FAX	-
EMAIL	kevin.mooney@ge.com	EMAIL	kevin.mooney@ge.com
OWNER TYPE	Private		

PRIMARY SPILLWAY TYPE: Ogee overflow weir

SPILLWAY LENGTH (FT): 130

SPILLWAY CAPACITY (CFS): 17,093 at El. 726.2' (500-year flood)

AUXILIARY SPILLWAY TYPE: Not applicable

AUX. SPILLWAY CAPACITY (CFS): Not applicable

NUMBER OF OUTLETS: One

OUTLET(S) CAPACITY (CFS): ±3,300 at El. 726.2'

TYPE OF OUTLETS: 14-ft diameter penstock

TOTAL DISCHARGE CAPACITY (CFS): ±20,000

DRAINAGE AREA (SQ MI): 279

SPILLWAY DESIGN FLOOD (PERIOD/CFS): 100-year / 11,700

HAS DAM BEEN BREACHED OR OVERTOPPED: ☐ YES ☑ NO IF YES, PROVIDE DATE(S): Not applicable

FISH LADDER (LIST TYPE IF PRESENT): Not applicable

DOES CREST SUPPORT PUBLIC ROAD? ☐ YES ☑ NO IF YES, ROAD NAME: Not applicable

PUBLIC BRIDGE WITHIN 50' OF DAM? ☐ YES ☑ NO IF YES, ROAD/BRIDGE NAME: Not applicable

MHD BRIDGE NO. (IF APPLICABLE): Not applicable

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

EMBANKMENT (CREST)

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
CREST	1. SURFACE TYPE	Grassed.	X		
	2. SURFACE CRACKING	None observed.	X		
	3. SINKHOLES, ANIMAL BURROWS	None observed.	X		
	4. VERTICAL ALIGNMENT (DEPRESSIONS)	No unusual movement, depressions, or misalignment observed.	X		
	5. HORIZONTAL ALIGNMENT	Irregular, wide at right abutment.	X		
	6. RUTS AND/OR PUDDLES	None observed.	X		
	7. GRASS COVER CONDITION	Full coverage. Grass recently mowed. Minor weeds.	X		
	8. WOODY VEGETATION (TREES/BRUSH)	None observed.	X		
	9. ABUTMENT CONTACT	No signs of crest settlement, movement, etc.	X		

ADDITIONAL COMMENTS: The left embankment crest is undefined.

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

EMBANKMENT (D/S SLOPE)

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
D/S SLOPE	1. WET AREAS (NO FLOW)	None observed.	X		
	2. SEEPAGE	None observed.	X		
	3. SLIDE, SLOUGH, SCARP	None observed.	X		
	4. EMB.-ABUTMENT CONTACT	No signs of settlement, movement, etc.	X		
	5. SINKHOLE/ANIMAL BURROWS	Low area in dowsntream riprap. Appeared similar to previous inspections.		X	
	6. EROSION	None observed.	X		
	7. UNUSUAL MOVEMENT	None observed.	X		
	8. GRASS COVER CONDITION	Full coverage. Grass recently mowed and vegetation cut. Minor weedy/woody vegetatic	X		
	9. WOODY VEGETATION (TREES/BRUSH)	None observed.	X		
	10. EVIDENCE OF SEEPAGE ALONG PENSTOCK	None observed.	X		
	11. TOE AND 30' BEYOND (SEEP, BOIL, ETC)	Standing water downstream of the right embankment toe. (11)	X		
	12. CONTACT WITH CONRETE FOREBAY	Good condition; no settlement, erosion, seepage, or other unusual conditions noted.	X		

ADDITIONAL COMMENTS: 11. Standing water has been observed to approach the toe of the right embankment during periods of high tailwater. This water does not appear to be seepage through the embankment.

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

EMBANKMENT (U/S SLOPE)

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
U/S SLOPE	1. SLIDE, SLOUGH, SCARP	None observed.	X		
	2. SLOPE PROTECTION TYPE AND COND.	Riprap/sheeting/soil slope on right side; sheetpile and soil slope on left.	X		
	3. SINKHOLE/ANIMAL BURROWS	None observed.	X		
	4. EMB.-ABUTMENT CONTACT	Gully at upstream right contact, possible man-made artifact from original construction. (4)	X		
	5. EROSION	None observed.	X		
	6. UNUSUAL MOVEMENT	No observed unusual movement or misalignment observed.	X		
	7. GRASS COVER CONDITION	Full coverage. Grass recently mowed. Minor weeds.	X		
	8. WOODY VEGETATION (TREES/BRUSH)	Minor overgrown vegetation on the upstream slope of the right and left embankents.			X
	9. CONTACT WITH FOREBAY WALLS	Good condition; no settlement, erosion, seepage, or other unusual conditions noted.	X		

ADDITIONAL COMMENTS: 4. Gully does not appear to have the potential to hydraulically connect across the Dam during the SDF.

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

INSTRUMENTATION

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
INSTR.	1. PIEZOMETERS	VWPs are read at the right embankment instrumentation shed and at instrument locations.		X	
	2. OBSERVATION WELLS	OWs installed in the right and left embankments. (2)		X	
	3. STAFF GAGE AND RECORDER	Staff gages painted on the left and right upstream spillway training walls and on the right downstream spillway training wall. Staff gage markings difficult to read.			X
	4. WEIRS	None.	X		
	5. INCLINOMETERS	None.	X		
	6. SURVEY MONUMENTS	Metal plate with an "X" on the uptream end of the right training wall.	X		
	7. DRAINS	None.	X		
	8. FREQUENCY OF READINGS	Piezometers and observation wells are read quarterly.		X	
	9. LOCATION OF READINGS	Taken by GZA during quarterly and Phase I visual inspections.		X	

ADDITIONAL COMMENTS: Note: See Appendix F for instrumentation data and plots.
2. OW GZ-5 casing repaired after the second quarterly inspection in 2022. Casing elevation to be surveyed during the next scheduled topo-survey in 2025. The casing of GZ-6 is slightly tilted (not vertical) and will continue to be monitored.

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

DOWNSTREAM AREA

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
D/S AREA	1. ABUTMENT LEAKAGE	None observed.	X		
	2. FOUNDATION SEEPAGE	None observed.	X		
	3. SLIDE, SLOUGH, SCARP	None observed.	X		
	4. WEIRS	None.	X		
	5. DRAINAGE SYSTEM	None.	X		
	6. INSTRUMENTATION	USGS gage #01197500 on Division St. Bridge ±1 mile downstream.	X		
	7. VEGETATION WITHIN 15 FT	None. Wooded area further downstream.	X		
	8. ACCESSIBILITY	Access to left side off Route 183 (Park Street); Access to right side off Van Deusenville Road	X		
	9. DOWNSTREAM HAZARD DESCRIPTION	Homes, businesses, and secondary roads.	X		
	10. DATE OF LAST EAP UPDATE	12/14/2023	X		

ADDITIONAL COMMENTS: See "Downstream Slope".

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

MISCELLANEOUS

AREA INSPECTED	CONDITION	OBSERVATIONS
MISC.	1. RESERVOIR DEPTH (AVG)	Approximately 4-to-5-feet at normal pool.
	2. RESERVOIR SHORELINE	Wooded, grass, moderate slopes.
	3. RESERVOIR SLOPES	About 6-feet-high; wooded above, natural soil below.
	4. ACCESS ROADS	Left side - Rte. 183 at Hazen Paper Mill (295 Park Street); Right side - locked railroad gate off Van Deusenville Road across from AmeriGas facility (69 Van Deusenville Road). (4)
	5. SECURITY DEVICES	Left side access through locked chain link fence. Right side locked railway gate/chainlink fence. (5
	6. WATER PUBLIC HAZARDS & PROTECTION	Buoys installed upstream of the dam.
	7. LAND-SIDE PUBLIC HAZARDS & PROTECTION	Warning signs installed.
	8. VANDALISM OR TRESPASS	☐ YES ☑ NO WHAT: n/a
	9. AVAILABILITY OF PLANS	☑ YES ☐ NO DATE: 1991-2012 rehab (GZA)
	10. AVAILABILITY OF DESIGN CALCS	☑ YES ☐ NO DATE: 1991-2012 rehab (GZA)
	11. AVAILABILITY OF EAP/LAST UPDATE	☑ YES ☐ NO DATE: 12/14/2023
	12. AVAILABILITY OF O&M MANUAL	☑ YES ☐ NO DATE: 8/14/2019 (amendment issued 9/14/2020)
	13. CARETAKER/OWNER AVAILABLE	☑ YES ☐ NO DATE: 11/14/2023
	14. CONFINED SPACE ENTRY REQUIRED	☐ YES ☑ NO PURPOSE: Not applicable

ADDITIONAL COMMENTS: 4. Right side - railroad gate off Van Deusenville Road across the street from AmeriGas facility (69 Van Deusenville Road).
5. Vehicular access to right side is limited by locked railway gate and locked chainlink fence. Pedestrian access possible.

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

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PRIMARY SPILLWAY

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
SPILLWAY	1. SPILLWAY TYPE	Rock-filled timber crib with concrete facing, sheetpile walls below u/s & d/s concrete apron.	X		
	2. WEIR TYPE	Ogee-shaped.	X		
	3. SPILLWAY CONDITION	Flow over the spillway obscured observations.		X	
	4. TRAINING WALLS	Concrete right side. Mortared stone masonry left side. Two areas of apparent seepage through left side training wall joints / weep holes - appeared similar to past inspections.		X	
	5. SPILLWAY CONTROLS AND CONDITION	No controls - overflow weir.	X		
	6. UNUSUAL MOVEMENT	None observed.	X		
	7. APPROACH AREA	Housatonic River; former railroad pier upstream; clear; buoys installed upstream of the dam.	X		
	8. DISCHARGE AREA	Housatonic River, clear.	X		
	9. DEBRIS	Logs caught on the safety buoys upstream of the spillway and in the energey dissipators on the left and right sides of the spillway. Debris did not appear to be impacting flow.		X	

ADDITIONAL COMMENTS: 4. Damage/missing Lexan panels and gate latch along the right concrete training wall - repair

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

AUXILIARY SPILLWAY (N/A)

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
SPILLWAY	1. SPILLWAY TYPE	N/A			
	2. WEIR TYPE				
	3. SPILLWAY CONDITION				
	4. TRAINING WALLS				
	5. SPILLWAY CONTROLS AND CONDITION				
	6. UNUSUAL MOVEMENT				
	7. APPROACH AREA				
	8. DISCHARGE AREA				
	9. DEBRIS				

ADDITIONAL COMMENTS:

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

OUTLET WORKS

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
OUTLET WORKS	1. TYPE	Penstock and tailrace outlet with flip bucket.	X		
	2. INTAKE STRUCTURE	Hairline cracks & efflorescence on d/s face of the gate platform. (2)		X	
	3. TRASHRACK	Minor surficial rusting.		X	
	4. PRIMARY CLOSURE	Sluice gate replaced in 2008; rehabbed in 2021.	X		
	5. SECONDARY CLOSURE	None.	X		
	6. CONDUIT	14-ft-diameter, ~220-ft-long buried steel penstock; 90-deg. right turn into a concrete diversion channel which discharges into the Housatonic downstream of the Dam. (6)		X	
	7. OUTLET STRUCTURE/HEADWALL	Sheetpile wall downstream.	X		
	8. EROSION ALONG TOE OF DAM	None observed.	X		
	9. SEEPAGE/LEAKAGE	Internal visual inspection of the penstock not performed. No indications of significant seepage/leakage observed. (9)	X		
	10. DEBRIS/BLOCKAGE	None observed.	X		
	11. UNUSUAL MOVEMENT	No surficial depressions observed above penstock alignment. (6)		X	
	12. DOWNSTREAM AREA	Housatonic River.	X		
	13. PENSTOCK BOUNDARY AREA	Fence and diversion channel crossing appear to be in good condition.	X		
	14. MISCELLANEOUS	Penstock gate exercised by the caretaker prior to the inspection.	X		
	15. BLOW-OFF/DRAIN VALVE AREA	Inoperable but appears to be in good condition. (15)	X		

ADDITIONAL COMMENTS:

2. Crack below abandoned operator in upstream face of gate platform. Concrete step crack at gate to left of gate platform. (off structure)

6. Penstock investigations are currently ongoing to assess the observed "low area" inside the penstock. See report for more details.

9. No turbid discharge observed at discharge channel.

15. Minor cracks and grease leaks from the penstock gate operator. Condition observed during previous inspections.

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

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CONCRETE/MASONRY DAMS (CREST)

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
CREST	TYPE				
	SURFACE CONDITIONS				
	CONDITIONS OF JOINTS				
	UNUSUAL MOVEMENT				
	HORIZONTAL ALIGNMENT				
	VERTICAL ALIGNMENT				

N/A

ADDITIONAL COMMENTS:

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

CONCRETE/MASONRY DAMS (DOWNSTREAM FACE)

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
D/S FACE	TYPE	N/A			
	SURFACE CONDITIONS				
	CONDITIONS OF JOINTS				
	UNUSUAL MOVEMENT				
	ABUTMENT CONTACT				
	LEAKAGE				

ADDITIONAL COMMENTS:

NAME OF DAM: Rising Pond Dam STATE ID #: 1-2-113-14

INSPECTION DATE: November 15, 2023 NID ID #: MA00250

CONCRETE/MASONRY DAMS (UPSTREAM FACE)

AREA INSPECTED	CONDITION	OBSERVATIONS	NO ACTION	MONITOR	REPAIR
U/S FACE	TYPE	N/A			
	SURFACE CONDITIONS				
	CONDITIONS OF JOINTS				
	UNUSUAL MOVEMENT				
	ABUTMENT CONTACTS				

ADDITIONAL COMMENTS:

APPENDIX D – PREVIOUS REPORTS & REFERENCES

PREVIOUS REPORTS AND REFERENCES

The following is a list of reports that were located during the file review or were referenced in previous reports.

1. Rising Pond Dam Post-Storm Inspection Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, December 21, 2023.
2. Rising Pond Dam Quarterly Inspection/Evaluation Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, August 17, 2023.
3. Rising Pond Dam Post-Storm Inspection Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, July 17, 2023.
4. Rising Pond Dam Quarterly Inspection/Evaluation Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, May 30, 2023.
5. Rising Pond Dam Quarterly Inspection/Evaluation Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, February 2, 2023.
6. Rising Pond Dam Quarterly Inspection/Evaluation Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, November 21, 2022.
7. Rising Pond Dam Quarterly Inspection/Evaluation Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, September 6, 2022.
8. Rising Pond Dam Quarterly Inspection/Evaluation Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, June 27, 2022.
9. Rising Pond Dam Quarterly Inspection/Evaluation Report prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, March 4, 2022.
10. Rising Pond Dam Phase I Inspection/Evaluation Report (2021) prepared for General Electric Company, Pittsfield, MA by GZA GeoEnvironmental, Inc., Norwood, MA, November 2021.
11. Rising Pond Dam Quarterly Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., May 19, 2021.
12. Rising Pond Dam Quarterly Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., March 10, 2021.
13. Rising Pond Dam Quarterly Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., November 10, 2020.
14. Rising Pond Dam Quarterly Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., August 7, 2020.
15. Rising Pond Dam Quarterly Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., May 8, 2020.
16. Rising Pond Dam Quarterly Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., February 12, 2020.
17. Rising Pond Dam Phase 1 Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., November 5, 2019.
18. Operation, Monitoring, and Maintenance Plan – Rising Pond Dam MA 00250, GZA GeoEnvironmental, Inc., August 2019
19. Rising Pond Dam Phase 1 Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., December 19, 2016.
20. Rising Pond Dam Phase 1 Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., November 12, 2014.
21. "Right Embankment Sinkhole Observations and Test Pit Exploration Letter," GZA GeoEnvironmental, Inc., September 16, 2009.

22. Rising Pond Dam Emergency Action Plan, GZA GeoEnvironmental, Inc. 2008.
23. Rising Pond Dam 2007 Structural Integrity Assessment and Inspection/Evaluation Report, Montgomery Watson Harza (MWH), November 15, 2007.
24. "Spillway Sliding Stability Analysis and Review Letter," GZA GeoEnvironmental, Inc., April 13, 2006.
25. Rising Pond Dam Inspection Report, Montgomery Watson Harza (MWH), October 29, 2002.
26. Rising Pond Dam Inspection / Evaluation Report, GZA GeoEnvironmental, Inc., December 1, 2005.
27. Rising Pond Dam Operations and Maintenance Manual, GZA GeoEnvironmental, Inc. 2008.
28. Rising Paper Co. Dam, Phase I Inspection Report, Department of the Army - New England Division Corps of Engineers, September 1979.
29. Massachusetts Geographic Information System (MASSGIS), *Geographic Information System database* - http://www.mass.gov/mgis/.
30. Rising Pond Dam Phase 1 Inspection/Evaluation Report, GZA GeoEnvironmental, Inc., November 23, 2009.
31. Phase II Engineering Evaluation and Preliminary Design Report, Rising Pond Dam GZA GeoEnvironmental, Inc., July 13, 2012.

The following references were utilized during the preparation of this report and the development of the recommendations presented herein.

1. Commonwealth of Massachusetts Regulations, 302 CMR 10.00 – Dam Safety, Effective 2/10/17.
2. Federal Emergency Management Agency (FEMA), *Federal Guidelines for Dam Safety: Emergency Action Planning for Dam Owners (FEMA64)*, revised April 2004.
3. Federal Energy Regulatory Commission's (FERC), *Engineering Guidelines for The Evaluation of Hydropower Projects*, November 1998.
4. U.S. Department of the Interior, Bureau of Reclamation, *Design of Small Dams, Water Resources Technical Publication*, Washington, D.C., 2nd Edition 1973, revised reprint 1977.

APPENDIX E – DEFINITIONS

COMMON DAM SAFETY DEFINITIONS

For a comprehensive list of dam engineering terminology and definitions refer to 302 CMR10.00 Dam Safety, or other reference published by FERC, Dept. of the Interior Bureau of Reclamation, or FEMA. Please note should discrepancies between definitions exist, those definitions included within 302 CMR 10.00 govern for dams located within the Commonwealth of Massachusetts.

Orientation

Upstream – The side of the dam that borders the impoundment.

Downstream – The high side of the dam, the side opposite the upstream side.

Right – The area to the right when looking in the downstream direction.

Left – The left when looking in the downstream direction.

Dam Components

Dam – Any artificial barrier, including appurtenant works, which impounds or diverts water.

Embankment – The fill material, usually earth or rock, placed with sloping sides, such that it forms a permanent barrier that impounds water.

Crest – The top of the dam, usually provides a road or path across the dam.

Abutment – That part of a valley side against which a dam is constructed. An artificial abutment is sometimes constructed as a concrete gravity section, to take the thrust of an arch dam where there is no suitable natural abutment.

Appurtenant Works – Structures, either in dams or separate therefrom, including but not be limited to, spillways; reservoirs and their rims; low-level outlet works; and water conduits including tunnels, pipelines, or penstocks, either through the dams or their abutments.

Spillway – A structure over or through which water flows are discharged. If the flow is controlled by gates or boards, it is a controlled spillway; if the fixed elevation of the spillway crest controls the level of the impoundment, it is an uncontrolled spillway.

Size Classification
(as listed in Commonwealth of Massachusetts, 302 CMR 10.00 Dam Safety)

Large – Structure with a height greater than 40 feet or a storage capacity greater than 1,000 acre-feet.

Intermediate – Structure with a height between 15 and 40 feet or a storage capacity of 50 to 1,000 acre-feet.

Small – Structure with a height between 6 and 15 feet and a storage capacity of 15 to 50 acre-feet.

Non-Jurisdictional – Structure less than 6 feet in height or having a storage capacity of less than 15 acre-feet.

Hazard Classification
(as listed in Commonwealth of Massachusetts, 302 CMR 10.00 *Dam Safety*)

High Hazard (Class I) – Dams located where failure will likely cause loss of life and serious damage to home(s), industrial or commercial facilities, important public utilities, main highway(s) or railroad(s).

Significant Hazard (Class II) – Dams located where failure may cause loss of life and damage to home(s), industrial or commercial facilities, secondary highway(s) or railroad(s), or cause the interruption of the use or service of relatively important facilities.

Low Hazard (Class III) – Dams located where failure may cause minimal property damage to others. Loss of life is not expected.

General

Acre-foot – A unit of volumetric measure that would cover one acre to a depth of one foot. It is equal to 43,560 cubic feet. One million U.S. gallons = 3.068 acre feet.

AHPS – Advanced Hydrologic Prediction Service – a website showing Housatonic River flows and river stage at United States Geological Survey Gage No. 01197500 at Division Street in Great Barrington.

Dam safety engineer – A Professional Engineer experienced in dam safety and registered in Massachusetts.

EAP – Emergency Action Plan – A predetermined (and properly documented) plan of action to be taken to reduce the potential for property damage and/or loss of life in an area affected by an impending dam failure.

Height of dam (structural height) – The vertical distance from the lowest portion of the natural ground, including any stream channel, along the downstream toe of the dam to the lowest point on the crest of the dam.

Hydraulic height – The height to which water rises behind a dam and the difference between the lowest point in the original streambed at the axis of the dam and the maximum controllable water surface.

Maximum storage capacity – The volume of water contained in the impoundment at maximum water storage elevation.

Maximum water storage elevation – The maximum elevation of water surface which can be contained by the dam without overtopping the embankment section.

Normal pool – The elevation of the impoundment during normal operating conditions.

Normal storage capacity – The volume of water contained in the impoundment at normal water storage elevation.

OM&M Plan – Operation, Monitoring, and Maintenance Plan.

Spillway Design Flood (SDF) – The flood used in the design of a dam and its appurtenant works particularly for sizing the spillway and outlet works, and for determining maximum temporary storage and height of dam requirements.

Condition Rating

Unsafe – Major structural*, operational, and maintenance deficiencies exist under normal operating conditions.

Poor – Significant structural*, operation and maintenance deficiencies are clearly recognized for normal loading conditions.

Fair – Significant operational and maintenance deficiencies, no structural deficiencies. Potential deficiencies exist under unusual loading conditions that may realistically occur. Can be used when uncertainties exist as to critical parameters.

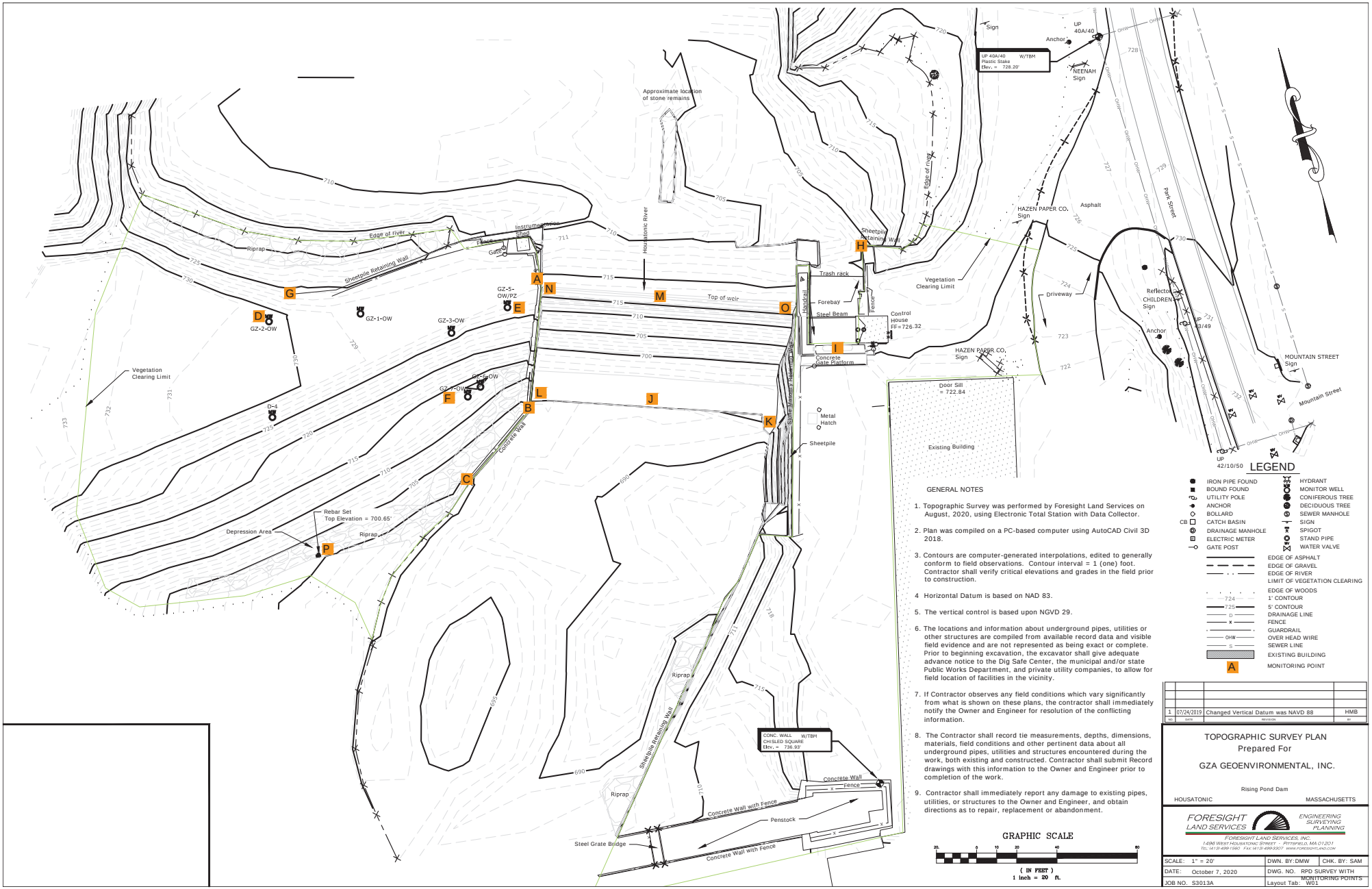
Satisfactory – Minor operational and maintenance issues. Infrequent hydrologic events could result in deficiencies.

Good – No existing or potential deficiencies recognized. Safe performance is expected under all loading including SDF.

* Structural deficiencies include but are not limited to the following:

- Excessive uncontrolled seepage (e.g., upwelling of water, evidence of fines movement, flowing water, erosion, etc.).
- Missing riprap with resulting erosion of slope.
- Sinkholes, particularly behind retaining walls and above outlet pipes, possibly indicating loss of soil due to piping, rather than animal burrows.
- Excessive vegetation and tree growth, particularly if it obscures features of the dam and the dam cannot be fully inspected.
- Deterioration of concrete structures (e.g., exposed rebar, tilted walls, large cracks with or without seepage, excessive spalling, etc.).
- Inoperable outlets (gates and valves that have not been operated for many years or are broken).

APPENDIX F – SUPPORTING DOCUMENTATION



GENERAL NOTES

1. Topographic Survey was performed by Foresight Land Services on August, 2020, using Electronic Total Station with Data Collector.
2. Plan was compiled on a PC-based computer using AutoCAD Civil 3D 2018.
3. Contours are computer-generated interpolations, edited to generally conform to field observations. Contour interval = 1 (one) foot. Contractor shall verify critical elevations and grades in the field prior to construction.
4. Horizontal Datum is based on NAD 83.
5. The vertical control is based upon NGVD 29.
6. The locations and information about underground pipes, utilities or other structures are compiled from available record data and visible field evidence and are not represented as being exact or complete. Prior to beginning excavation, the excavator shall give adequate advance notice to the Dig Safe Center, the municipal and/or state Public Works Department, and private utility companies, to allow for field location of facilities in the vicinity.
7. If Contractor observes any field conditions which vary significantly from what is shown on these plans, the contractor shall immediately notify the Owner and Engineer for resolution of the conflicting information.
8. The Contractor shall record tie measurements, depths, dimensions, materials, field conditions and other pertinent data about all underground pipes, utilities and structures encountered during the work, both existing and constructed. Contractor shall submit Record drawings with this information to the Owner and Engineer prior to completion of the work.
9. Contractor shall immediately report any damage to existing pipes, utilities, or structures to the Owner and Engineer, and obtain directions as to repair, replacement or abandonment.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND

	IRON PIPE FOUND		HYDRANT
	BOUND FOUND		MONITOR WELL
	UTILITY POLE		CONIFEROUS TREE
	ANCHOR		DECIDUOUS TREE
	BOLLARD		SEWER MANHOLE
CB	CATCH BASIN		SIGN
	DRAINAGE MANHOLE		SPIGOT
	ELECTRIC METER		STAND PIPE
	GATE POST		WATER VALVE
	EDGE OF ASPHALT		
	EDGE OF GRAVEL		
	EDGE OF RIVER		
	LIMIT OF VEGETATION CLEARING		
	EDGE OF WOODS		
724	1' CONTOUR		
725	5' CONTOUR		
D	DRAINAGE LINE		
x	FENCE		
	GUARDRAIL		
OHW	OVER HEAD WIRE		
S	SEWER LINE		
	EXISTING BUILDING		
A	MONITORING POINT		

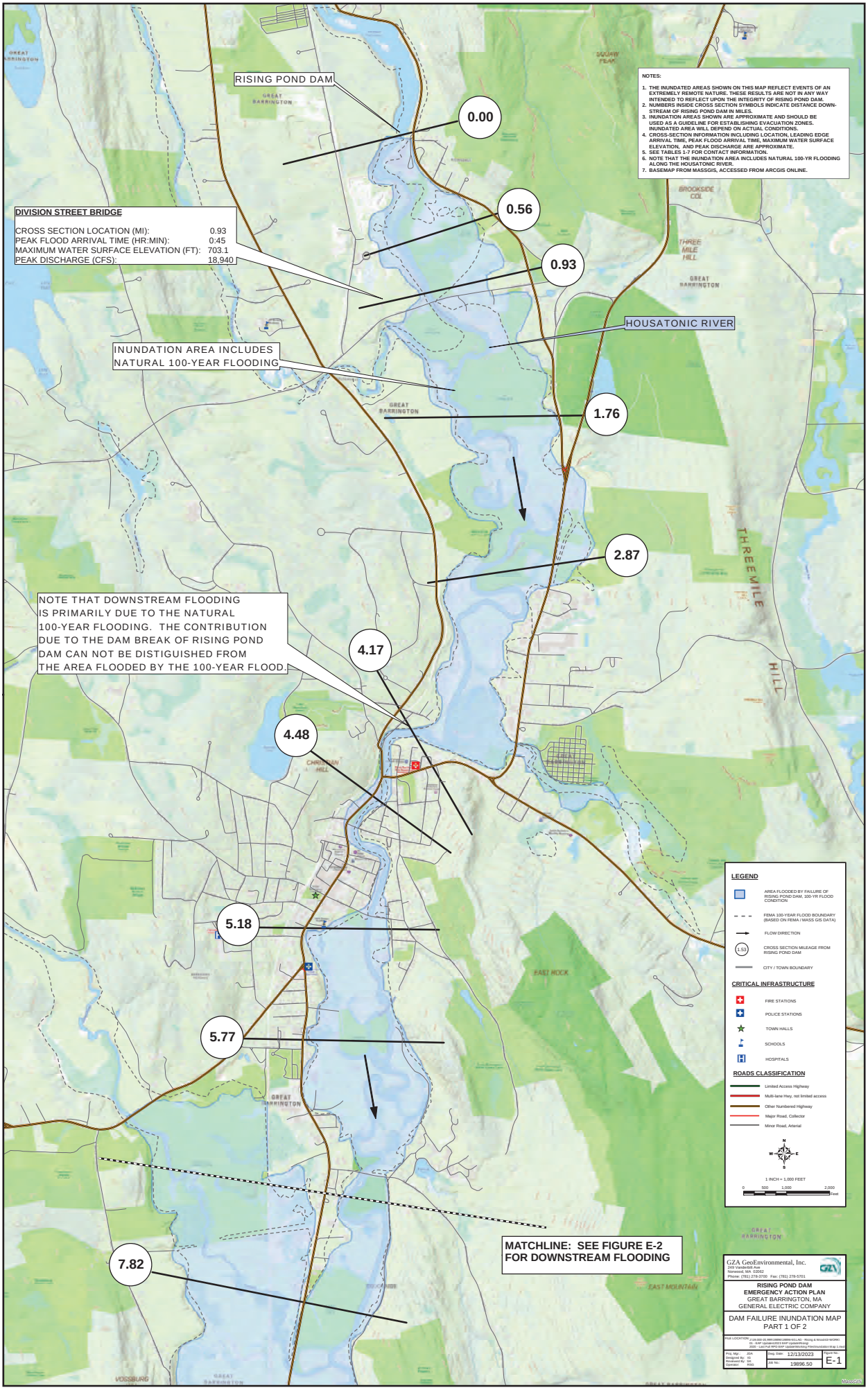
NO.	DATE	REVISION	BY
1	07/24/2019	Changed Vertical Datum was NAVD 88	HMB

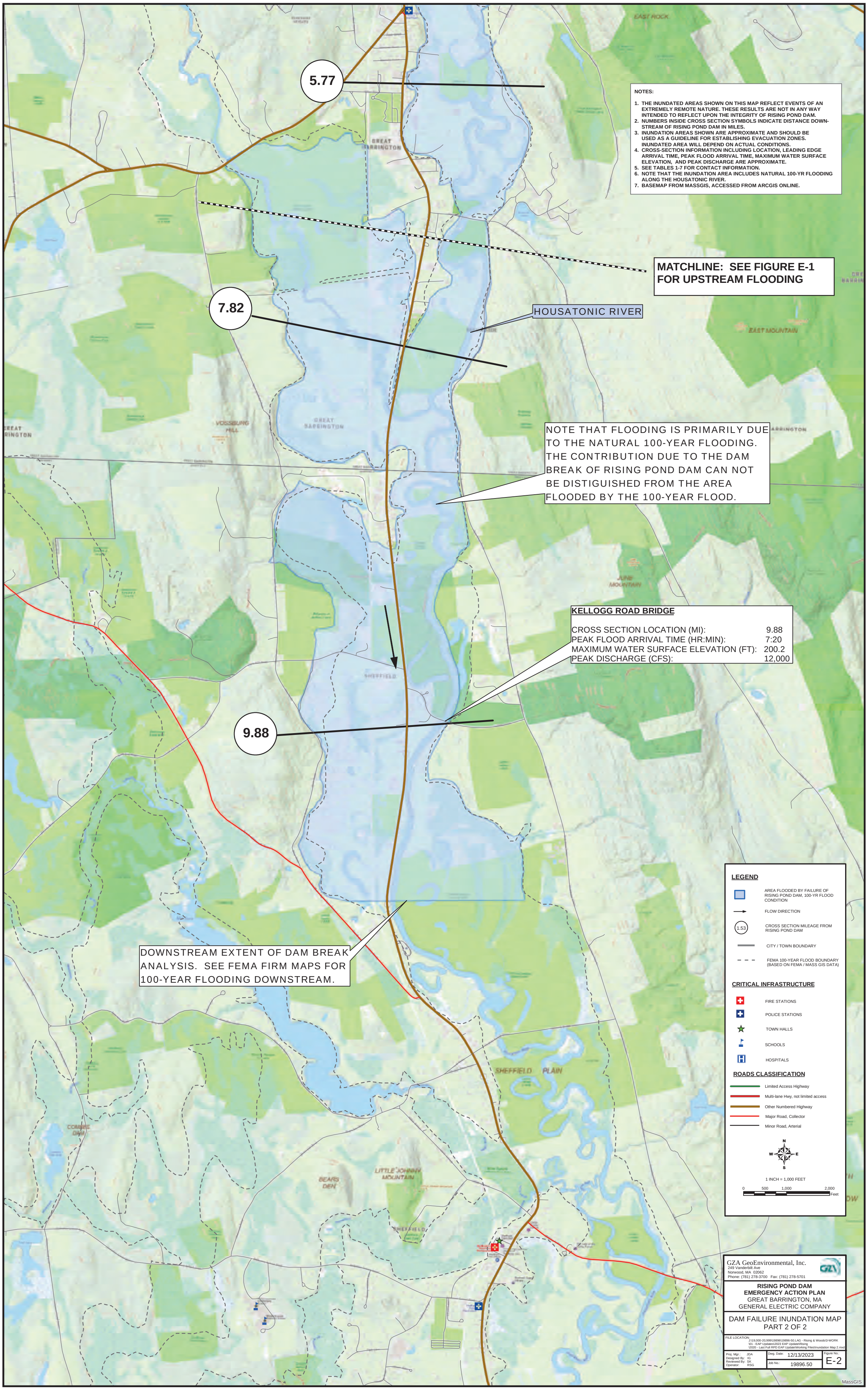
TOPOGRAPHIC SURVEY PLAN
Prepared For
GZA GEOENVIRONMENTAL, INC.

Rising Pond Dam
HOUSATONIC MASSACHUSETTS

FORESIGHT LAND SERVICES
ENGINEERING SURVEYING PLANNING
FORESIGHT LAND SERVICES, INC.
1496 West Housatonic Street - Pittsfield, MA 01201
Tel.: (413) 499-1960 Fax: (413) 499-3307 www.foresightlands.com

SCALE: 1" = 20'	DWN. BY: DMW	CHK. BY: SAM
DATE: October 7, 2020	DWG. NO. RPD SURVEY WITH MONITORING POINTS	
JOB NO. S3013A	Layout Tab: W01	


RISING POND DAM
0.00
0.56
0.93
1.76
2.87
4.17
4.48
5.18
5.77
7.82
DIVISION STREET BRIDGE
CROSS SECTION LOCATION (MI): 0.93
PEAK FLOOD ARRIVAL TIME (HR:MIN): 0:45
MAXIMUM WATER SURFACE ELEVATION (FT): 703.1
PEAK DISCHARGE (CFS): 18,940
HOUSATONIC RIVER
INUNDATION AREA INCLUDES NATURAL 100-YEAR FLOODING
NOTE THAT DOWNSTREAM FLOODING IS PRIMARILY DUE TO THE NATURAL 100-YEAR FLOODING. THE CONTRIBUTION DUE TO THE DAM BREAK OF RISING POND DAM CAN NOT BE DISTIGUISHED FROM THE AREA FLOODED BY THE 100-YEAR FLOOD.
NOTES:
1. THE INUNDATED AREAS SHOWN ON THIS MAP REFLECT EVENTS OF AN EXTREMELY REMOTE NATURE. THESE RESULTS ARE NOT IN ANY WAY INTENDED TO REFLECT UPON THE INTEGRITY OF RISING POND DAM.
2. NUMBERS INSIDE CROSS SECTION SYMBOLS INDICATE DISTANCE DOWN-STREAM OF RISING POND DAM IN MILES.
3. INUNDATION AREAS SHOWN ARE APPROXIMATE AND SHOULD BE USED AS A GUIDELINE FOR ESTABLISHING EVACUATION ZONES. INUNDATED AREA WILL DEPEND ON ACTUAL CONDITIONS.
4. CROSS-SECTION INFORMATION INCLUDING LOCATION, LEADING EDGE ARRIVAL TIME, PEAK FLOOD ARRIVAL TIME, MAXIMUM WATER SURFACE ELEVATION, AND PEAK DISCHARGE ARE APPROXIMATE.
5. SEE TABLES 1-7 FOR CONTACT INFORMATION.
6. NOTE THAT THE INUNDATION AREA INCLUDES NATURAL 100-YR FLOODING ALONG THE HOUSATONIC RIVER.
7. BASEMAP FROM MASSGIS, ACCESSED FROM ARCGIS ONLINE.
LEGEND
AREA FLOODED BY FAILURE OF RISING POND DAM, 100-YR FLOOD CONDITION
FEMA 100-YEAR FLOOD BOUNDARY (BASED ON FEMA / MASS GIS DATA)
FLOW DIRECTION
CROSS SECTION MILEAGE FROM RISING POND DAM
CITY / TOWN BOUNDARY
CRITICAL INFRASTRUCTURE
FIRE STATIONS
POLICE STATIONS
TOWN HALLS
SCHOOLS
HOSPITALS
ROADS CLASSIFICATION
Limited Access Highway
Multi-lane Hwy, not limited access
Other Numbered Highway
Major Road, Collector
Minor Road, Arterial
1 INCH = 1,000 FEET
MATCHLINE: SEE FIGURE E-2 FOR DOWNSTREAM FLOODING
GZA GeoEnvironmental, Inc.
RISING POND DAM
EMERGENCY ACTION PLAN
GREAT BARRINGTON, MA
GENERAL ELECTRIC COMPANY
DAM FAILURE INUNDATION MAP
PART 1 OF 2
Proj. Mgr.: JDA
Designed By: SI
Reviewed By: SK
Operator: RSG
Dwg. Date: 12/13/2023
File No.: 19896.50
Figure No.: E-1


5.77
NOTES:
1. THE INUNDATED AREAS SHOWN ON THIS MAP REFLECT EVENTS OF AN EXTREMELY REMOTE NATURE. THESE RESULTS ARE NOT IN ANY WAY INTENDED TO REFLECT UPON THE INTEGRITY OF RISING POND DAM.
2. NUMBERS INSIDE CROSS SECTION SYMBOLS INDICATE DISTANCE DOWN-STREAM OF RISING POND DAM IN MILES.
3. INUNDATION AREAS SHOWN ARE APPROXIMATE AND SHOULD BE USED AS A GUIDELINE FOR ESTABLISHING EVACUATION ZONES. INUNDATED AREA WILL DEPEND ON ACTUAL CONDITIONS.
4. CROSS-SECTION INFORMATION INCLUDING LOCATION, LEADING EDGE ARRIVAL TIME, PEAK FLOOD ARRIVAL TIME, MAXIMUM WATER SURFACE ELEVATION, AND PEAK DISCHARGE ARE APPROXIMATE.
5. SEE TABLES 1-7 FOR CONTACT INFORMATION.
6. NOTE THAT THE INUNDATION AREA INCLUDES NATURAL 100-YR FLOODING ALONG THE HOUSATONIC RIVER.
7. BASEMAP FROM MASSGIS, ACCESSED FROM ARCGIS ONLINE.
MATCHLINE: SEE FIGURE E-1 FOR UPSTREAM FLOODING
7.82
HOUSATONIC RIVER
NOTE THAT FLOODING IS PRIMARILY DUE TO THE NATURAL 100-YEAR FLOODING. THE CONTRIBUTION DUE TO THE DAM BREAK OF RISING POND DAM CAN NOT BE DISTIGUISHED FROM THE AREA FLOODED BY THE 100-YEAR FLOOD.
KELLOGG ROAD BRIDGE
CROSS SECTION LOCATION (MI): 9.88
PEAK FLOOD ARRIVAL TIME (HR:MIN): 7:20
MAXIMUM WATER SURFACE ELEVATION (FT): 200.2
PEAK DISCHARGE (CFS): 12,000
9.88
DOWNSTREAM EXTENT OF DAM BREAK ANALYSIS. SEE FEMA FIRM MAPS FOR 100-YEAR FLOODING DOWNSTREAM.
EAST ROCK
EAST MOUNTAIN
VOSSBURG HILL
JUNE MOUNTAIN
SHEFFIELD PLAIN
LITTLE JOHNNY MOUNTAIN
BEARS DEN
LEGEND
AREA FLOODED BY FAILURE OF RISING POND DAM, 100-YR FLOOD CONDITION
FLOW DIRECTION
1.53
CROSS SECTION MILEAGE FROM RISING POND DAM
CITY / TOWN BOUNDARY
FEMA 100-YEAR FLOOD BOUNDARY (BASED ON FEMA / MASS GIS DATA)
CRITICAL INFRASTRUCTURE
FIRE STATIONS
POLICE STATIONS
TOWN HALLS
SCHOOLS
HOSPITALS
ROADS CLASSIFICATION
Limited Access Highway
Multi-lane Hwy, not limited access
Other Numbered Highway
Major Road, Collector
Minor Road, Arterial
N
W
E
S
1 INCH = 1,000 FEET
0 500 1,000 2,000 Feet
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
Phone: (781) 278-3700 Fax: (781) 278-5701
RISING POND DAM
EMERGENCY ACTION PLAN
GREAT BARRINGTON, MA
GENERAL ELECTRIC COMPANY
DAM FAILURE INUNDATION MAP
PART 2 OF 2
FILE LOCATION: J:\19,000-20,999\19896\19896-50.LAG - Rising & Woods\3-WORK \01 - EAP Updates\2023 EAP Update\Rising \2020 - Last Full RPD EAP Update\Working Files\Inundation Map 2.mxd
Proj. Mgr.: JDA
Designed By: IG
Reviewed By: SK
Operator: RSG
Dwg. Date: 12/13/2023
Job No.: 19896.50
Figure No.: E-2
MassGIS

APPENDIX G – INSTRUMENTATION DATA AND WATER LEVEL RECORDS

Rising Pond Dam Piezometer & Observation Well Data

Note: Piezometer P-8C reading higher than reservoir elevation since installation. Action levels not current established for this instrument. Instrument to be investigated when establishing new design basis values and theshold / action levels for the piezometers and observation wells (see recommendations in the 2023 Phase I Report).

Note: Action level for D-2 (OW), P-7, P-8, P-9, P-12, P-13, and P-14 series is 715 feet NGVD.

New baseline established for P-12C during the 2012-2013 rehabilitation

Elevation (ft, NGVD)

785
760
735
710
685
660

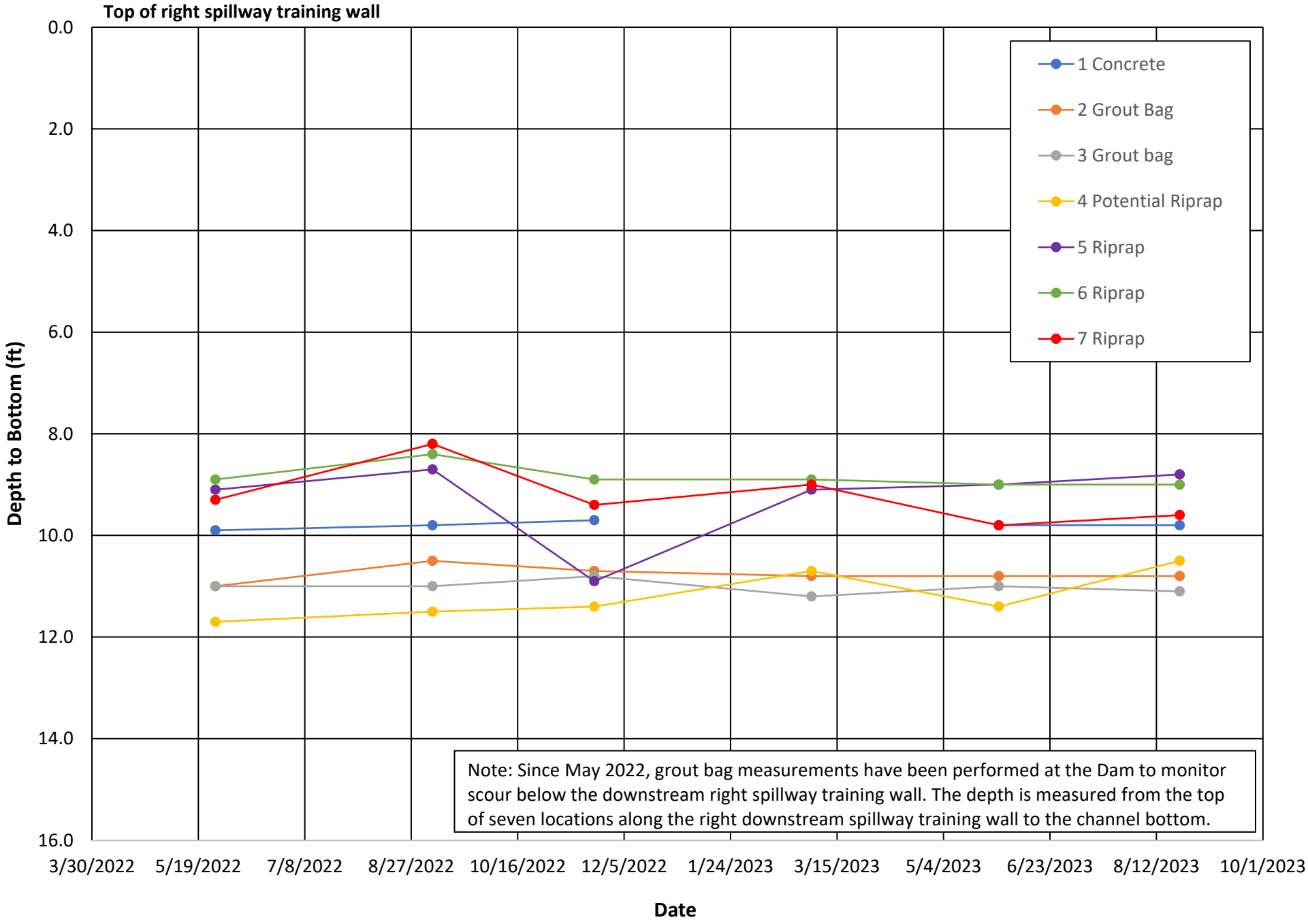
1/1/1993 1/1/1995 1/1/1997 1/1/1999 1/1/2001 1/1/2003 1/1/2005 1/1/2007 1/1/2009 1/1/2011 1/1/2013 1/1/2015 1/1/2017 1/1/2019 1/1/2021 1/1/2023 1/1/2025

Date

P-1B
P-2C
P-3C
P-4C
P-5A
P-5B
P-7A
P-7B
P-8A
P-8B
P-8C
P-9A
P-9B
P-10B
P-10C
P-11C
P-12B
P-12C
P-14C2
P-14B
GZ-2
GZ-5
GZ-6
GZ-2 OW
GZ-5 OW
GZ-7 OW
Reservoir Elevation

J:\19,000-20,999\19896_Instrumentation\RPD - OWs & Piezos

Rising Pond Dam Grout Bag Measurements



APPENDIX H – MAINTENANCE TRACKING TABLE

Rising Pond Dam – Maintenance Tracking Table – Dated February 9, 2024 (based on November 15, 2023 Inspection)			
Condition Observed Requiring Monitoring or Maintenance/Repair	**When Observed**	**Proposed Response**	**Status**
1. Some rust was present on forebay trash rack.	Since 2019 Phase 1 Inspection.	Monitor and, if necessary, re-paint the forebay trash rack**.**	Trash rack will be inspected during the planned 2025 dive inspection to evaluate the underwater condition of the trash rack.
2. Small cracks with a minor grease leak through them were observed in the gate operator.	Since the 2021 Phase 1 Inspection.	Continue to monitor and repair.	This condition will be repaired in 2024. This condition will be monitored until repairs are completed.
3. A crack in the forebay concrete was observed on the upstream face below the abandoned operator.	Since 2019 Phase 1 Inspection.	Continue to monitor this crack.	This crack is regularly monitored during quarterly and biennial inspections.
4. Floating timber debris was observed on the safety buoys and in the energy dissipators at downstream toe of the spillway.	Timber on safety buoys since the second quarterly inspection in 2020; timber in energy dissipators since first quarterly inspection in 2023. The timber debris was not impeding flow at the time of the 2023 Phase 1 inspection.	Monitor and remove as needed.	Buildup of debris is a regular occurrence and is cleared as needed.
5. Seepage observed through the left spillway training wall.	A seep was observed since the 2021 Phase 1 inspection. (Note: Photographs indicate that this seep was intermittently present since 2011). During the second and third quarterly inspections for 2023, and during the 2023 Phase 1 inspection, seeps were observed near the base of the wall.	Continue to monitor.	Seeps will continue to be monitored during quarterly and biennial inspections.

Rising Pond Dam – Maintenance Tracking Table – Dated February 9, 2024 (based on November 15, 2023 Inspection)			
Condition Observed Requiring Monitoring or Maintenance/Repair	**When Observed**	**Proposed Response**	**Status**
6. A low area in the riprap is present at the downstream toe of slope on right embankment.	Since 2019 Phase 1 Inspection.	Continue to monitor this area.	The location of this low area was marked and surveyed in February 2020. It is monitored during biennial and quarterly inspections for changes in width, length, and depth.
7. Protective casing for monitoring well/piezometer GZ-6 was observed to be slightly tilted.	Since the 2019 Phase 1 Inspection.	Continue to monitor.	This well will be monitored during quarterly and biennial inspections.
8. A low area or “belly” was observed in the penstock about 110 feet upstream of the end of the pipe.	First observed during the October 22, 2021 penstock Inspection.	Continue to investigate and monitor.	Additional evaluations are currently being performed in accordance with a plan submitted to EPA on December 23, 2022 and a mid-year status report submitted on August 16, 2023. Investigations were performed in the latter half of 2023 and an end-of-year status report is being developed.

Rising Pond Dam – Maintenance Tracking Table – Dated February 9, 2024 (based on November 15, 2023 Inspection)			
Condition Observed Requiring Monitoring or Maintenance/Repair	**When Observed**	**Proposed Response**	**Status**
9. Nested piezometer D-9 was found during 2021 left embankment raising activities.	Since the second quarterly inspection in 2022.	Expose piezometer, measure water levels, and determine functionality; install handhole over well to allow future access.	Piezometer had previously been excavated and exposed, and a handhole installed over the piezometer in 2022. The piezometer risers were extended to within ~2 to 6 inches of the ground surface prior to the third quarterly inspection for 2023. The handhole and casing elevations will be surveyed during the next scheduled (2025) topographic survey.
10. Minor woody vegetation was observed on the upstream slopes of the left and right embankment.	2023 Phase 1 Inspection.	Remove vegetation.	Vegetation will be removed during regularly scheduled maintenance activities in 2024.
11. Crack was observed in the concrete step to the left of the gate platform.	2023 Phase 1 Inspection.	Monitor this crack for potential future repair if needed.	This crack will be regularly monitored during quarterly and biennial inspections.
12. Three existing staff gages at the Dam are becoming difficult to read.	2023 Phase 1 Inspection.	Repair / restore the legibility of the three staff gages that are installed at the Dam. Install a fourth staff gauge within the forebay.	The staff gauges will be repaired / restored and a new staff gauge installed in the forebay during a low-flow period in 2024.

Rising Pond Dam – Maintenance Tracking Table – Dated February 9, 2024 (based on November 15, 2023 Inspection)			
Condition Observed Requiring Monitoring or Maintenance/Repair	**When Observed**	**Proposed Response**	**Status**
13. Broken / missing Lexan fence panels and gate latch were observed on the right spillway training wall.	2023 Phase 1 Inspection.	Repair the broken panels and latch and replace the missing panels.	The panels and latch will be repaired / replaced in the first quarter in 2024.
14. Deteriorated brick was observed at top of wall on left side of forebay. Area has exposed soils and damaged bricks at top of wall.	Fourth quarterly inspection for 2022; first, second, and third quarterly inspections for 2023.	Repair the deteriorated portion at top of the brick wall.	This repair had been conducted in the fall of 2023.
15. Three shallow linear surficial depressions were observed above the downstream portion of the penstock alignment.	First, second, and third quarterly inspections for 2023.	Continue to monitor.	Based on discussion with mill staff, the previously observed "three parallel shallow linear surficial depressions" were intentionally created by the mill owners to direct rain runoff away from the mill building. These surficial depressions are not considered a dam safety concern.
16. Damaged PVC riser and piezometer wire in GZ-5.	Third quarterly inspection for 2023.	Continue to monitor.	The GZ-5 casing had been repaired in 2022 and is now operable. The damage to the cable is minor and does not impact the readings. The top of casing will be surveyed during the next scheduled topographic survey in 2025.
Note: Gray-shaded cells indicate that a listed condition had been addressed or was not present during the current inspection.			