

DEPARTMENT OF PUBLIC WORKS

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Water, Wastewater, Highway & Solid Waste Divisions

25 BROOK STREET
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July 8, 2015

RE: Balch Pond Dike (MA01186) Follow-Up Inspection

Dear Mr. William C. Salomaa, Director, Office of Dam Safety:

A Follow-Up Inspection of the Balch Pond Dike has been conducted in accordance with the Certificate of Non-Compliance and Dam Safety Order received, dated February 22, 2008, and a Notice of Failure to Comply with Dam Safety Order, dated June 11, 2015. Two (2) hard copies and one (1) electronic copy of the Follow-Up Inspection are attached to this submittal. I, Daniel Van Schalkwyk, a registered professional engineer working for the Ayer DPW, performed the inspection.

If you have any questions or comments please don't hesitate to contact me.

Regards,

AYER PUBLIC WORKS DEPARTMENT

Daniel Van Schalkwyk, P.E.
Town Engineer



07-08-2015

cc: Patricia Huckery, District Manager, Division of Fisheries and Wildlife
Marielle Stone, MassDEP Wetland Section Chief, Central Region
Jannice L. Livingston, Chair, Ayer Board of Selectmen
Robert Pedrazzi, Ayer Emergency Management Director
Abutters of impoundment upstream
Property owners within one-half mile downstream of the dike



Commonwealth of Massachusetts
Department of Conservation and Recreation
Office of Dam Safety Poor and Unsafe Condition Dam Follow-up Inspection Form

(Complete this inspection form and provide a cover letter on consulting firm letterhead that briefly summarizes the current follow-up inspection and findings. The cover letter shall be signed and stamped by the Registered Professional Engineer in charge of the inspection)

Dam Name: Balch Pond Dike
Dam Owner: Under Review
Nat. ID Number: MA01186
Hazard Potential: Significant
Location of Dam (town): Ayer
Coordinate location (lat,long): 42.554075°N / 71.573719°W
Date of Inspection: 06/24/2015
Weather: Clear, 75°F

Consultant Inspector(s): Town of Ayer Department of Public Works
Town Engineer
Daniel Van Schalkwyk, P.E.

Others in Attendance at Field Inspection:
Town of Ayer Department of Public Works
DPW Superintendent
Mark Wetzel, P.E.

Attachments: Updated site sketch with photo locations, Updated photos, and copy of locus map from Phase I report and other applicable attachments.

- I. Previous Inspection date/Overall Condition:** Phase II Inspection/Evaluation performed in 2014 by Pare Corporation of Foxboro, MA (Phase II implemented by MassDOT)
- **Date of most recent formal Phase I Inspection Report:** June 2012
 - **List the overall condition reported in most recent Phase I Inspection Report:** Poor
- II. Previous Inspection Deficiencies:**
- **List identified deficiencies in the most recent Phase I Inspection Report:**
 - a. A large surface depression caused by a rotten tree stump was observed near the left abutment.
 - b. The elevation of the right abutment is only one foot above normal pool elevation, nearly three feet below the crest of the dam at the spillway culvert, and 1.7 ft. below the predicted peak pond stage due to the SDF.
 - c. The crest height across the length of the dike is variable.
 - d. Large trees and brush are present on the upstream slope.
 - e. The upstream slope is undercut and eroded near the water level and tree roots are exposed on the slope surface.
 - f. Large trees and brush are present on the crest. Exposed tree roots were noted.

- g. The downstream slope is steep, covered with forest litter and debris, and vegetated with brush and trees.
- h. A large wet area (approximately 85 ft. long) is present along the downstream toe of slope.
- i. Overgrown vegetation, dead and fallen trees were observed at the downstream slope.
- j. Forest debris and litter covering the slope near the right abutment prevented a thorough inspection of the area.

III. Overall Condition of Dam at the Time of the Current Follow-up Inspection:

a. State the current condition:

Poor

b. Have conditions changed since the previous inspection? Yes or no.

No

IV. Comparison of Current Conditions to Condition Listed in Previous Phase I Inspection Report:

a. Have any of the deficiencies listed in the previous Phase I Inspection Report worsened?

No.

b. If yes, list the changes.

c. Are there any additional deficiencies that have been identified in the current inspection?

None in addition to the Phase I and II.

d. If yes, list the deficiencies and describe.

V. Dam Safety Orders:

- **List dam safety orders that have been issued to the dam owner pertaining to this dam.**

Certificate of Non-Compliance and Dam Safety Order in a letter written by Department of Conservation and Recreation (DCR), Office of Dam Safety (ODS) dated February 22, 2008

VI. Maintenance:

1. Indicate if there exists an operation and maintenance plan for the dam.

No.

2. Indicate if it appears the dam is being maintained.

Maintenance is conducted as needed. Mowing crews are scheduled to maintain the vegetated areas around the dam/dike. Stop logs are installed and removed as needed to maintain a consistent normal pool elevation.

VII. Recommendations:

Continue follow-up inspections. Discuss Phase II Report with MassDOT.

VIII. Other Comments or Observations: None

IX. Updated Site Sketch with Photo Locations: Attached

X. Updated Photos: Attached

XI. Copy of Locus Map from Phase I Report: Attached

XII. Other applicable attachment: None

Attachments

O:\Ayer\Balch Pond Dam and Dike - MA00135, MA01186\2012 Phase I Inspection\Figures\Balch Pond Figures.dwg

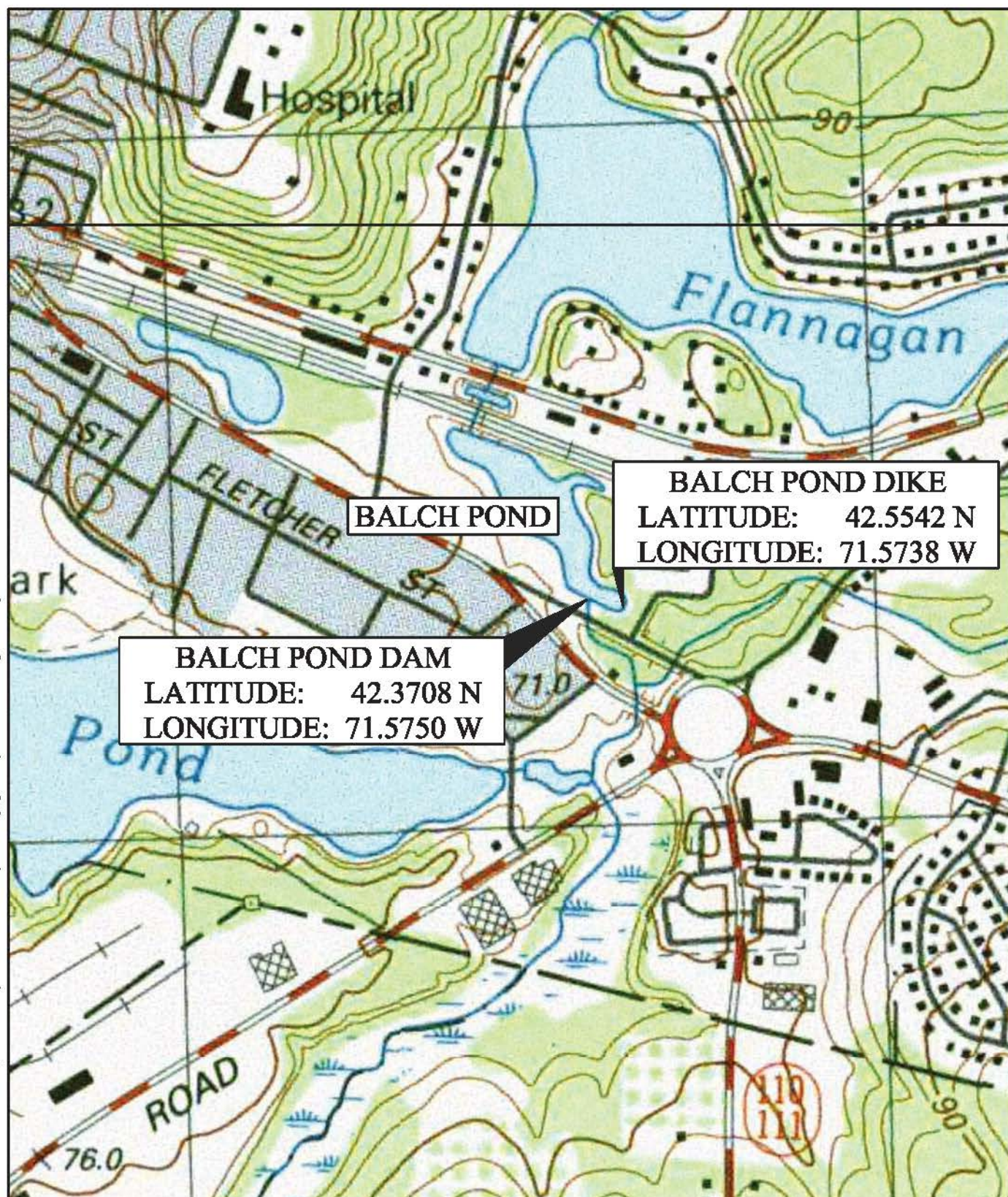
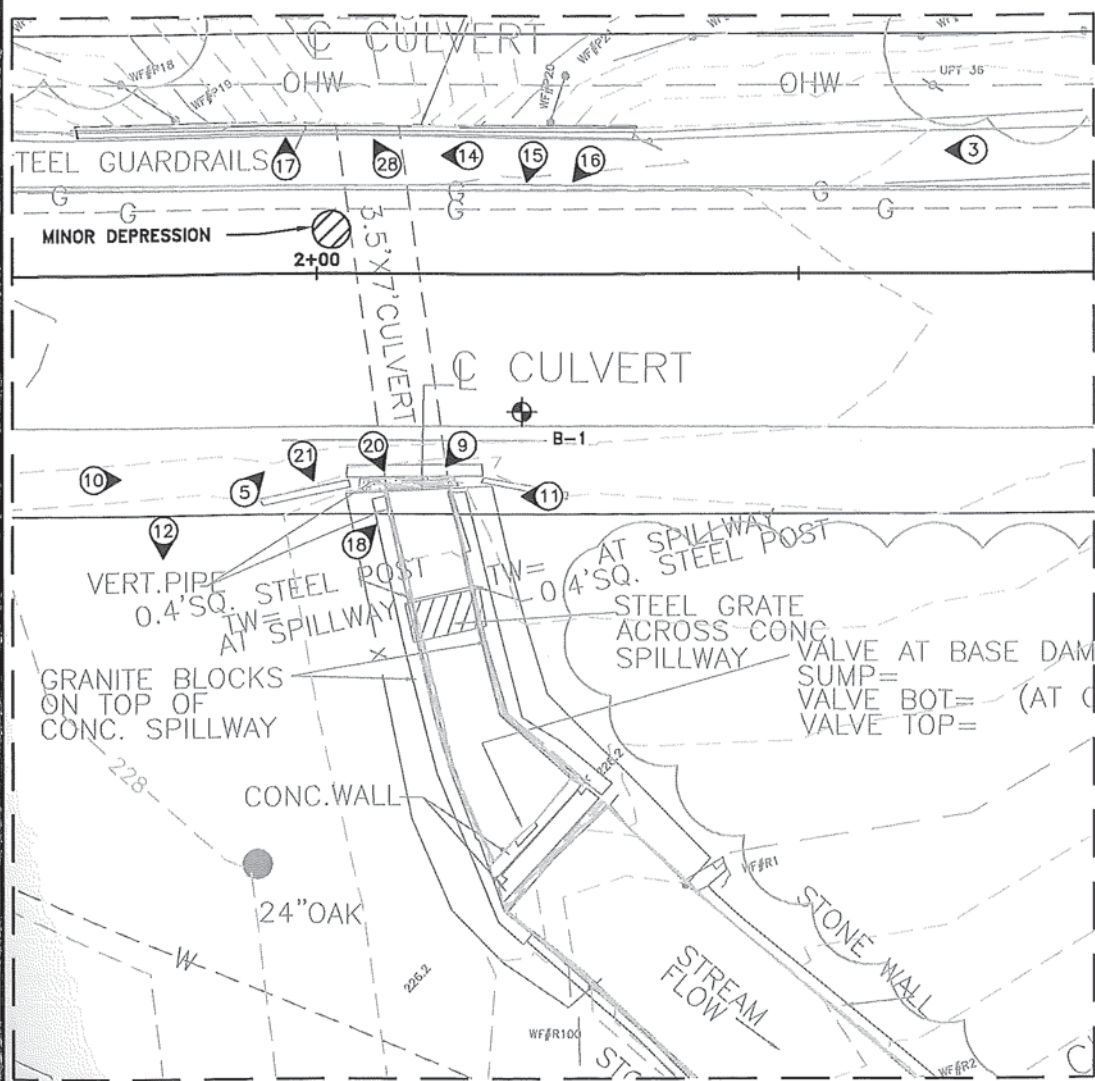


FIGURE 1
 AYER, MASSACHUSETTS
 BALCH POND DAM (MA00135), DIKE (MA01186)
 LOCUS MAP (MASSGIS TOPOGRAPHIC QUADRANGLE)

APPROXIMATE SCALE: 1"=200'

0 200 400





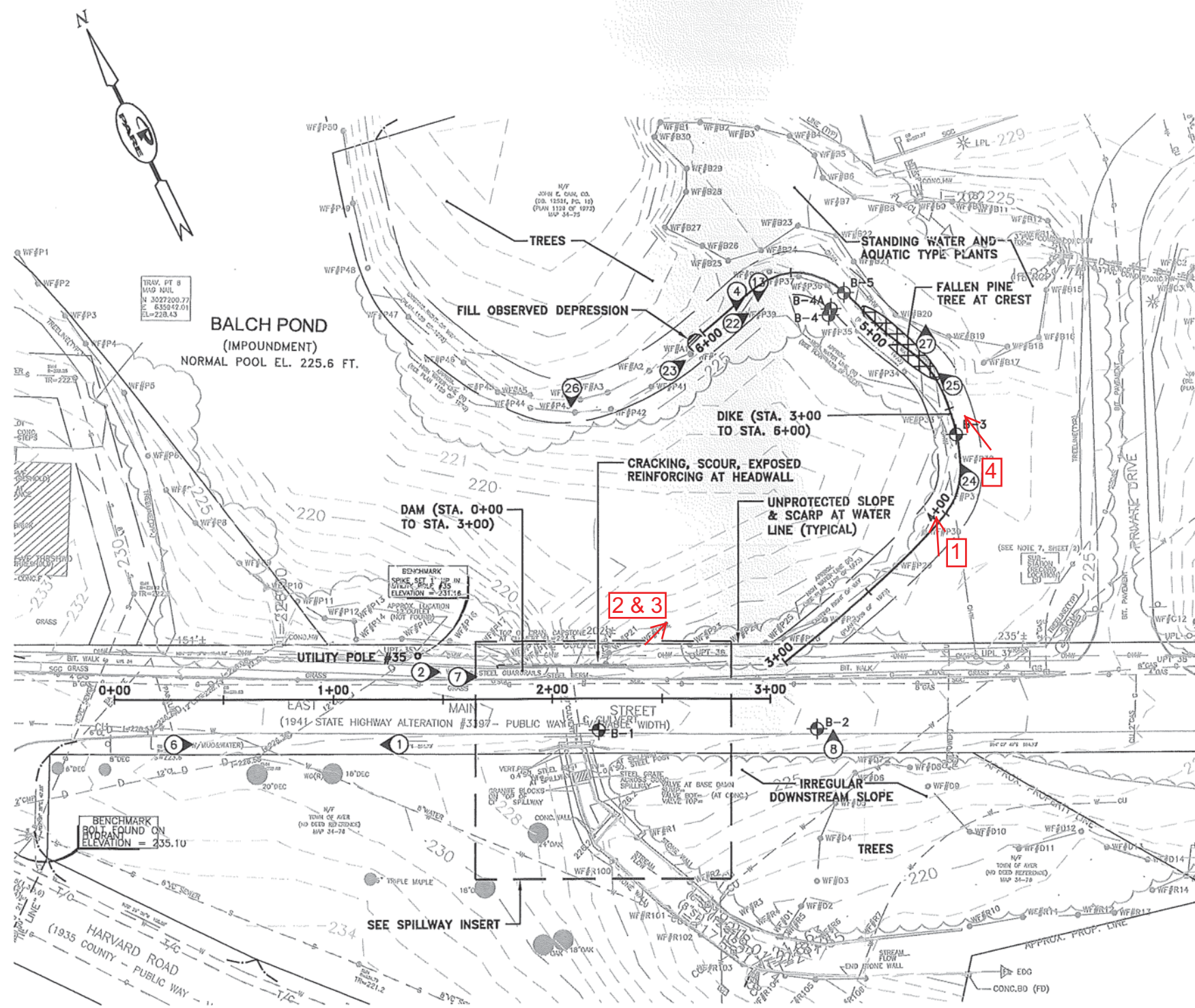
SPILLWAY INSERT
SCALE: 1"=20'

NOTES AND LEGEND

1. PLAN DEVELOPED FROM OBSERVATIONS, A RELATIVE ELEVATION SURVEY PERFORMED BY PARE CORPORATION, AND A TOPOGRAPHIC SURVEY PERFORMED BY BRYANT ASSOCIATES OF BOSTON, MA ENTITLED "EXISTING CONDITIONS PLAN, BALCH POND" DATED JANUARY 27, 2014, PROVIDED TO PARE CORPORATION BY MASSACHUSETTS DEPARTMENT OF TRANSPORTATION.
2. ELEVATIONS REFERENCE A SET SPIKE EL. 231.16 IN UP#35. (NAVD 88)

- BORINGS COMPLETED BY NEW ENGLAND BORING CONTRACTORS ON MARCH 5 TO MARCH 8, 2012. BORINGS OBSERVED BY PARE CORPORATION PERSONNEL.
- DENOTES APPROXIMATE LOCATION AND DIRECTION OF PHOTOGRAPH
- BASELINE AND STATIONING
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE
- EXISTING TREELINE

1 Photo Number and Direction



EXISTING SITE SKETCH
SCALE: 1"=60'

**SITE SKETCH AND PHOTO LOCATIONS
DIKE INSPECTION
JUNE 2015**

BALCH POND DAM AND DIKE

DAM: MA00135 / 4-9-19-4
DIKE: MA01186 / 4-9-19-4A
AYER, MASSACHUSETTS
PREPARED FOR
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

REVISIONS:	

PROJECT NO.: 13048.04
DATE: FEBRUARY 2014
SCALE: AS NOTED
DESIGNED BY: GB
CHECKED BY: ACJ
DRAWN BY: AWB
APPROVED BY: JMB

**EXISTING
SITE SKETCH**

FIGURE NO.: 3

Balch Pond Dike Inspection Photos
June 24, 2015



Photo 1:

Leaning trees on upstream slope of dike near Sta. 3+50.



Photo 2:

View of dike from dam headwall, approximately Sta.'s 4+00 to 5+00.

Balch Pond Dike Inspection Photos
June 24, 2015



Photo 3:

View of dike from dam headwall.
Dead tree and fallen tree near Sta.
4+50.



Photo 4:

Fallen tree and heavy vegetation
near Sta. 4+50.