



MEMORANDUM

DATE: January 13, 2022

TO: William Buckley, P.E., Bay Colony Group

FROM: Lauren H. Gluck, P.W.S., Pare

RE: **Riverfront Area Regulatory Review**
119 Morse Street
Foxborough, Massachusetts
Pare Project No.: 18170.29

The purpose of this memorandum is to support Pare's determination of the extent of Riverfront Area (RFA) on the above-referenced property. Based upon field observations, review of published mapping, and regulatory review, it is Pare's professional opinion that the Riverfront Area (RFA) on the property stops at the downstream end of the bridge that carries the driveway to the property over the Rumford River.

According to 310 CMR 10.58(2)(h):

*"Where rivers flow through lakes or ponds, the **Riverfront Area stops at the inlet and begins again at the outlet. A water body identified as a lake, pond, or reservoir on the current USGS map or more recent map provided by the Department, is a lake or pond, unless the issuing authority determines that the water body has primarily riverine characteristics. Riverine characteristics may include, but are not limited to, unidirectional flow that can be visually observed or measured in the field. In addition, rivers are characterized by horizontal zonation as opposed to the vertical stratification that is typically associated with lakes and ponds.**"*

The USGS Topographic Quadrangle (Figure 1) shows the Rumford River as a thick blue line (perennial river) which ends just south of the driveway crossing at the inlet to Glue Factory Pond, which is clearly mapped as a pond.

Pare did not observe riverine characteristics downstream of the driveway bridge during either delineation date in 2021. Upstream of the driveway, the river consists of a rocky channel approximately 20 to 25 feet in width with clear visual observation of flow. The river passes under the bridge which consists of an approximately 20' wide span.. Downstream of the driveway there is a distinct and abrupt change in character from a rocky 20-25' wide channel with readily observable unidirectional flow, to a cove of standing water 40-60 feet wide at the northeast side of the pond. These observations are consistent with Pare's previous determination, which was verified in an ORAD in 2007. Review of aerial photographs (Attachment B) indicates that the area appears to remain unchanged between the time prior to the former ORAD and the present.

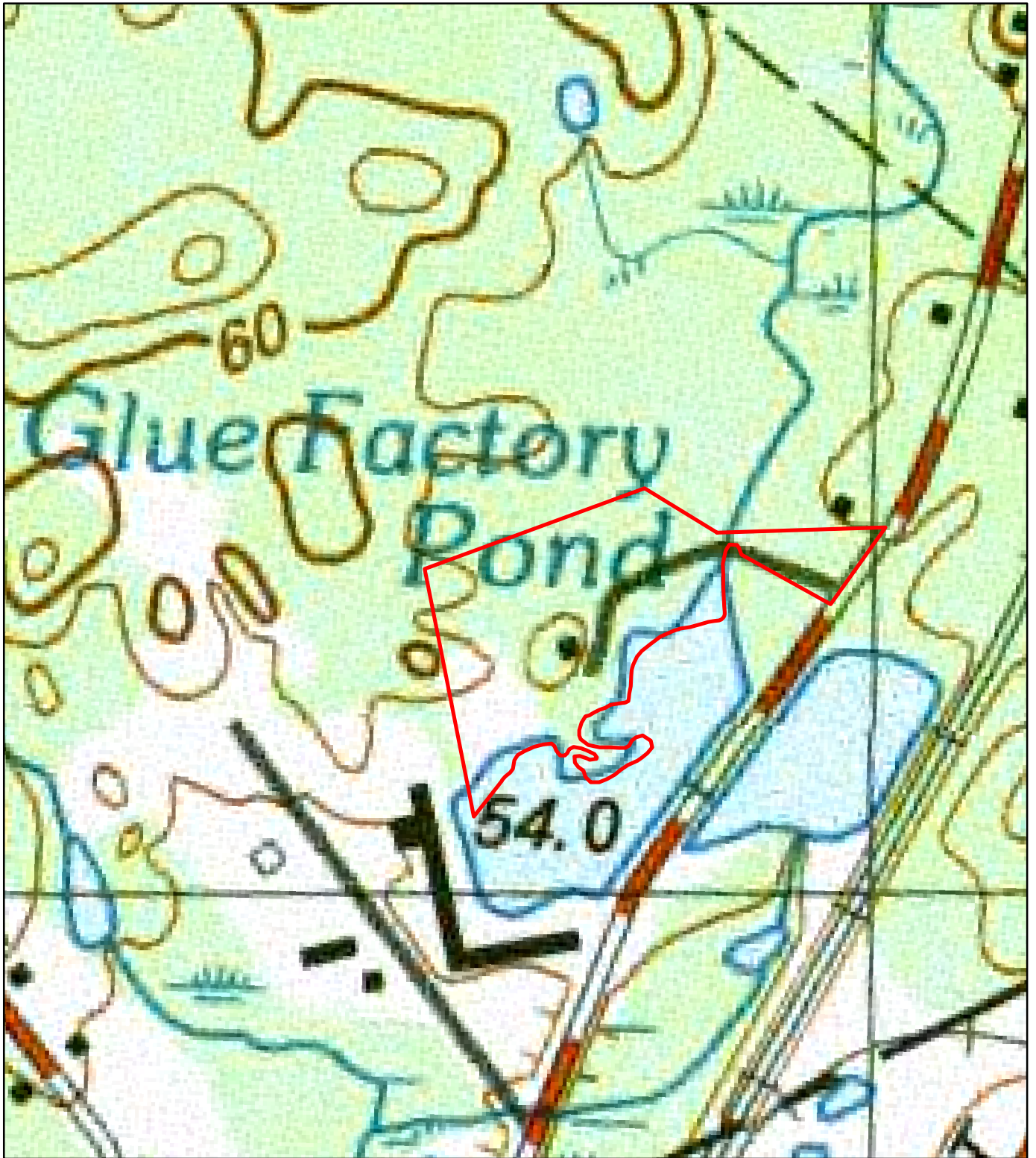
According to 310 CMR 10.58(2)(h), the burden of proof falls on the issuing authority to demonstrate that the area possesses riverine characteristics when it otherwise meets the definition of a "pond." Pare acknowledges that the Foxborough Conservation Agent has observed flow in the northeastern reach of the pond; however,

Pare's observations indicate that clearly observable unidirectional flow along a hydraulic gradient stops downstream of the bridge as the 20'-25' wide waterway abruptly broadens into a 40-60' wide cove of the pond. Water movement and/or ice-free open water in winter downstream of the bridge is likely incidental to flow velocity entering the pond through the "pinch point" created by the bridge; however, water movement diffuses immediately downstream of the bridge, indicating a transition to a waterbody lacking a hydraulic gradient. Furthermore, no proof has been provided by the Commission that the area possesses horizontal zonation rather than vertical stratification characteristic of ponds. The character of the northeast cove closely matches the remainder of the pond and is distinctive from the Rumford River upstream of the bridge, suggesting its morphology is comparable to the remainder of pond and distinct from the river upstream.

In summary, Pare's review of applicable regulations, available mapping, and field conditions informs our conclusion that the Riverfront Area on the site stops at the downstream end of the driveway bridge. The burden of proof rests on the issuing authority to demonstrate that the area in question has "primarily riverine characteristics."

**Attachments: A. Figure 1: USGS Topographic Map
B. Historic Aerial Photographs**

LHG



SITE LOCATION MAP

SCALE: 1" = 300'



8 BLACKSTONE VALLEY PLACE
 LINCOLN, RI 02865
 (401) 334-4100

10 LINCOLN ROAD, SUITE 210
 FOXBORO, MA 02035
 (508) 543-1755

PARE PROJECT No. 18170.29

OCTOBER 2021

FIGURE 1

119 MORSE STREET
 FOXBORO, MA

RIVERFRONT AREA REVIEW MEMO



Exhibit 1: 2001 Aerial Photograph

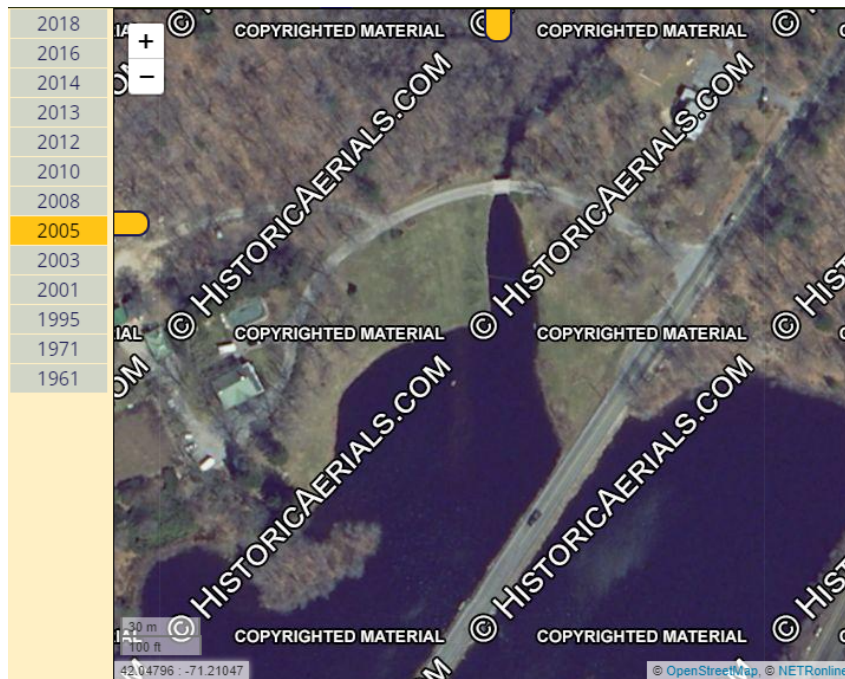


Exhibit 2: 2005 Aerial Photograph (most recent prior to 2007 ANRAD)

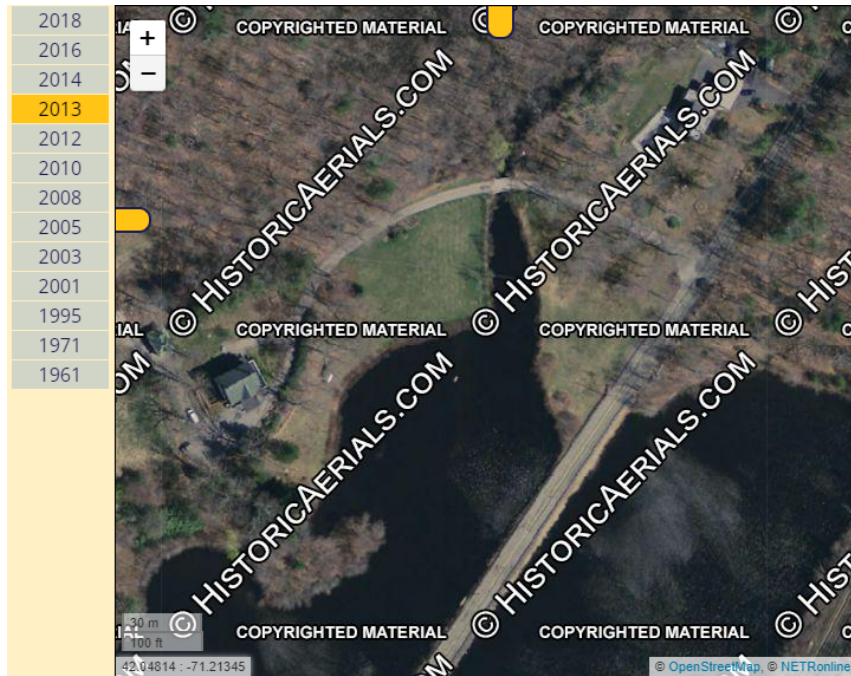


Exhibit 3: 2013 Aerial Photograph



Exhibit 4: 2019 Aerial Photograph (most current)