

SOUTH RIVER ENVIRONMENTAL

61 Meetinghouse Lane, Marshfield, MA 02050 Phone: 978-697-0854

RECEIVED

JAN 19 2024

DUXBURY CONSERVATION

January 16, 2023

Duxbury Conservation Commission
Duxbury Town Hall
878 Tremont Street
Duxbury, MA 02332

Re: Supplemental Information
Notice of Intent
The Winsor at Millbrook Village
50 Railroad Avenue, Duxbury, MA
DEP File No. SE18-2059

Dear Commission Members:

On behalf of The Winsor at Millbrook Village, LLC (proponent), South River Environmental (SRE) is submitting this supplemental information in support of the Notice of Intent filed for the above-referenced Project. On November 11, 2023, SRE submitted site photographs documenting the lack of flow present within the stream located along the western side of the subject property. While this stream is identified as perennial on the USGS topographic map, the documented lack of flow within the stream demonstrates that it is actually intermittent and does not have an associated 200-foot Riverfront Area in accordance with 310 CMR 10.58(2)(a)(1d).

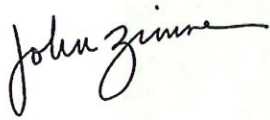
To further support this determination, SRE is submitting photos from an additional eight concurrent days, all of which document a lack of flow within the stream. Coupled with the initial documentation taken over a six-day period in November, the additional photos now demonstrate lack of flow within the stream over a period of 14 consecutive days. In addition to the photographic evidence, SRE has also submitted video documentation over an eight-day period between November 22, 2023 and November 29, 2023 which also documents the lack of flow within the stream.

In addition to the documented lack of flow within the stream as evidenced by the photographs and videos, SRE also ran StreamStats from the point at which the stream flows under Alden Street to the south of the subject property. This location was selected to provide a conservative watershed analysis that encompasses the segment of the stream located within the subject property. Per the StreamStats report (Attachment B), the watershed size contributing to the segment of stream at the location selected is 0.12 square miles. Additionally, the stream segment at that location has a flow duration of 0.00395 cubic feet per second in the 99th percent duration. Both of these are below the parameters required under those defined within the regulations for an intermittent stream to be determined perennial (0.5 square mile watershed and flow rate of 0.01 cubic feet per second in the 99 percent duration) (310 CMR 10.58(2)(a)(1)(c.1)). Additional StreamStats review of the stream at its confluence with the Bluefish River reservoir to the southeast still did not meet the perennial performance standard as the watershed size (0.2 square miles) and flow durations (0.00857 in 98th percent duration) were both below the regulatory threshold for perennial classification.

The Winsor at Millbrook Village
Supplemental Information
January 16, 2024

As clearly demonstrated by both the lack of flow within the stream and the supporting watershed size and flow duration information identified in StreamStats, the stream that flows through the western side of the subject property is clearly intermittent and should be regulated as inland bank under the Wetlands Protection Act without a 200-foot Riverfront Area. On behalf of the Proponent, SRE appreciates the opportunity to provide this additional information in support of the project. Should you have any questions or require additional information, please do not hesitate to contact me at 978-697-0854 or via email at southernriverenvironmental@gmail.com. Thank you for your continued consideration.

Sincerely,
South River Environmental



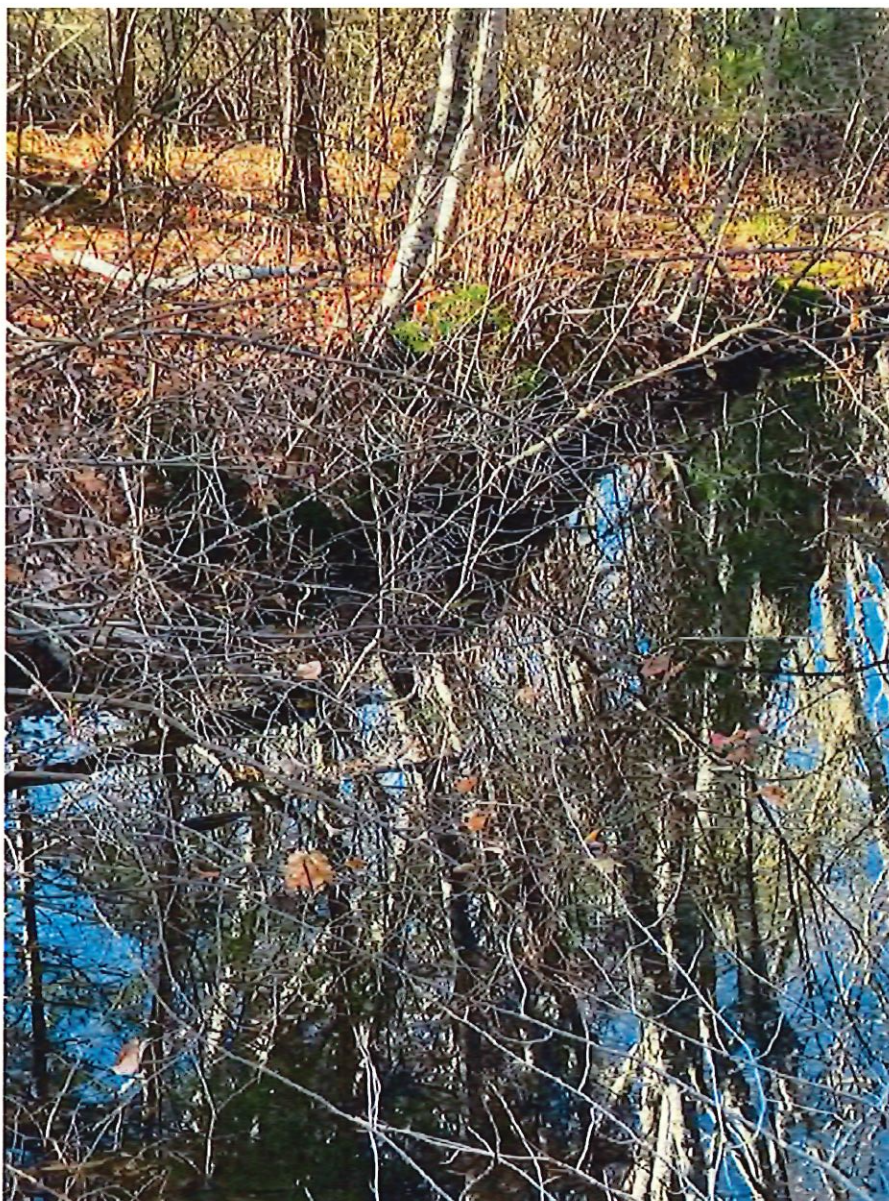
John Zimmer
Wetland Scientist / Wildlife Biologist

Cc: The Winsor at Millbrook Village, LLC
Crowell Engineering
Wetland Strategies, Inc.

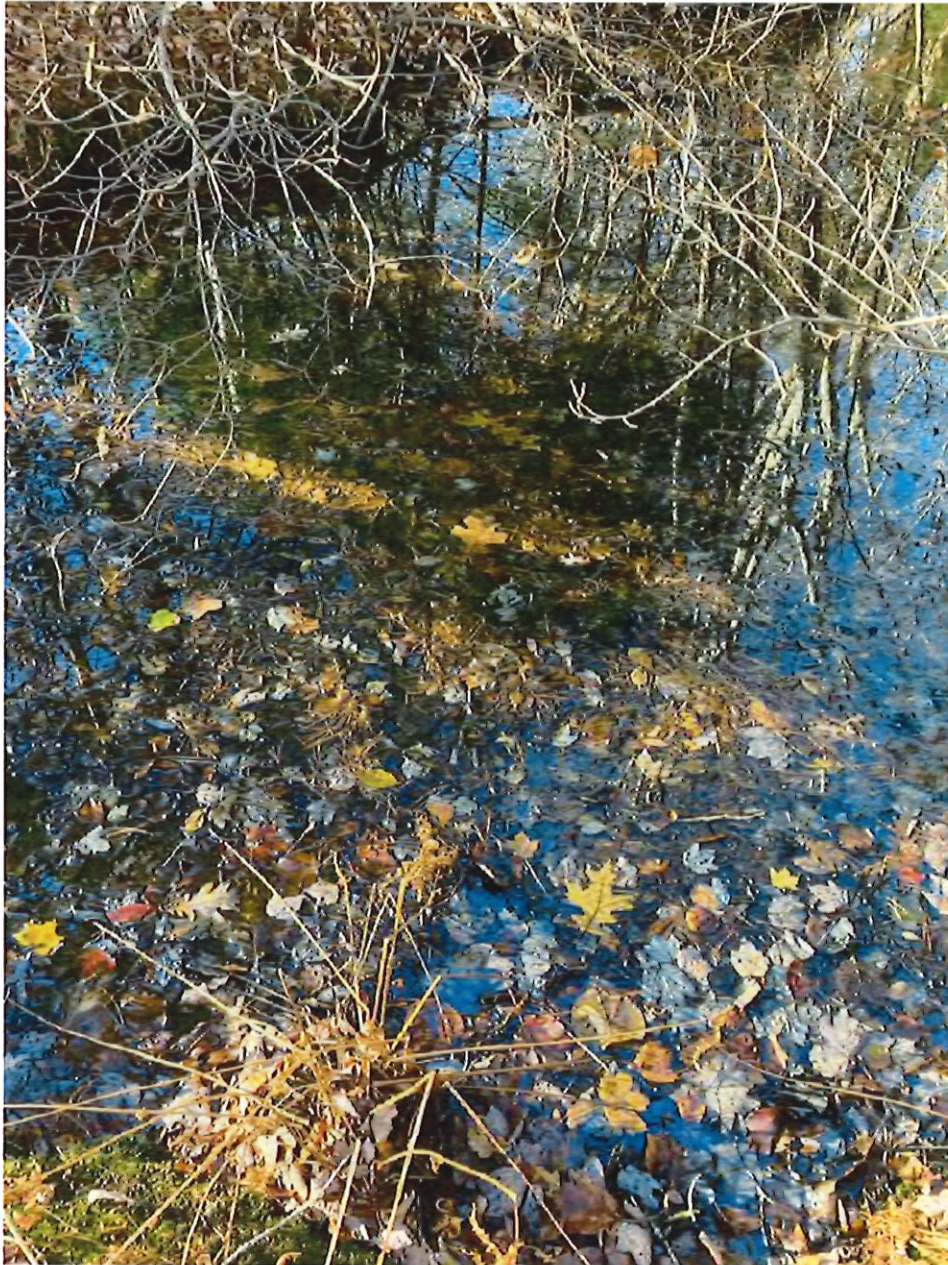
ATTACHMENT A
PHOTOGRAPHS DOCUMENTING LACK OF FLOW WITHIN STREAM



NOVEMBER 22, 2023



NOVEMBER 23, 2023



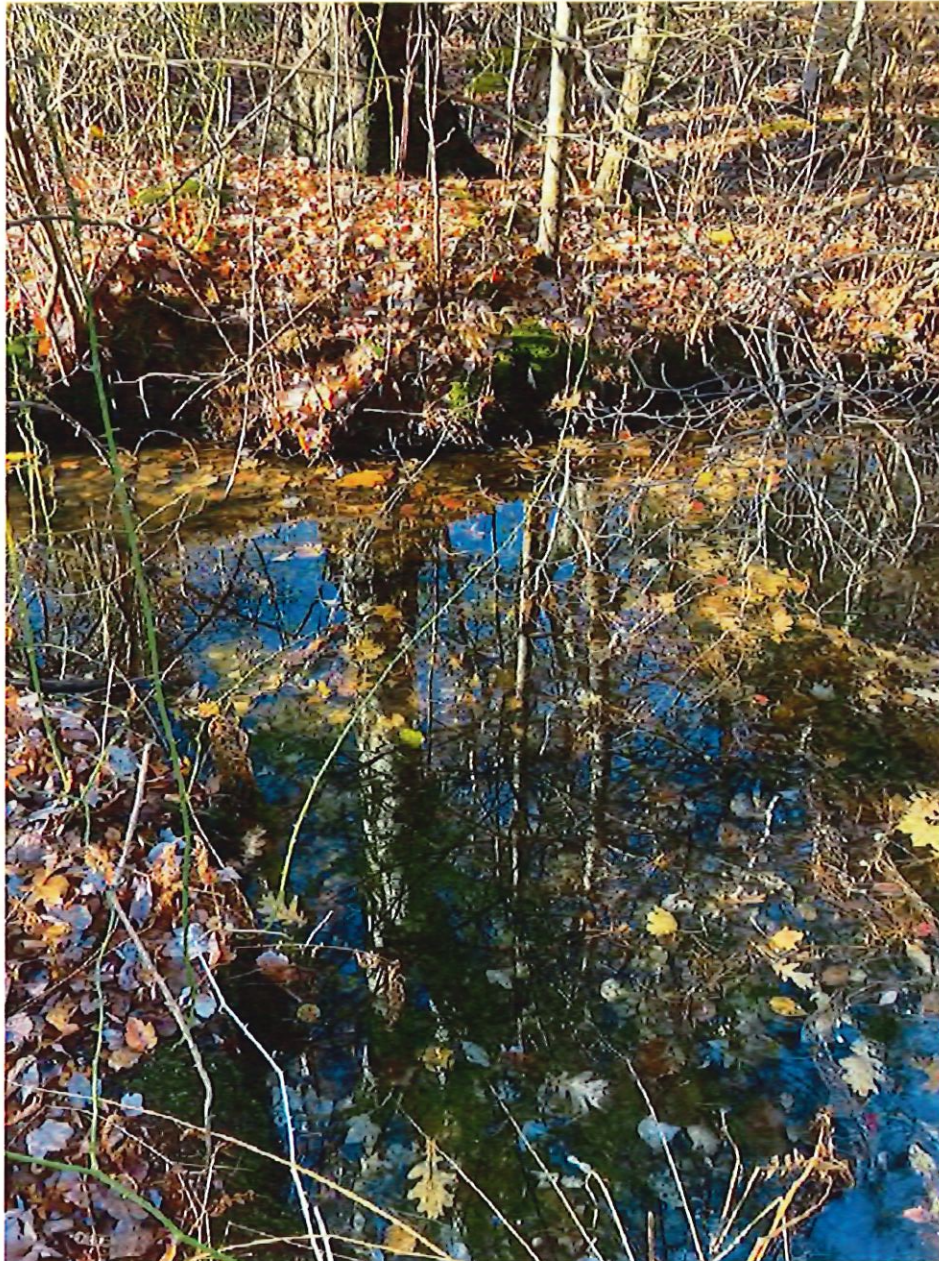
NOVEMBER 24, 2023



NOVEMBER 25, 2023



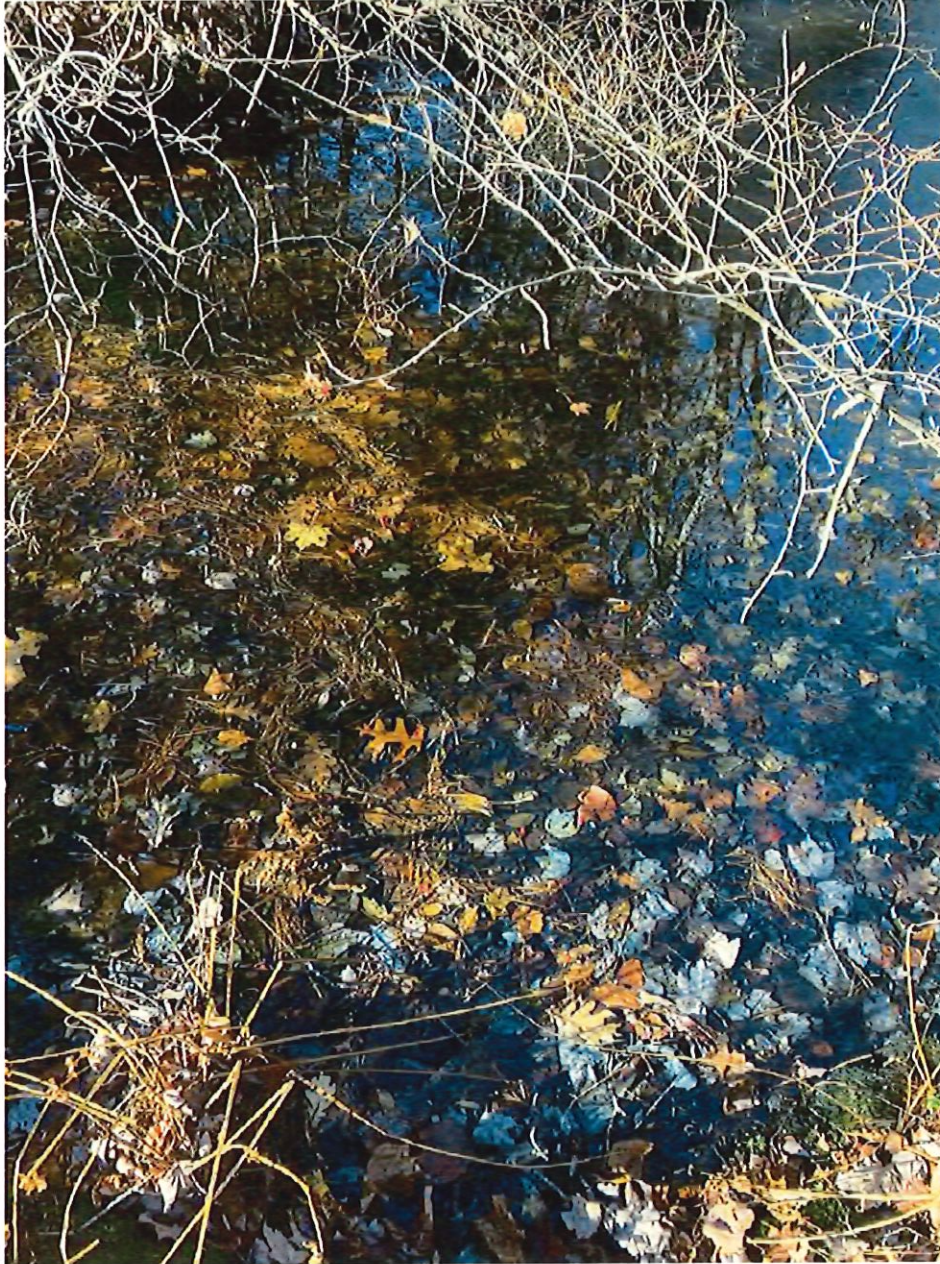
NOVEMBER 26, 2023



NOVEMBER 27, 2023



NOVEMBER 28, 2023

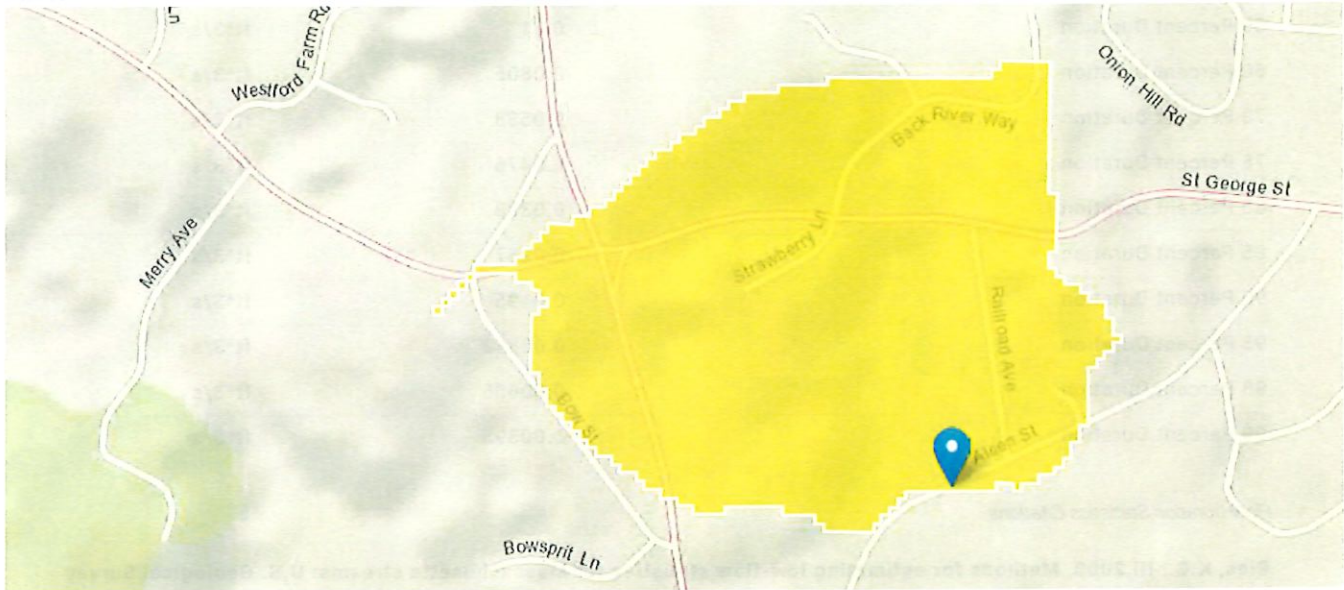


NOVEMBER 29, 2023

ATTACHMENT B
STREAMSTATS REPORTS

StreamStats Report - 50 Railroad Avenue - Duxbury, MA

Region ID: MA
 Workspace ID: MA20240116162942255000
 Clicked Point (Latitude, Longitude): 42.04607, -70.68666
 Time: 2024-01-16 11:30:03 -0500



Watershed size based on point where stream flows under Alden Street to the south of the subject property

[+ Collapse All](#)

> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM250	Mean basin slope computed from 1:250K DEM	0.413	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.73	square mile per mile
DRNAREA	Area that drains to a point on a stream	0.12	square miles
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

> Flow-Duration Statistics

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.12	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.73	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	0.413	percent	0.32	24.6

Flow-Duration Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
50 Percent Duration	0.11	ft ³ /s
60 Percent Duration	0.0805	ft ³ /s
70 Percent Duration	0.0588	ft ³ /s
75 Percent Duration	0.0476	ft ³ /s
80 Percent Duration	0.0398	ft ³ /s
85 Percent Duration	0.0257	ft ³ /s
90 Percent Duration	0.0195	ft ³ /s
95 Percent Duration	0.00882	ft ³ /s
98 Percent Duration	0.00606	ft ³ /s
99 Percent Duration	0.00395	ft ³ /s

Flow-Duration Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)

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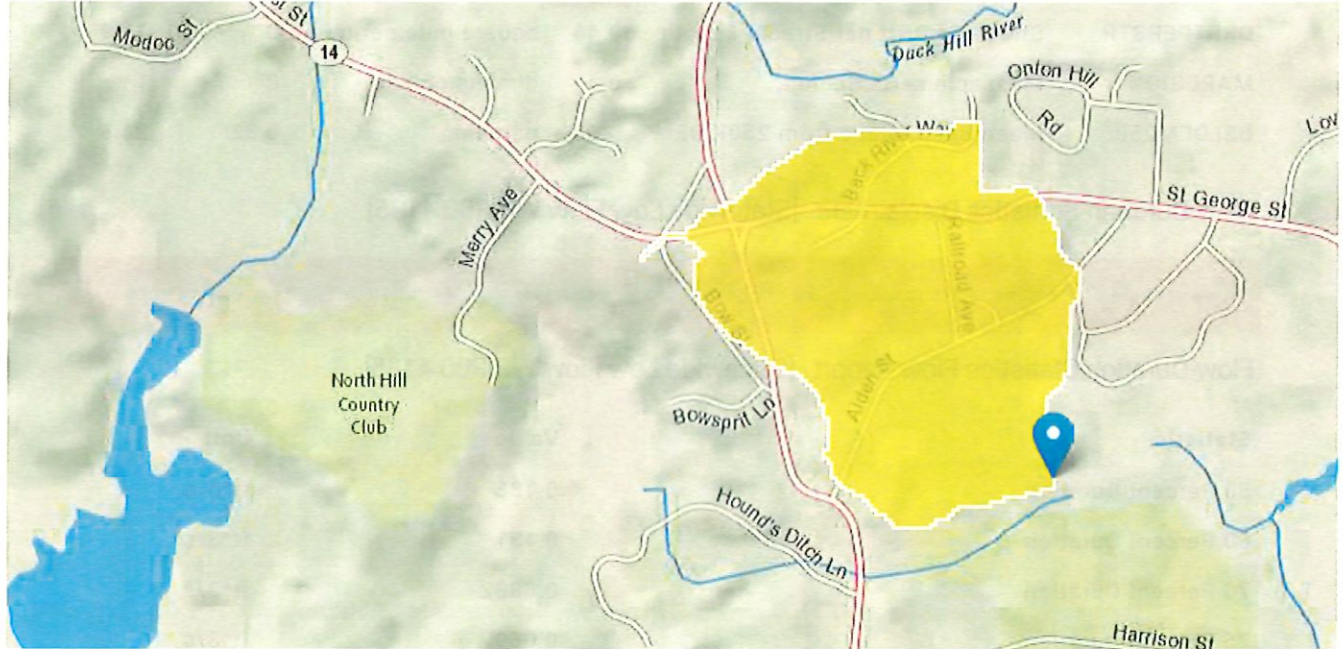
Application Version: 4.19.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

StreamStats Report - 50 Railroad Avenue - Duxbury

Region ID: MA
 Workspace ID: MA20240116172842739000
 Clicked Point (Latitude, Longitude): 42.04369, -70.68331
 Time: 2024-01-16 12:29:03 -0500



Watershed delineated from confluence of stream with the Bluefish River Reservoir located southeast of the subject property.

Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM250	Mean basin slope computed from 1:250K DEM	0.631	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.46	square mile per mile
DRNAREA	Area that drains to a point on a stream	0.2	square miles
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

> Flow-Duration Statistics

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.2	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.46	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	0.631	percent	0.32	24.6

Flow-Duration Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
50 Percent Duration	0.185	ft ³ /s
60 Percent Duration	0.131	ft ³ /s
70 Percent Duration	0.0882	ft ³ /s
75 Percent Duration	0.0697	ft ³ /s
80 Percent Duration	0.0564	ft ³ /s
85 Percent Duration	0.037	ft ³ /s
90 Percent Duration	0.0272	ft ³ /s
95 Percent Duration	0.0128	ft ³ /s
98 Percent Duration	0.00857	ft ³ /s
99 Percent Duration	0.00567	ft ³ /s

Flow-Duration Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p.
(<http://pubs.usgs.gov/wri/wri004135/>)

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