



April 29, 2020

Federal Express

Newburyport Conservation Commission c/o Ms. Julia Godtfredsen, Conservation Agent Newburyport City Hall 60 Pleasant Street Newburyport, MA 01950

Re: Wetland Delineation Review ORAD Extension Request DEP File No. 051-0907 251 Low Street Newburyport, Massachusetts

[LEC File #: MINCO\20-069.02]

Dear Ms. Godtfredsen and Commission Members:

On behalf of Low Street Redevelopment, LLC, LEC Environmental Consultants, Inc., (LEC) conducted a site evaluation on April 15, 2020 to review the boundaries of Bordering Vegetated Wetlands (BVW) and Isolated Vegetated Wetland (IVW) located at 251 Low Street in Newburyport, Massachusetts. This wetland delineation review was conducted as part of our March 3, 2020 *Request to Extend an Order of Resource Area Delineation* (ORAD, DEP File No. 051-0907), which was issued on May 20, 2014, and extended on April 5, 2017.

The on-site BVW and IVW boundaries were re-established via field survey by The Morin-Cameron Group, Inc. LEC reviewed the BVW and IVW boundaries in accordance with the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40, the *Act*) and its implementing Regulations (310 CMR 10.00, the *Act Regulations*), and the *Newburyport Code of Ordinances Chapter 6.5: Environment Article II: Wetlands Protection Ordinance* (the *Ordinance*) and the *Wetlands Protection Regulations Adopted Pursuant to Section X of the Code of Ordinances — Chapter 6.5: Environment — Article II: Wetlands* (the *Ordinance Regulations*). Off-site wetlands depicted on the *Abbreviated Notice of Resource Area Delineation Plan* dated August 12, 2013 and prepared by DGT Survey Group – North Shore (*ANRAD Plan* – included in the March 3, 2020 ORAD Extension Request) were not reviewed.

Based on several, minor modifications resulting from our April 15, 2020 site evaluation, attached is an updated *Abbreviated Notice of Resource Area Delineation Plan* dated April 28, 2020 prepared by The Morin-Cameron Group, Inc., (*Updated ANRAD Plan*, Appendix C). A description of our field observations and minor modifications is provided below.

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PLYMOUTH, MA

WAKEFIELD, MA

WORCESTER, MA

RINDGE, NH

EAST PROVIDENCE, RI



General Site Description

The 10.75± acre Site is located east of Interstate 95 and south of Route 113, within the northcentral portion of Newburyport, Massachusetts (Appendix A, Figures 1 and 3). Commercial development generally occurs to the north, east, and west of the property frontage along Low Street, while undeveloped woodlands surround the balance of the property to the south. The northeastern portion of the Site contains a 1-story, wooden farm stand situated along Low Street. The structure is surrounded by paved access and parking, while a gravel parking lot occurs immediately west of the paved parking.



Southerly View of Upland Meadow

A meadow with patches of scrub/shrub vegetation occurs within the central portion of the Site and is flanked by forested wetlands. Intermittent streams occur within the forested wetlands east and west of the meadow, and site topography generally descends in a southerly direction.

The meadow contains scattered patches of multiflora rose (*Rosa multiflora*), speckled alder (*Alnus rugosa*), and Russian olive (*Elaeagnus angustifolia*), particularly along the forest/

meadow ecotone. Herbaceous plants include patches of goldenrods (*Solidago* sp.), wild carrot (*Daucus carota*), purple loosestrife (*Lythrum salicaria*), milkweed (*Asclepias* sp.), mugwort (*Artemisia* sp.), and grasses.

LEC inspected soils within the upland meadow along the BVW boundary using a hand-held, Dutch-style soil auger and generally observed a 12-inch thick, loamy sand (formerly plowed) topsoil (A_p horizon) with a soil matrix color of 2.5Y 3/2. The A_p horizon is underlain by a weathered, loamy sand subsoil (B_w horizon) with a soil matrix color of 2.5Y 4/4 to a depth of at least 20 inches. No redoximorphic features or other indicators of hydrology were observed, and the soil profile is not considered 'hydric' according to the *Field Indicators Guide to Identifying Hydric Soils in New England* (Version 4, June 2018).

Floodplain Designation

According to the July 3, 2012 Federal Emergency Management Agency Flood Insurance Rate Maps for Essex County, Massachusetts (Map Nos: 25009C0108F and 25009C0109F), the entire property is located within Zone X [unshaded]: Areas determined to be outside the 0.2% annual chance floodplain (Attachment A, Figures 2A and 2B).

EAST PROVIDENCE, RI



Wetland Resource Areas

Previously delineated Wetland Resource Areas associated with the Site include Bordering Vegetated Wetlands (BVW), an Isolated Vegetated Wetland (IVW, jurisdictional under the *Ordinance* and *Ordinance Regulations* only), and Bank associated with Intermittent Streams. LEC reviewed the boundaries of these delineated Wetland Resource Areas and made several modifications to the BVW boundary, and determined that a previously delineated stormwater basin is not jurisdictional. The pertinent regulatory definitions and descriptions of these Wetland Resource Areas are provided below.

Bordering Vegetated Wetlands

According to Section 10.55(2) of the *Act Regulations*, Bordering Vegetated Wetland (BVW) is defined as: "freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes...Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The boundary of Bordering Vegetated Wetlands is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist."

The Ordinance and Ordinance Regulations do not define Bordering Vegetated Wetlands (BVW).

Bordering Vegetated Wetlands (BVW) include the outer portions of the meadow and scrub/shrub wetland, and adjacent forested wetlands. The meadow and scrub/shrub wetland contain scattered patches of speckled alder, common reed (*Phragmites australis*), goldenrods, purple loosestrife, bedstraw (*Galium* sp.), sedges (*Carex* spp.), rushes (*Juncus* spp.), and grasses.



LEC inspected soil conditions within the wet meadow and generally observed a roughly 5-inch thick, loamy sand topsoil (A horizon) with a soil matrix color of 10YR 2/1. The topsoil is underlain by a weathered loamy sand subsoil (B_w horizon) with a soil matrix color of 2.5Y 5/3 to a depth of 20+ inches. Redoximorphic concentrations of 2.5Y 4/4 and depletions of 2.5Y 5/2 were observed throughout the B_w horizon. Soil saturation was encountered at 10 inches and free water was observed at 12 inches.

Southerly View of Wetland Meadow

Forested wetlands abutting the meadow are dominated by a canopy of red maple (*Acer rubrum*), with scattered individuals of yellow birch (*Betula angustifolia*) and gray birch (*Betula populifolia*). The understory contains scattered saplings from the canopy and sapling eastern white pine (*Pinus strobus*), with scattered patches of multiflora rose, arrowwood (*Viburnum dentatum*), highbush blueberry (*Vaccinium corymbosum*), European buckthorn (*Frangula alnus*), and greenbriar (*Smilax* sp.). The groundcover contains patches of skunk cabbage (*Symplocarpus foetidus*), with scattered patches of

WAKEFIELD, MA



goldenrods, cinnamon fern (*Osmunda cinnamomea*), sensitive fern (*Onolcea sensibilis*), and poison ivy (*Toxicodendron radicans*).

LEC inspected soil conditions within the forested wetlands and generally observed a roughly 7-inch thick, loamy fine sand topsoil (A horizon) with a soil matrix color of 10YR 2/1. The topsoil is underlain by a depleted, loamy fine sand subsoil (B_g horizon) with a soil matrix color of 2.5Y 4/2 to a depth of 20+ inches. Redoximorphic concentrations of 10YR 4/4 were observed throughout the B_g horizon. Soil saturation was encountered at the surface and free water was observed at roughly 6 inches.

The following modifications were made to the delineated BVW boundary as depicted on the *Updated ANRAD Plan*:

Flag A-16 was replaced with A-16R (upgradient); Flag A-18 connects to A-21 (eliminates stormwater swale extending from stormwater pond – discussed further below in IVW section); Flag A-34 was eliminated (A-33A connects to A-35); Flags A-56A and A-56B were eliminated (A-56 connects to A-56C); and Flag A-56F was replaced with A-56FR.

Isolated Vegetated Wetlands

The Act does not regulate Isolated Vegetated Wetlands (IVW).

According to Section 6.5-36 <u>Definitions</u> of the Ordinance, Isolated Vegetated Wetland is defined as: *freshwater wetlands, of at least 1,000 square feet in area that do not border on creeks, rivers, streams, ponds or lakes. The types of Isolated Vegetated Wetlands include wet meadows, marshes, swamps and bogs. Detention or retention basins or swales created for the purpose of stormwater management are not considered Isolated Vegetated Wetlands under the ordinance and these Regulations.*



Riser Pipe in Stormwater Basin

A stormwater basin located southeast of the paved parking lot was previously delineated as jurisdictional on the *ANRAD Plan*. This stormwater basin collects stormwater run-off from the adjacent paved parking lot via a catch basin and drain pipe, and overflows at its southern edge via a drain pipe and flared end section to a drainage swale that extends toward BVW flags A-19 and A-20. LEC also observed a plastic riser pipe within the middle of the stormwater basin. This basin and overflow swale appear to

have been created for the purpose of stormwater management. Accordingly, the B-series wetland flagging and BVW flags A-19 and A-20 were removed from the *Updated ANRAD Plan* (Appendix C).

Page 4 of 6

RINDGE, NH



<u>Bank</u>

According to Section 10.54 (2) (c) of the *Act Regulations*, "Bank is the first observable break in slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level."

According to the Ordinance, Bank shall mean the land area which normally abuts and confines a water body; the lower boundary being the mean annual low flow level, and the upper boundary being the first observable break in the slope or the mean annual flood level, whichever is higher.



Northerly View of Western Stream

Two intermittent streams extend southerly through the forested wetlands on either side of the meadow, and eventually converge south of the Site. The westerly intermittent stream measures 1 to 2 feet wide, with mucky Banks measuring 6 to 10 inches high. The stream channel contains a loamy sand substrate. The easterly intermittent stream measures 5 to 6+ feet wide, with mineral soil Banks measuring roughly 2 feet high. The stream channel contains a sand and gravel substrate.

Intermittent Stream Status

According to Act Regulations [310 CMR 10.58 (2)(a)(1)] a. a river or stream shown as perennial on the current United States Geological Survey (USGS) or more recent map provided by the Department is perennial. b. A river or stream shown as intermittent or not shown on the current USGS map or more recent map provided by the Department, that has a watershed size greater than or equal to one square mile, is perennial. c. a stream shown as intermittent or not shown on the current USGS map or more recent map provided by the Department, that has a watershed size greater than or equal to one square mile, is perennial. c. a stream shown as intermittent or not shown on the current USGS map or more recent map provided by the Department, that has a watershed size less than one square mile, is intermittent unless: i. The stream has a watershed size of at least $\frac{1}{2}$ (0.50) square mile and has a predicted flow rate greater than or equal to 0.01 cubic feet per second at the 99% flow duration using the USGS Stream Stats method. The issuing authority shall find such streams to be perennial;

The intermittent streams that flow on either side of the meadow are not depicted on the USGS Topographic Map, and are therefore presumed to be intermittent. In accordance with 310 CMR 10.58(2)(a)(1) b. and c., LEC utilized the USGS water resources web application, StreamStats, to calculate the contributing watershed area at a point of the stream located greater than 200 feet downgradient (south) of the eastern property boundary. Based on the StreamStats Statistics Report (Appendix B), the contributing watershed area (0.14 square miles) is less than the minimum 0.50 square mile threshold. The 99% flow duration was not calculable at this watershed size. Therefore, the intermittent stream status is confirmed.



Summary

LEC conducted a site evaluation on April 15, 2020 to review the boundaries of BVW and IVW located at 251 Low Street in Newburyport. This wetland delineation review was conducted as part of our March 3, 2020 *Request to Extend an Order of Resource Area Delineation* (DEP File No. 051-0907), which was issued on May 20, 2014, and extended on April 5, 2017. The approved BVW and IVW boundaries were re-established via field survey by The Morin-Cameron Group, Inc. LEC reviewed the BVW and IVW boundaries in accordance with the *Act* and the *Act Regulations*, and the *Ordinance* and *Ordinance Regulations*. An *Updated ANRAD Plan* depicts several minor modifications to the BVW boundary, and removes a stormwater basin from jurisdiction as IVW based on the IVW definition in the *Ordinance Regulations*.

Thank you for your consideration of this Wetland Delineation Review Letter. We are hopeful this letter allows the Commission to expedite the *ORAD Extension Request* submitted on March 3, 2020. Should you have any questions or require additional information, please do not hesitate to contact me at 508-813-4129 or at rkirby@lecenvironmental.com.

Sincerely,

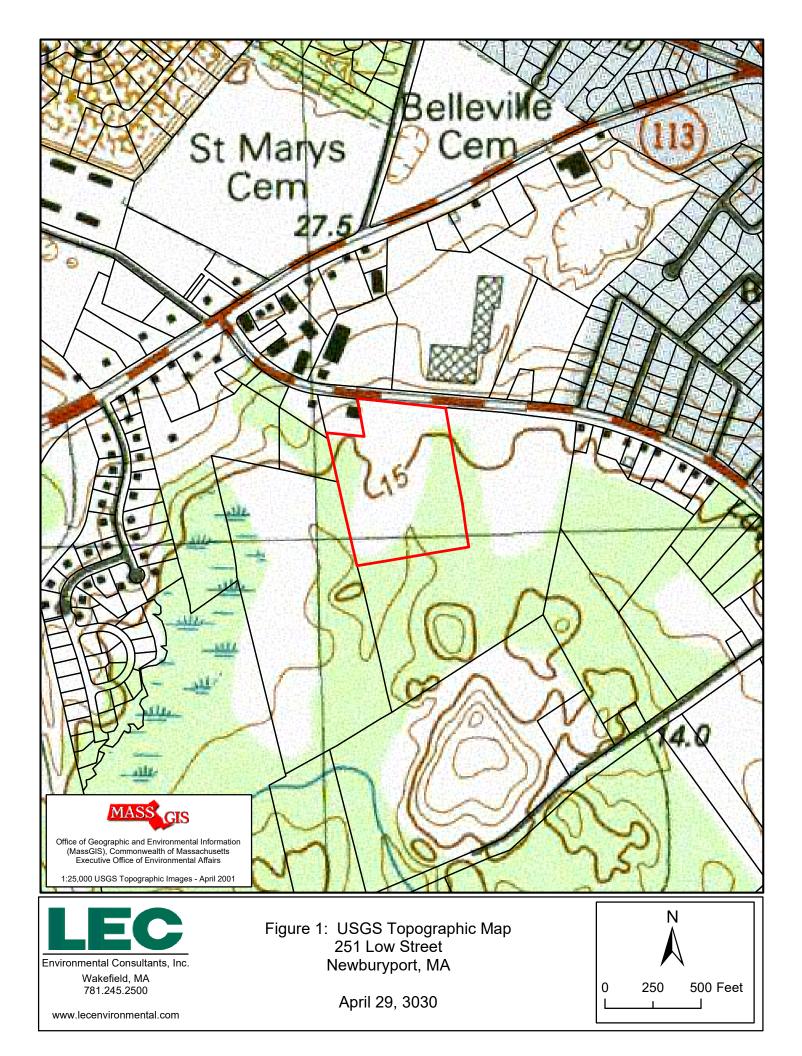
LEC Environmental Consultants, Inc.

Richard A. Kirby

Senior Wetland Scientist

Attachment A

Figure 1: USGS Topographic Map Figures 2A & 2B: FEMA Floor Insurance Rate Maps Figure 3: MassGIS Orthophoto & NHESP Map



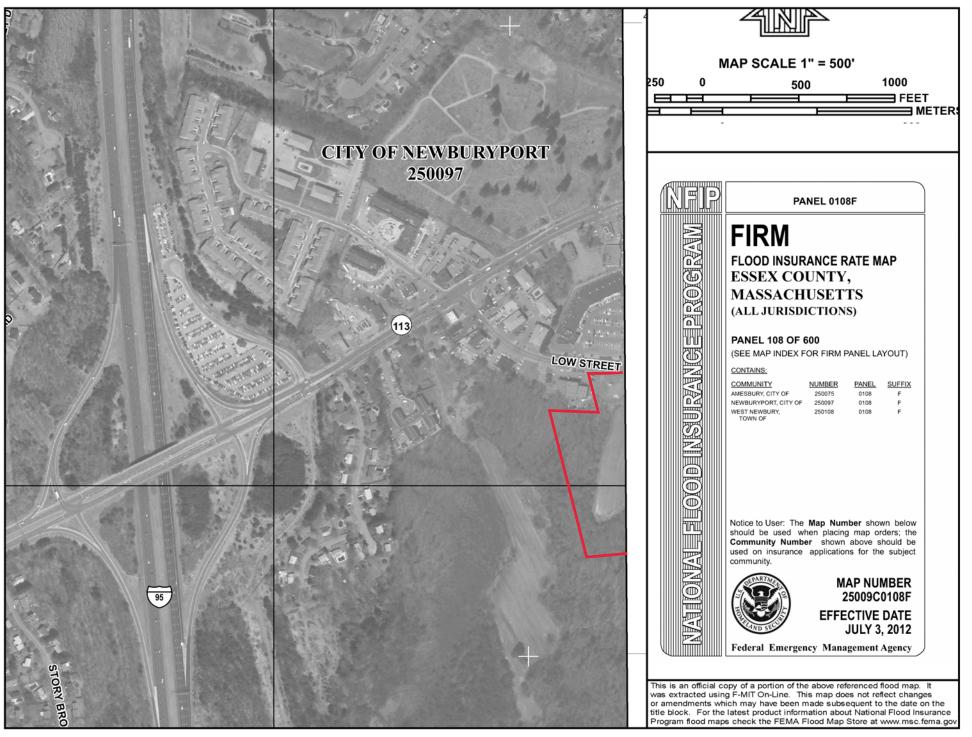


Figure 2A: FEMA Flood Insurance Rate Map

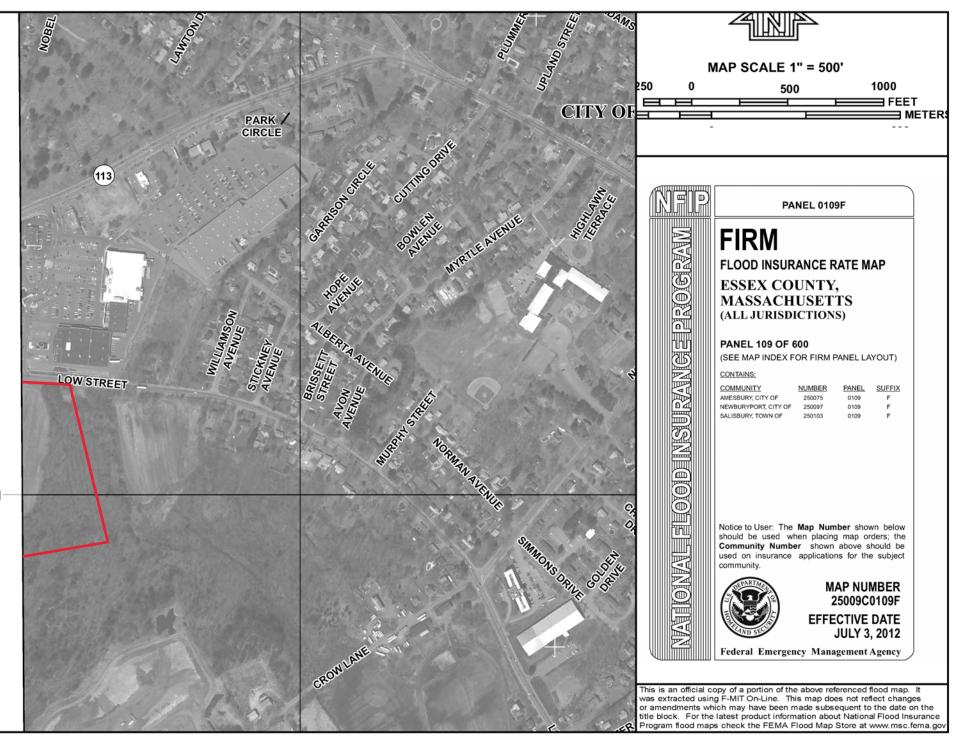


Figure 2B: FEMA Flood Insurance Rate Map

LEGEND



SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.			
ZONE AE	Base Flood Elevations determined.			
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.			
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.			
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.			
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.			
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.			
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations			

determined.



FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.



OTHER FLOOD AREAS

OTHER AREAS

ZONE X

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.



COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

1

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% Annual Chance Floodplain Boundary
	0.2% Annual Chance Floodplain Boundary
	Floodway boundary
	Zone D boundary
•••••	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
<u>∽∽ 513</u> ∽∽	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet $\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$

*Referenced to the North American Vertical Datum of 1988

	Cross section line
23 23	Transect line
<u> </u>	Culvert
	Bridge
45° 02' 08", 93° 02' 12"	Geographic coordi 1983 (NAD 83) We
4989000 M	1000-meter ticks: (FIPS Zone 2001),
⁴⁹ 89 ^{000m} N	1000-meter Univer
DX5510 ×	Bench mark (see e panel)
• M1.5	River Mile
	MAD REP

/ert lge graphic coordinates referenced to the North American Datum of (NAD 93) Western Hemisphere

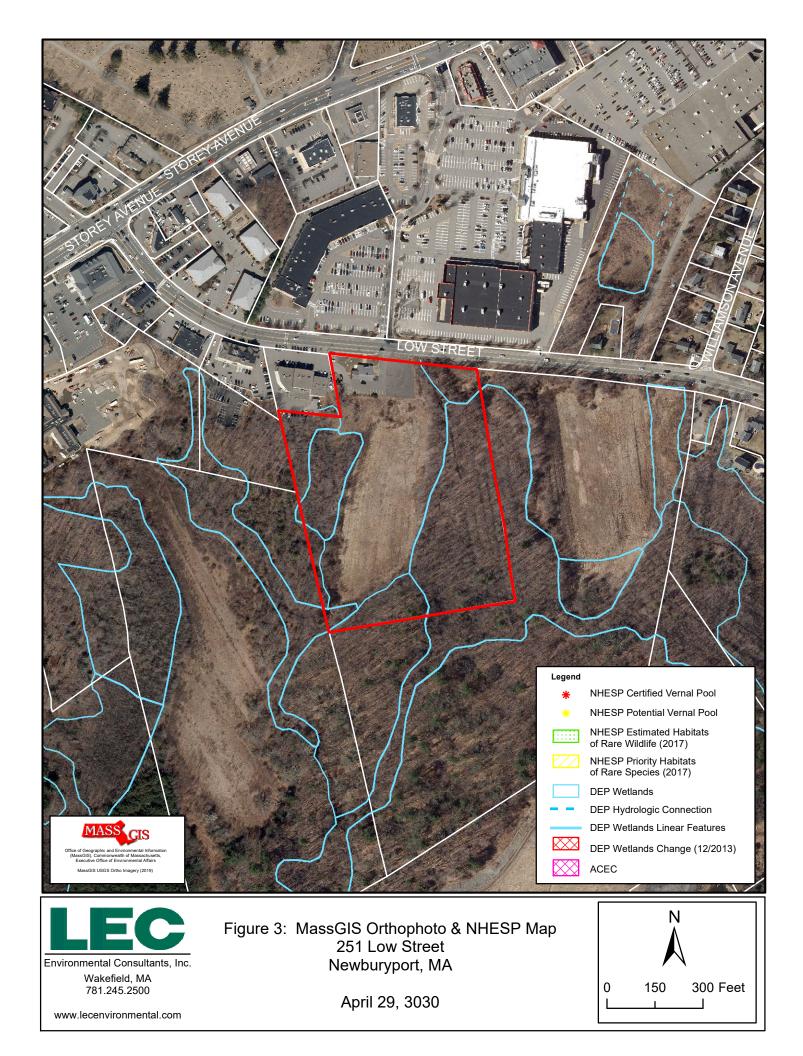
	1983 (NAD 83) Western Hemisphere
4989000 M	1000-meter ticks: Massachusetts State Plane Mainland Zone (FIPS Zone 2001), Lambert Conformal Conic projection
⁴⁹ 89 ^{000m} N	1000-meter Universal Transverse Mercator grid values, zone 19N
DX5510 🗸	Bench mark (see explanation in Notes to Users section of this FIRM

el) er Mile

MAP REPOSITORIES Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP July 3, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL



Attachment B

USGS StreamStats Report

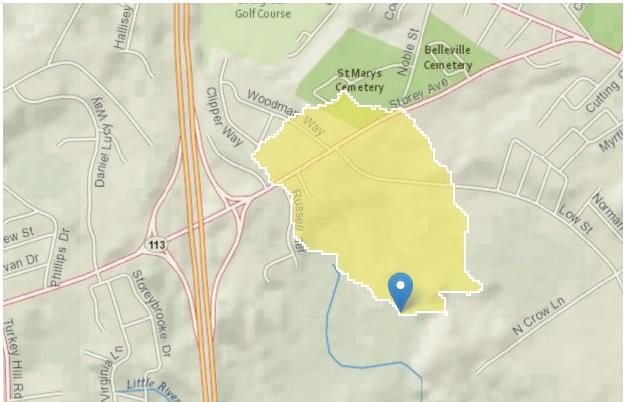
StreamStats Report: 251 Low Street, Newburyport, MA

 Region ID:
 MA

 Workspace ID:
 MA20200429183614711000

 Clicked Point (Latitude, Longitude):
 42.81461, -70.90668

 Time:
 2020-04-29 14:36:30 -0400



Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.14	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	-100000	square mile per mile

Parameter Code	Parameter Description	Value	Unit
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	1.636	percent

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.14	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	1.636	percent	0.32	24.6
Flow-Duration Statistics Flow Report[Statewide Low Flow WRIR00 4135]					
Statistic		/alue	Un	it	
Flow-Duration Statistics Citations					

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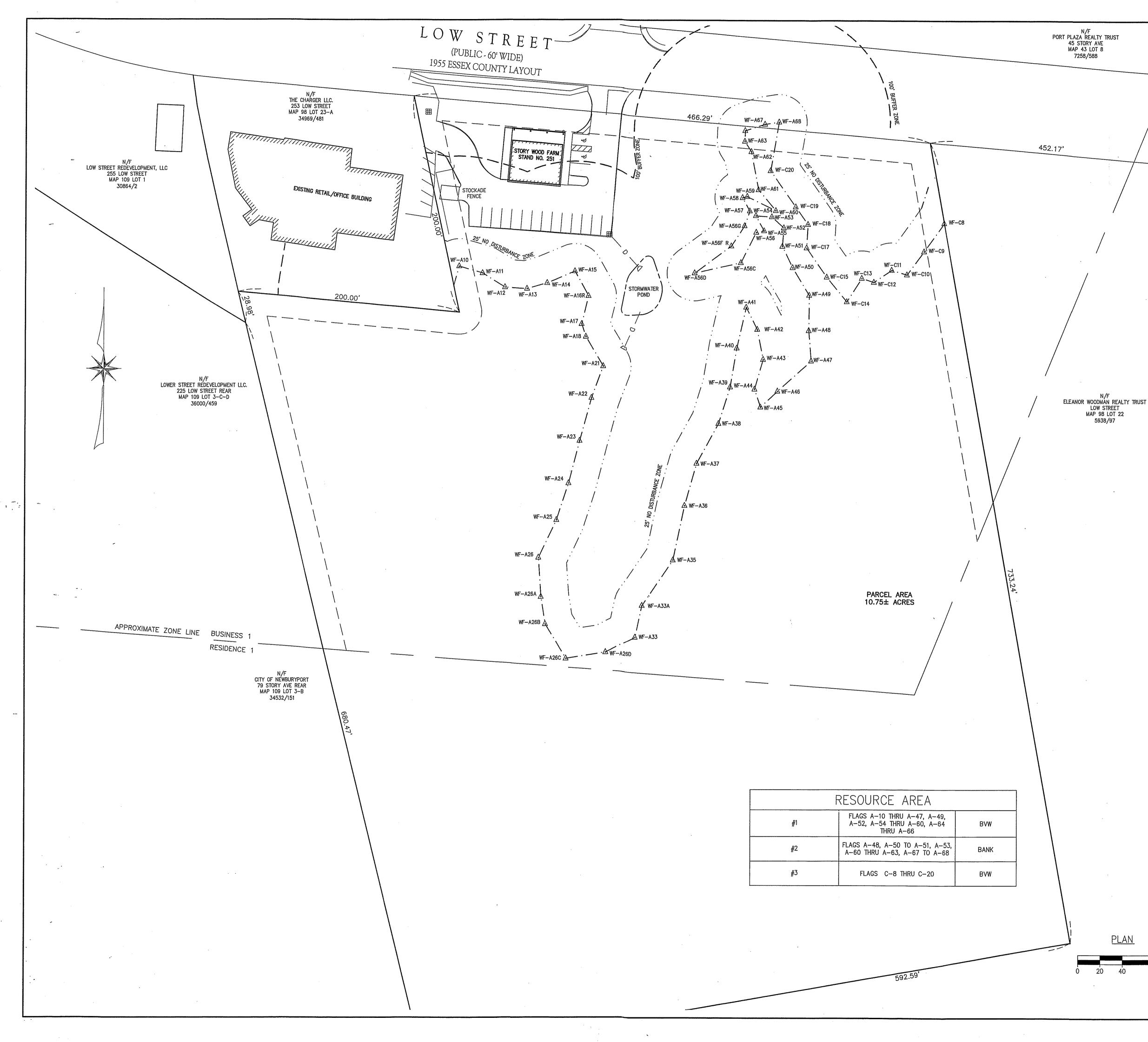
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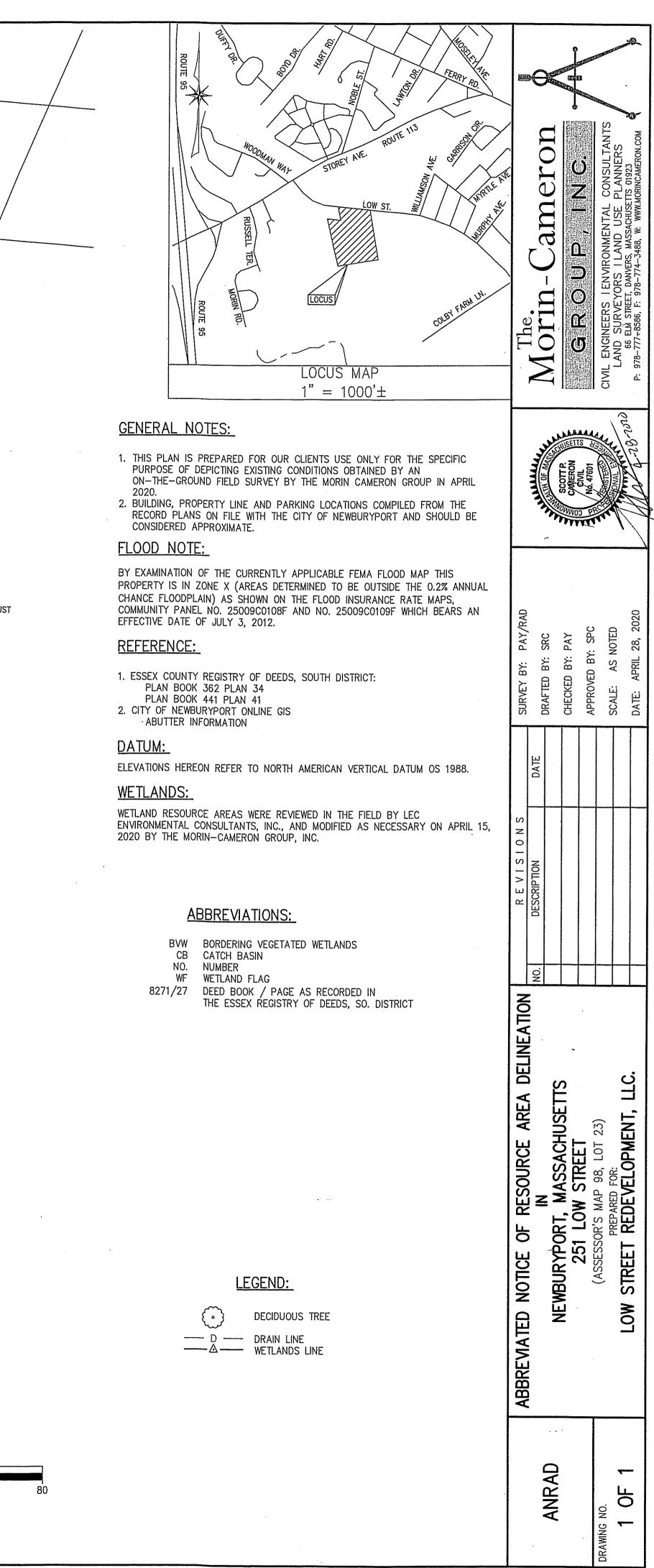
USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.3.11

Attachment C

Abbreviated Notice of Resource Area Delineation Plan dated April 28, 2020 prepared by The Morin-Cameron Group, Inc.





PROJ. 3669