OHI Engineering, Inc.
Engineers and Environmental Scientists

44 Wood Avenue
Mansfield, MA 02048
Tel (508) 339-3929
Fax (508) 339-3140
www.ohiengineering.com

BROOKHAVEN AT LEXINGTON
Impact Analysis on the Environment

1. Project Description

Symmes Life Care, Inc. d/b/a Brookhaven at Lexington is a non-profit age-restricted (62 years+) life care community providing housing and health care services to the elderly. The existing facility was initially constructed in 1987 on 26-acres located on the easterly side of Waltham Street (see **Figure 1 – Locus Map**). Modifications, special permits, and re-zoning efforts in 1994, 1999 and 2004 resulted in the creation of 240 Independent Living Units, 20 Assisted Care Units and 49 Nursing Care beds for an overall total of 309 Units.

Recently, an additional 6.11 acres of land was acquired by Brookhaven adjacent to and northerly of the existing campus. Brookhaven proposes to rezone the recently acquired land, to add 49 Independent Living Units on that land and to modify the existing campus. The overall project would include 289 Independent Living Units, 50 Assisted Care Units, and 12 Nursing Care beds for an overall total of 351 units (see **Figure 2 – Site Plan**).

The rezoning effort requires preparation of this Impact on Public Services, which has been prepared in accordance with §175-71B(7) of the Town of Lexington Planning Board Development Regulations. Given that the existing Brookhaven facility was constructed nearly 30 years ago, and that the last modification was made more than 10 years ago, this analysis will evaluate potential impacts associated with the current proposed expansion. Thus, this analysis will focus on the additional 49 Independent Living Units, 30 Assisted Care Units and on the reduction of 37 Nursing Care beds that would result from the requested zoning change.

2. Groundwater

Groundwater conditions at the Site are largely controlled by the wetland system associated with Chester Brook, an intermittent stream that crosses the Site from east to west. Upland areas on the Site typically consist of shallow overburden (till) and bedrock. Several outcrops are visible at the Site. Depth to groundwater is seasonal and would be expected to be below the till layer in dryer portions of the year. Given the limited thickness of the till layer, construction of the project would not be expected to have a significant impact on groundwater conditions.

According to the Massachusetts GIS Map, the Site is not located in a potentially productive aquifer. Use of the Site and area for public water supply is not considered viable (see **Figure 3 – MassGIS Map**). Shallow water bearing fractures were noted in bedrock at the proposed North Building location. Provisions for capturing and infiltrating intercepted groundwater during and after construction will be needed.

The proposed Stormwater Control System will include provisions for infiltration of stormwater. Infiltration will be designed to mimic pre-construction conditions such that no increase in stormwater flow rate and volume will occur. No significant changes in groundwater conditions are anticipated as a result of Project construction.

3. Historical and Archeological Resources

Ricci's Lane, part of the road from Lexington to Boston in the 17th and 18th centuries, was located on a portion of the Project Site. Ricci's Lane was first laid out in 1660 and was a connecting link between the main route from Lexington to Boston and interconnecting road systems until the mid-18th century. As shown in **Appendix A ,** Ricci's Lane crossed south of the former residence at 990 Waltham Street. It is possible that the former Ricci's Lane was laid out approximating the former driveway serving 990 Waltham Street. The gravel driveway formerly serving 990 Waltham Street will not be disturbed as part of the Project.

No portion of Ricci's Lane remains visible on the Project site. Given the prior intensive use for greenhouse operations, significant archeological resources are not expected to remain on the Project Site.

The Western Greenway Project consists of 1,200 acres of interconnected green space in Waltham, Lexington and Belmont. The Greenway crosses through land owned by the Massachusetts Department of Conservation and Recreation that abuts the Brookhaven property. Brookhaven has constructed walking trails through its property connecting with the Greenway. The public has access to these trails.

Brookhaven constructed a walking trail on the northern portion of its Site in 2013; the trail construction was part of an agreement with the Lexington Conservation Commission associated with a soil excavation project. The trail extended from Waltham Street near where Ricci's Lane formerly intersected with Waltham Street, to the east to land owned by the Lexington Conservation Commission. The proposed project involves constructing a trail system running from Waltham Street to the eastern Property boundary, and connecting existing trails on the Brookhaven Site that interconnect to the Western Greenway Project. Also, a sign marking Ricci's Lane will be installed near the trailhead on Waltham Street as shown on the Site Plans (see **Appendix A**).

4. Wildlife Habitat

Applied Ecological Sciences (AES) conducted a habitat assessment at the above referenced site on December 8, 2015. Specifically, the northern, forested portion of the site was traversed on foot and general observations were made with regard to landscape features, cover types, and existing habitat.

Topography of the Site slopes gently to steeply southerly with extensive ledge outcrops and numerous surface stones and boulders evident throughout. Residential development abuts the site to the north. Town of Lexington conservation land lies to the west. Much of the existing vegetation at the Site consists of invasive species.

White tailed deer (droppings) and gray squirrels were observed during the evaluation.

According to the Massachusetts Natural Heritage and Endangered Species Program 2008 habitat map, the Site is not located within an "Estimated Habitat of Rare Wildlife" or a "Priority Habitat of Rare Species" (see **Figure 4 – Estimated Habitat Map**). There are no isolated basin depressions with characteristics suitable to potential or certifiable vernal pool habitat.

No trees with large cavities (>18" tree diameter at cavity entrance) were observed. Several large oaks are present on the site; however, no evidence of nesting activity was observed. The Site does not appear to offer suitable turtle nesting habitat due to the preponderance of ledge at or near the surface. No vertical sandy banks suitable for bank swallows, rough-winged swallows or kingfishers were observed. No burrowing activity in-ground and in voids in ledge were observed. Fieldstone walls traverse the southern and eastern portions of the site and can provide habitat for small mammals such as mice, chipmunks, etc.

In general, the Site does not provide significant habitat opportunities. Nonetheless, the Brookhaven will utilize existing fieldstone walls for construction of a retaining wall along the southerly limits of the access drive and will reconstruct a stone wall along the northerly side of the trail east of the access drive. Brookhaven will develop and implement an invasive species control program to be implemented after construction of the Project. Based on the limited habitat, the reconstruction of fieldstone walls, and implementation of an Invasive Species Management Plan, the Project will have no significant deleterious effects on wildlife habitat.

5. Vegetation

A moderately dense canopy consists primarily of red maple (Acer rubrum), white ash (Fraxinus americana), black cherry (Prunus serotina), Norway maple (Acer platanoides), smooth sumac (Rhus glabra), and slippery elm (Ulmus rubra). The understory and shrub layers are comprised of saplings from the canopy, Japanese honeysuckle (Lonciera japonica), common blackberry (Rubus allegheniensis), eastern white pine (Pinus strobus), Japanese barberry (Berberis thunbergii), eastern hemlock (Tsuga canadensis), oriental bittersweet (Celastrus orbiculatus), poison ivy (Toxicodendron radicans), and multiflora rose (Rosa multiflora). Observed ground cover species include seedlings from the canopy and understory, hay-scented fern (Dennstaedtia punctilobula), Japanese knotweed (Polygonum cuspidatum), and small-flowered crowfoot (Ranunculus arbortivus). Much of the existing vegetation at the Site consists of invasive species of limited value.

An extensive landscaping plan will be implemented as part of the Project. Landscaping will use native species to screen and buffer the Project. Lawn areas will be minimized; lawn care will not use phosphorus-containing fertilizers.

6. Wetlands

Chester Brook, an intermittent stream, crosses the Site flowing from east to west. Chester Brook is culverted and eventually flows to the Charles River. Bordering vegetated wetlands are present along Chester Brook. Of the total Site area, approximately 3.98 acres are classified as freshwater wetlands. No disturbance of wetland areas is proposed with the exception of the area in vicinity of the access drive connecting the North Commons Expansion with the main Brookhaven campus.

Less than 1,000 square feet of wetland will be disturbed to construct the access drive. Disturbed wetlands will be replicated such that each square foot of wetland being disturbed will be replicated with 1.5 square feet.

The proposed crossing of Chester Brook will consist of a corrugated metal arch culvert. The arch culvert will essentially span an existing crossing of Chester Brook and will allow existing hydrologic conditions to be maintained after construction.

The project will require application to the Lexington Conservation Commission under the Massachusetts Wetlands Protection Act and Lexington Conservation Bylaw. The project meets the requirements of the WPA and LCB with the exception of work within the 25 foot no build zone associated with construction of the access road. A detailed alternatives evaluation will be prepared and submitted to the Lexington Conservation Commission as part of the permitting process. Other alternatives evaluated including relocating the access drive further west closer to Waltham Street, or direct access from Waltham Street. These alternatives resulted in either more wetland disturbance in areas not already disturbed at the existing culvert crossing, or in potential public safety issues if the main access was to be obtained from Waltham Street rather than from internal connection to the existing Brookhaven campus. Access to/from Waltham Street would force residents in the North Building to turn left onto Waltham Street and then left again at the main Brookhaven entrance to access the Brookhaven campus.

Stormwater will be controlled through a series of catch basins, manholes, infiltration areas and detention/retention area(s). Stormwater from the North Building and from areas on the existing campus to be modified will be treated prior to discharge as required to meet Massachusetts stormwater requirements. Stormwater flow rate and volume will be controlled so that no increase will occur as a result of the construction.

A Stormwater Pollution Prevention Plan (SWPPP) and electronic Notice of Intent (eNOI) will be completed as needed to obtain coverage under EPA NPDES General Construction Permit. Erosion control measures will be in place prior to the start of land disturbing activities.

Based on the above, we conclude that the Project will have no deleterious effects on wetlands.

7. Disposal of Waste Materials

No hazardous waste materials are expected to be generated during construction. Construction-related waste products will be handled, transported and disposed off-Site as necessary.

No medical services are planned to be provided within the North Commons Expansion; all medical services will be provided at the existing Brookhaven Campus. Medical wastes generated at the Brookhaven Campus will be disposed in accordance with the Standard Operating Procedures currently in-place.

8. Air Quality

Given the low traffic generation characteristics of the Brookhaven facility, no deleterious air quality effects are anticipated.

9. Noise

Noise generation will be controlled during construction by prohibiting work during the hours of 8:00 pm and 7:00 am, or as otherwise may be restricted by a Town of Lexington permit. After construction, the Project will result in very low noise generation during normal operating conditions.

No medical services will be provided in the North Building. If a resident in the North Building required routine medical care, they would receive that care at the main Brookhaven Campus. Ambulance access to the North Building for emergency medical care would be via the main Brookhaven entry with servicing at the main (southerly) entrance.

Given that all apartments in the new North Building are Independent Living units, substantial change in the number of emergency medical vehicles accessing the Site after construction is not anticipated. Given the above, the Project is not expected to have a significant impact on noise.

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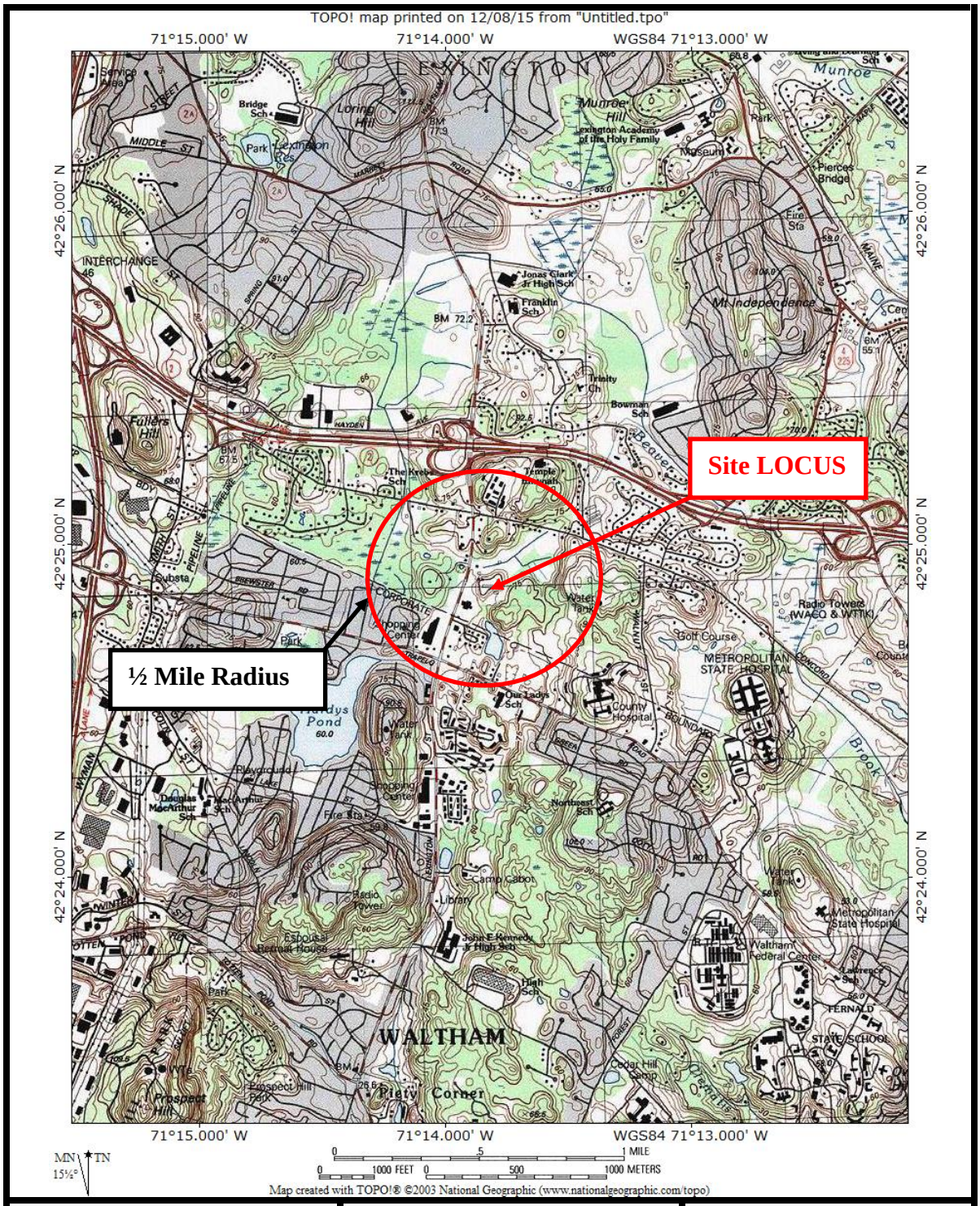
FIGURES



Site LOCUS

Figure 1

990 Waltham Street
Lexington, MA

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44 Wood Avenue · Mansfield, MA

N
W E
S

N

BROOKHAVEN REPOSITIONING

CONTEXT PLAN

BROOKHAVEN AT LEXINGTON

DiMella Shaffer
Architecture | Interior Design | Planning

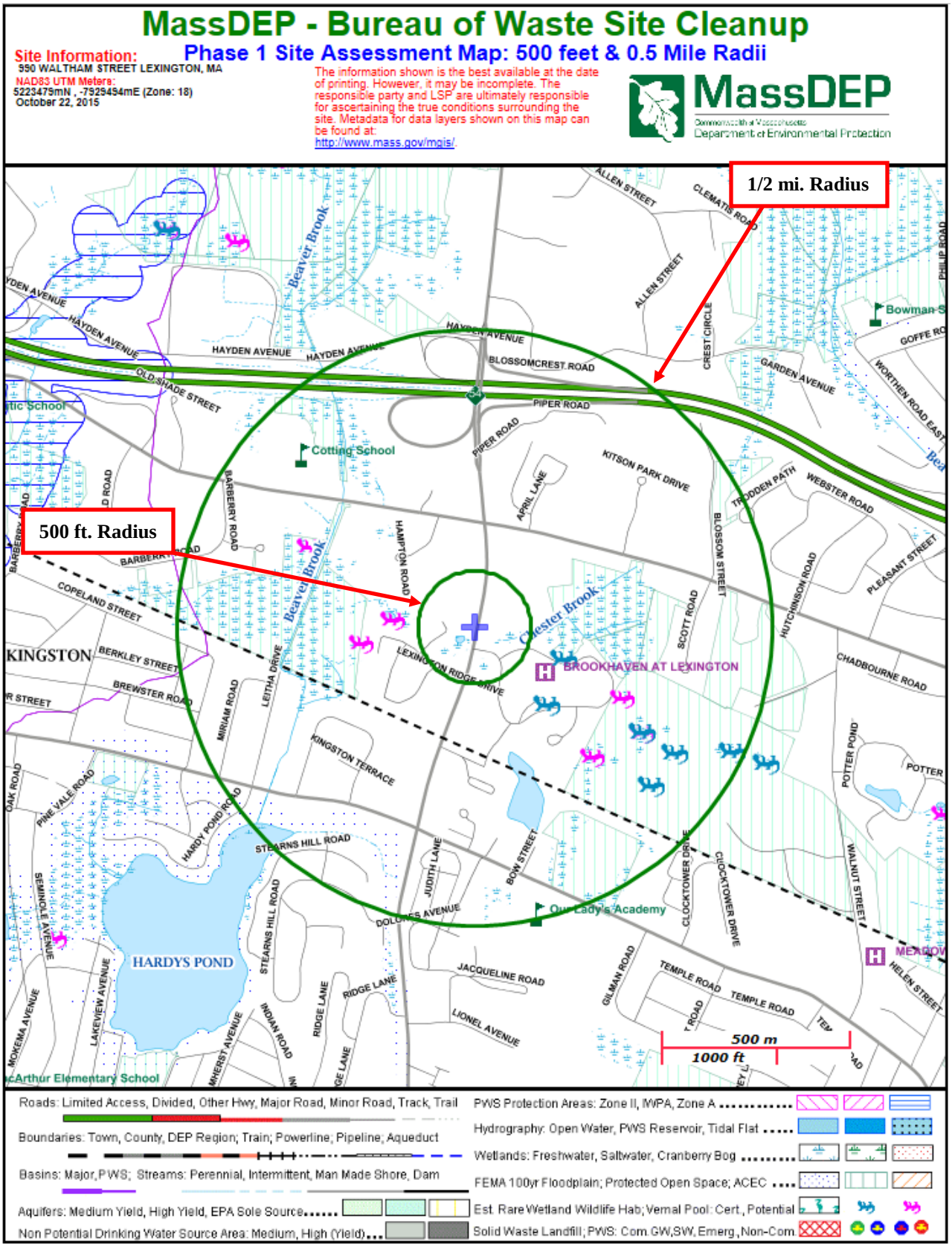

Figure 3 - MassDEP Scoring GIS Map
990 Waltham Street
Lexington, Massachusetts

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Figure 4
Estimated Habitat Map

990 Waltham Street
Lexington, Massachusetts

N
W E
S

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Public Water Supplies
- Communtiy Groundwater Well
- Non-Communtiy Groundwater Well
- Surface Water Intake
- Emergency Surface Water Intake
- Community Labels
- Non-Community Labels

NHESP Estimated Habitats of Rare Wildlife

NHESP Priority Habitats of Rare Species

Aquifers by Yield Green Shades
- High Yield
- Medium Yield

Areas of Critical Environmental Concern ACECs

Potential Vernal Pools

NHESP Certified Vernal Pools

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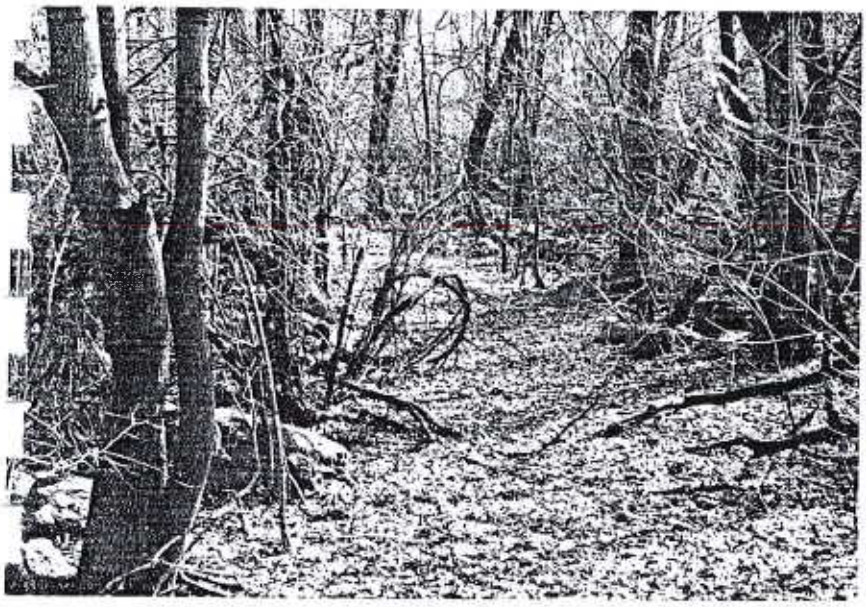
APPENDIX A

Ricci's Lane Historical Documents

FORM A - AREA

MASSACHUSETTS HISTORICAL COMMISSION
294 Washington Street, Boston, MA. 02108

Form numbers in this area	Area letter
573	V



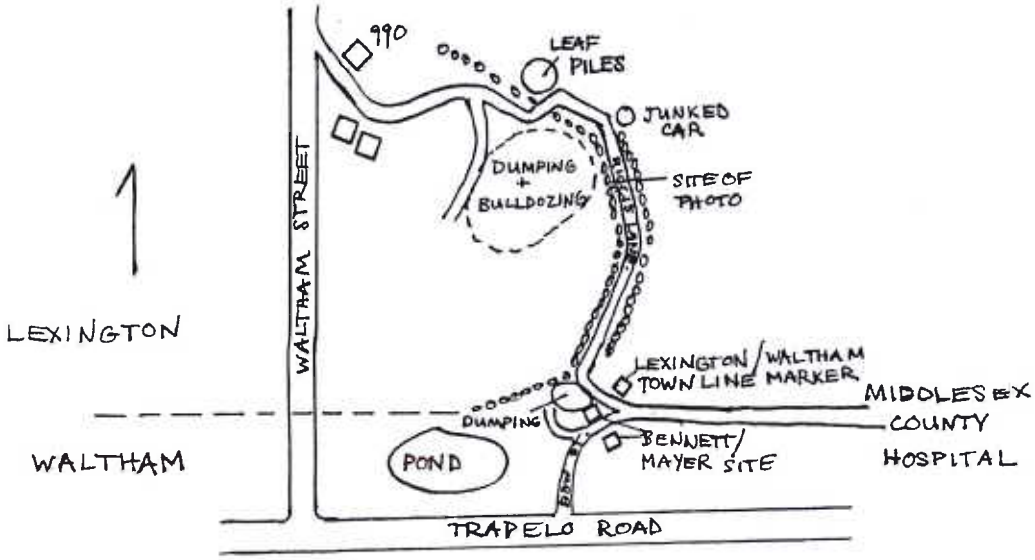
Lexington

of area (if any) Ricci's Lane

al date or period seventeenth-

ieth century

Sketch map. Draw a general map of the area indicating properties within it. Number each property for which individual inventory forms have been completed. Label streets (including route numbers, if any) and indicate north. (Attach a separate sheet if space here is not sufficient)



Recorded by Nancy S. Seasholes

Organization Lexington Historical Commissio

Date February, 1984

(Staple additional sheets here)

ARCHITECTURAL SIGNIFICANCE of area. (Describe physical setting, general character, and architecturally significant structures).

Part of the road from Lexington to Boston in the seventeenth and eighteenth centuries, Ricci's Lane is no longer maintained as a road and most of it is overgrown or obliterated. Certain areas, however, particularly the first section running northeast from Waltham and the next section running northwest (see sketch map), preserve the historic character of a roadbed about two rods wide bordered on either side by stone walls. In addition, the area through which the road now runs is distinctly rural, just as it has always been, though with less open farmland than in the past. Foundations remain of two historic houses associated with Ricci's Lane: the Bennett/Mayer house at the intersection of Ricci's Lane and Bow Street and the Stearns/Smith/Doe house on the eastern extension of Ricci's Lane near the intersection with a road, also still discernible, that comes down from Walnut Street (see archaeological forms for these sites).

HISTORICAL SIGNIFICANCE of area. (Explain development of area, what caused it, and how it affected community; be specific).

Ricci's Lane has been in existence since the seventeenth century and reflects the fact that South Lexington was the first area of the town to be settled. Ricci's Lane was laid out in 1660 as part of a road to connect Lexington, then part of Cambridge, to Boston. Until the end of the eighteenth century, a main route from Lexington to Boston went through what is now Waltham and Ricci's Lane was the connecting link between this route and two major road systems. One came from Bedford and in Lexington followed present Grove Street, Hancock Street, Waltham Street, Marrett Road (east), Stedman Road, Allen Street, Blossomcrest Street (going west; formerly Blossom Street which, until the mid 1960s, entered Waltham Street approximately where Piper Road does today), Waltham Street, Ricci's Lane, Bow Street in Waltham, and Trapelo Road. The other major road came from Concord and Lincoln. It entered Lexington on Mill Street (not shown on Lexington street maps after 1967), then went down Lincoln Street, jogged on Weston Street to Shade Street, then ran on Old Shade Street (now not maintained and the eastern end cut off by W.R. Grace property and Route 2), Cutler's Lane (present Old Shade Street on south side of Route 2), back and forth across the present Concord Avenue, down a no longer existing driveway at the corner of Concord Avenue and Waltham Street, on Waltham Street, Ricci's Lane, Bow Street, and Trapelo Road.

In the late eighteenth and early nineteenth centuries, bridges were built across the Charles directly to the Boston peninsula, thus permitting roads to bypass routes, such as the one from Waltham, that approached the city across Boston Neck. Ricci's Lane thus became less important as a route to Boston, though it continued to be one of the main roads between Lexington and Waltham until Waltham

(see Continuation Sheet)

BIBLIOGRAPHY and/or REFERENCES

Worthen, Edwin B. 1946. A Calendar History of Lexington, Massachusetts, 1620-1946, pp. 20, 23, 43-45. Lexington, Massachusetts: Lexington Savings Bank.

1830 map

1852 map

1876 map

1889 map

(see Continuation Sheet)

INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, Boston

Community: Lexington	Form No: V
Property Name: Ricci's Lane	

Indicate each item on inventory form which is being continued below.

HISTORICAL SIGNIFICANCE

Street south of Marrett Road was laid out sometime between 1830 and 1852. Thereafter, Ricci's Lane continued as a county road and was shown on maps throughout the nineteenth century and on Lexington street maps through 1955. As recently as ten years ago the road was described as a "pleasant country lane" (Gere Frick, personal communication). Today, however, the continued existence of this historic road in Lexington is threatened by recent bulldozing and dumping. The Waltham section, along Bow Street, is in relatively good condition, however, perhaps because the south end of Bow Street is still an accepted street.

BIBLIOGRAPHY and/or REFERENCES

1906 map

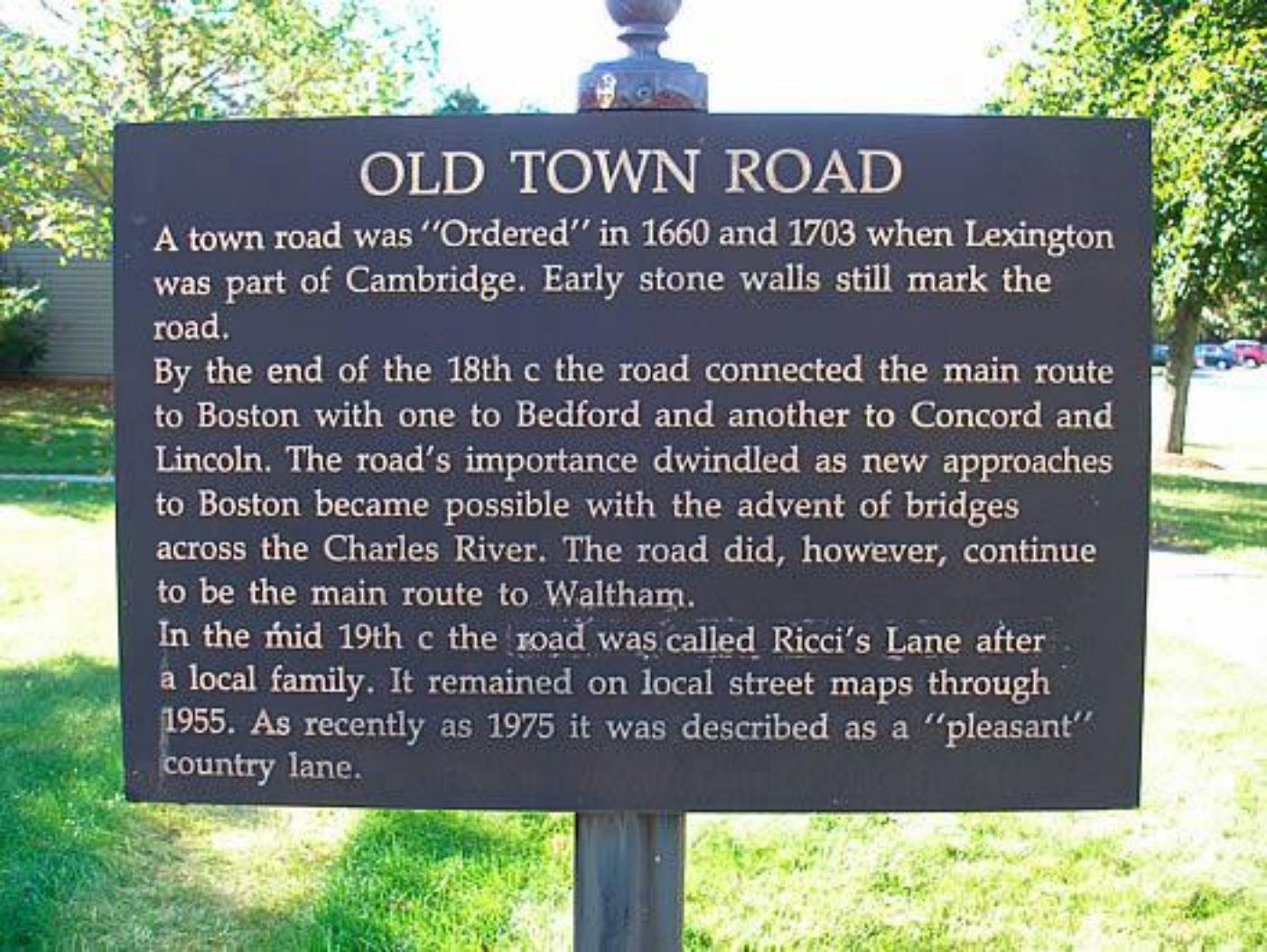
1937 map

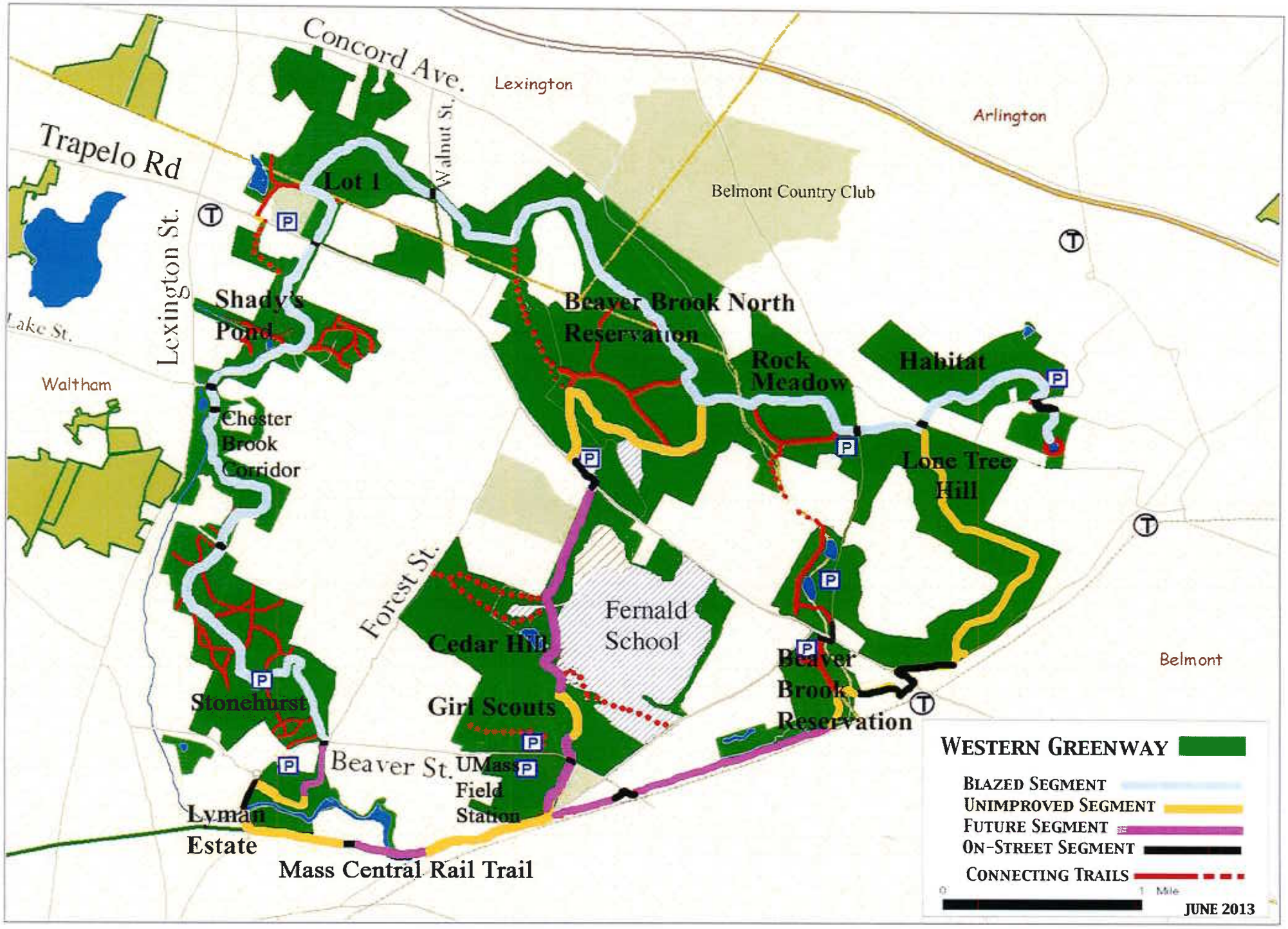
1955 map

1961 map

1964 map

Staple to Inventory form at bottom


OLD TOWN ROAD
A town road was "Ordered" in 1660 and 1703 when Lexington was part of Cambridge. Early stone walls still mark the road.
By the end of the 18th c the road connected the main route to Boston with one to Bedford and another to Concord and Lincoln. The road's importance dwindled as new approaches to Boston became possible with the advent of bridges across the Charles River. The road did, however, continue to be the main route to Waltham.
In the mid 19th c the road was called Ricci's Lane after a local family. It remained on local street maps through 1955. As recently as 1975 it was described as a "pleasant" country lane.


Concord Ave.
Lexington
Arlington
Trapelo Rd
Walnut St.
Lot 1
Belmont Country Club
Lexington St.
Shady's Pond
Lake St.
Waltham
Beaver Brook North Reservation
Rock Meadow
Habitat
Chester Brook Corridor
Lone Tree Hill
Forest St.
Fernald School
Cedar Hill
Beaver Brook Reservation
Belmont
Stonehurst
Girl Scouts
Beaver St.
UMass Field Station
Lyman Estate
Mass Central Rail Trail
WESTERN GREENWAY
BLAZED SEGMENT
UNIMPROVED SEGMENT
FUTURE SEGMENT
ON-STREET SEGMENT
CONNECTING TRAILS
0
1 Mile
JUNE 2013

Middlesex County Hospital Lands

WESTERN GREENWAY TRAIL

WALTHAM LAND TRUST

0 250 500 750 1000 ft

"Lot 1" (Department of Conservation and Recreation)

Water Tower

Brookhaven at Lexington

Bow Street Parcel

Falzone Park

"Lot 3"

P

LEXINGTON

WALTHAM

WALNUT STREET

CART PATH LN

TRAPELO ROAD

OLD

Our Lady's Church

GILMAN ROAD

TEMPLE ROAD

Wellington Crossing Conservation Strip

Wellington House

City Land

WOBURN STREET

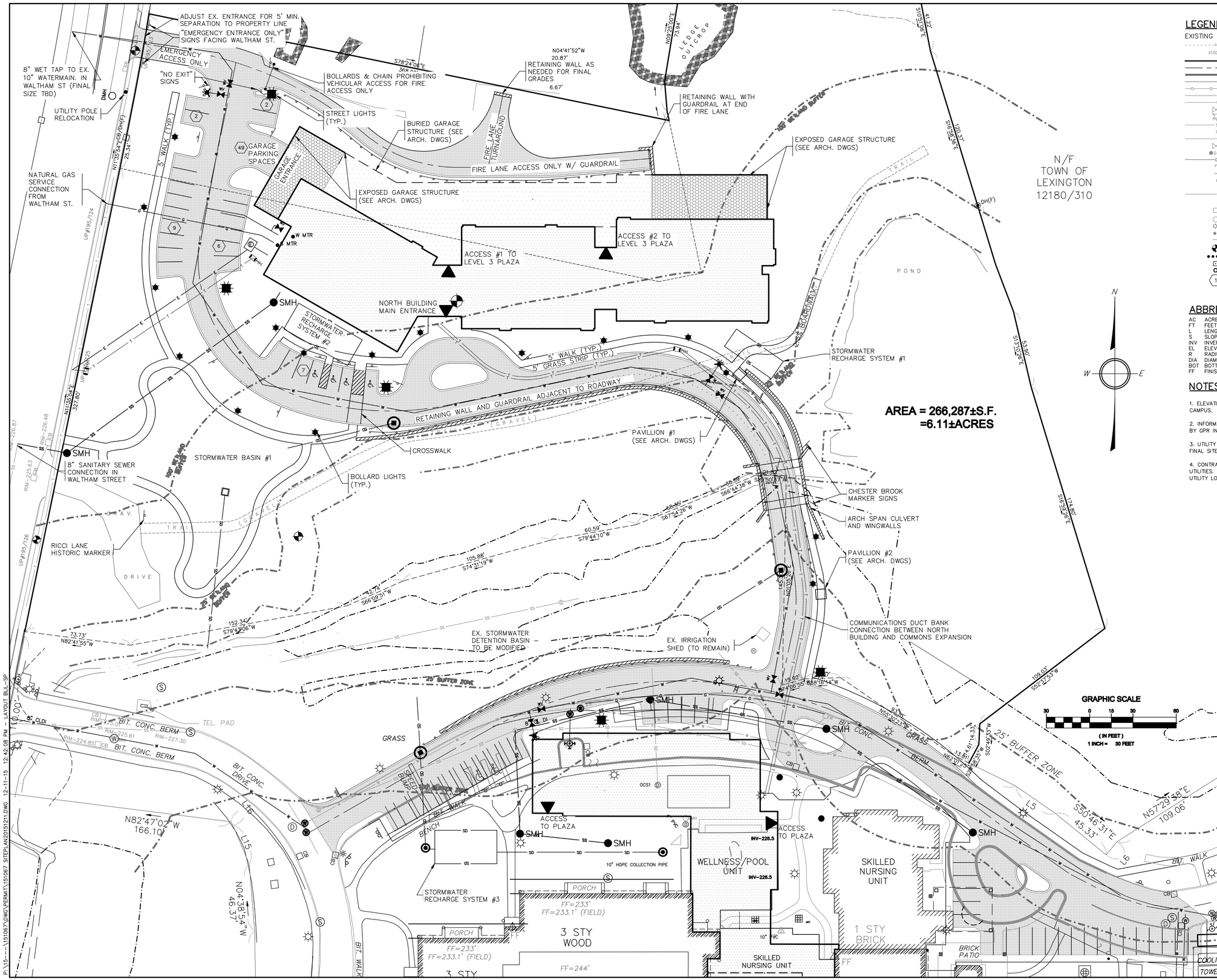
Trail ontinues on "Beaver Brook North Reservation" Map

Trail continues on "Chester Brook Corridor" Map.

Legend

- Greenway Trail
- Secondary Trails
- Nature Trail
- Bridges/ Boardwalks
- Ponds and Streams
- Wetlands
- Vernal Pools
- 5 meter contours
- Waltham Parks
- P Parking

MAP FOR REFERENCE ONLY - NOT A LEGAL DOCUMENT
This map is provided free to the public solely for recreational use. Trails depicted are accessed at the user's own risk. The Waltham Land Trust is not responsible for damages or liability that may arise from the use of this map for any purpose. Consult the City of Waltham for official maps and data on properties in Waltham. Information for this map was obtained from Mass GIS. Created by David Kehs, 2014-06-10.
www.walthamlandtrust.org



LEGEND

EXISTING		PROPOSED
100	ELEVATION CONTOUR	100
X100.0	SPOT GRADE	100.0 FG
	PROPERTY LINE	
	BUILDING ENVELOPE	
	AQUIFER PROTECTION DISTRICT	
	EDGE OF PAVEMENT	
	CHAINLINK FENCE	
W	WATER MAIN	
WS	WATER SERVICE	
WV	WATER VALVE	
	FIRE HYDRANT	
SS	GRAVITY SEWER LINE	
	SEWER MANHOLE	
G	GAS LINE	
GV	GAS VALVE	
G-MTR	GAS METER	
OHW	OVERHEAD POWER LINE	
	UTILITY POLE	
	GUY WIRE	
	ELECTRIC MANHOLE	
E MTR	ELECTRIC METER	
SD	STORM DRAIN	SD
	ROOF DRAIN	RD
CB	CATCH BASIN	
LCB	LEACHING CATCH BASIN	
	SITE LUMINAIRE	
BOL	BOLLARD	
	SIGN	
	ELEVATION BENCHMARK	
	SURFACE RUNOFF DIRECTION	
	STONE BOUND	
	IRON ROD	
1	NUMBER OF PARKING SPACES	1

ABBREVIATIONS

AC	ACRES	TP	TOP OF PAVEMENT
FT	FEET	TW	TOP OF WALL
L	LENGTH	BW	BOTTOM OF WALL
S	SLOPE	N/F	NOW OR FORMERLY
INV	INVERT	SF	SQUARE FEET
EL	ELEVATION	PVC	POLYVINYL CHLORIDE
R	RADIUS	HDPE	HIGH DENSITY POLYETHYLENE
DIA	DIAMETER	CB	CATCH BASIN
BOT	BOTTOM	CLF	CHAIN LINK FENCE
FF	FINISH FLOOR	UP	UTILITY POLE

NOTES

1. ELEVATIONS SHOWN TO AN EXISTING DATUM ALIGNED TO THE EXISTING BROOKHAVEN CAMPUS.

2. INFORMATION NORTH OF CHESTER BROOK IS BASED ON AN ON–THE–GROUND SURVEY BY GPR IN NOVEMBER 2015. OTHER INFORMATION IS SHOW FROM AVAILABLE RECORDS.

3. UTILITY LOCATIONS SHOWN ARE APPROXIMATE, SUBJECT TO FINAL ENGINEERING AND FINAL SITE CONDITIONS DURING CONSTRUCTION.

4. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN UTILITY LOCATIONS AND ANY CONFLICTS DISCOVERED DURING CONSTRUCTION.

DRAWING ISSUED FOR:

- ■ CONCEPT
- ☐ CONSTRUCTION
- ☐ PERMIT
- ☐ CONSTRUCTION RECORD

PROPOSED CONCEPTS SHOWN ON THIS DRAWING MAY NOT COMPLY WITH LOCAL BYLAWS / ORDINANCES, AND MAY NOT BE RENDERED IN DETAIL SUFFICIENT FOR PERMITTING PURPOSES. THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION.

NO.	DATE	BY	APP.	REVISION DESCRIPTION

GPR Engineering Solutions for Land & Structures

GOLDSMITH, PREST & RINGWALL, INC.
39 MAIN STREET, SUITE 301. AYER, MA 01432
CIVIL ENGINEERING • LAND SURVEYING • LAND PLANNING
VOICE: 978.772.1590 FAX: 978.772.1591
www.gpr-inc.com

SITE/UTILITY PLAN

NORTH BUILDING & COMMONS EXPANSION

960 – 1010 WALTHAM STREET
LEXINGTON, MA

PROGRESS PRINT

OWNER:
BROOKHAVEN AT LEXINGTON
1010 WALTHAM STREET
LEXINGTON, MA 02421

SCALE 1"=30'

DES. BY: KFB	DATE: DEC. 11 2015	JOB 151067	1 OF 1
CHK. BY: DEM			

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OHI Engineering, Inc.
Engineers and Environmental Scientists

END OF REPORT

44 Wood Avenue
Mansfield, MA 02048
Tel (508) 339-3929
Fax (508) 339-3140

110 Pulpit Hill Road
Amherst, MA 01002
Tel (413) 835-0780
Fax (413) 549-7918

www.OHIengineering.com