PROJECT CONCEPT

CITY OF LEXINGTON

RANDOLPH STREET AND HENRY STREET CULVERT REPLACEMENT — TOWN BRANCH

Location Description

37.784739, -79.440290

Intersection of Randolph Street and Henry Street; approximately 250 linear feet of culvert conveying Town Branch stream flows beneath Randolph Street in the vicinity of Henry Street.

Project Purpose

Replace undersized, deteriorated Randolph/Henry Street culvert to eliminate documented upstream flooding on the east side of Randolph Street and restore adequate drainage capacity for at least the 10-year storm event.

Couple planned work with establishing a series of flood relief areas along the reach.

Additional Information Needed

- Location of utilities
- Existing culvert capacity
- Existing easements and/or possibility of land acquisition

Background

Town Branch originates within the City limits and flows northward through the City, highly encroached upon by development and largely piped underground, often beneath buildings and roadways (**Figure 1**). City staff have determined that the approximately 250-foot length of corrugated metal arch culvert conveying Town Branch under the Randolph Street/Henry Street intersection has exceeded its design life, in addition to being inadequate to convey the 10-year storm event. Flooding has been documented upstream of the culvert on east side of Randolph Street during heavy rainfall events.

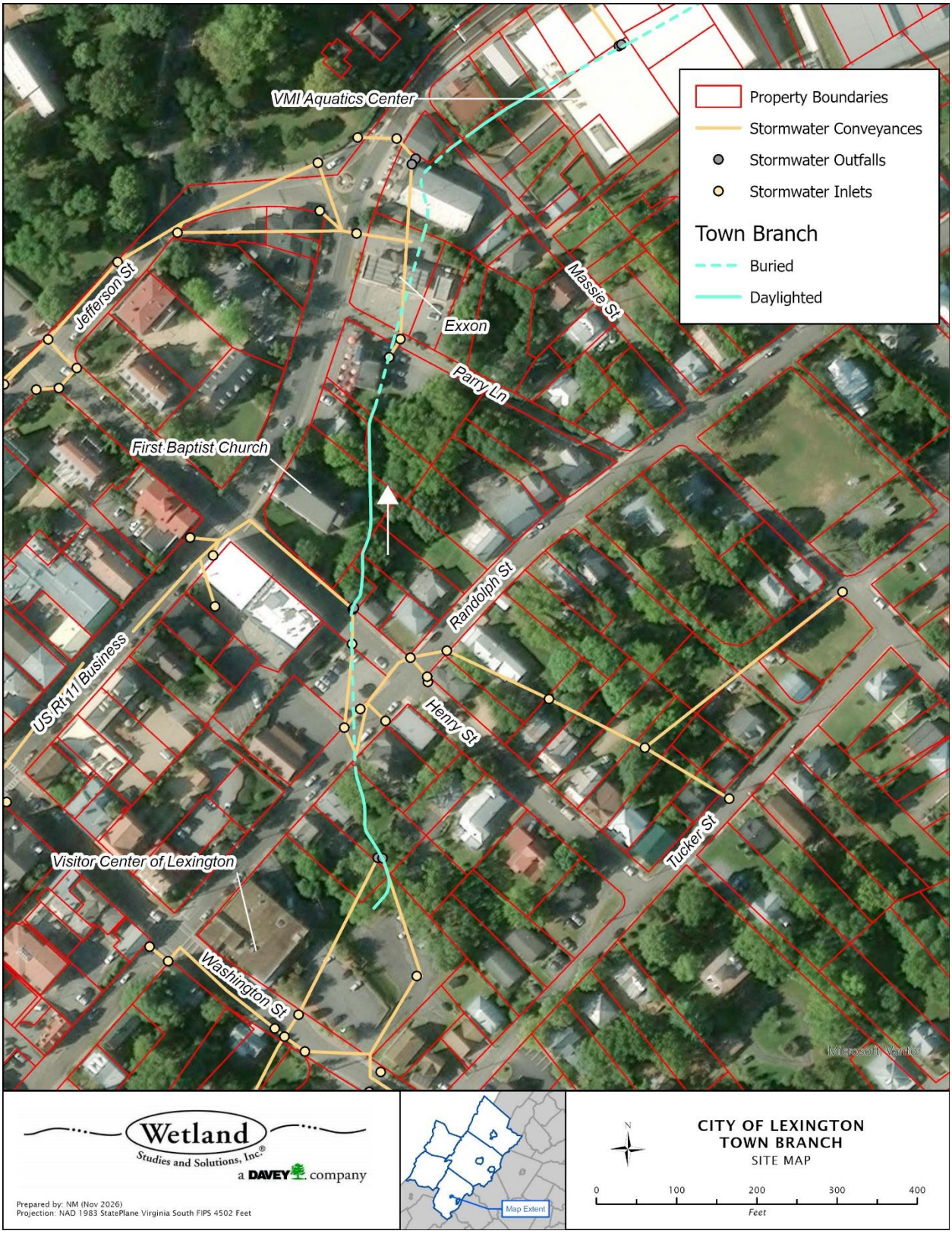

Figure 1. Site map displaying the path of Town Branch in the vicinity of Randolph Street and Henry Street.

Conceptual Design and Planning-Level Cost Estimate

The City of Lexington has already completed some work to replace the existing culverts and size the new structures. Currently, the arch culvert is to be replaced with a 10' x 4' reinforced concrete box culvert. The City also plans to tie this culvert replacement into the subterranean channel improvements along Jefferson Street. Design has been programmed for fiscal year 2027 in the CIP for $129,000, with construction not yet programmed but estimated at $2.1 million.

Depending on the extent of H&H analysis already completed for the planned culvert replacement, additional survey and analysis is likely warranted to evaluate additional design alternatives that could reduce the impacts of flooding on this corridor. While it may not provide a large effect, cumulative increases in floodplain storage for storm events could be achieved along the sections of Town Branch that are currently daylighted throughout the City before entering existing culverts that run under buildings and roads. In conjunction with the culvert replacement, the City of Lexington could construct a series of small 'pocket' parks along Town Branch (**Figure 2**). Excavating to create floodplain benches along the channel will allow higher flows to reconnect with the floodplain, reducing erosion from flood waters and creating additional flood storage and infiltration areas. While not suitable for certain kinds of development, these areas designed to flood could be converted into pocket parks, increasing public green space throughout the City. There is noted erosion along the banks of the stream in some locations (**Figure 3**, **Figure 5**), which could be addressed in this effort. Native vegetation would be planted along the streamside to stabilize banks.

While the overall flood attenuation capacity may be limited by the size restrictions necessary to protect existing structures and infrastructure, the added recreational benefits of features like pocket parks should also be considered. Gazebos, trails, benches, and/or other infrastructure that encourages use by the public but is designed to be resilient to flood damage could be constructed along the stream in these parks. Property and/or easement acquisition would be required throughout the corridor. Four potential locations have been identified for parks behind several properties on North Main Street and Henry Street (**Figure 3** through **Figure 6**).



Figure 2. Site map displaying the path of Town Branch and proposed park locations along the stream.



Figure 3. Section of Town Branch that is daylighted before running under Randolph Street. Photograph taken facing southeast, upstream.



Figure 4. Town Branch (obscured by invasive *Ailanthus altissima* "tree of heaven") as it runs behind 103 North Main Street (First Baptist Church, visible at left). Photo taken from Henry Street facing northeast.



Figure 5. Town Branch as it runs behind 107 North Main Street, between Henry Street and Parry Lane. Photograph taken facing approximately southeast.



Figure 6. Town Branch as it runs behind 207 North Main Street. Photo taken facing northeast, downstream.

ITEM/DESCRIPTION	QTY	UNIT	UNIT COST	ITEM SUB-TOTAL	EXTENDED SUB-TOTAL
Survey and Design					**$90,000**
Survey	1	LS	$20,000	$20,000	
H&H Study	1	LS	$20,000	$20,000	
Design Alternatives for Stormwater and Recreational Asset Enhancement	1	LS	$50,000	$50,000	
Contingency (30%)					**$27,000**
TOTAL ESTIMATED BUDGET					**$117,000**

As park facilities can vary widely due to local constraints and stakeholder priorities, estimation of costs associated with construction-phase efforts will require additional study and scoping. A preliminary estimate of reasonable floodplain excavation extent yielded 450 cubic yards of excavation — establishing an average of 16 feet of floodplain width (some areas wider, others more narrow) excavated 2 feet deep along 385 linear feet of stream.

Assumptions
Watershed (via StreamStats 10/12/2026) is 0.23 square miles (147 acres) at Parry Lane.

Recommended Next Steps
Assess interest in pursuit. Evaluate existing H&H modeling information generated for culvert replacement and applicability to this proposed effort.

References
City of Lexington, VA. 2026. Lexington, Virginia Capital Improvement Plan FY 2027-FY 2031.