



# County of Fairfax, Virginia

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Hickory Hollow Lane and Culvert Improvements  
February 3, 2023

## Background

The right-of-way (ROW) for Hickory Hollow Lane (Providence District) was dedicated to the County in 1951 (DB 928, pg. 386). Around the time of dedication, there were few trees within the dedicated ROW (Figure 1).

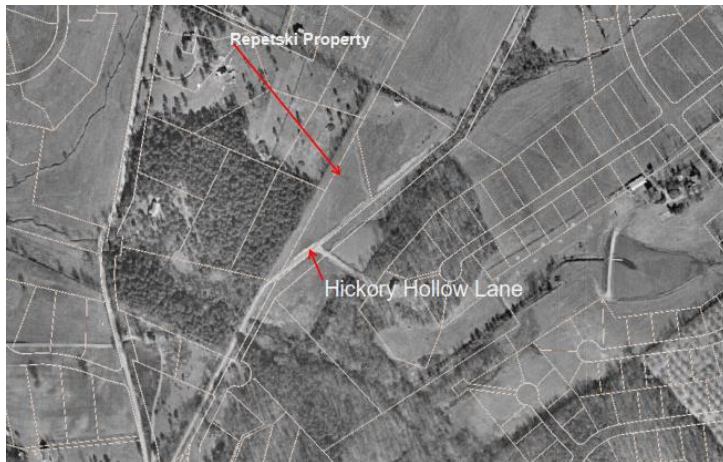


Figure 1. Hickory Hollow Lane circa 1953.

The dedicated ROW is 50 feet wide, although the current gravel road north of the stream crossing within the ROW is substantially more narrow. The existing road is maintained by the County's Department of Public Works and Environmental Services (DPWES) and does not comply with Virginia Department of Transportation (VDOT) standards.

Two residential parcels (owned by the Repetski and Moyer families, respectively) rely on the current asphalt road for access. There is currently an unpermitted fence for the Repetski property within the County ROW, installed between 1960 and 1972. The existing culvert to convey the Rocky Branch stream is undersized, causing floodwaters to overtop and undermine the road.

## Problem Statement

The existing Rocky Branch stream culvert beneath Hickory Hollow Lane is undersized. During rain events, the stream overtops the road, preventing safe access to the two residential properties. Because the road is frequently overtopped, the floodwaters are eroding the stream crossing and damaging the road and contaminating Rocky Branch with sediment (Figure 2). The stream crossing will fail, and until it is improved will require continual County maintenance to remain passable.



Figure 2. Existing Hickory Hollow Lane crossing of Rocky Branch.

The road north of the stream crossing is gravel and is plowed by DPWES during snow events. Since the road does not have a more durable surface, it cannot be efficiently plowed without causing damage to the road.

The road was originally constructed to 1950s standards. VDOT criteria have changed substantially in the prior 70 years, and the road does not comply with current criteria. Although other similar substandard roads exist within the County, public improvements to these roads must comply with current regulatory criteria.

### **Prior County Action**

DPWES initiated the process to design a repair to the culvert in 2018. DPWES previously discussed the situation in the field with the two property owners on May 10, 2022. DPWES staff, property owners, and the Providence District staff met to discuss the project on December 1, 2022.

In the past 10 years, DPWES staff have performed maintenance actions on the road 28 times at an estimated cost of approximately \$67,000. This includes five times to repair the road surface, 15 times to remove blockages of the existing culvert or address erosion at the crossing, and 8 times to manage vegetation along the road.

### **Required Action**

DPWES will replace the existing culvert with four culverts to permit adequate stream flow to be conveyed under the road. The crossing will be raised to accommodate the culverts. Two 9 foot wide paved travel lanes will be installed along with guardrails on the stream crossing for safety.

The existing road will be paved to reduce maintenance burdens and improve durability to plowing. The design life of the new paved roads will be approximately 20 years. The road north of the crossing will be similar in width to the road at the crossing to prevent creating an unsafe and non-compliant constriction where the road narrows from two lanes to one lane.

All permanent features of the road improvements will be constructed within the existing 50 foot wide County ROW.

### **Regulatory Requirements**

The County Public Facilities Manual requires road designs to conform to VDOT standards and be sufficient to accommodate emergency response vehicle access. For Hickory Hollow Lane, the applicable VDOT criteria requires an 18 foot wide, two lane, paved travel surface with two foot wide shoulders. All design plans must be signed and sealed by a professional engineer licensed in Virginia.

Exceptions to waive the criteria can only be approved when a professional engineer can justify that the criteria cannot be met. Because the VDOT criteria can be met within the existing ROW, no valid justification for an exception can be made.

Erosion and sedimentation controls must be used during construction to protect water resources. Road improvements must comply with County floodplain requirements, and the floodplain impacts for the current County design have already been reviewed and approved to cause no adverse impact.

### **Solution Options**

1. The County vacates and abandons the ROW and has no further responsibility for road maintenance and improvements.
  - a. Existing property owners will take responsibility for all future maintenance including plowing and all future repairs.
  - b. Existing property owners would need to establish an agreement to ensure availability of funds for future maintenance needs.
  - c. Existing property owners would be responsible for replacing the stream crossing in compliance with County and VDOT standards when it fails.
  - d. Existing property owners would need to grant a permanent walkway easement to enable continued access to the Fairfax County Park Authority property.
  - e. Upon vacation, the Fire Marshal may require the existing property owners to implement improvements including widening the road to be at least 20 feet wide to comply with Public Facilities Manual Section 9-0202.

2. The County replaces the stream crossing and improves the road within the existing ROW.
  - a. The County would improve the road to an 18 foot wide paved roadway with 2 foot gravel shoulders on each side. Because these improvements are entirely within existing County ROW, no formal approval from the existing property owners is required.
  - b. The County will remove the existing unpermitted fence on County ROW at no expense to the property owner. The County will return the fence to the property owner to be reinstalled at their expense on their property. The County cannot replace the fence on private property.
  - c. The County will design the road to the minimum (narrowest) applicable VDOT standards.
  - d. The County will minimize impacts to existing trees within the ROW. Approximately 24 trees all within the County ROW must be removed to accommodate the road improvements. Twelve new trees will be planted within the ROW, and additional tree replacement is limited by spacing requirements. The County's Urban Forest Management Division has reviewed the tree removal and planting plans.
  - e. IF A TEMPORARY CONSTRUCTION EASEMENT CAN BE OBTAINED ON THE REPETSKI PROPERTY, there will be no retaining wall along the western side of the ROW adjacent to the Repetski property. The temporary easement would be approximately 5,893 square feet. The Repetski family would be compensated for granting the temporary construction easement. The temporary easement would only enable access during construction to better manage the lateral change in grade (ensuring a stable slope for the change from the existing land surface to the new road surface), and the area would be restored after construction.
  - f. IF A TEMPORARY CONSTRUCTION EASEMENT CANNOT BE OBTAINED ON THE REPETSKI PROPERTY, the County will construct a 4 foot tall retaining wall within the ROW adjacent to the Repetski property. The retaining wall will be used to manage the lateral change in grade.

### **Cost and Funding**

County roadway maintenance funds will be used for construction, and have already been allocated for this project. The estimated total cost for Option 2 (road and culvert replacement) without the retaining wall is approximately \$1,500,000. Of that total cost, approximately \$250,000 are required to repave and improve the existing gravel road north of the stream crossing.

If the temporary access easement is not granted, then the total project cost will increase by approximately \$200,000. Additional geotechnical analysis, revision to the project design, and additional material and construction costs necessitate the increase.

**Timeline**

DPWES is working to secure the temporary access easement on the Repetski property to avoid constructing a retaining wall with the project. An offer was extended to the Repetski family for the temporary easement on May 2, 2022. If the property owners decline or do not respond, DPWES will proceed with constructing the road within the ROW and with a retaining wall.

If the temporary easement is not granted, additional geotechnical study and design work will be necessary for the retaining wall. An additional three to six months will be required before construction can start to allow time for the necessary geotechnical study and design revisions associated with the retaining wall.

After plan (and temporary easement if applicable) approval, the timeline for construction is approximately 90 days. To commence construction in 2023, the temporary easement must be obtained not later than July 1, 2023 (as some paving operations are not feasible when temperatures are low in winter months).