



Albemarle County

Legislation Text

File #: 23-133, **Version:** 1

AGENDA DATE: 1/18/2023

TITLE:

Drainage Infrastructure Management Program

SUBJECT/PROPOSAL/REQUEST: Update the Board on the development of a program to repair, improve, and maintain certain community drainage infrastructure

ITEM TYPE: Regular Information Item

STAFF CONTACT(S): Richardson, Walker, Rosenberg, Herrick, Stewart, Harper

PRESENTER (S): Greg Harper

LEGAL REVIEW: Yes

REVIEWED BY: Jeffrey B. Richardson

BACKGROUND: Drainage in Albemarle County is provided by an interconnected network of inlets, pipes, manholes, culverts, and channels that convey stormwater runoff. There is no single operator of this system, as it lies on over a thousand private commercial and residential properties, in addition to crossing VDOT rights-of-way at hundreds of locations. For many years, the Board has expressed interest in the development and implementation of a program to maintain a greater extent of community drainage infrastructure, including making this a goal in the Fiscal Year 2017 - 2019 Strategic Plan.

As summarized in Attachment A, over several years, staff has conducted field work, used contractors, and engaged in program design and analysis to assess the extent and condition of this infrastructure and to develop program cost projections, with a focus on the Development Areas. The process of mapping existing drainage infrastructure is now substantially complete. Video assessments have been conducted for approximately 60,000 linear feet of pipes and culverts (about seven percent of what is currently mapped), likely repair approaches and cost estimates for found issues have been identified, and a prioritization system for repairs has been developed. In addition, staff has completed field assessments of approximately 12 miles of channels and streams. Staff also maintains records - beginning in 2005 - of drainage issues raised by community members and of staff's responses.

The Board received several updates on this subject as part of discussions between 2017 and 2018 about a possible dedicated funding mechanism for water resource programs. The Board determined to continue funding these programs through the General Fund. Since then, staff has provided two additional updates focused specifically on the development of an infrastructure management program. At a December 5, 2018 work session, staff presented the findings from an initial video assessment effort and described several extent-of-service scenarios. At the Board's July 17, 2019 meeting, staff presented cost estimates to implement a program at various combinations of extent-of-service and level-of-service and described numerous policy choices that would need to be considered.

STRATEGIC PLAN: Infrastructure Investment: Prioritize, plan, and invest in critical infrastructure that

responds to past and future changes and improves the capacity to serve community needs.

DISCUSSION: Like any built infrastructure, drainage infrastructure requires regular investments in maintenance and repairs and occasional improvements for it to function as intended. Over time, pipes may deteriorate, collapse, or settle - creating underground cavities and, eventually, sinkholes - and channels may erode or shift laterally. Based on the data collected through assessments and staff experiences responding to the concerns of community members, a manageable but increasing number of issues throughout the county require attention. About 10% of assessed pipes have at least one issue significant enough to be addressed within five years. Many drainage channels are somewhat incised and eroded, but very few are damaging property or threatening structures. Only a small percentage of past drainage complaints warranted any County action beyond assisting and advising the property owner. One example is a sinkhole that recently formed in the Northfield neighborhood. Attachment A includes a more detailed description of the state of drainage infrastructure in the Development Areas.

Historically, the County has acted on private property only after a problem has manifested itself and been within an easement dedicated to public use. Public easements give the County the *right* to enter onto private property to make repairs, but do not convey a legal *responsibility* to make repairs. However, County practice has been to make use of this right in order to repair infrastructure within public easements. Because drainage infrastructure has been planned and constructed by individual developers and property owners over many decades, there is little consistency as to what portions of the drainage system have been dedicated to public use in the past.

Under a drainage infrastructure management program, the County would manage community-serving infrastructure - in a structured and proactive manner - that is not currently located within easements explicitly dedicated to the County. The standard for *where* the County would act would be based on a selected extent-of-service policy, and the *degree* of action would be driven by a level-of-service policy. The overall scope of the program would be adapted each year through the budget process to balance drainage infrastructure needs with other County priorities.

The near-term implementation of a drainage infrastructure management program would include the following elements:

- adopting policies and procedures, including those for extent-of-service and level-of-service
- adopting protocols for acquiring the necessary permissions to work on private properties
- to continue the assessment of pipes and channels, to eventually cover the entirety of the Development Areas
- addressing the greatest maintenance and repair needs discovered through assessments or brought to staff's attention by failures or community inquiries
- refining the process to prioritize, plan, and track maintenance and repairs with consideration of investing in a robust asset management system
- establishing an understanding with VDOT regarding infrastructure within and near roadway rights-of-way

Staff anticipates that a significant portion of an existing full-time staff position would be required to administer a program in the near-term, and that additional staff would soon be required to support a program. In addition, staff would evaluate the benefits and challenges of transitioning from using excavation contractors for all maintenance, repairs, and improvements to acquiring equipment and employing a small crew, which may better align with the envisioned realization of a formal public works department.

BUDGET IMPACT: Funding for a program to repair, improve, and maintain drainage infrastructure within the County's Development Areas would require sustained funding. Existing water resource funding reserves are expected to be sufficient for planned Fiscal Year 2024 activities. For subsequent years, the amount of funding

appropriate to the needs of the program would be determined annually through the budget process.

RECOMMENDATION:

The information provided here and during the meeting is intended to refresh the Board's understanding of past efforts and of staff's work towards a future drainage infrastructure management program. At an upcoming Board meeting, staff will request that the Board reaffirm a 2006 resolution authorizing the County Executive to accept deeds of easement for drainage infrastructure and request that the Board appropriate funds from the water resources reserve fund to the drainage infrastructure management program.

ATTACHMENTS:

A - Summary of Past Work to Develop Program