CITY OF CHARLOTTESVILLE, VIRGINIA
CITY COUNCIL AGENDA

Agenda Date:	December 6, 2021
Action Required:	Appropriation
Presenter:	Andrea Henry, Water Resources Protection Program Administrator
Staff Contacts:	Jack Dawson, Department of Public Works Kristel Riddervold, Department of Public Works Krisy Hammill, Office of Budget and Performance Management
Title:	**Virginia Community Flood Preparedness Grant – Stormwater Management Model of Moores Creek Watershed - $307,000**

Background:

The City of Charlottesville is one of the first 19 localities to be awarded a grant through the Virginia Community Flood Preparedness Fund (CFPF). The Governor and General Assembly established the fund in 2020 to assist communities in building resilience to the impacts of climate change, including floods.

The Community Flood Preparedness Fund is allocated 45 percent of the revenue Virginia generates through the Regional Greenhouse Gas Initiative. An estimated $75 million per year will be available through the matching grant program.

In October 2021, the City of Charlottesville received a Letter of Award for a CFPF grant totaling $153,500 from the Virginia Department of Conservation and Recreation for a two-dimensional (2D) stormwater management model of Moores Creek watershed. The funds are intended to support the model buildout, a report documenting methodology and results, and training and software for City staff. This is the first in an intended series of 3 grants that will fund model development in the portions of all 3 major watersheds (Rivanna River, Meadow Creek, and Moores Creek) within Charlottesville city limits. The current grant award includes:

CFPF Grant #21-01-18: Flood Protection and Prevention Study - $153,500

City matching funds are required for the grant of at least 50% of the total study cost, totaling $153,500, and have been identified from two funding sources. The identified funding was established in the Gas Fund prior to the adoption of the Stormwater Utility Fund (SUF) in order to support environmental-related program development and implementation efforts, including demonstration projects and grant match requirements. The accounts to be used are:

631 - 2000095: $136,153.00
426 – P-00653: $17,347.00

Discussion:

In 2008, the City of Charlottesville, in partnership with the Army Corp of Engineers (USACE), hired URS to develop a comprehensive stormwater model representing the majority of the City's stormwater management inventory. The existing model represents the input data and best methodology available in 2008. The purpose of this grant application is to update the portion of the existing model located in the Moores Creek watershed so it can be used as initially intended. Additionally, a 2D rendering will expand the model beyond its originally identified applications.

The primary function of the model is to analyze the watershed by using configurations to quantify flooding associated with both existing and future watershed conditions. Potential drainage improvement projects can be geospatially mapped in relation to areas vulnerable to flooding, so City staff can make assessments about the value of individual projects. The advantage of this approach is that the entire drainage system can be evaluated on a consistent, system-wide basis.

Consistent and transparent methods of analysis when determining how and where to spend taxpayer money are essential for prioritizing improvement projects in an equitable manner. Although additional consideration factors, including other master plan objectives, location-specific funding opportunities, a history of underinvestment, etc., can also be incorporated into a system of project selection, the foundation of project prioritization should be the quantification of potential adverse impacts to community members from flooding events. An objective analysis using industry standard methodology applied over the entire City is a key element to achieving this goal.

The model will also have the ability to identify future areas of vulnerability due to climate change-influenced storm events. A series of climate-informed design storms will be input into the model to begin the development of a sensitivity analysis. This analysis will determine the future conveyance and treatment needs of City drainage infrastructure and is an important component of the City's climate resiliency strategy.

Alignment with City Council's Vision and Strategic Plan:

The development of a stormwater management model directly supports several strategic initiatives in the 2013 City of Charlottesville Comprehensive Plan (Environment):

- 4.3: Assess infrastructure and prioritize solutions for the repair, upgrade, and improvement of the City's stormwater infrastructure, utilizing green infrastructure when advisable.
- 4.4: Identify and track stormwater hazards such as flooding and drainage problems that may threaten people and property and identify or establish funding to remedy or prevent safety hazards.

Additionally, the model will be an important tool in determining the best improvement strategies to apply to specific drainage problems, so that benefits can be seen across the watershed. This supports the following strategic initiatives in the 2013 City of Charlottesville Comprehensive Plan (Environment):

- 3.6: Reduce loss of open waterways and habitats by daylighting pipes streams when possible and discouraging additional underground piping of city streams.
- 4.6: Examine feasibility of sustainable municipal stormwater management facilities such as

rain gardens to facilitate higher floor to area ratios (FAR) on urban lots, particularly in or adjacent to target zones such as entrance corridors.

Community Engagement:

The need for a comprehensive stormwater management plan was identified in the 2012 Water Resources Protection Program (WRPP) Advisory Committee Report. The proposed stormwater management model will be the most comprehensive approach to date in the development of a City-wide master plan. Additionally, the model will incorporate community-driven information in the form of drainage issue reporting. The 2D component of the model will be an important tool in future community outreach efforts because it can map areas that will be vulnerable to flooding. These visuals will be important for community flood awareness and the City's flood mitigation programs.

Budgetary Impact:

Grant funds will be appropriated and expended from a grants fund account. The $153,500 financial match for these grant awards will be allocated from previously appropriated funding in the Gas fund and the City's CIP fund.

Recommendation:

Staff recommends approval and appropriation of grant funds.

Alternatives:

Council may decline the grant.

Attachments:

- DCR Letter of Award
- DCR Grant Agreement
- VRA ACH Authorization for Grant Disbursements

RESOLUTION APPROPRIATION FUNDS FOR
Virginia Community Flood Preparedness Grants – Stormwater Management Model of Moores Creek Watershed
$307,000

WHEREAS, the City of Charlottesville has been awarded $153,500 from the Virginia Department of Conservation and Recreation for the development of a two-dimensional stormwater management model; and

WHEREAS, as a match of local funds in the amount of $153,500 is required and will be funded using previously appropriated funds;

NOW, THEREFORE BE IT RESOLVED by the Council of the City of Charlottesville, Virginia, that a total of $307,000 be appropriated in the following manner:

Revenues - $307,000

$153,500	Fund: 209	I/O: 1900433	G/L Account: 430110
$153,500	Fund: 209	I/O: 1900433	G/L Account: 498010

Expenditures - $307,000

$307,000	Fund: 209	I/O: 1900433	G/L Account: 599999

Transfers:

$136,153	Fund: 631	I/O: 2000095	G/L Account: 561209
$ 17,347	Fund: 426	WBS Element: P-00673	G/L Account: 561209

BE IT FURTHER RESOLVED, that this appropriation is conditioned upon the receipt of $153.500 from the Virginia Department of Conservation and Recreation.