



CITY OF COVINGTON

333 W. LOCUST STREET, COVINGTON, VIRGINIA 24426

Thomas H. Sibold, Jr., Mayor
David S. Crosier, Vice-Mayor
William E. Carson Jr., Councilman
Raymond C. Hunter, Councilman
S. Allan Tucker, Councilman

Krystal M. Onaitis, City Manager
Mark C. Popovich, City Attorney

April 8, 2022

Ms. Wendy Howard-Cooper
Director of Dam Safety and Floodplain Management
Virginia Department of Conservation and Recreation
600 East Main Street, 24th Floor
Richmond, VA 23219

RE: Authorization of City of Covington CFPF Studies Application

Dear Ms. Howard-Cooper and Members of the CFPF Review Team:

Please accept this written correspondence as signed documentation authorizing the City of Covington's request for funding from Round 3 of the 2022 Virginia Community Flood Preparedness Fund (CFPF). As the City only recently became aware of this funding and does not have funding established in our currently budget, we respectfully request the Department of Conservation and Recreation waive our match requirement for a City-wide Drainage Study.

In addition to the City's application for Capacity Building and Planning, we have also assembled the attached Studies Grant application to request CFPF grant assistance to complete a comprehensive City-wide Drainage Study and complete updates to the City's existing Floodplain Ordinance.

The City of Covington routinely experiences pluvial flooding in numerous locations throughout the City. In some locations, roadway underpasses are regularly flooded, which severely limit emergency access routes for hundreds of residents and businesses. More intense rainfall events in recent years have overwhelmed the City's existing storm system capacity and exacerbated flooding issues in areas with deteriorated stormwater piping. With limited resources, the City does not have an electronically mapped storm sewer network, and information can be found in numerous paper records, reports and maps. Having clear knowledge of the location, size, pipe material, and condition of the existing system is critical to identify the system improvements that must be made to alleviate recurrent flooding throughout the City.

The outcomes of this Drainage Study will inform the project-based Resilience Plan for the City. We believe that the implementation of a City-wide Drainage Study and Resilience Plan will better prepare the City to address its long history of problematic and recurrent flooding and plan for future mitigation efforts.

Thank you for your consideration of this grant proposal. If you have any questions about this proposal, please contact Patrick Madigan at (540) 965-3911 or pmadigan@covington.va.us.

Sincerely,



Krystal M. Onaitis
Covington City Manager
(540) 965-6300 ext. 7
konaitis@covington.va.us

Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:

City of Covington, VA

Category of Grant Being Applied for (check one):

☐ Capacity Building/Planning

☐ Project

☒ Study

NFIP/DCR Community Identification Number (CID) 510040

If a state or federally recognized Indian tribe, Name of tribe N/A

Name of Authorized Official: Krystal Onaitis

Signature of Authorized Official: 

Mailing Address (1): 333 W. Locust Street

Mailing Address (2): _____

City: Covington State: VA Zip: 24426

Telephone Number: (540) 965-6300 Cell Phone Number: (540) 958-3837

Email Address: konaitis@covington.va.us

Contact Person (If different from authorized official): Patrick Madigan

Mailing Address (1): 333 W. Locust Street

Mailing Address (2): _____

City: Covington State: VA Zip: 24426

Telephone Number: (540) 965-3911 Cell Phone Number: (540) 759-4437

Email Address: pmadigan@covington.va.us

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes ☒ No ☐

Categories (select applicable project):

Project Grants (Check All that Apply)

- ☐ Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- ☐ Wetland restoration.
- ☐ Floodplain restoration.
- ☐ Construction of swales and settling ponds.
- ☐ Living shorelines and vegetated buffers.
- ☐ Structural floodwalls, levees, berms, flood gates, structural conveyances.
- ☐ Storm water system upgrades.
- ☐ Medium and large scale Low Impact Development (LID) in urban areas.
- ☐ Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- ☐ Dam restoration or removal.
- ☐ Stream bank restoration or stabilization.
- ☐ Restoration of floodplains to natural and beneficial function.
- ☐ Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

Study Grants (Check All that Apply)

- ✓ Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- ☐ Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- ☐ Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- ✓ Studies and Data Collection of Statewide and Regional Significance.
- ☐ Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- ✓ Other relevant flood prevention and protection project or study.

Capacity Building and Planning Grants

Floodplain Staff Capacity.

Resilience Plan Development

Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.

Resource assessments, planning, strategies and development.

- Policy management and/or development.
- Stakeholder engagement and strategies.

Location of Project (Include Maps): City-wide

NFIP Community Identification Number (CID#):(See appendix F 510040

Is Project Located in an NFIP Participating Community? ☒ Yes No

Is Project Located in a Special Flood Hazard Area? ☒ Yes No

Flood Zone(s) (If Applicable): A, AE, X

Flood Insurance Rate Map Number(s) (If Applicable): 51005C-0213D, 51005C-0194D, 51005C-0211D, 51005C-0205D, 51005C-0192D

Total Cost of Project: \$357,380

Total Amount Requested \$357,380

Appendix C: Scoring Criteria for Studies

Virginia Department of Conservation and Recreation
Virginia Community Flood Preparedness Fund Grant Program

Applicant Name:	City of Covington, VA	
Eligibility Information		
Criterion	Description	Check One
1. Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these)?		
Yes	Eligible for consideration	✓
No	Not eligible for consideration	
2. Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?		
Yes	Eligible for consideration under all categories	
No	Eligible for consideration for studies, capacity building, and planning only	✓
3. If the applicant is <u>not a town, city, or county</u>, are letters of support from all affected local governments included in this application?		
Yes	Eligible for consideration	N/A
No	Not eligible for consideration	
4. Has this or any portion of this project been included in any application or program previously funded by the Department?		
Yes	Not eligible for consideration	
No	Eligible for consideration	✓
5. Has the applicant provided evidence of an ability to provide the required matching funds?		
Yes	Eligible for consideration	
No	Not eligible for consideration	
N/A	Match not required	✓

Studies Eligible for Consideration		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Applicant Name:	City of Covington, VA		
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Studies (Select all that apply)			
Revising floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.	30	30	
Creating tools or applications to identify, aggregate, or display information on flood risk or creating a crowd-sourced mapping platform that gathers data points about real-time flooding. This could include a locally or regionally based web-based mapping product that allows local residents to better understand their flood risk.	15	15	
Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA).	35		
Studies and Data Collection of Statewide and Regional Significance. Funding of studies of statewide and regional significance and proposals will be considered for the following types of studies:			
<input checked="" type="checkbox"/> Updating precipitation data and IDF information (rain intensity, duration, frequency estimates) including such data at a sub-state or regional scale on a periodic basis.	45	45	
<input type="checkbox"/> Regional relative sea level rise projections for use in determining future impacts.	45		
<input type="checkbox"/> Vulnerability analysis either statewide or regionally to state transportation, water supply, water treatment, impounding structures, or other significant and vital infrastructure from flooding.	45		
<input type="checkbox"/> Flash flood studies and modeling in riverine regions of the state.	45		
<input type="checkbox"/> Statewide or regional stream gauge monitoring to include expansion of existing gauge networks.	45		

<input type="checkbox"/> New or updated delineations of areas of recurrent flooding, stormwater flooding, and storm surge vulnerability in coastal areas that include projections for future conditions based on sea level rise, more intense rainfall events, or other relevant flood risk factors.	45	
<input checked="" type="checkbox"/> Regional flood studies in riverine communities that may include watershed-scale evaluation, updated estimates of rainfall intensity, or other information.	50	50
<input type="checkbox"/> Regional hydrologic and hydraulic studies of floodplains.	45	
<input checked="" type="checkbox"/> Studies of potential land use strategies that could be implemented by a local government to reduce or mitigate damage from coastal or riverine flooding.	40	40
<input type="checkbox"/> Other proposals that will significantly improve protection from flooding on a statewide or regional basis	35	
7. Is the study area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)		
Very High Social Vulnerability (More than 1.5)	15	
High Social Vulnerability (1.0 to 1.5)	12	
Moderate Social Vulnerability (0.0 to 1.0)	8	8
Low Social Vulnerability (-1.0 to 0.0)	0	
Very Low Social Vulnerability (Less than -1.0)	0	
8. Is the proposed study part of an effort to join or remedy the community's probation or suspension from the NFIP?		
Yes	10	
No	0	0
9. Is the proposed study in a low-income geographic area as defined in this manual?		
Yes	10	10
No	0	
10. Projects eligible for funding may also reduce nutrient and sediment pollution to local waters and the Chesapeake Bay and assist the Commonwealth in achieving local and/or Chesapeake Bay TMDLs. Does the proposed project include implementation of one or more best management practices with a nitrogen, phosphorus, or sediment reduction efficiency established by the Virginia Department of Environmental Quality or the Chesapeake Bay Program Partnership in support of the Chesapeake Bay TMDL Phase III Watershed Implementation Plan?		
Yes	5	
No	0	0
Total Points		198

Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

Scope of Work Narrative	
Supporting Documentation	Included
Detailed map of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
FIRMette of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Historic flood damage data and/or images (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current floodplain ordinance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
A link to or a copy of the current hazard mitigation plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current comprehensive plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If applicant is not a town, city, or county, letters of support from affected communities	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Budget Narrative	
Supporting Documentation	Included
Authorization to request funding from the Fund from governing body or chief executive of the local government	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Signed pledge agreement from each contributing organization	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

Community Flood Preparedness Fund Studies Grant Application



City of Covington, VA
Community Identification Number: 510040
Submitted: April 8, 2022



Scope of Work Narrative

The City of Covington, Virginia is subject to riverine flooding from the Jackson River as well as pluvial flooding due to inadequate and antiquated storm sewer systems. The recurrence of higher intensity storms in recent years has stressed the stormwater conveyance system throughout the City causing local urbanized flooding that is detrimental to the residents and critical infrastructure. There are two underpasses below the CSX railroad tracks at N. Monroe Avenue and E. Chestnut Street that regularly flood after heavy rainfall, which severely limit access for emergency services to residents and businesses on the west side of the railroad tracks see Figure 1 below). **Attachment 1** contains additional links, photos, and other documentation of flooding issues within the City.

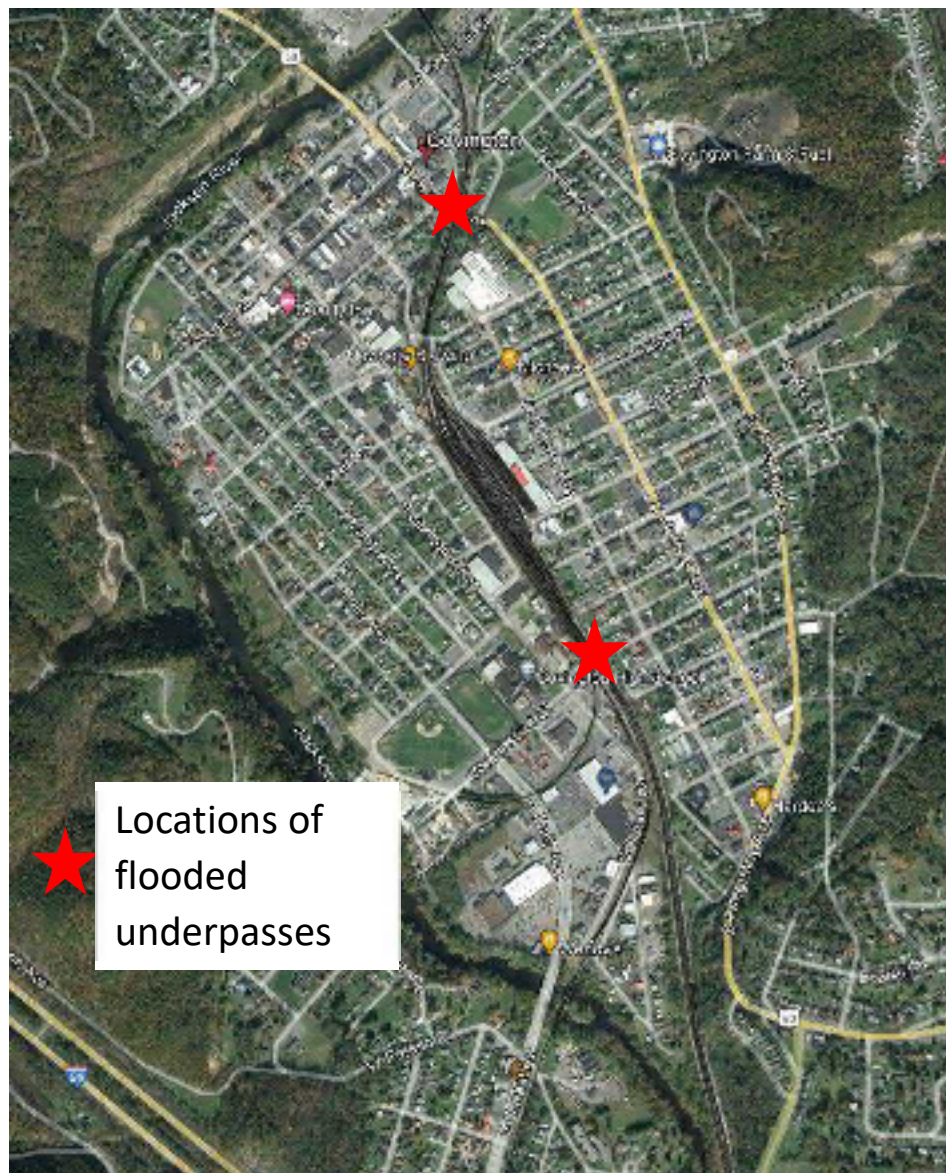


Figure 1 – Locations of Underpasses that Regularly Flood

More intense rainfall events in recent years have overwhelmed the City's existing storm system capacity and exacerbated flooding issues in areas with deteriorated stormwater piping. With limited resources, the City does not have an electronically mapped storm sewer network, and information can be found in numerous paper records, reports and maps. Having clear knowledge of the location, size, pipe material, and condition of the existing system is critical to identify the system improvements that must be made to alleviate recurrent flooding throughout the City.

The results of the Drainage Study will inform the City's Resilience Plan, for which a CFPF grant application for Capacity Building and Planning is also being submitted.

Limited resources in the City and a focus on sanitary sewer infiltration and overflow issues have prevented the City from investing in flood mitigation planning and project implementation. The City is a low-income geographic area, as defined in the CFPF Grant Manual, as an area where the median household income (\$41,024) is significantly less than 80% of the local median household income (\$76,398 in Virginia), according to the US Census Data in 2020¹. Further, portions of the City are classified as Moderately Socially Vulnerable, according to the ADAPT Virginia's Virginia Vulnerability Viewer (see Figure 1 in **Attachment 2**). Finally, several areas in the City are designated as Qualified Opportunity Zones (see Figure 2 in **Attachment 2**).

The City understands that the CFPF grants must be used in accordance with the following guiding principles:

- Acknowledge climate change and its consequences; and base decision making on the best available science.
- Identify and address socioeconomic inequities and work to enhance equity through adaptation and protection efforts.
- Utilize community and regional scale planning to maximum extent possible, seeking region-specific approaches tailored to the needs of individual communities.
- Understand the fiscal realities and focus on the most cost-effective solutions for the protection and adaptation of our communities, businesses, and critical infrastructure. The solutions will, to the extent possible, prioritize effective natural solutions.
- Recognize the importance of protecting and enhancing nature based-solutions in all regions, natural coastal barriers, and fish and wildlife habitat by prioritizing nature-based solutions.

1.0 Specific Type of Studies Proposed

The City is proposing a new City-wide Drainage Study and an update of the existing Floodplain Management Ordinance. In addition, an evaluation of regional rainfall data will be conducted as part of the Drainage Study effort to determine if changes in heavy rainfall and intensity are occurring over time in the Covington/Alleghany Highlands region of Virginia. The results of this

¹ <https://www.census.gov/quickfacts/fact/table/covingtoncityvirginia,VA,US/PST045221>

evaluation will be used in the hydrologic and hydraulic model of the City's current stormwater drainage system.

2.0 Relationship of the Study to Priorities in Grant Manual

The City has been exploring options to fund a City-wide Drainage Study for several years; however, resources are limited, and existing resources have focused on improvements to the sanitary sewer system to reduce or eliminate sanitary sewer overflows. The City Department of Public Works routinely responds to flooding concerns after rainfall events and responds to storm sewer maintenance needs as they arise – in a reactive, emergency response manner. The City is aware that portions of the storm sewer network are deteriorated and potentially undersized, and some large culverts are either collapsed or blocked, which significantly restricts flow during rainfall events. Many of the areas of the City that routinely flood are socially and economically vulnerable neighborhoods, and flooding in these areas cause damage to personal property and homes. This project will allow the City to inventory the antiquated storm sewer system, conduct condition assessments of critical locations within the system, model the existing conditions of the closed and open storm sewer systems and provide drainage improvement recommendations that will provide flood prevention and protection in an equitable manner throughout the City.

3.0 Qualifications of Organizations Conducting the Study

The City has received input from a qualified, current on-call consultant regarding the scope and fee to conduct the Drainage Study and update the Floodplain Ordinance. The qualifications of the consultant were reviewed during the procurement phase for the annual services contract. A copy of proposal for the selected A/E firm is included in **Attachment 3**.

4.0 Expected Use of Study in Resilience Plan

The outcomes of both the City-wide Drainage Study and the updated Floodplain Ordinance will be directly relevant and incorporated into the Resilience Plan. The City is planning to develop the Resilience Plan concurrently with the development of the Drainage Study; therefore, the two projects will be closely tracked. The projects that are developed and prioritized as part of the Drainage Study will be directly incorporated into the Resilience Plan.

In addition, the regional rainfall analysis will be useful for regional resilience planning efforts as localities across the state are considering changes to their drainage design standards to account for larger and more intense rainfall events.

5.0 Additional Supporting Documentation

- Detailed Map of the Project Area: See **Attachment 4**. City of Covington WebGIS Viewer can be found here:
<https://covingtonva.maps.arcgis.com/apps/webappviewer/index.html?id=b4c12fb539e34a47a3db289f8c11c6d3>
- FIRMette of the Project Area – Because the project area for the proposed Drainage Study is the entire City, the preliminary Flood Insurance Rate Maps are provided in **Attachment 5**.
- City of Covington Current Floodplain Ordinance:
https://library.municode.com/va/covington/codes/code_of_ordinances?nodeId=PTIICOOR_APXBZO_ARTXIII-AFLDI
- Current Hazard Mitigation Plan: <https://rvarc.org/community/hazard-mitigation/>
- Current Comprehensive Plan: <https://public.3.basecamp.com/p/UmJw2ghsfpj3enw4RDLGN43f>

Budget Narrative

Per the CFPF Grant Manual, the following budget narrative was created for the activities contained in this grant application.

Task	Project Budget	Source of Estimate
Drainage Study <i>Including Evaluation of Regional Rainfall Data and Floodplain Ordinance Updates</i>	\$357,800	Consultant Cost Estimate (see Attachment 6)
Total Requested Grant Amount	\$357,800	

The total amount of funds requested is \$357,800. Per the instructions in the Grant Manual (page 24), “for local governments designated as low-income geographic areas, 100 percent of the estimated total project costs should be included.” The City does not have cash funds available for a match, and requests full funding of this project, per the authorization letter signed by the City Manager.

Attachment 1

Evidence of Historic Flooding

Attachment 1 – Evidence of Historic Flooding in the City

News articles and videos documenting flooding:

June 2016:

<https://www.wdbj7.com/content/news/Several-roads-washed-out-in-Alleghany-County-384157931.html>

<https://www.youtube.com/watch?v=Ik3jenZ9Cjk>

<https://www.counton2.com/news/historical-flooding-in-covington-causes-garage-fire/>

September 2018:

<https://www.youtube.com/watch?v=M3bCQ7zrPmk>

Repetitive Loss Claims in City Due to Flooding:

Table 12: Repetitive Loss Statistics City of Covington

Number of Properties	6
Number of Losses	16
Total Payments	\$196,675.92
Total Building Payments	\$122,174.32
Total Contents Payments	\$74,501.60
Average Claim	\$12,292.25

Source: FEMA, 2019.



Underpass Flooding (Source:
<https://www.facebook.com/HighlandsMediaGroup/posts/1209223899532307>)

Attachment 2

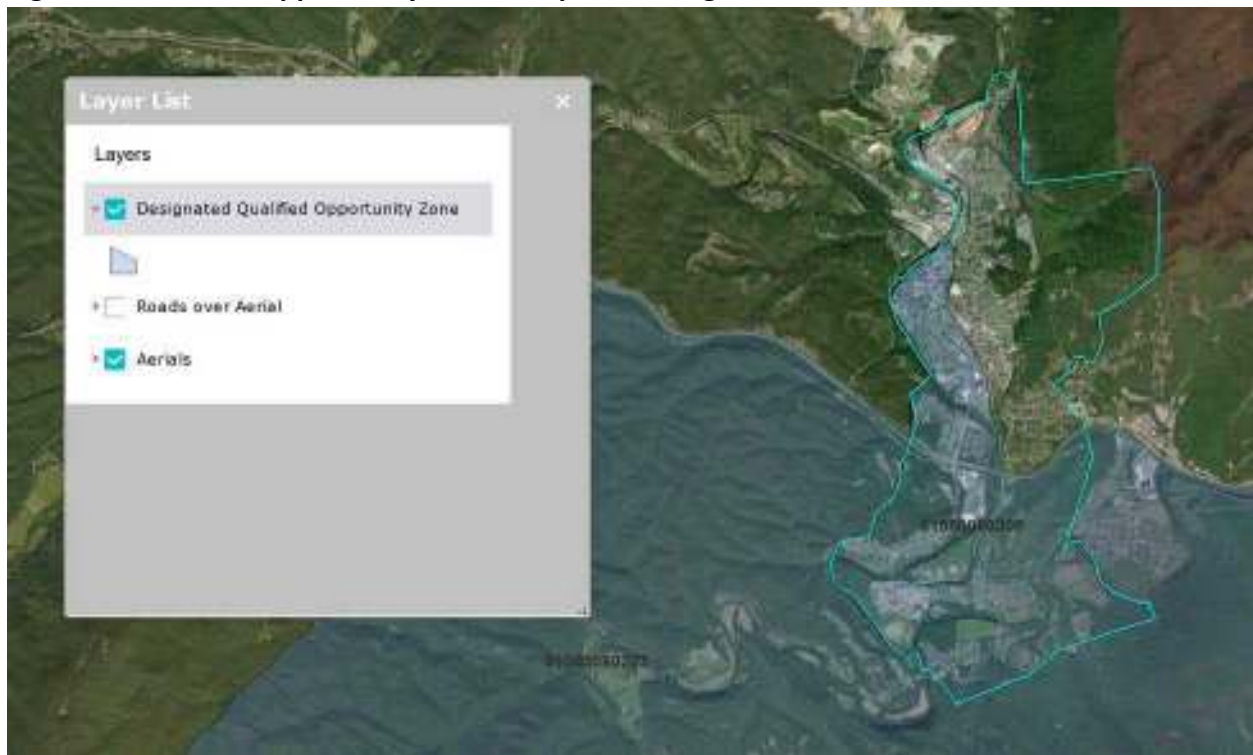
Virginia Vulnerability Map and
Qualified Opportunity Zone Map

Attachment 2 – Social Vulnerability Mapping and Qualified Opportunity Zone Map

Figure 1: Social Vulnerability Map for Covington, VA



Figure 2: Qualified Opportunity Zones Map for Covington



Attachment 3

Consultant Proposal for Annual Services Contract



PROFESSIONAL ENGINEERING SERVICES

FOR GENERAL SERVICES TERM
CONTRACT AGREEMENT

February 12, 2021

Submitted to: City of Covington, Virginia

Submitted by: AECOM



01

Cover Letter



AECOM
10 South Jefferson St., Suite 1600
Roanoke, Virginia 24011
www.aecom.com

540.857.3100 tel
540.857.3296 fax

February 12, 2021

City of Covington
City Central Accounting Office
333 West Locust Street
Covington, VA 24426
Attn: David C. Bryant, Jr., Director of Finance and Administration

RE: Request for Proposals: Professional Engineering Services for General Services Term Contract Agreement

Dear Mr. Bryant:

AECOM Technical Services, Inc. (AECOM) is pleased to submit three (3) copies of our proposal, in response to the City of Covington, VA (the City) request for proposals titled "Professional Engineering Services for General Services Term Contract Agreement".

We are excited about the opportunity to express our interest in this contract and to continue the relationship between AECOM and the City. AECOM offers the City:

- **Experienced management.** AECOM's management team understands the City, term contracts, the need for responsiveness, and how to perform as an extension to your staff. Our Project Manager, Shane Powers has extensive Virginia local government term contract experience and they are both linked to AECOM's long-standing relationship with the City having most recently completed the Industrial Park Industrial Study.
- **Readily accessible and experienced staff members.** This contract will be managed and task orders executed from our Roanoke office. Every member of our Roanoke-based project team has local Virginia government experience and a significant number of our team members have worked on project in Alleghany County.
- **Depth of Resources.** AECOM has the depth and breadth of resources to provide specialized expertise needed for this contract and the ability to respond in a flexible manner through our local office to readily adapt to the City's unique needs.

Our qualifications make AECOM the right choice to meet all of the City's requirements for this engineering services term contract.

Thank you for the opportunity to submit our qualifications and express our interest in this contract. We look forward to the opportunity to meet with you and members of the City's selection committee to: expand upon our qualifications, express our desire to serve the City of Covington and to answer your questions. For additional information on AECOM's capabilities and experience, please contact our proposed contract manager, Shane Powers, PLP at 540.529. 1356 or Shane.Powers@aecom.com or Ron Smith at 540.857.3374 or ronald.smith2@aecom.com.

Sincerely,

Ronald B. Smith, PE
Vice President

Shane Powers, PLP
Contract Manager



02

Acknowledgement

I hereby acknowledge that I have fully read the Request for Proposals titled:

REQUEST FOR PROPOSALS

City of Covington, Virginia

**PROFESSIONAL ENGINEERING SERVICES
for
GENERAL SERVICES TERM CONTRACT AGREEMENT**

AECOM Technical Service, Inc.

Firm Name (Printed)

Ronald B. Smith, Vice President

Firm Representative / Title (Printed)



Representative Signature



03

Evaluation Criteria

EVALUATION CRITERIA

Please see AECOM's response to the evaluation criteria below.

1. Ability to perform the subject work

AECOM has examined the current and projected workloads of all proposed team members and have determined that they have no obligations, either present or future, that would prevent them from performing with excellence on any task assigned to AECOM under this contract. One of the advantages of being a large firm with significant depth of manpower is that we can handle new projects without compromising our existing commitments. AECOM's current and projected backlog office-wide is moderate, and our staff has ample capacity for the additional work that will be generated by this contract.

2. Current workload or agreements with the City

AECOM's current workload with the City is too provide construction administration services for the Alleghany Courthouse renovations. This workload will not impact any new work that would be awarded in this contract.

3. Current workload on projects other than with the City as illustrated below for our key staff.

Name	Role	Workload/Availability
Shane Powers, PLP	Contract Manger	55% 45%
Ian Camper, PE	Quality Control	70% 30%
Mark Garland, PE	Civil Projects Lead	75% 25%
Scott Hodge, PE	Transportation Lead	60% 40%
Brian Fisher, PE	Plan Development/Utility Lead	60% 40%
John Wissinger, AIA	Architecture Lead	65% 35%
Michael Lauman, PE	MEP Services Lead	50% 50%
Andy Freeland, PE	Stormwater/ E&SC Review Lead	65% 35%

Name	Role	Workload/Availability
Todd Wheatly, PE	HVAC Mechanical	65% 35%
Rob Dean, PE	Bridge/PER	65% 35%
Stuart Martin, PE	Traffic Studies	75% 25%

4. Past performance on similar projects

The following client references demonstrate our successful performance on similar projects.

a. Alleghany County

Jonathan Lanford, County Administrator
Phone: 540.863.6600
Email: jlanford@co.alleghany.va.us
Address: 9212 Winterberry Avenue
Covington, Virginia 24426

b. Pulaski County

Jonathan D. Sweet, County Administrator
Phone: 540.9807705
Email: jsweet@pulaskicounty.org
Address: Office of the Administrator
143 Third Street, NW, Suite 1
Pulaski, Virginia 24301

c. City of Roanoke - Engineering Division

Luke Pugh, P.E., City Engineer
Phone: 540.853.5208
Email: Luke.Pugh@RoanokeVa.gov
Address: 215 Church Avenue, S.W. - Room 350, Roanoke, VA 24011

d. Adams Construction Company

Rick James, P.E., President
Phone: 540.283.7990
Email: rjames@adamspaving.com
Address: 523 Rutherford Avenue, NE, Roanoke, VA 24016

e. City of Lynchburg VA Department of Water Resources

Scott Parkins, PE, City Engineer
Phone: 434.455.4248
Email: scott.parkins@lynchburgva.gov
Address: Dept of Utilities
525 Taylor Street
Lynchburg, Virginia 24501



04

SF330 Part I

ARCHITECT – ENGINEER QUALIFICATIONS

PART I – CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION (City and State)

**Professional Engineering Services for General Services Term Contract Agreement
Covington, Virginia**

2. PUBLIC NOTICE DATE

3. SOLICITATION OR PROJECT NUMBER

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Ronald B. Smith, PE, Vice President

5. NAME OF FIRM

AECOM Technical Services, Inc.

DUNS NUMBER

95-2661922

6. TELEPHONE NUMBER

540-857-3374

7. FAX NUMBER

540-857-3180

8. E-MAIL ADDRESS

ronald.smith2@aecom.com

C. PROPOSED TEAM

	(CHECK)			9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	J-V PARTNER	SUBCON-TRACTOR			
a.	<input checked="" type="radio"/>			AECOM <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE	10 South Jefferson Street Suite 1600 Roanoke, Virginia 24011	Civil, mechanical, electrical, architectural, structural, geotechnical, water sampling / testing services, environmental services, transportation and traffic, and funding procurement
b.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
c.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
d.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
e.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
f.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
g.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
h.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

☒ (Attached)

SECTION D – ORGANIZATIONAL CHART



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Shane Powers, PLP	Contract Manager	a. TOTAL	b. WITH CURRENT FIRM
		31	31
15. FIRM NAME AND LOCATION (City and State)		AECOM (Roanoke, VA)	
16. EDUCATION (Degree and Specialization)		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)	
BS/ Surveying Engineering Technology AS/Construction Engineering Technology		Certified Construction Contract Administrator; Certified Cost Consultant; Construction Documents Technician	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)			
Mr. Powers' experience includes: managing of site/civil, geotechnical, survey, water storage and distribution; storm drainage; and environmental investigation, remediation, and permitting. His projects involve site/civil, site master planning, building designs, parking, roadways, pedestrian walk way trails, water and sanitary sewer systems and complete site design packages for building projects.			
19. RELEVANT PROJECTS			
a.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	See Project 2 in Section F		
	Site Evaluation Study for E911 Center, Alleghany/Clifton Forge/Covington, VA	PROFESSIONAL SERVICES 2015	CONSTRUCTION (If applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Manager. In charge for developing the site selection grading criteria for the new Alleghany E911 facility. The document was adapted to meet the needs of Alleghany County and to incorporate AECOM's experience in site selection process for other facilities. Selection criteria that was downplayed or removed were those that applied to more urban environments or those that compared existing buildings. Other sections were added or emphasized that are important to Alleghany County such as radio connectivity and cost.			
b.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	See Project 3 in Section F		
	Drone Zone, City of Covington and Alleghany County, VA	PROFESSIONAL SERVICES 2018	CONSTRUCTION (If applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Manager. PM in charge to provide a comprehensive study to analyze the confluence of requirements for a business plan, business operations, marketing plan and infrastructure land and building assessment to help create a framework for successful implementation of the envisioned by the Alleghany Highlands Drone Zone committee. The preselected sites were within the County. Based on the evaluations, and proposed development for the subject sites, recommendations were offered in the comprehensive study. Cost estimates were provided to perform the work.			
c.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	See Project 8 in Section F		
	Storm Drain Installation at the Riverside Corporate Center Roanoke, VA	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2016
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Manager. PM in charge to provide design for the Storm Drain Installation project located at the Riverside Corporate Center. The project involved coordination construction of 950 linear feet of 48" RCP storm drain piping from starting at Riverside Street running to the edge of Roanoke River. The property was owned by the City of Roanoke. In addition, construction administration services were provided to support the construction phase.			
d.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	See Project 10 in Section F		
	South Jefferson Redevelopment Area Virginia Roanoke, VA	PROFESSIONAL SERVICES 2005	CONSTRUCTION (If applicable) Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Civil Support Technical Leader: Served as lead to summarize the existing site infrastructure and available utilities located at the Site in order to share the property data with potential investors. These investigations were prepared for Roanoke City and were based on desktop investigations, GIS, site observations and contact with the local utility providers.. The site infrastructure included water supply, sanitary sewer, power, gas, telecommunications, and transportation access to the site.			

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Ian Camper, PE	Quality Control	a. TOTAL 14	b. WITH CURRENT FIRM 14
15. FIRM NAME AND LOCATION (City and State) AECOM (Roanoke, VA)			
16. EDUCATION (Degree and Specialization) BS/Civil and Environmental Engineering		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: VA	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards) <p>Ian is an Associate Vice President, project manager and senior engineering manager responsible for the preparation of technical deliverables in accordance with AECOM's ISO 9001 Quality Control Procedures. His responsibilities include the development of project QA/QC procedures, scheduling and overseeing QA/QC reviews, and documenting QA/QC efforts in accordance with AECOM and client requirements. Ian also serves as the Lead Verifier for AECOM Roanoke's civil engineering practice, with responsibilities to verify QC reviews were carried out in accordance with AECOM procedures.</p>			
19. RELEVANT PROJECTS			
a. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
See Project 9 in Section F			
Virginia Department of Transportation, Route 11, 220, & 220A – Access Management Project at Exit 150, Botetourt County, VA	PROFESSIONAL SERVICES 2014	CONSTRUCTION (If applicable) 2018	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Quality Control. Provided quality control reviews for utility relocation design in support of improvements to the Interstate I-81 Exit 150 interchange. Verified that construction documents were prepared in accordance with VDOT, VDH, VDEQ, and Botetourt County technical requirements and design was coordinated across multiple disciplines. Verified that stakeholder comments were adequately addressed and closed out.</p>			
b. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Prince William County, Locust Shade Waterline Replacement, Prince William County, VA			
Prince William County, Locust Shade Waterline Replacement, Prince William County, VA	PROFESSIONAL SERVICES 2017	CONSTRUCTION (If applicable) 2021	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Quality Control. Provided quality control reviews for the design of the replacement of 1.5 miles of waterline to service the Locust Shade Park. Provided review of a water distribution system hydraulic model developed to determine design alternatives for replacement. Verified that construction documents were prepared in accordance with PWCSA, VDOT and VDH requirements. Verified stakeholder comments were adequately addressed and closed out.</p>			
c. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Alleghany County, Lower Jackson River Regional WWTP, Alleghany County, VA			
Alleghany County, Lower Jackson River Regional WWTP, Alleghany County, VA	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2012	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Project Engineer. Lead design engineer for the design of a new 2.6 mgd wastewater treatment plant for enhanced nutrient removal. Design engineer for the aeration basins, secondary clarifiers, effluent filtration, UV disinfection, aerobic sludge digestion, non-potable water system, and plantwide SCADA system.</p>			
d. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Hampton Roads Sanitation District, James River Treatment Plan – SWIFT Upgrades, Newport News, VA			
Hampton Roads Sanitation District, James River Treatment Plan – SWIFT Upgrades, Newport News, VA	PROFESSIONAL SERVICES 2020	CONSTRUCTION (If applicable) 2023 (Est)	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Quality Control. Provided quality reviews for wastewater treatment process improvements at the James River Treatment Plant as part of HRSD's SWIFT program. Reviewed design-build RFP documents for technical adequacy, discipline coordination, and compliance with HRSD and VDEQ requirements. Coordinated with the designers for resolution of reviewer and stakeholder comments before issuance of the final RFP documents.</p>			
e. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Alleghany County, Clifton Forge WWTP Conversion to Pump Station, Clifton Forge, VA			
Alleghany County, Clifton Forge WWTP Conversion to Pump Station, Clifton Forge, VA	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2012	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Quality Review. Provided quality reviews for the design of a new 5.0 mgd pump station and closure of the existing 2.0 mgd Clifton Forge WWTP. Verified construction documents were prepared in accordance with VDEQ and WQIF requirements and the design was coordinated across multiple disciplines. Verified that internal and external comments were resolved and addressed.</p>			

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Mark Garland, PE	Civil Projects Team Lead	a. TOTAL 17	b. WITH CURRENT FIRM 1.5
15. FIRM NAME AND LOCATION (City and State) AECOM (Roanoke, VA)			
16. EDUCATION (Degree and Specialization) BS/Civil Engineering		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: VA	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards) Mr. Garland has a diverse level of civil site development, stormwater, and architectural engineering design experience. He has developed a proven track record of successful project completion in Southwest Virginia through rigorous design practices and positive collaboration with clients, designers, contractors, and government officials. Significant experience in project site planning, stormwater calculations, construction document production, contract administration, multi-stakeholder coordination, and low-impact and resilient development strategies.			
19. RELEVANT PROJECTS			
a. (1) TITLE AND LOCATION (City and State)	See Project 5 in Section F	(2) YEAR COMPLETED	
Carilion-Clinic, Tanglewood Multi-Specialty, Roanoke, VA		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If applicable) 2021 est
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Civil Engineer. 120,000 s.f. interior renovation and site adaptation of existing retail to a medical clinic. Work included the design of new patient and emergency vehicle drop-off zones, improved vehicular routing, and utility upgrades.		<input checked="" type="checkbox"/> Check if project performed with current firm	
b. (1) TITLE AND LOCATION (City and State)	Main Street Village Center, Roanoke, VA	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2018	CONSTRUCTION (If applicable) 2019
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Owner and Lead Designer. Purchased and redeveloped three long-vacant commercial properties in Roanoke's historic Wasena neighborhood town center into new restaurants and retail. Work included design and management of complete site and building rehabilitation in accordance with Virginia Department of Historic Resources standards.		<input type="checkbox"/> Check if project performed with current firm	
c. (1) TITLE AND LOCATION (City and State)	The Electra Lofts, Roanoke, VA	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2015	CONSTRUCTION (If applicable) 2016
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Owner and Lead Designer. Purchased and redeveloped a former industrial property in Roanoke's historic downtown district into 22 residential dwellings. Work included design and management of complete site and building rehabilitation in accordance with Virginia Department of Historic Resources standards.		<input type="checkbox"/> Check if project performed with current firm	
d. (1) TITLE AND LOCATION (City and State)	Cave Spring Middle School, Roanoke County, VA	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2013	CONSTRUCTION (If applicable) 2014
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Civil Engineer. Complete renovation and site adaptation of the former Cave Spring Junior High, consisting of the construction of new educational wings and preservation of the existing auditorium and gymnasiums. Work included site planning, stormwater design and calculations, geothermal well field layout, and traffic routing design.		<input type="checkbox"/> Check if project performed with current firm	
e. (1) TITLE AND LOCATION (City and State)	Town of Marion, Streetscape Improvements, Marion, VA	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2012
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Civil Engineer. Design of streetscape improvements along Broad Street and Main Street in Marion, VA. Work included design and coordination of new and existing utilities with landscaping improvements, including a pedestrian walkway and new loading dock at the historic Lincoln Theatre.		<input type="checkbox"/> Check if project performed with current firm	

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Scott Hodge, PE	Transportation Team Lead	a. TOTAL	b. WITH CURRENT FIRM
		38	29
15. FIRM NAME AND LOCATION (City and State)		AECOM (Roanoke, VA)	
16. EDUCATION (Degree and Specialization)		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)	
BS/Civil Engineering		Professional Engineer: VA	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)			
<p>Mr. Hodge is experienced in the project management, preliminary and final site layouts for bridge and highway projects. His experience also includes preliminary highway and railroad designs; location studies and environmental impact statement oversight; final rural and urban highway designs; final passenger and freight railroad designs; design/build projects; and industrial park layout and infrastructure design. Mr. Hodge has additional experience in surveying, plat descriptions, site layouts, and rights-of-way.</p>			
19. RELEVANT PROJECTS			
a.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	See Project 7 in Section F		
	City of Roanoke, Franklin Road Bridge Replacement, Roanoke, VA	PROFESSIONAL SERVICES 2016	CONSTRUCTION (If applicable) 2019
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Project Manager. Provided engineering services for this project to completely replace the 550-ft long bridge on Franklin Road over ten tracks of Norfolk Southern Railway and Route 220 Expressway Ramp. The new structure includes haunched steel plate girders with decorative railing and lighting details. Services provided include study of alternatives for the replacement structure, bridge and roadway design, traffic management plans, aesthetic enhancements, and coordination with key stakeholders including NS Railway, VDHR, and utility owners. AECOM is currently providing construction phase services. Brief description of what you did on this project.</p>			
b.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	See Project 9 in Section F		
	VDOT, Route 11, 220, 220A Access Management at Exit 150 at I-81, Botetourt County, VA	PROFESSIONAL SERVICES 2014	CONSTRUCTION (If applicable) 2018
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Project Manager. Provided the concept study and final design phases of improvements to Route 11 at the I-81 Exit 150 interchange including a hybrid roundabout and loop road connection from Route 11 to Route 220A. Services included coordinated traffic modeling, roadway design, multiple intersection designs, drainage design, application of access management criteria, signal design, Transportation Management Plan, landscaping design, signage and pavement marking plans, ITS and geotechnical services.</p>			
c.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	City of Lynchburg, Midtown Connector, Lynchburg, VA	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2018
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Project Manager. Provided engineering services for the proposed new one-mile-long roadway along with a roundabout. The proposed 3-lane context-sensitive roadway is classified an urban roadway. Responsible for providing roadway design, roadway drainage, stormwater management basins, erosion and sediment plans, water and sanitary sewer design, signal design, environmental review, geotechnical, and maintenance of traffic plans.</p>			
d.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Roanoke County, Merriman Road Roundabout, Roanoke County, VA	PROFESSIONAL SERVICES 2010	CONSTRUCTION (If applicable) 2011
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
<p>Project Manager. Provided construction plans for a 5-legged roundabout that connects the nearby elementary school, the new county library, and heavily traveled Merriman Road. Also performed roadway drainage calculations, storm drain systems, stormwater management facilities, and E&S measures.</p>			

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Brian Fisher, PE	Plan Development & Utility Team Lead	a. TOTAL 32	b. WITH CURRENT FIRM X
15. FIRM NAME AND LOCATION (City and State)		AECOM (Roanoke, VA)	
16. EDUCATION (Degree and Specialization)		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)	
BS/Civil Engineering		Professional Engineer: VA, NC, SC, IL, IN, WI	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)			
Mr. Fisher has designed many large, complex sites overcoming challenges of topography, access, utility locations, regulatory issues, vehicular and pedestrian circulation, security concerns, storm water management, and other site requirements. He has served as the Lead Civil Engineer or performed Quality Control checking on projects for schools, hospitals, office complexes, parking garages, firing ranges, manufacturing facilities, and others.			
19. RELEVANT PROJECTS			
a. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Fallowater Lane Extension, Roanoke County, VA	PROFESSIONAL SERVICES 2019	CONSTRUCTION (If applicable) N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Engineer. Responsible for the water and sanitary line designs to support the Fallowater Lane Road Extension located in Roanoke County, Va. The road was approximately 0.25 miles had an urban local designation with curb and gutter and sidewalk on one side. The existing pavement was incorporated into the new road. A very important aspect of the project was to maintain access and water/sanitary supplies to the existing businesses during construction and to minimize any adverse impacts to them. A design exception was needed from VDOT due to the proximity of the existing business entrances. The estimated construction cost is \$1.8M. The project was being performed as a Locally Administered Project (LAP) with VDOT (no federal funding). Roanoke County administer the Preliminary Engineering (PE) phase and VDOT administer the Right of Way (ROW) phase.			
b. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
ATFP Project – Private Client	PROFESSIONAL SERVICES 2019	CONSTRUCTION (If applicable) N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Engineer. Responsible for conducting a site investigation and gathered existing documentation. Those included, site geometry, passive and active vehicle control barriers, security fencing and gates, personnel protection, traffic considerations, lane requirements, pavement geometry, speed management, traffic control devices, inspection facilities, utility systems, and operational practices. Mr. Fisher met with the stakeholders to understand their concerns and expectations. Mr. Fisher identified threat vulnerabilities and develop recommendations for short-term improvements to improve the site's security posture. He and developed a cost-effective plan with exhibits and a descriptive narrative for the ATFP that will comply with the requirements of the physical security standards. He then developed design documents.			
c. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Western Virginia Water Authority, Roanoke City, VA	PROFESSIONAL SERVICES 2020	CONSTRUCTION (If applicable) N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Engineer. Responsible for the preliminary masterplanning and site development for the new maintenance facility. Several site development alternatives were developed during the charrette process. GIS and local utility data was used to generate the alternative approaches that included building, maintenance shed, fueling pads, road, and parking areas. An important aspect of the project was to maintain circular access to all the existing site functions within the client's property boundaries. Additionally, phasing was necessary to maintain use of existing administration facilities.			
d. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Government Confidential Client, Parking Garage Infill/Parking Lot, Chantilly, VA	PROFESSIONAL SERVICES 2019	CONSTRUCTION (If applicable) Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Civil Engineering Lead. Lead for the design of the project which included a Parking Garage expansion and a new 158 space parking lot and necessary appurtenances. Sitework included clearing, select site demolition, utility adjustments, grading, parking lot improvements, walking trail relocation and storm water management. He is also providing construction administration services (i.e., reviewing the shop drawings, site visits and RFI reviews).			

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
John Wissinger, AIA, LEED AP	Architecture Team Lead	a. TOTAL 22	b. WITH CURRENT FIRM 5
15. FIRM NAME AND LOCATION (City and State)		AECOM (Roanoke, VA)	
16. EDUCATION (Degree and Specialization)		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)	
B Arch/Architecture; Certificate in Design Thinking		Registered Architect: VA, NJ, SC; NCARB Certificate LEED Accredited Professional	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)			
Mr. Wissinger's responsibilities include ensuring design quality across all projects. This includes leading award winning design for research facilities, healthcare environments, and places of learning around the globe for commercial, government, and higher education clients. Mr. Wissinger's research includes design of integrated facilities where many users or organizations are combined into one facility or campus to improve synergies, enhance efficiency, and drive organizational outputs. Materials application is also a significant pursuit - studying carefully each project and understanding how to best apply the appropriate material to achieve the overall client goals and create culturally responsible projects.			
19. RELEVANT PROJECTS			
a. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Alleghany County COVID-19 Renovations, Alleghany County, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	
	2020	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Principal/Lead Designer. Project principal and Lead designer for select renovations to the Alleghany County Courthouse and Parks and Recreation Building. Renovations included analysis both permanent and temporary changes. Working with the variety of stakeholders to arrive at a consensus for the design interventions has been key to the project success.			
b. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Alleghany Highlands Drone Zone Development Study, Alleghany County, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	
	2018	N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Lead. Project Lead for development of business analysis and case development for a new drone economy. Organization of large and diverse stakeholder workshops and analysis of the physical infrastructure of three existing sites were key components of the work.			
c. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Virginia Tech Term Contract, Blacksburg, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	
	Ongoing	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Designer. Led the design for various renovation projects including Ambler Johnston Courtyard Renovation, Temporary War Gymnasium, Miles Hall Renovation, Payne Hall Renovation, Steger Hall Laboratory Renovation and Whittemore Hall Clean Room Renovation.			
d. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
Carilion Clinic IDIQ, Roanoke, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	
	2018	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Design Director. As Design Director, provided architecture design leadership in a variety of capacities for completed feasibility studies, renovations, and tenant fit-out of more than 20,000 SF of clinical research, laboratory research, collaboration spaces and learning environments at the Riverside Campus.			
e. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
City of Lynchburg Water Resources, Lynchburg, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)	
	Ongoing	Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Designer. Masterplan for an approximately 10 acre urban site including water treatment facilities, administrative areas, visitor spaces and field operations. The masterplan is designed to improved operations and reduced maintenance. Specific projects include reconfiguration of field operations, new building and optimization of existing administrative areas to create productive space for additional personnel.			

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME				13. ROLE IN THIS CONTRACT		14. YEARS EXPERIENCE	
Michael Lauman, PE				MEP Team Lead		a. TOTAL	b. WITH CURRENT FIRM
						32	X
15. FIRM NAME AND LOCATION (City and State)				AECOM (Roanoke, VA)			
16. EDUCATION (Degree and Specialization)				17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)			
BS/Mechanical Engineering				Professional Engineer: VA, (Mechanical) CA, GA, MD, NC			
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)							
Mr. Lauman has worked with a variety of clients including higher education, healthcare, and Department of Defense for planning and designing new facilities and renovations to existing facilities. Mr. Lauman is skilled in the design and specification of traditional plumbing systems including stormwater, sanitary sewer and vent, domestic cold and hot water, hot water circulation, compressed air, and natural gas. He is especially skilled in the specification and design of specialty piping systems including medical gas and vacuum systems, fuel oil, pure water, personnel decontamination, and fire protection systems.							
19. RELEVANT PROJECTS							
a. (1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED			
Carilion Ivy Market, Roanoke, VA				PROFESSIONAL SERVICES		CONSTRUCTION (If applicable)	
				2014		2016	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm			
Project Engineer. Plumbing Engineer of Record for the renovation of a former grocery store. The site now houses an approximately 116,050-square-foot, multi-specialty, new outpatient medical clinic space, the Institute for Orthopedics and Neurosciences. The project includes the interior renovation area of approximately 60,000 square feet, plus the addition of a second floor structure and new construction of 3,300 square feet.							
b. (1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED			
Augusta Health Medical Center, ER Expansion and Renovation, Fishersville, VA				PROFESSIONAL SERVICES		CONSTRUCTION (If applicable)	
				2017		2019	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm			
Project Engineer. Plumbing Engineer of Record. AECOM is providing services for the approximately 30,000-square-foot expansion and renovation of the Emergency Department (ED). The project involves developing concepts and sketches to achieve a quality design that meets the client's objectives, and working with the design team to develop and realize the design, while balancing the parameters of cost, time, and quality.							
c. (1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED			
Virginia Tech Surge Space Building, Blacksburg, VA				PROFESSIONAL SERVICES		CONSTRUCTION (If applicable)	
				2007		N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm			
Project Engineer. Provided mechanical and plumbing engineering design services for a 45,000 SF structure that provided flexible swing space during the university's 15-year modernization program. The \$5.8M building was constructed in nine months and was disassembled and recycled at the end of its expected 15-year life.							
d. (1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED			
Cassell Coliseum & Jamerson Hall, Blacksburg, VA Virginia Tech Electrical Term Contract 2007 - 2012				PROFESSIONAL SERVICES		CONSTRUCTION (If applicable)	
				2008		N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm			
Project Engineer. Conducted a study of the plumbing system in the Cassell Coliseum and Jamerson Hall. Designs included replacement of supply water piping to toilets and showers for all athletic team locker rooms in the Coliseum.							
e. (1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED			
Virginia Tech Carilion School of Medicine and Research Institute				PROFESSIONAL SERVICES		CONSTRUCTION (If applicable)	
				2009		2010	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm			
Project Engineer. Lead medical gas/plumbing engineer for the 50,000 SF medical school and 104,000 research institute. Designed the traditional plumbing systems including storm drainage, sanitary sewer, natural gas and domestic water. The project also includes extensive plumbing design for the research portion of the building with a central reagent grade water system, emergency tempered water system, and specialty gas and laboratory vacuum systems.							

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Andy Freeland, PE	Stormwater/E&SC Review	a. TOTAL	b. WITH CURRENT FIRM
		29	26

15. FIRM NAME AND LOCATION (City and State) AECOM (Roanoke, VA)

16. EDUCATION (Degree and Specialization) BS/Civil Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: VA

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)

Mr. Freeland is a civil engineer in the Roanoke office with experience in comprehensive site design for private- and public-sector clients for local, national, and international projects. He is experienced with site planning, parking, site utilities, grading, storm drainage, erosion and sediment control, stormwater management, and pavement design.

19. RELEVANT PROJECTS

a. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
Alleghany County, Lower Jackson Regional Wastewater Treatment Plant, Alleghany County, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2009	2012
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm

Lead Civil Engineer. Responsible for comprehensive site development plan for wastewater treatment plant with 2.6 mgd design flow. Site development included site planning, site utilities, access road, grading, drainage, erosion and sediment control, and stormwater management which incorporated stormwater quality using manufactured treatment devices. ACEC 2013 Honor Award for Engineering Excellence.

b. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
Alleghany County, Lower Jackson Regional Wastewater Treatment Plant, Pump Stations, Alleghany County, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2010	2012
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm

Lead Civil Engineer. Responsible for comprehensive site development plan for wastewater pump station sites. Site development included layout, access road, grading, drainage, erosion and sediment control, and stormwater management compliance.

c. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
Virginia Tech Carilion, Fralin Biomedical Research Institute, Roanoke, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2018	2020
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm

Specific Role. Lead Civil Engineer responsible for site development of this multi-story building with a gross floor area of 140,000 SF within the 25-acre Riverside Center campus. Site development included layout for vehicular and pedestrian traffic; coordination of utility service connections for domestic and fire water, sanitary sewer, storm drainage, natural gas, telecom, and electrical utilities; E&S control plan; stormwater plan; and building protection from 100-year flood hazard. Project included comprehensive permit application to City. Site design supported pursuit of building certification at the "Silver" level using LEED Ver. 4, incorporating green roof and rainwater harvesting elements.

d. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
Carilion Clinic, Tanglewood Multi-Specialty Clinic, Roanoke County, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2018	2021 est
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm

Specific Role. Civil Engineer responsible for storm drainage, erosion and sediment control, and stormwater management for this retail-space renovation for medical clinic use. The project included submission to County for stormwater permitting.

e. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
VDOT, Route 11, 220, & 220A – Access Management Project at Exit 150, Botetourt County, VA	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	2014	2018
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm

Specific Role. Civil engineer responsible for quality control checking of hydrology and hydraulics calculations for storm drainage systems related to redesign of a major interstate interchange area.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Kyle Dobbins	Construction Management & Resident Engineer	a. TOTAL	b. WITH CURRENT FIRM
		36	36
15. FIRM NAME AND LOCATION (City and State)		AECOM (Roanoke, VA)	
16. EDUCATION (Degree and Specialization)		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)	
B.S. in Civil Engineering Technology, 1984 Old Dominion University A.A.S. in Civil Engineering Technology, 1982 Virginia Western Community College		Safety Trained Supervisor Certified Construction Contract Administrator Construction Document Technologist Certified Concrete Inspector - VDOT Certified Soils and Compaction Inspector - VDOT	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)			
Mr. Dobbins' responsibilities include the supervision of construction administration and construction management personnel, coordinating the processing of specifications, coordination of shop drawing reviews and requests for information, development and implementation of AECOM Construction Administration procedures, and the performance of constructability reviews. His responsibilities also include conducting prebid conferences, bid evaluations, preconstruction conferences, coordinating the shop drawing submittal process, reviewing and approving Contractors' applications for payment, interpreting contract documents, conducting periodic site visits, reviewing and recommending approval of change orders, implementing Owner-requested changes to contracts, conducting substantial completion inspections, preparing punchlists, conducting final inspections, and recommending final acceptance to the Owner.			
19. RELEVANT PROJECTS			
a. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Alleghany County COVID-19 Safety Improvement Renovations Covington, Virginia		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		N/A	2021
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Construction Manager. Prepared Division 00 and 01 sections for the project specifications, responded to prebid questions, issued an addendum, conducted prebid conference and provide quality control review during the construction phase.			
b. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Carilion Tanglewood Multi-Specialty Clinic, Roanoke, Virginia		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		N/A	2021
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Construction Manager. Coordination of the shop drawing and request for information process. Implemented Owner requested changes to the contract.			
c. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Carilion Clinic and Virginia Tech, Fralin Biomedical Research Institute, Roanoke, Virginia		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		N/A	2020
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Construction Manager. Attended weekly Owner, Architect and Contractor meetings. Conducted periodic site visits. Coordinated the shop drawing and request for information process. Implemented Owner requested changes to the contract. Conducted inspections for substantial completion.			
d. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Virginia Tech War Memorial Non-Permanent Gym, Blacksburg, Virginia		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		N/A	2020
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Construction Manager. Conducted a prebid conference, coordinated the shop drawing and request for information process. Implemented Owner requested changes to the contract and reviewed contractor change order requests. Coordinated record documents submission.			
e. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Fralin Biomedical Research Institute Administrative Office, Roanoke, Virginia		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		N/A	2020
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Construction Manager. Coordination of the shop drawing and request for information process. Implemented Owner requested changes to the contract.			

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Mark Lawson, PLS	Surveying	a. TOTAL	b. WITH CURRENT FIRM
		25	16
15. FIRM NAME AND LOCATION (City and State)		AECOM (Roanoke, VA)	
16. EDUCATION (Degree and Specialization) BS/Civil Engineering Virginia Surveyor Apprenticeship		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Land Surveyor: VA	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)			
Mr. Lawson is a professional Land Surveyor with 25 years of experience. As a surveyor his experience includes American Land Title Association (ALTA) land title boundary surveys, commercial surveys, large tract boundary surveys, control surveys, industrial surveys, transportation surveys, global positioning system (GPS) surveys, geographic information systems (GIS), hydraulic and hydrographic surveys and all types of surveying to support engineering and architectural projects.			
19. RELEVANT PROJECTS			
a. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Lower Jackson Force Mains and Sanitary Sewers County of Alleghany, VA		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		2010	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Surveyor. Lead surveyor for engineering topographic survey for 8.7 miles of new force main and gravity sanitary sewer. Coordinated global positioning system (GPS) aerial control survey sub-consultant, aerial mapping, and utility designators. Property boundaries, property ownership, and rights-of-way were incorporated into the topographic survey.			
b. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
City of Lynchburg, College Lake Dam Removal, Lynchburg, VA		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		2020	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Surveyor. Professional Surveyor responsible for topographic, bathymetric, and cross sectional data for the removal of College Lake Dam and the restoration of Blackwater Creek, its tributaries, and adjacent floodplain as necessary to provide a stable, high functioning ecosystem. Coordinated data collection, aerial mapping, and control surveys for the 330-acre project study area. Adjacent property ownership and right of way were included as part of the survey effort.			
c. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Alleghany County, Lower Jackson Wastewater Treatment Plant Design, Iron Gate, VA		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		2011	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Surveyor. Professional Surveyor responsible for engineering topographic survey for new wastewater treatment plant site. Work included property subdivision, right-of-way, and easement platting.			
d. (1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
Roanoke County, Adams Construction Company Asphalt Plant, Roanoke County, VA		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
		2009	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Surveyor. Professional Surveyor responsible for the topographic and boundary survey of approximately 16.5 acres for a new asphalt production facility. Work included property boundary and easement platting.			

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
Stuart Martin, PE	Traffic Studies	a. TOTAL 15	b. WITH CURRENT FIRM 8
15. FIRM NAME AND LOCATION (City and State)		AECOM (Roanoke, VA)	
16. EDUCATION (Degree and Specialization)		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)	
BS/Civil Engineering		Professional Engineer: VA	
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards)			
Mr. Martin is a traffic engineer in the Highway Department of the Roanoke office. He has over 15 years of experience in a wide variety of task management and project experience in traffic engineering, including traffic impact studies, corridor studies, traffic modeling/forecasting, trip generation, parking studies, traffic signal design, signal timing plans, safety studies, bicycle and pedestrian studies, roadway and intersection design, road safety audits, and maintenance of traffic plans.			
19. RELEVANT PROJECTS			
a. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
See Project 9 in Section F			
VDOT, Route 11, 220, & 220A – Access Management Project at Exit 150, Botetourt County, VA	PROFESSIONAL SERVICES 2014	CONSTRUCTION (If applicable) 2018	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Traffic Task Manager. in the development of construction plans for the reconfiguration of the I-81 Exit 150 interchange ramps from Northbound I-81, including a hybrid roundabout and loop road connection from Route 11 to Route 220A. Responsibilities included multiple signal designs, roundabout design, signage and pavement marking plans, maintenance of traffic plans, signal timing plans and construction administration.			
b. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
VDOT, North Main Street/Route 460 Bypass Intersection Improvements, Town of Blacksburg, VA	PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (If applicable) N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Traffic Engineer. Lead Traffic Engineer for the planning, alternatives analysis and conceptual design of intersections improvements at an intersection with high crash rates. Responsibilities include sensitivity analysis of intersection and interchange design concepts, traffic operations analysis using HCS+, turn lane warrant analysis, conceptual design and design year traffic volume projections. Mr. Martin leads the effort to develop the technical report to the Town of Blacksburg summarizing the study.			
c. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
City of Lynchburg, Midtown Connector, Lynchburg, VA	PROFESSIONAL SERVICES 2016	CONSTRUCTION (If applicable) Ongoing	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Lead Traffic Engineer. Served as Lead Traffic Engineer for this LAP project in Lynchburg for the proposed new one-mile-long roadway along with a roundabout. The proposed 3-lane context-sensitive roadway is classified an urban roadway that involved roadway and drainage design, SWM, erosion and sediment plans, water and sanitary sewer design, signal design, environmental review, geotechnical, and maintenance of traffic plans. Responsibilities included quality control of signage, pavement marking and maintenance of traffic plans, traffic signal design, roundabout operations analysis, and construction administration.			
d. (1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
VDOT On-Call Design-Build/P3 Support: I-581/Elm Avenue Interchange, Roanoke, VA	PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (If applicable) N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
Project Engineer. Scope of services includes RFP development and project management, proof of concept plans, and an Interchange Modification Report for VDOT/FHWA approval. Mr. Martin is responsible for technical portions of the RFP, coordinating with local agencies/utilities, preliminary traffic signal design, preliminary signage and pavement marking plans, traffic operational analysis, signal timing plans, drafting of special provisions, and Synchro/SimTraffic traffic modeling.			

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER		1	
21. TITLE AND LOCATION (City and State)		22. YEAR COMPLETED	
Alleghany County COVID-19 Renovations Alleghany County, VA		PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) 2021
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
Alleghany County	Jonathan Lanford	540.969.6774	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

Project Overview

AECOM provided Alleghany County schematic design and construction documentation services for renovations related to health and safety protocols that have been caused by the COVID-19 pandemic. Full construction phase services are currently being provided as well. In total, eight specific areas were addressed through this project which impacted the County Courthouse and the Parks and Recreation Suite.

1. Building Entry & Security
2. Clerk's Office
3. Commonwealth Attorney's Offices
4. Witness protection Offices
5. Parks and Recreation Office
6. County Treasury Office
7. District Courtroom
8. District Clerk's Office

Areas were thoughtfully designed in order to integrate with the historic character of the courthouse building. Some interventions are temporary and designed for removal, while the majority provide long term solutions.

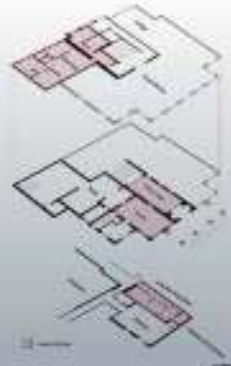
Relevance to the City:

- ☒ Security Planning
- ☒ Architecture and Interiors
- ☒ Mechanical Engineering
- ☒ Electrical Engineering
- ☒ Communications

Key Personnel: John Wissinger, AIA; Shane Powers, PE; Daniel DiMarco, AIA, LEED AP BD+C; Michael Lauman, PE; Mary Silcox, Michael Lauman, PE; Todd Wheatley, PE

SCOPE

- Security processing in the Entry
- Visitor access within the Clerk's Office
- Social distancing within the Attorney's Offices
- Witness Protection Office relationship with the adjacent public corridor
- Social distancing within the Parks and Recreation Office



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER

2

21. TITLE AND LOCATION (City and State)

E-911 Siting Study
Covington, VA

22. YEAR COMPLETED

PROFESSIONAL
SERVICES

2015

CONSTRUCTION
(if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Alleghany County

b. POINT OF CONTACT NAME

John Lanford

c. POINT OF CONTACT TELEPHONE NUMBER

540.863.6600

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Project Overview



AECOM provided design services to develop and construct a new regional Emergency Call Center (E-911) Facility to serve Alleghany County and the City of Covington. The new E-911 facility will be owned and operated by Alleghany County. The County's original intent was to use land currently owned by the County on Pitzer Ridge Road as the site for the proposed E911 facility. AECOM provided architectural, communications technology and building engineering services for the siting study of the E911 facility. Additionally, AECOM conducted a communications technology evaluation study and prepared a space programming/planning study for the proposed E-911 facility.

As part of those services, AECOM and Sekiv Solutions presented preliminary opinions of probable construction cost to Alleghany County for the proposed E-911 facility at the Pitzer Ridge Road site. After evaluating those costs, the County determined that the cost to develop the Pitzer Ridge site was prohibitively high and desired to consider other locations. To accomplish this, the County requested that AECOM and Sekiv Solutions conduct a siting study to look for new alternative potential E-911 sites (both developed for renovation and greenfield/undeveloped). Sekiv Solutions provided civil engineering services as a subconsultant to AECOM.

The E-911 Siting Study included the following tasks: Develop Site Evaluation Criteria and a Weighted Ranking System looking at topography, parcel size and

Relevance to the City:

- ☒ Master / Site Planning
- ☒ Civil Engineering
- ☒ Architecture and Interiors
- ☒ Mechanical Engineering
- ☒ Electrical Engineering
- ☒ Communications

Key Personnel: Shane Powers, PLP; Ian Camper, PE; Andy Freeland, PE, LEED AP

shape, zoning, proximity to public utilities, site accessibility, suitable tower location can connectivity, interferences, impacts of potential vulnerabilities, and adaptability of existing structures. It also included a line of sight evaluation for connectivity to the existing County and City E-911 communication towers. A matrix ranking table was developed for evaluating the proposed sites.

The evaluation team, along with County staff, visited eleven sites and ranked each site using the matrix. These sites were previously chosen by the County as having the best potential to locate an E-911 facility. The evaluation team also included a structural engineer who visited the Falling Spring Elementary School site and observed existing conditions and reviewed design drawings for the last addition to the facility in 2003. A lead and asbestos specialist also visited the sites and observed facilities where access was available for signs of asbestos and lead paint to aid in developing a rough order of magnitude (ROM) cost for abatement should the facility be selected for renovations or demolition.

Site rankings were reviewed with County Staff to confirm ranking evaluations and to select up to four sites to carry forward to develop a concept level ROM preliminary opinion of probable construction cost. AECOM provided a ROM estimate cost differential for each of the preferred sites selected by the County, which included:

- Falling Springs Elementary School
- Adams Asphalt

- Mountain View Elementary School
- Nettleton Foundation Sites

Cost factors considered included building construction, site development, off site utilities, site-specific technology and connectivity, land, and contingency. The Falling Springs Elementary School was ranked the lowest cost location of the four sites evaluated.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (<i>City and State</i>)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER

3

21. TITLE AND LOCATION (City and State)

Drone Zone Comprehensive Consulting Services
Alleghany County, VA

22. YEAR COMPLETED

PROFESSIONAL
SERVICES
2018

CONSTRUCTION
(if applicable)

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

City of Covington, Alleghany County
& the Alleghany Highlands Economic
Development Corporation

b. POINT OF CONTACT NAME

Jonathan Lanford

c. POINT OF CONTACT TELEPHONE NUMBER

540.969.6774

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Project Overview



AECOM and Drone Life (Subcontractor) provided Comprehensive Consulting Services to the City of Covington, Alleghany County & the Alleghany Highlands Economic Development Corporation. The project was funded by an Appalachian Regional Commission Planning Grant from the Virginia Department of Housing and Community Development for planning, needs assessment, marketing, and infrastructure approach for the Alleghany Highlands Drone Zone destination. The destination will help promote the Alleghany Highlands area for the emerging drone industry for R&D, Training and Recreational purposes.

The primary elements of the comprehensive strategy included: 1) Business Plan; 2) Business Operations; 3) Marketing Plan; and 4) Infrastructure Land & Building Site.

Key to the development of the strategy was engagement, collaboration and consensus building amongst a broad range of stakeholders including local government, key community leaders, higher education institutions, industry experts, industry entrepreneurs, and related economic partners. These workshops were conducted in person and virtually to bring as many people together as possible.

Relevance to the City:

- ☒ Civil Engineering
- ☒ Marketing Plans
- ☒ Architecture
- ☒ Funding Procurement

Key Personnel: Shane Powers, PLP; John Wissinger, AIA, LEED AP; Ian Camper, PE

The facilities proposed to support the Drone Zone include an old School, Field Site, and an abandoned Mine. High level analysis of each facility was conducted in order to ascertain the approximate level of investment required to meet the objectives for the project. Investment in each site will be phased as funding allows and consistent with the growth of the Drone Zone.



Old View of Edson Elementary School

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER			4	
21. TITLE AND LOCATION (City and State) Carilion Clinic Center Master Services Agreement Roanoke, VA			22. YEAR COMPLETED	
			PROFESSIONAL SERVICES 2018	CONSTRUCTION (if applicable) Ongoing
23. PROJECT OWNER'S INFORMATION				
a. PROJECT OWNER Carilion Clinic Center		b. POINT OF CONTACT NAME Curtis Mills		c. POINT OF CONTACT TELEPHONE NUMBER 540.981.7001
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)				

Project Overview

For more than 20 years AECOM has provided comprehensive design services for Carilion Clinic, meeting their needs for feasibility studies, small one room renovations and large new construction projects. All civil and utility infrastructure ensures that all buildings are fully services and resilient.

Center for Research, Simulation and Patient Safety:

AECOM provided design services and construction administration services for the renovation of the Trolley Barn located at 15 Old Woods Avenue in Roanoke, VA. The historical trolley maintenance warehouse was re-purposed to accommodate the Carilion Simulation Center in approximately one half of the building footprint and provisions made for future use in the other half. The project includes the interior renovation area of approximately 10,620 DGSF to include distribution of existing engineering systems to support the new purpose.

The electrical design was able to make use of the existing power service. A high-end lighting design was used to celebrate the historical identity of the building. Security and telecommunication systems were also provided. Task orders included the following.

OPM Laboratory and Hokie Wellness Renovation:

DS & CA services for renovation of a portion of the second floor of Riverside One in Riverside Center to include space for VTCRI MEG Lab and other spaces. The lab will include shielding requirements; 5,000 s.f.

Riverside 1 Bickle Suite Upfit: offices, meeting rooms and dry laboratories; 3,500 s.f.

Riverside One Medical Office Building Biosciences Suite Upfit:

AECOM provided services for the Riverside One Medical Office Building (MOB) Biosciences Space upfit. The Virginia Tech Carilion Research Institute (VTCRI) is renovating an area of the 2nd floor of Carilion Clinic's Riverside One MOB, which is adjacent to the VTCRI building, to be upfitted for additional faculty offices and collaboration space for the Department of Biomedical Sciences. AECOM

Relevance to the City:

- ☒ Surveying
- ☒ Civil Engineering
- ☒ Architecture and Interiors
- ☒ Mechanical Engineering
- ☒ Electrical Engineering
- ☒ Communications
- ☒ Security
- ☒ Geotechnical

Key Personnel: Shane Powers, PLP; John Wissinger, PE, AIA; Daniel DiMarco, AIA, LEED AP BD+C; Ian Camper, PE; Andy Freeland, PE, LEED AP; Mark Lawson, PLS; Mark Garland, PE; Michael Lauman, PE; Kyle Dobbins; Mary Silcox



prepared a draft sketch of the proposed layout for the new upfit, which totals approximately 5,000 square feet for the new suite and associated corridor.

Riverside 3 Generator Study: AECOM prepared a generator study for Carilion Riverside Clinic.

Translational Biology Medicine & Health Upfit:

AECOM provided programming, planning and design services for a new College of Health Sciences for Virginia Tech (VT). The college was originally conceived by the director of the Virginia Tech Carilion Research Institute (VTCRI) and approved by the VT Board of Visitors in 2013. The College of Health

Sciences needed a new home for the inaugural class of 30 students slated to arrive in Roanoke in August 2014. Having successfully completed the VTC Research Institute in 2010, as well as several laboratory customizations for newly hired principal investigators since then, AECOM was selected to program, plan, and develop construction documents for this fast-paced, 6,000-square-foot project that needed to be open in less than seven months.

The design included a collaborative student area, a large lecture room, medium and small classrooms, audiovisual room, offices, break room, and support spaces. Sustainable design principles were also incorporated into the design. The facility is a higher education space with high quality finishes that are both durable and aesthetically pleasing. A rich color palette was developed that emphasized accent walls to provide a vibrant environment that would stimulate learning and collaboration. Carpet and acoustic ceiling tiles were used and the walls were designed to mitigate sound transfer. These features help provide an acoustically quiet environment that will support the facility's mission.

Simulation Center Concept Study:

AECOM provided conceptual design services for a new 12,000 sf Simulation Center at the Virginia Tech Carilion (VTC) School of Medicine and Research Institute. VTC needs to expand its simulation training capabilities and identified Riverside 1 Medical Office Building, which is adjacent to the school and research center, as a possible location for the new Simulation Center. To assist VTC in obtaining state funding, AECOM programmed and developed a concept design and cost estimate for the new Simulation Center as part of a package submitted to the state to start approval process.

Health Sciences and Technology Expansion

Building: AECOM provided architecture and engineering planning and design services for the Health Sciences and Technology Expansion Building at Virginia Tech's growing Roanoke Campus. This initial study was used to secure funding through state to begin the project in 2016.

Feasibility Study for Hospital Expansion: AECOM provided architecture and engineering planning and design services for expansion to the main hospital.



Virginia Tech Carilion School of Medicine and Research Institute (VTCRI) Phase II
As the gateway building to the academic medical campus, this 154,000 SF facility integrates laboratories, conference and classroom space, mock clinic spaces, offices and informal gathering spaces.



Carilion Clinics (Riverside 3)
210,000 SF Outpatient clinic and imaging Center, is housed under the largest green roof in the Roanoke Valley at 11,500 SF.



Biomedical Research Expansion Building (VTCRI Phase II)
136,000 SF transitional research building integrating thematic research areas with an imaging center, experiential learning and classroom areas and an experimental veterinary oncology treatment center.



Comparative Oncology Research Center for Virginia Maryland College of Veterinary Medicine
Feasibility study for 16,500 s.f. of new clinical research space connected with adjacent Virginia Tech Research building.



Institute for Orthopaedics and Neurosciences
138,000 SF regional multi-specialty outpatient hub including orthopedics, physical therapy and sports medicine, where integrated, and highly coordinated care is delivered while advancing translational research and educational initiatives in collaboration with Virginia Tech.



Roanoke Memorial Hospital Addition Feasibility Study
Development potential study for a 920,000 SF addition comprising a new special imaging, ED, outpatient clinics, inpatient services and multi-level parking for up to 400 vehicles.



Center for Simulation, Research and Patient Safety
Transformation of Historic Trolley Barn into an advanced healthcare training environment which bridges the gap between the academic and clinical environment. It includes residential simulation space, operating rooms, trauma rooms, skills lab, classrooms and gathering areas.



Carilion Roanoke Community Hospital - Anatomy Teaching Labs
Virginia Tech School of Medicine, Radford University and Jefferson College of Health Sciences collaborated to develop an interactive anatomy instruction suite including a flexible laboratory and an interactive briefing room.



Carilion Medical Offices Building (Riverside 2)
100,000 SF office and research building. It provides dedicated office space for Carilion and also tenant space for research and both start-up and established medical technology companies.



Carilion Clinic Riverside Parking Deck
451,000 SF multi-level parking deck providing 1,480 vehicle spaces.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER

5

21. TITLE AND LOCATION (City and State)

Carilion Tanglewood Multi-Specialty Clinic
Roanoke, VA

22. YEAR COMPLETED

PROFESSIONAL
SERVICES
2018

CONSTRUCTION
(if applicable)
2021 est

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Carilion Clinic Center

b. POINT OF CONTACT NAME

Curtis Mills

c. POINT OF CONTACT TELEPHONE NUMBER

540.981.7001

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Project Overview

In 2018, Carilion Clinic selected AECOM to conduct a building assessment, followed by a feasibility study of a two-story, 130,000 SF, former J.C. Penney store located within a shopping mall, and the parking lot servicing the building, for potential use as a multi-specialty care clinical space. The study determined that the 50-year-old building's shell is generally in good condition and the structural framing is adequate to support the floor loading for a clinical occupancy. However, the existing systems — including electrical, mechanical, plumbing and fire protection — are aged and require replacement or upgrade to bring the facility up to current code standards. Available on-site parking and access adequately support the new use, and multiple options exist to develop the main entrance and patient drop-off area.

The AECOM project team surveyed the site and studied existing site elements to determine their suitability for reuse. Existing traffic patterns were analyzed and a new traffic pattern was designed for improved traffic flow and pedestrian safety, while also respecting the need for sufficient vehicle access to other retail tenants. Existing building entries were

Relevance to the City:

- ☒ Survey
- ☒ Civil Engineering
- ☒ Architecture and Interiors
- ☒ Mechanical Engineering
- ☒ Electrical Engineering
- ☒ Communications

Key Personnel: John Wissinger, PE, AIA; Mark Garland, PE; Andy Freeland, PE, LEED AP; Michael Lauman, PE; Kyle Dobbins; Mark Lawson, PLS; Daniel DiMarco, AIA, LEED AP BD+C; Mary Silcox

reconfigured with drop-off canopies and pedestrian waiting areas. New accessible parking areas and loading zones were created for enhanced patient access.

Fire, water and sewer services were replaced and reconfigured to improve the building's safety and current supply, with sufficient additional capacity built-in for future upgrades. Electrical and gas services were also upgraded, including the installation of an emergency standby generator.



1A lighted translucent panel system illuminates the building's northeast corner, and green walls soften the facade.

Carilion Tanglewood Multi-Specialty Clinic

5

Existing and proposed stormwater systems were also inadequacy and utilize Nutrient Credit Banking for the most cost-efficient solution for compliance with Virginia Stormwater Management Program regulations. AECOM worked closely with the Western Virginia Water Authority, Roanoke County, VDOT and other project stakeholders throughout the design process to ensure agreement to the project approach.

Following the review of this study, AECOM was contracted as the designer-of-record to repurpose this former retail store into the new Carilion Tanglewood Multi-Specialty Clinic. The clinic will provide pediatric, ENT and plastic surgery services, as well as dental services for both children and adults. Outpatient procedures only will be offered at this clinic. Pediatric services to be provided include

studied to determine any existing points of General, Adolescent, Physical Therapy/Occupational Therapy, Behavioral Health, Oncology, Endocrinology, Gastroenterology, Cardiology, Pulmonary & Allergy, and pre- and post-surgery clinical visits.

In February 2020, the AECOM project team began collaborating with leadership from pediatrics, dentistry, ENT, Audiology, and Plastic Surgery to develop a design that fits Carilion's goals and vision for the consolidation of all these services under one roof.

The project cost is estimated at \$30 million, and the facility is anticipated to open in the summer of 2021.



The patient drop-off zone is designed for two or more vehicles at the entry canopy.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER		6	
21. TITLE AND LOCATION (City and State)		22. YEAR COMPLETED	
Virginia Tech A/E Term Contract Blacksburg, VA		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Ongoing
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
Virginia Polytechnic Institute and State University	Erich Roscher	540.629.3689 (mobile)	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

Project Overview

AECOM has provided services for Virginia Tech for more than 40 years. In 2018 AECOM was selected again to provide architectural and engineering services to Virginia Tech under a one-year term contract with up to four annual renewals. We have already performed services for six project orders as part of this relationship.

Ambler Johnston Courtyard Renovation: Concept Design through Construction Documents and on-call construction phase services were provided for this transformational exterior project. The design transitions the poorly utilized courtyard across four phases of work into a desirable exterior space that supports a multitude of learning environments for this student residence hall. Drainage, accessibility and spreading capital costs across multiple fiscal years were important drivers.

Cochrane Hall Structural Study: AECOM performed site observation and assessment for structural integrity.

Temporary War Gymnasium: Provided select architecture and engineering services in collaboration with a civil engineering firm and a manufacturer of Fabric Tensile Structures. The gymnasium, large enough to contain four basketball courts was developed over the top of existing tennis courts. This low cost solution allowed the University to continue to provide student activity space while the main gymnasium undergoes a significant renovation

Miles Hall Renovations: Full A/E concept design, construction documentation and construction phase services are being provided for select renovations including the laundry room, accessible restroom and shower, student lounge and two bedrooms of this dormitory. Construction is scheduled to begin in May 2021

Payne Hall Mechanical System Renovations: AECOM has designed a full replacement system of the mechanical systems to this dormitory. Associated works involving architecture, interior design, electrical

Relevance to the City:

- ☒ Civil Engineering
- ☒ Architecture and Interiors
- ☒ Structural Engineering
- ☒ Mechanical Engineering
- ☒ Electrical Engineering
- ☒ Communications

Key Personnel: John Wissinger, AIA, LEED AP; Daniel DiMarco, LEED AP BD+C; Todd Wheatley, PE; Michael Lauman, PE; Kyle Dobbins; Mark Lawson, PLS; Brian Fisher, PE; Mary Silcox

engineering and plumbing engineering are also being provided. Phase 1 of construction is scheduled for the summer of 2021.

Whittemore Hall Clean Room Renovation: The design of all support systems to accommodate three new specialized pieces of equipment as well as a new process chiller to cool six additional machines is included within the scope of this project.

These additional projects were also carried out during the term contract held between 2008 and 2012.

Norris Hall Study: AECOM was responsible for the design of the new space configuration for the second floor of Norris Hall through the design development phase.

Surge Space Building Upfit: The flexible design of the Surge Building allowed quick reconfiguration and additional benefits.

Working Drawings Review - Ambler Johnston Hall Renovation: Ambler Johnston Hall is a roughly 270,000 GSF, seven-story residence hall originally constructed in 1949. The building underwent a complete phased renovation. AECOM provided a peer review of the Working Drawings (95% complete) prepared by the Architect/ Engineer of Record.

President's Suite Renovation: AECOM designed renovations to Burruss Hall 210, the President's Suite

and Conference Room. This included replacement of reception area, boardroom and corridor ceiling, along with light fixtures and mechanical system diffusers, as needed.

Randolph Hall HVAC Renovations: Randolph Hall was built in the 1950s. AECOM was tasked with designing chilled water air handling units to condition several classrooms and offices in the building.

VET MED Building Emergency Power Upgrades:

AECOM designed a new 300kW generator and diesel fuel storage tank for the exterior of the Virginia-Maryland Regional College of Veterinary Medicine (VET MED).

Additional Tasks include:

- A/E Design Services for Vivarium Feasibility Study
- RB26 MRI Feasibility Study
- VT Research Institute MRI Feasibility Study (a 1,565-square-foot MRI suite within an active veterinary hospital. The MRI is designed to be accessible to farm animals.)
- Virginia-Maryland Regional College of Veterinary Medicine Normal Power
- Virginia Tech Carilion Research Institute 3rd Floor Studies
- Lane Stadium Antenna Grounding
- FFE Design Packages for Virginia Tech/Carilion

- School of Medicine and Research Institute
- Bioinformatics Emergency Power and Redundancy Study
- Virginia Maryland School of Veterinary Medicine Emergency Power Upgrades
- Cassell Coliseum and Jamerson Hall Plumbing Study
- Cassell Coliseum Piping Replacement Design



Abstract



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (<i>City and State</i>)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER

7

21. TITLE AND LOCATION (City and State)

Franklin Road Bridge Replacement
Roanoke, VA

22. YEAR COMPLETED

PROFESSIONAL
SERVICES

2016

CONSTRUCTION
(if applicable)

2019

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

City of Roanoke

b. POINT OF CONTACT NAME

Mr. Luke Pugh, PE

c. POINT OF CONTACT TELEPHONE NUMBER

540.853.5208

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Project Overview



AECOM provided engineering services to the City of Roanoke for the project to replace the fracture critical bridge on Franklin Road over ten tracks of the Norfolk Southern Railway Company. This bridge is located in a constricted urban setting and serves as a gateway to the City's Old Southwest Historic District.

During the preliminary design phase, AECOM developed an evaluation of alternatives for the replacement structure, including various alignments and structure types from conventional curved girders to signature cable stay spans. A corridor study was conducted to ensure compatibility of the new structure with the City's long term planning goals. This evaluation included sampling and testing of selected substructure elements to evaluate their reuse in the new structure.

Final design phase services included bridge and roadway design, geotechnical investigation, sequence of construction plans, traffic management plans, stormwater management, intersection signalization, roadway lighting, and landscaping. AECOM developed renderings for the proposed aesthetic enhancements in support of public relations and served as the City's agent in co-ordination with Norfolk Southern Railway, and supporter approval by regulatory agencies such

Relevance to the City:

- ☒ Survey
- ☒ Phase I Environmental Services
- ☒ Roadway Design
- ☒ Bridge Design
- ☒ Stormwater Management

Key Personnel: Scott Hodge, PE; Stuart Martin, PE; Ryan Fedak, PE, CFM; John Wissinger, AIA, LEED, AP; Rob Dean, PE

as Virginia Department of Historic Resources and the City's Comprehensive Land Development Review.

The replacement structure will carry three lanes of traffic with accommodation for pedestrian and bicycle users. The superstructure will consist of haunched steel girders and a concrete deck. Aesthetic enhancements include decorative railing, ornamental lighting, and decorative pylons at each end of the bridge.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER			8	
21. TITLE AND LOCATION (City and State)			22. YEAR COMPLETED	
Storm Drain Installation at the Riverside Corporate Center Roanoke, VA			PROFESSIONAL SERVICES 2011	CONSTRUCTION (if applicable) 2012
23. PROJECT OWNER'S INFORMATION				
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER		
Carilion Clinic	Curtis Mills	540.981.7001		
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)				

Project Overview

AECOM was commissioned by Carilion Clinic to prepare a design for the Storm Drain Installation project located at the Riverside Corporate Center. The project involved coordination construction of 950 linear feet of 48" RCP storm drain piping from starting at Riverside Street running to the edge of Roanoke River. The property was owned by the City of Roanoke.

The piping alignment of the 48" pipe was established to take full advantage of clear paths and to preserve magnolia trees and to preserve the newly constructed Roanoke River levee. Great care was taken with align the piping while protecting the roots of the historic magnolia trees. Even greater protection had to be taken while penetrating the Roanoke River levee. This penetration required jacking and boring of approximately 80' of a 48" steel casing pipe.

Water flap valve requirements were very important for the success of the storm drain system. Tidal flap valves with precise adjustments were made to receive approval by City of Roanoke and USACE to release water into river. AECOM provided topographical and utility survey, existing structures elevations and easement preparation documentation for the City of Roanoke. After the project was complete, AECOM had to verify the existing structures elevations to confirm as-built conditions to meet the City's requirements.

There were numerous subsurface challenges that included existing utilities, abandoned utilities and fluctuating river flow elevations. AECOM prepared flow calculations and E&S documentation under the City of Roanoke design requirements.

As a part of the construction development phase, AECOM assisted the Owner with solicitation of bidders, review of the bids, RFI review, show drawing reviews, review and approval of payment request, periodic site observations with substantial and final inspections.

Relevance to the City:

- ☒ Survey
- ☒ Easements
- ☒ Civil Design
- ☒ Geotechnical
- ☒ Construction Administration
- ☒ Permitting

Key Personnel: Shane Powers, PLP; Andy Freeland, PE, LEED AP; Mark Lawson, PLS



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER		9	
21. TITLE AND LOCATION (City and State)		22. YEAR COMPLETED	
Route 11, 220, & 220A – Access Management Project at Exit 150 Botetourt County, VA		PROFESSIONAL SERVICES 2014	CONSTRUCTION (if applicable) 2018
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
Virginia Department of Transportation	Mr. Thomas Digiulian, PE, LS	540.375.3593	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

Project Overview

AECOM developed multiple alternatives for evaluation to solve current and future issues at the Exit 150 interchange to I-81 the interface with Route 11, and intersection with Route 220. Our team's alternative development and evaluation included coordination of traffic modeling, preliminary drainage design, and application of access management criteria. The final project included an alternative evaluation report with a recommended preferred alternative for use in an Interchange Modification Report. The project's final design is complete and included development of final construction plans for roadway, drainage, signal design, stormwater management (SWM), and roundabout design. AECOM assisted VDOT during construction.

Relevance to the City:

- ☒ PER
- ☒ Phase I and II Environmental Services
- ☒ Boundary and Topographic Survey
- ☒ Bridge Design
- ☒ Roadway Design
- ☒ Geotechnical
- ☒ Construction Administration

Key Personnel: Scott Hodge, PE; Stuart Martin, PE; Ryan Fedak, PE, CFM; Ian Camper, PE; Rob Dean, PE



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

20. EXAMPLE PROJECT KEY NUMBER		10	
21. TITLE AND LOCATION (City and State)		22. YEAR COMPLETED	
South Jefferson Redevelopment Area Virginia Roanoke, VA		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Ongoing
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
City of Roanoke	Luke Pugh	540.853.5208	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

Project Overview

For more than 20 years AECOM has been providing services instrumental in the redevelopment of the South Jefferson area of Roanoke. AECOM first analyzed a development for 110 acres located south of Roanoke's central business district. AECOM also prepared development design guidelines and an assessment to assist local officials in determining "blight" conditions for other eligible properties. These properties were located on approximately 110 acres, 80% of which are within the 100-year Roanoke River flood plain. AECOM provided master planning and land use planning services, economic assessments and analyses, preliminary assessment of the flood hazard risk, and environmental hazard risk and structural evaluations.

The primary goal of this analysis was to promote private reinvestment and economic growth for the area. The plan has fostered positive economic development through a staged process of public/private redevelopment and/or rehabilitation throughout the entire area and along key corridors connecting to downtown Roanoke including the VT School of Medicine and Research Institute.

The plan also provided an urban development pattern that mitigates environmental risk and was compatible with the surrounding commercial and residential districts.

Riverside Campus Masterplan Update: AECOM performed master planning for the Riverside Medical Center. This vision of a new biomedical research center transformed 40 acres of blighted floodplain along the southern edge of downtown Roanoke and adjacent to Carilion Health Care Center. The plan accommodates over 1 million square feet (msf) of new clinical, education, research and office space around a central landscaped enclave of which more than half has now been built. A 1,400 car parking deck provides convenient parking and access to the campus pedestrian core. Development and architectural guidelines respond to the critical site issues, modulate scale and mass, and prescribe the architectural

Relevance to the City:

- ☒ Master Planning
- ☒ Economic Assessment
- ☒ Structural Evaluations

Key Personnel: Shane Powers, PLP; Andy Freeland, PE, LEED AP; Mark Lawson, PLS; Scott Hodge, PE; Kyle Dobbins; John Wissinger, AIA; Daniel DiMarco, AIA, LEED AP BD+C

appearance of the campus to ensure continuity with the downtown fabric, context with the adjacent buildings, and cohesiveness among campus structures.

As each new building has been constructed AECOM has continued to update the stormwater masterplan to reflect the actual built condition and the requirement for the remaining developable land.

AECOM has also provided development studies for related parcels to determine the most advantageous sites for growth.





25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	AECOM	Roanoke, VA	Prime

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

[illegible]

29. EXAMPLE PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)	NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)
1	Allegheny County COVID-19 Renovations	6	Virginia Tech A/E Term Contract
2	E-911 Siting Study	7	Franklin Road Bridge Replacement
3	Drone Zone Comprehensive Consulting Services	8	Storm Drain Installation at the Riverside Corporate Center
4	Carilion Clinic Master Services Agreement	9	Route 11, 220, & 220A – Access Management Project at Exit 150
5	Carilion Tanglewood Multi-Specialty Clinic	10	South Jefferson Redevelopment Area Virginia

Introduction

We are a local firm with a global footprint; giving us the ability to provide the highest level of customer service and responsiveness coupled with extensive resources and expertise. AECOM has a local office in Roanoke, bringing the experiences of more than 170 professionals to serve the needs of the City of Covington (the City). In addition to our Roanoke offices, we have 9 other Virginia-based offices, which bring to the table over 2,000 professionals across all of our major business lines (water/wastewater, transportation, buildings and places, and environment). AECOM, as a worldwide provider of architectural and engineering services, has the capacity to serve the City with a full spectrum of services.

With AECOM's global reach of resources, we are able to extend our capacity to provide architectural and engineering services beyond our local footprint by accessing our depth of resources through our company-wide Technical Practices Network (TPN), composed of specialty work groups from various engineering and consulting disciplines. Our TPN is an invaluable resource that allows team members to solicit information and/or respond to inquiries on challenges that may have been encountered and addressed on similar projects anywhere in the world. AECOM's TPN is also available to our clients, where they can engage our experts to discuss solutions for their specific challenge.

Our History and Relationship with the City of Covington

AECOM, through its Virginia-based legacy companies, has been providing architectural and engineering services to local governments like the City since 1948. We have built a solid reputation by providing our clients with a wide-range of quality professional services to meet their many varied needs. We understand western Virginia and how to successfully partner with Virginia's local governments.

AECOM has a long standing relationship with the City and Alleghany County, and we look forward to continuing to partner with you by providing our architectural and engineering capabilities on upcoming public works and capital improvement construction projects

Whether boundary/topographic surveys, infrastructure, buildings, environmental, regulatory compliance, economic development services or transportation, AECOM has the experience and expertise to meet the City's needs as outlined in the RFP.

AECOM has prior experience in working directly in and for the City and Alleghany County. Below is a listing of some of the projects where AECOM has served the City and Alleghany County area:

- Renovation to County Courthouse
- VA P25 Radio System Project
- Drone Zone Project
- ADA Compliant Access – Alleghany County Courthouse Front Entrance Ramp
- Industrial Park Utility Analysis
- E911 Site Analysis and Center Development
- Water Storage Tank Recoating

- Lower Jackson River Regional Wastewater Treatment Plant (10 year multi-phase project)
- Fork Farm Road Bridge
- Jackson River Bridge (to BACOVA Guild)
- Bridge over the Jackson River (to elementary/middle school)
- PSAP Consolidation Studies – Virginia Information Technologies Agency (VITA)

Advantages to the City of Covington

Resource Control: By having AECOM staff primarily from our Roanoke operations provides these services, we can make sure that we have the right personnel with the right expertise, experience, and capabilities assigned to your projects. This will reduce the potential for conflicting demands. We are a Virginia firm serving Virginia clients.

Schedule and Cost Control: Having our primary team members based in Roanoke makes routine checks on project schedule and cost more efficient. All of our team members are within close proximity to each other. When project-specific tasks may require AECOM resources from outside the immediate geography, we will strive to engage these resources electronically.

Depth and Breadth of Resources: No one firm can provide the same level of local staff backed by the national resources of AECOM. There is virtually no project that the City might have that AECOM cannot perform.

Responsiveness: The majority of our team members are located in Roanoke, VA which is approximately one hour from the City's offices. Meetings, site visits, and emergency response can be accomplished quickly and economically. Day trips are not a problem.

Dedicated Staff: The project team members assembled for this Term Contract all have previous experience working the City or similar localities in the Commonwealth of Virginia. Some of these team members worked on the Renovation to the County Courthouse, Drone Zone, PSAP Consolidation Studies and Lower Jackson Regional Wastewater Treatment Plant projects.

Project Understanding

The Professional Engineering Services for General Services Term Contract Agreement RFP for the City of Covington will require specialized architectural, engineering, environmental, and surveying experience and expertise, and the ability to handle multiple task orders simultaneously. We have the resources and know-how to work such contracts and offer the following descriptions of our capabilities to provide the services listed in the RFP.

Surveying

AECOM's in-house surveying staff is well experienced in all level of surveying services and property mapping. In addition, we use current, state of the art equipment to produce accurate maps efficiently. Our level of experience covers a wide range of services, both regionally and internationally.

In addition, our survey staff in experience in FEMA mapping standards as related to FEMA elevation certificates. Our Roanoke survey staff has assisted our FEMA flood analysis and mapping staff by providing field measurements and data to determine bridge openings and stream morphology to assist in the development of FIRM maps.

AECOM is also experienced in alternative terrain data gathering methodologies such as LIDAR and drone mapping.

Feasibility Studies and Engineering Economic Analyses

AECOM has developed an extensive background and significant capabilities in the planning and preparation of Engineering Feasibility Studies. We have access, in-house, to virtually all required architectural-engineering discipline capabilities for completing a wide variety of feasibility studies. These studies have included such tasks as:

- Review and documentation of existing facilities
- Interpretations of existing facility construction documentation
- Assessment of condition and capacity of existing facility systems and components
- Assessment of environmental issues and concerns
- Permitting research and development
- Facility planning and programming
- Economic and cost-benefit analyses
- Cultural and natural resource delineations

Transportation Design and Study

AECOM has been a leader in transportation design and study projects for over 60 years, including rural and urban roadway projects. These projects include, but are not limited to, roadways on new locations and widening of existing roads. We also have extensive experience producing construction documents for our transportation projects. AECOM has provided the following tasks and design services for miles of roadway projects for the Virginia Department of Transportation and municipalities throughout Virginia:

- Horizontal and vertical alignment
- Maintenance of traffic and sequence of construction

- Pavement design
- Survey
- Property research
- Plat and easement preparation
- Utility designation and relocation
- Public involvement and public hearings
- Environmental permits

Many of our transportation projects have been completed under open-end contracts.

Building Design and Structural Analysis

Whether it's new construction, renovation or adaptive reuse, AECOM building designers create buildings that balance function and efficiency with aesthetic appeal. Because each project and client is unique, our design teams begin each assignment with a fresh perspective. From office buildings to educational facilities to museums, AECOM architects use a participatory approach to the design process, working closely with clients and stakeholders to develop an optimum design solution within an established budget. Through design workshops and one-on-one interviews, we gain a clear understanding of a client's needs and vision for a project.

As vital contributors to AECOM's building designs, our structural engineers are experienced designers of new stand-alone multi-story structures, building additions, and renovations to existing structures. In selecting structural materials, AECOM engineers strive to use the most economical material suited for the job, whether it is structural steel, cast-in-place reinforced concrete, prestressed concrete, post-tensioned concrete, timber, reinforced masonry, fiberglass-reinforced plastic or composite materials. AECOM structural engineers are skilled in solving all types of structural design problems,

particularly in the area of building addition and renovation, including:

- Retrofitting existing buildings to increase load capacities
- New foundations on or adjacent to existing foundations
- Repair of deteriorating concrete and steel structures
- Adding new floors to existing buildings

AECOM has extensive LEED® (Leadership in Energy and Environmental Design) certified professionals who demonstrate the understanding of green building practices and principles, and familiarity with LEED requirements, resources, and processes. The LEED Green Building Rating System is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. By completing these requirements and attaining LEED accreditation, AECOM employees can provide sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

Stormwater Management

AECOM has prepared stormwater management plans and designed stormwater management facilities to mitigate the effects of watershed development by improving the quality of stormwater runoff and attenuating peak stormwater runoff rates. In implementing stormwater management criteria on a project, AECOM's experienced staff combines site layout with natural topography to maximize infiltration and reduce the amount of runoff. AECOM has also designed stormwater quantity and quality control devices including underground perforated pipes, infiltration trenches, retention ponds, extended detention ponds, and detention ponds.

Geographical Information Systems (GIS)

At AECOM, we use GIS technology internally to improve the quality and accuracy of the data we collect during our field investigations, to support our decision-making, and to provide consistent, dependable results through data analysis and graphic (map) representation. AECOM uses an integrated team approach to our projects; we assign GIS personnel to work directly with the environmental planners and engineers. Our team works together and with our client to determine what data is needed and how it should be collected, displayed, analyzed, and represented. In this way, each team member contributes from his or her area of expertise. This approach is reflected in our results: we bring accurate data and analysis methodologies to the people who have the practical experience to determine the best possible solution for our clients.

Environmental Design and Management Systems

Unlike many engineering firms, AECOM provides a wealth of experience in environmental site assessment and remediation. For Brownfields sites, AECOM offers these practical services: Phase I and Phase II environmental site assessments, underground and aboveground storage tank assessments and removal, meetings with regulatory authorities, meetings with economic development authorities, surveying, evaluations of asbestos-containing material, renovation of buildings and industrial processes, site planning, permitting, waste management, risk assessment, and corrective actions.

Wastewater Treatment Plants

AECOM provides pilot and treatability services, preliminary and final design, and construction-phase services for wastewater plants. AECOM has designed numerous, enhanced wastewater

treatment plants with state-of-the-art advanced processes. Advanced treatment processes designed by the firm include combined and separate stage suspended growth nitrification, suspended-growth biological nutrient removal (BNR) for total nitrogen and phosphorus removal, nitrifying plastic media trickling filters, denitrifying filters, membrane bioreactors, biological aerated filters for denitrification and total nitrogen removal, single media, multimedia, and cloth media filtration, powdered and granular activated carbon adsorption, ultraviolet disinfection, and reverse osmosis. AECOM received an Honor award in 2013 by the American Council of Engineering Companies Virginia for the Lower Jackson River Regional Wastewater Treatment Plant Project.

AECOM has also prepared materials for EPA design seminars on nitrification and denitrification and prepared the EPA process design manual on upgrading existing wastewater treatment plants. AECOM is currently involved with research programs related to contaminants of emerging concern in collaboration with the Water Environment Research Foundation and the U.S. Geological Survey. AECOM is working with these organizations to develop cost-effective treatment technologies to mitigate and control the release of emerging contaminants into the environment and the water cycle. This work won the 2005 Platinum Award for research from the American Council of Engineering Companies. AECOM can also provide Process Safety Management and Risk Management Programs, O&M Manuals, and start-up assistance for water plants. As a full service A-E firm, we can complete all design in-house.

Wastewater Pumping Stations

AECOM provides designs for sewage pumping facilities with consideration of reliability, personnel safety, life-cycle cost- efficiency,

expandability, and maintainability. Standardization of owner systems and local serviceability are always important design and pumping system selection considerations.

Sewerage System Master Planning

AECOM has completed dozens of preliminary engineering studies, facility plans, and river basin and municipal master plans, involving waste load allocation, projection of future sewer system demands, collection system sizing and alignment, and investigation of wastewater treatment alternative processes and locations. AECOM has worked closely with municipal planning and public works personnel and with state regulatory agencies to develop the guidance documents to define appropriate long-range sewerage services.

Interceptor and Sewage Collection Systems

AECOM has provided design for entire new sewage collection systems and for parallel and relief sewers. Pipeline sizes have varied from 8 to 66 inches. Projects have been located in urban centers, through developed property, and along environmentally sensitive streams and rivers.

Sewer System Rehabilitation

AECOM provides coordination and supervision of sewer system physical inspections, TV inspections, smoke testing, and flow monitoring services. AECOM rehabilitation designs have employed slip-lining, cured-in-place lining, pipe bursting, total line replacement, and spot repairs.

Water Distribution Systems

AECOM provides water distribution modeling and design of water transmission and distribution mains and water booster stations. AECOM has extensive experience with the design of water mains of all sizes.

Water Storage Tanks

AECOM provides design of ground-level, standpipe and elevated storage tanks, constructed of welded or bolted steel or concrete. We have designed water tanks having a capacity from 100,000 to 4 million gallons. Our related services have included tank rehabilitation, painting, and site plans.

Water Treatment Plants

AECOM provides pilot and treatability services, preliminary and final design, and construction phase services for water plants. AECOM utilizes conventional and state-of-the-art water treatment technologies, including compact treatment configurations, alternative disinfectants, and membrane filtration to define the site-specific, cost-effective solutions for our clients. AECOM can also provide Process Safety Management and Risk Management Programs, O&M Manuals, and start-up assistance for water plants. A full service A-E firm, we can complete all design in-house.

Construction Inspection

Our Roanoke Construction Support staff is ready to assist the City in all levels of effort during the construction process. Our years of experience in managing construction projects have found that the timely and efficient actions to address construction challenges are the pathway to a successful project. These challenges range from shop drawing and pay estimate reviews to dealing with conflict and change orders. We face these challenges head-on while keeping the City in the discussion. We have learned that listening and communicating are the keys to moving projects to completion.

AECOM has the capacity to provide the City with a full complement of architectural and engineering services across major business lines. Below, you will see general

qualifications from each of our four key business lines.

Term Contract Experience

AECOM has completed hundreds of open-end term contracts for a variety of clients-including municipalities and authorities with numerous individually negotiated task orders. As a result, we understand the special characteristics of these contracts: short-notice, quick-response requirements, expedited delivery, and continuity of assigned personnel. Our local capabilities and experience allows AECOM to successfully meet these special project needs.

Site/Civil Engineering

AECOM has over 60 civil professionals living and working in Virginia, serving a wide range of clients. We create sustainable and integrated projects appropriate to our clients' goals. We provide comprehensive solutions for our clients and are experts in surveying, site design, grading, water resources, storm water control and treatment, and master planning. We offer integrated services for total project delivery, covering everything from grant/funding applications and initial environmental planning studies to detailed design, and construction management. We understand our responsibility to our clients and their citizens, and work to create, enhance, and sustain the world's built, natural, and social environments. AECOM offers comprehensive engineering to local municipalities. Our civil engineering capabilities incorporate expertise in:

- Surveying
- Master Planning
- Site Grading
- Roadway layout and design
- Utility design and coordination
- Storm water design and treatment
- Permitting/regulatory compliance

- Grants and funding application preparation and administration
- Inspection Services

Transportation

AECOM's transportation expertise falls within multiple sectors – highways and bridges, aviation, freight rail, transit, ports and marine, as well as strategic planning and advisory services. We deliver comprehensive services over the full life cycle of a project to benefit the local government and private industry clients that it serves. We have a genuine appreciation and understanding of the operating structures and business needs of the transportation industry. AECOM's transportation professionals are constantly looking for more efficient, safer, and sustainable ways to move people across cities, countries, and continents. Our Transportation capabilities incorporate expertise in:

- Roadway planning and design
- Preliminary Engineering Reports (PER)
- Greenways and blueways
- Traffic and signalization studies
- Bridge analysis, rehabilitation and design
- Public participation
- Drainage studies and design
- Hydraulic and hydrology studies (Flood Plain Analysis)

Buildings and Places

Creating innovative and practical building engineering designs, our experts ensure that every project meets and exceeds the expectations of clients and building users. Combining local market knowledge with technical expertise, our multidisciplinary approach to building design is based on the client's needs and business case to render cost-effective, functional, inspiring solutions.

We are known internationally for our creative, sustainable, and holistic design approaches which, from the outset, embraces low-carbon

and economic operational performance. Our professionals around the world strive to deliver visionary buildings that maximize naturally occurring energy and minimize waste.

Our Buildings and Places professionals have extensive local government experience in:

- Municipal building renovations and expansions
- Emergency services buildings
- Public safety buildings
- Fire and rescue
- Public schools Courthouses
- Correctional facilities/jails
- Recreational facilities
- Construction Administration Services

Environment

AECOM's skilled engineers, scientists, and project specialists provide comprehensive environmental management services that meet client business and operational lifecycle needs for feasibility, impact analysis, and operational compliance as well as remediation, restoration, and reuse of impacted property. Daily we demonstrate global capabilities to manage the world's most complex and important projects. And our clients and their communities truly benefit from our innovative and proven solutions.

We also offer stream restoration services out of our Raleigh office. Our team of professionals have worked throughout the Southeast, and are ready to help the City. Our Environment business line specialized in:

- Stream Restoration
- NEPA documentation and permitting
- Environmental site assessments
- Environmental remediation
- Environmental permitting
- SPCC plan development

Summary

Resource control: AECOM's staff of 185 engineers and designers in our Roanoke office provides the services requested by the City, we will have the right personnel with the right expertise, experience, and capabilities assigned to your projects. This deep bench will reduce the potential for conflicting demands.

Schedule and cost control: As previously noted, having our primary team members based in Roanoke makes routine checks on project schedule and cost more efficient. All of our team members are within close proximity to each other. When project-specific tasks may require AECOM resources from outside the immediate geography, we will strive to engage these resources electronically to save project dollars.

Depth and breadth of resources: No one firm can provide the same level of local staff backed by the national resources of AECOM. There is virtually no project that the City might have that AECOM cannot perform.

Responsiveness: The majority of our team members are located in Roanoke, VA which is approximately an hour from the City's offices. Meetings, site visits, and emergency response can be accomplished quickly and economically. Again, day trips are not a problem.

Dedicated experienced staff: The project team members assembled for this term contract all have previous experience working with the City or similar localities in the Commonwealth of Virginia.

I. AUTHORIZED REPRESENTATIVE THE FOREGOING IS A STATEMENT OF FACTS.

31. SIGNATURE



32. DATE

February 12, 2021

33. NAME AND TITLE

Ronald B. Smith, Vice President

A photograph of a classical building facade featuring a pediment, a row of columns, and arched windows. The image is partially framed by a white circular border. A large blue circle with the number '05' is overlaid on the right side of the image.

05

SF330 Part II

ARCHITECT – ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME AECOM Technical Services, Inc.			3. YR ESTABLISHED 1970	4. UNIQUE ENTITY IDENTIFIER 003184462 (ATS HQ DUNS)
2b. STREET 10 South Jefferson, Suite 1600			5. OWNERSHIP a. TYPE Corporation	
2c. CITY Roanoke	2d. STATE VA	2e. ZIP CODE 24011	b. SMALL BUSINESS STATUS Large	
6a. POINT OF CONTACT NAME AND TITLE Allen Crocker, PE, LEED AP, Vice President Operations Leadership			7. NAME OF FIRM (If block 2a is a branch office) AECOM Technical Services, Inc.	
6b. TELEPHONE NUMBER 540.857.3100		6c. E-MAIL ADDRESS allen.crocker@aecom.com		
8a. FORMER FIRM NAME(S) (If any) No firm name change during the last six years			8b YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	2,699	7	A05/A06	Airports; Terminals and Hangars; Lighting; Fueling	10
06	Architect	1,104	17	C15	Construction Management	10
08	CADD Technician	1,949	14	C18	Cost Estimating; Cost Eng. & Analysis	8
12	Civil Engineer	6,535	27	D02	Dams (Earth; Rock); Dikes; Levees	10
16	Construction Manager	739	2	D04	Design-Build – Preparation of RFPs	9
18	Cost Engineer/Estimator	913	3	E02	Educational Facilities; Classrooms	10
21	Electrical Engineer	1,011	18	E07	Energy Conservation; New Energy Sources	9
23	Environmental Engineer	1,166	1	E09	Env. Impact Studies, Assessments or Statements	10
24	Environmental Scientist	1,528	1	E12	Environmental Remediation	10
25	Fire Protection Engineer	45	6	G01	Garages; Vehicle Maint. Facilities; Parking Decks	7
29	GIS Specialist	363	1	G04	GIS: Development, Analysis, & Data Conversion	8
32	Hydraulic Engineer	37	2	H01	Harbors; Jetties; Piers; Ship Terminal Facilities	7
37	Interior Designer	82	12	H07	Highways; Streets; Airfield Paving; Parking Lots	10
42	Mechanical Engineer	1,114	23	H09	Hospital; Medical Facilities	9
48	Project Manager [subset of other disciplines]	[8,450]	[22]	M05	Military Design Standards	7
57	Structural Engineer	1,523	13	O01	Office Buildings; Industrial Parks	9
58	Technician/Analyst	4,250	18	P05/P06	Planning (Community, etc.; Site, Installation & Project)	9
60	Transportation Engineer	1,486	4	P12	Power Generator; Transmission	10
				R06	Rehabilitation (Buildings; Structures; Facilities)	8
				S04	Sewage Collection, Treatment and Disposal	10
				S05	Soils & Geologic Studies; Foundations	8
				S09	Structural Design; Special Structures	8
				S10	Surveying; Platting; Mapping; Flood Plain Studies	8
				S13	Storm Water Handling & Facilities	9
				T03	Traffic & Transportation Engineering	10
				W02/W03	Water Resources; Water Supply Treatment/Distribution	10
Total (all AECOM entities)		48,757	179			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	10
b. Non-Federal Work	10
c. Total Work	10

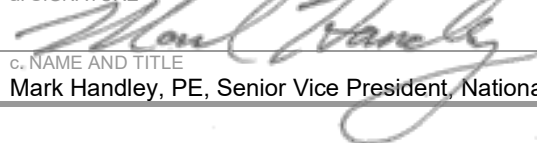
PROFESSIONAL SERVICES REVENUE INDEX NUMBER

- | | |
|---|---|
| 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| 2. \$100,000 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| 5. \$1 million to less than \$2 million | 10. \$50 million or greater |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE

01 January 2021

c. NAME AND TITLE

Mark Handley, PE, Senior Vice President, National Governments



About AECOM

AECOM is the world's premier infrastructure consulting firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of \$13.2 billion in fiscal year 2020. See how we deliver what others can only imagine at [aecom.com](https://www.aecom.com) and [@AECOM](https://twitter.com/AECOM).

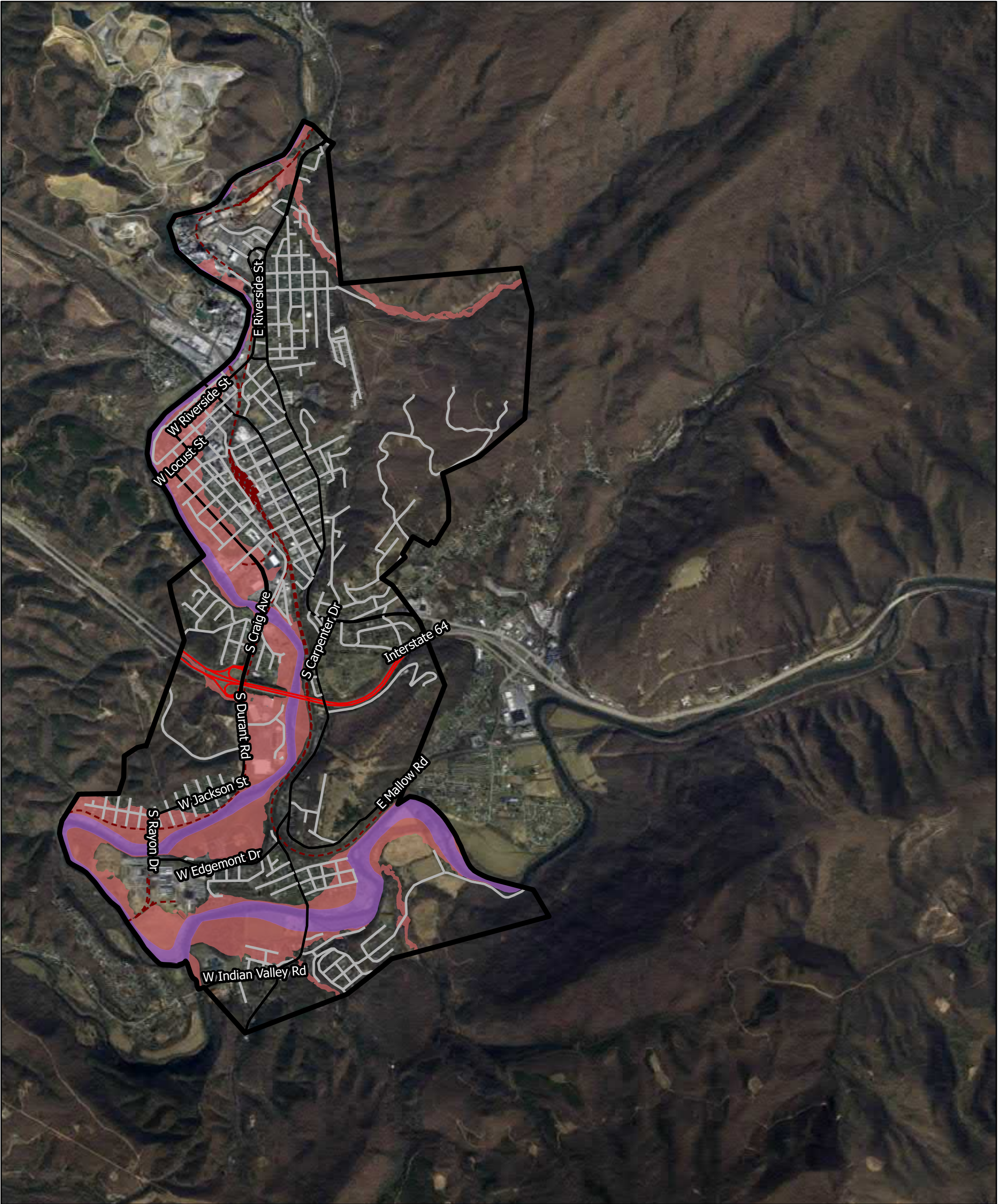
AECOM

10 South Jefferson St., Suite 1600
Roanoke, Virginia 24011

Attachment 4

Detailed Map of Project Area

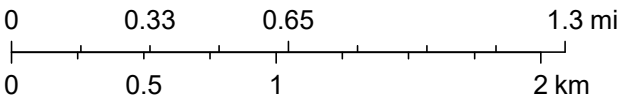
City of Covington



4/1/2022, 3:48:54 PM

- | | | |
|------------------|-----------|-------------------|
| City Limits | Primary | Rail Lines |
| Road Centerlines | Primary | Floodway |
| Interstate 64 | Primary | FEMA Hazard Areas |
| Interstate Ramp | Secondary | |

1:36,112



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Virginia Geographic Information Network (VGIN)

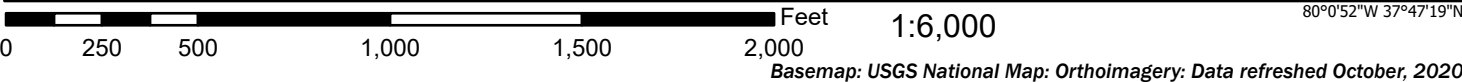
Attachment 5

FEMA FIRM Maps for City

National Flood Hazard Layer FIRMMette



80°1'29"W 37°47'48"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

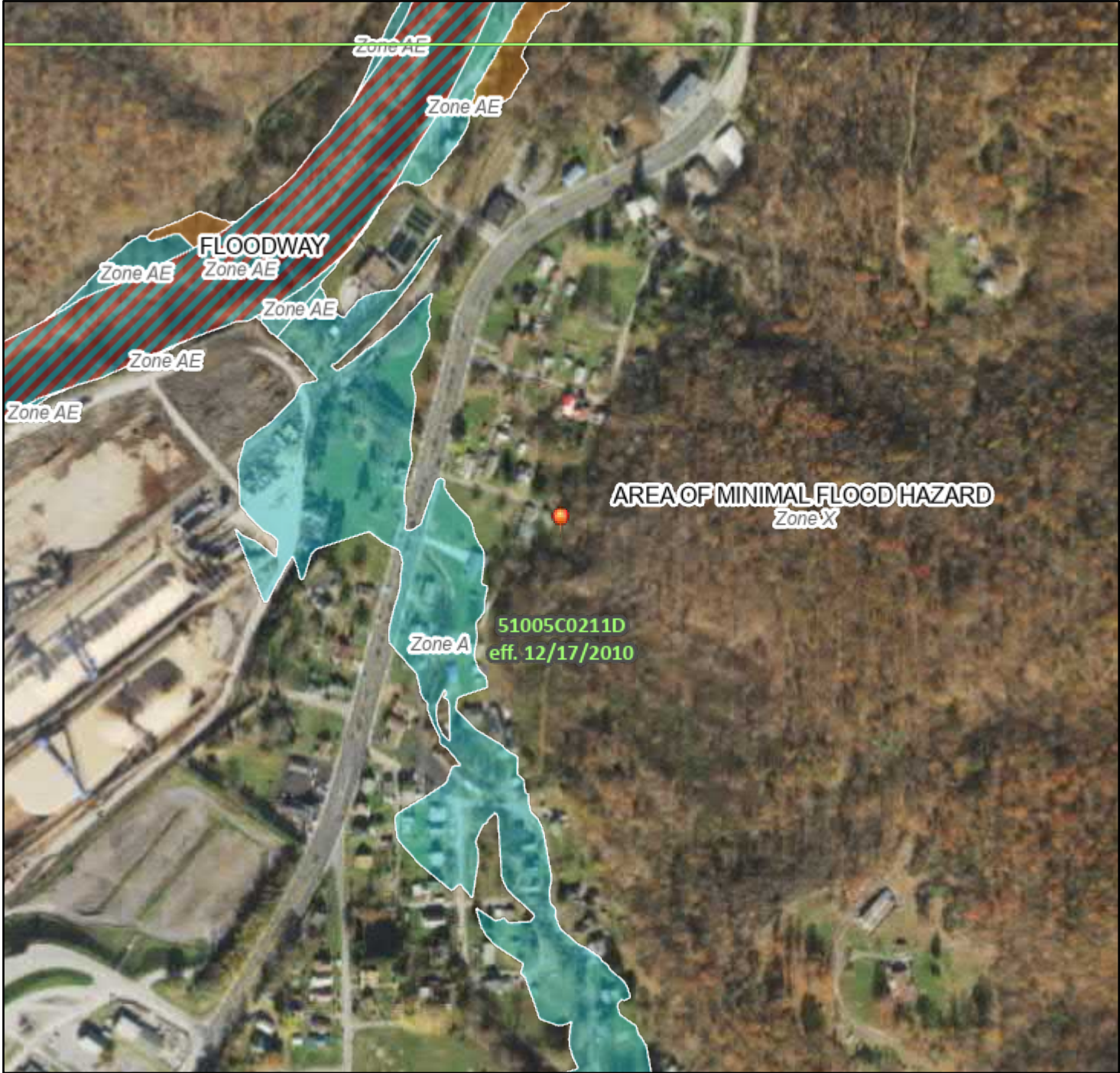
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/1/2022 at 4:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMMette



79°59'31"W 37°48'46"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000
Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/1/2022 at 4:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMMette



79°59'30"W 37°46'34"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000 79°58'52"W 37°46'5"N
Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/1/2022 at 4:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Attachment 6

Consultant Proposal to Develop Drainage Study

April 1, 2022

Ms. Krystal M. Onaitis, MPA
City Manager
City of Covington
333 W. Locust Street
Covington, VA 24426
konaitis@covington.va.us

Proposal to Develop City-Wide Drainage Study for City of Covington, VA

Dear Krystal,

AECOM Technical Services, Inc. (AECOM) is pleased to provide you this proposal for select A/E services to support the development of a City-wide Drainage Study (Drainage Study) for the City of Covington (City), to be funded by a Round 3 Community Flood Preparedness Fund (CFPP) Grant administered by the Virginia Department of Conservation and Recreation (DCR). In addition to the Drainage Study, this scope of work includes assistance with updates to the City's existing floodplain ordinance. This Drainage Study is a critical component to the development of the City's Resilience Plan, as the location, size and condition of the City's stormwater sewer is not fully known, and the City is subject to recurrent flooding due to inadequate and antiquated storm sewer systems. This proposal includes mapping of the stormwater sewer system, condition assessment, hydrologic and hydraulic modeling, and improvement scenario development. The outcomes of this Drainage Study will inform the City's Resilience Plan.

Background

Areas within the City of Covington, Virginia have historically flooded, including over two dozen roadways¹ in the City. This flooding is a health and safety concern for citizens of the City as emergency access routes are impacted by flood waters. In addition, riverine flooding of the Jackson River has occurred at all times of the year, and during all major floods, high velocity flood flows and hazardous conditions exist in the main stream channel and in some parts of the flood plain.

The City does not have their stormwater system mapped in GIS, and the condition of the system is unknown in most areas of the City. City personnel routinely provide reactive maintenance of the stormwater system when complaints are filed due to flooding. Damaged and deteriorated piping is commonplace throughout the City and is likely contributing to recurrent pluvial flooding. In addition, the impact of climate change on rainfall intensity must be factored into H&H modeling efforts to determine if capacity increases are needed.

¹ Source: Table 48 from the RVAC Regional Hazard Mitigation Plan

Scope of Services

AECOM will assist the City in development of a City-wide Drainage Study that aligns with the CFPF Study priorities, as listed in the Grant Manual. The following tasks are included and outlined below with a brief summary of services.

Task 1 – Storm Sewer Data Review and Surveying***Task 1.1 – Desktop Data Review and Digitization of Storm Sewer***

Task 1.1 includes a review of existing data that is available for the City's storm sewer system. AECOM understands that some of the data available is in hard copy format and needs to be digitized. Sanitary sewer overflows (SSOs) are an ongoing problem, and the City is required to evaluate and correct inflow and infiltration problems within its sanitary sewer collection system and numerous studies and design work has been completed to investigate, inspect and separate the sanitary and storm sewer systems throughout the City. This task includes a review and digitization of available storm sewer data as the first step in the development of a City-wide storm sewer GIS layer.

Task 1.2 – Survey of Storm Sewer

Task 1.2 includes surveying to collect the location, size, inverts and material of major stormwater pipes, ditches, and other structures within the City limits. AECOM will utilize our Roanoke-based surveying crew to collect this information and translate the data for use in ArcGIS and CADD. AECOM has budgeted four weeks (320 hours) of a two-man surveying crew to collect stormwater system information within the study area and 160 hours to post-process survey data.

Task 2 – Storm Sewer Condition Assessment

Task 2 includes condition assessment of critical areas of the City's storm sewer system to identify clogged, broken, cracked, collapsed and otherwise damaged pipe and structures. Understanding the current condition of major pipes will be necessary to develop the H&H model for the City's storm sewer system and will allow the City to develop a prioritized maintenance program for their system. The exact length, size and quantity of stormwater pipes and structures in the City is unknown at this time, so for budgeting purposes, an estimate of \$25,000 has been included in this scope for an infrastructure inspection subcontractor to provide CCTV inspections of critical portions of the City's system. At the conclusion of Task 1, AECOM will work with City personnel to identify locations of frequent flooding, maintenance requests and other key areas that will be inspected. The results of these inspections will not only inform the H&H model (Task 4) but will also be provided for the City to help prioritize system maintenance efforts and resource planning.

Task 3 – Evaluation of Regional Rainfall Data

An evaluation of historic regional rainfall data will be conducted to determine if changes in heavy rainfall and intensity are occurring over time in the Covington/Alleghany Highlands region of Virginia. This evaluation will use local and regional level stationarity assessment of historic rainfall data from gauges in Covington (NOAA Site ID 44-2041 and Site ID 44-2044) as well nearby gauges in Clifton Forge, Gathright Dam, Jordan Mines and Hot springs. Historic rainfall trends, along with projections of future changes in the Precipitation-Frequency Curve will be used to determine if modifications should be made to regional rainfall design guidance for key return periods. The deliverable for this task includes a technical memorandum summarizing the findings and recommendations for modifications to the City's rainfall design storm guidance.

Task 4 – Hydrologic and Hydraulic Model of Drainage Areas within City

Using the data collected under Tasks 1 through 3 and available LiDAR for the City, AECOM will prepare PCSWMM models to evaluate the hydraulic performance of the watershed and stormwater management system for the 2-, 10-, 25-, 50- and 100-year storm events using regional rainfall data and Jackson River flood level information. AECOM will use these SWMM models to confirm the locations where recurrent flooding events have been observed and determine if capacity limitations contribute to road flooding in the study area.

Two scenarios will be analyzed to include Scenario A - Existing Conditions (based on current conditions) and Scenario B – Scenario A with new infrastructure improvements (to be identified by AECOM in conjunction with the City). Under Scenario B, alternative improvement combinations will be modeled together; separate models will not be constructed for each possible combination of improvements. AECOM will work with the City to determine the desired level of service for system improvements.

AECOM will present the results of this modeling effort to the City in a workshop (see Task 7) for review and consensus. Modeling files will be provided to the City for future use.

Task 5 – Drainage Study Report Development

This task includes preparation of model documentation and a summary of modeling results and recommended system improvements. The results of the Drainage Study are intended to inform the City's Resilience Plan, and proposed storm sewer system improvement scenarios will be included as resilience projects in the Resilience Plan. AECOM will provide a cost estimate for each improvement project identified. The cost estimate will include costs for surveying, design and construction costs and permit applications preparation, if necessary. Land acquisition costs will not be included. AECOM will document cost estimates and the criteria matrix used in the development of prioritization plan for system improvements. AECOM will submit a draft Drainage Study Report to the City for review and comment. One round of comments is assumed, and a final Drainage Study Report will be provided in electronic and hard copy format.

Task 6 – Floodplain Ordinance Updates

This task includes a review of the current floodplain ordinance and development of recommendations to be considered by the City. The City of Covington is in the Upper James HUC 8 watershed, one of the only watersheds in Virginia that FEMA has not funded to study yet. There are no new FEMA floodplain maps in the works right now, but AECOM suspects that FEMA may fund this watershed in the next couple of years. The City may elect to incorporate recommended ordinance changes once FEMA completes their floodplain study.

Task 7 – Project Management and Meetings

This task includes the following:

- Recurring communication between the City and identified stakeholders including biweekly project status calls, emails and virtual meetings.
- Project management tasks include monthly invoicing and the development of progress reports.
- Quality control reviews of all deliverables and products prepared as part of this project.
- Assistance with the development of CFPF progress reports.
- Attendance at milestone meetings, including the following:
 - Kick-off Meeting (assumed to be virtual, one hour in length)

- Condition Assessment Results Meeting – Present the results of stormwater system inspections.
- Modeling Results and Improvements Identification Meeting – Present the results of the stormwater modeling efforts and preliminary list of identified resilience projects to City personnel and identified stakeholders.
- Public Meetings – present potential project information and solicit input from public on the list of storm sewer improvement projects.

Deliverables for this task include meeting agendas, meeting summaries, invoices, and progress reports.

Assumptions

1. City to provide GIS data available. The City does not currently have GIS data for the stormwater system.
2. The Resilience Plan is a planning level document and will not be stamped and sealed by a Virginia Professional Engineer (PE).
3. AECOM will not be providing site plans, landscaping plans or detailed design for any of the identified storm sewer improvement projects identified in the Drainage Study at this phase of the project.
4. Environmental permitting will not be performed.
5. LiDAR data is available for the study area.
6. Phase I, II, III Archeological Investigations are not included.
7. FEMA CLOMR or LOMR applications are not included.

Schedule

The notice to proceed is dependent on the timing of the CFPF grant awards. AECOM is prepared to commence work within two weeks of NTP from the City, and it is believed that all work include in this scope can be completed within one year from NTP. It is noted that this work will be coordinated with the Resilience Plan, as information collected as part of this Drainage Study will inform the Resilience Plan. The estimated schedule for project milestones is as follows:

- Kick-Off Meeting - within two weeks of NTP
- Public Meeting #1 – within eight weeks of the Kick-Off Meeting
- Publications and Documents Review – approximate 8-week effort, to commence upon receipt of all requested information.
- Condition Assessment Results Meeting – within six weeks of completion of condition assessment inspections of the storm sewer system.
- Proposed Projects Meeting – within 8 weeks of the completion of modeling efforts (combined with Resilience Plan projects meeting).
- Public Meeting #2 – within four weeks of the Modeling Results and Improvements Identification Meeting.

- Draft Drainage Study Submittal to City – within two months of the Public Meeting #2.
- Final Drainage Study Submittal to DCR – within 8 weeks of receipt of comments from City.

Additional Services (available upon request)

1. FEMA CLOMR or LOMR application support
2. Grant Writing and Grant Administration Support

Fee

AECOM will provide the above-described services for the lump sum fee of **\$357,380**, as shown in the Task Breakdown table below.

Task	Labor Cost	Subcontractor	Expenses
Task 1.1 -Storm Sewer Digitization	\$37,310		
Task 1.2 -Storm Sewer Mapping	\$79,660		\$1,080
Task 2 - Storm Sewer Condition Assessment	\$20,360	\$27,500	
Task 3 - Evaluation of Regional Rainfall Data	\$22,200		
Task 4 - H&H Modeling of Storm Sewer	\$84,160		\$1,000
Task 5 - Drainage Study Report Development	\$41,960		
Task 6 - Floodplain Ordinance Updates	\$12,380		
Task 7 - Project Management and Meetings	\$29,770		
Sub-Total	\$327,800	\$27,500	\$2,080
Total Fee	\$357,380		

We are eager to begin serving you on this unique project.

Yours sincerely,



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CFPF, rr <cfpf@dcr.virginia.gov>

Final CFPF Applications -City of Covington Va. (EMAIL 1 of 2)

1 message

Patrick Madigan <pmadigan@covington.va.us>
To: "cfpf@dcr.virginia.gov" <cfpf@dcr.virginia.gov>
Cc: Rebecca Nuckols <Rnuckols@covington.va.us>

Fri, Apr 8, 2022 at 1:00 PM

Sir/Madam,

Attached to this email is one of two applications for the City of Covington.

This application package is for the Drainage Study.

Please don't hesitate to contact me with any questions.

Respectfully,

Patrick J. Madigan, Sr.

Director of Public Works

City of Covington

[333 W Locust St.,](#)

[Covington, Va. 24426](#)

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