Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

City of Columbus Department of Public Utilities and Franklin Soil and Water Conservation District 2019 Working Agreement

This working agreement is between the City of Columbus and Franklin Soil and Water Conservation District (FSWCD). This agreement is effective upon execution of the City and terminates on March 31, 2020. The agreement is subject to the limitations of authorities, resources and policies of Franklin Soil and Water Conservation District and the City of Columbus.

Franklin SWCD will provide the following services for the City of Columbus:

The purpose of this agreement is to provide support and coordination for the following programs and projects:

1) Lawncare Practices Outreach and Involvement Program, $23,700 (Attachment A)
2) Community Backyards, $80,500 (Attachment B)
3) Contractor Outreach Program, $23,000 (Attachment C)
4) Stormwater and Conservation Education in schools within City of Columbus $17,640 (Attachment D)
5) Outreach to Developers, Contractors and Stormwater Professionals $800 (Attachment E)
6) Columbus Watershed Assistance, $20,000 (Attachment F)
7) Franklin County Stream Resource Geo Database, $20,000 (Attachment G)
8) Develop Urban Watershed Delineations, $110,000 (Attachment H)

For benefit of City of Columbus, Department of Public Utilities in managing stormwater and improving source water quality.

The City of Columbus will provide the following:

The City of Columbus shall compensate Franklin SWCD in the form of a working agreement in the amount of $295,640. Franklin SWCD reserves the right to expend funds as needed to meet working agreement components and overhead costs. This agreement is not intended to be a fee for service agreement, but rather support for mutually beneficial programs and services. Franklin SWCD will provide services and support to Columbus within and outside this agreement as requested and as resources allow. This agreement supports our current mission and goals.

It is Mutually Agreed:

That Franklin SWCD is a conservation technical and education service agency and therefore is not granted regulatory authority in the Ohio Revised Code.

That the City and Franklin SWCD will meet when necessary to review and coordinate activities and programs with the aim of developing a multi-discipline approach to resource management.

That this working agreement may be amended or terminated at any time by mutual consent, or the agreement may be terminated by either party giving sixty (60) days' notice in writing to the other.

SIGNATURES:

The below signatures certify consent on the above agreement.

FRANKLIN SOIL AND WATER CONSERVATION DISTRICT

_____

Signature Title Date

CITY OF COLUMBUS

_____

Signature Title Date

Exhibit A

Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

Attachment A

2019 City of Columbus Lawn Care Practices Outreach and Involvement Program Scope of Services

Support Columbus is investigating funding for lawn mower exchange program (Leslie will double check)

Franklin Soil and Water will develop and administer the *Get Grassy* lawn care program with City of Columbus and other Municipal Partners. In 2019, Franklin Soil and Water will:

1. Work with our partners for continued program development.

    a. Engage with lawn care companies and program partners to ensure we receive feedback, and that their commitment continues to grow through the program development.
    b. Cultivate relationships in the "green" industry with exhibitions and attendance at seminars and conferences including local tradeshows by the Ohio Turfgrass Foundation and the Midwest Green Industry Experience.
    c. Identify opportunities to reach out to new home owners.
    d. Reach out to Buckeyes for Sustainable Turf Grass for possible partnership and cross promotion.

2. Create materials for distribution.

    a. Utilize print materials to include a program flyer, pledge forms, and seasonal tip sheets.
    b. Provide personalized "Seasonal How-To" cards for lawn care companies, featuring City of Columbus logos alongside theirs and the Districts'.

3. Communicate via website, social media and E-updates.

a. Update the program website (*getgrassy.org*) to provide additional material and information to existing and potential lawn care partners, City of Columbus residents and homeowners, and additional interested Franklin County residents.
b. Provide information and links to City of Columbus to add program information to their website.
c. Employ social media and E-updates to provide videos and seasonally-appropriate messages and reminders, thereby keeping the City of Columbus and additional partners up-to-date in real time on developments.

4. Reach more residents and gain commitments with advertising and outreach

a. Use our existing working relationship with local nurseries and garden centers to promote *Get Grassy*!
b. Explore additional opportunities at big box stores.
c. Provide paid program advertising in the Home and Garden section of the Columbus Dispatch.
d. Target two community events in the City of Columbus where we believe homeowners concerned about lawn care will be present.
e. Incorporate *Get Grassy*! into the Community Backyards programming with one course specifically focused on lawn care.
f. Distribute educational information to at least 20,000 residents with 300 residents completing a pledge form.

5. Measure participation and program effectiveness

a. Paper and online pledges asking residents to commit to simple behaviors for better water quality as it relates to lawn care will be collected.
b. Incentives will be provided (rain gauge, entry into lottery) for submitting pledges
c. Website visits, data collection, materials distributed, participant surveys, and requests for additional information will be tracked to gauge level of participation in the program.

Get Grassy! Lawn Care Program Estimated Expenditures

Funding Request = $23,700

FSWCD Contribution = $9,000Total Project Cost = $32,700	
Material and Supplies	Budget 2019
Consultant website management	$2,500
"Seasonal How-To" cards for lawn care companies and additional partners	$1,000
Staff/consultant time for development of program flyers and additional literature	$1,000
Total Materials Development	**$4,500**

Program Outreach	Budget 2019
Paid advertising and press release	$2,500
Community event promotion at 2 events	$2,500
Staff time for coordinating messaging through social media, emails and information for utility billing.	$2,000
Staff time for communication with lawn care companies, big box stores, including talking to employees about stormwater	$12,000
Tradeshow exhibitions, registration for continuing education events, or additional outreach	$1,700
Incentive rain gauges or other conservation prompts	$2,000
Pledge management and surveys	$3,000
Total Program Outreach	**$25,700**

Program Development and Research	Budget 2019
Research, partner communications and future recommendations development	$2,500
Total Program Development and Research	**$2,500**

Total Estimated Expenditures	**$32,700**

Exhibit B

Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

Attachment B

2019 Community Backyards Program Scope of Services

A. Franklin Soil and Water and the City of Columbus' intergovernmental working agreement will continue to have the following goals for the 2019 Program:

1. Increase awareness among City of Columbus residents on behaviors and practices that influence the local environment including residential flooding, and water quality. Information and resources will be provided through a website, written materials, and workshops.

2. Engage as many City of Columbus households in implementing backyard conservation practices as resources allow. Rebates are provided for approved rain barrels, native plants, and trees. Additional assistance will be made available through emails, phone calls and site visits.

3. The 2019 program will coordinate with the following partner initiatives and programs: City of Columbus' *GreenSpot, Branch Out,* and *Blueprint*; Franklin Soil and Water's *Gardening for Clean Water* and *Get Grassy*; and programming at the Grange Insurance Audubon Center. Outreach and education are additionally extended via three watershed/ community groups, Simply Living, Friends of the Lower Olentangy Watershed (FLOW) and Friends of Alum Creek and Tributaries (FACT).

B. Franklin Soil and Water will provide the following services to the City of Columbus:

1. Evaluate and update program materials.

a. Consult with partners and evaluate any changes that need to be made to the program, handouts, website or presentation.

b. Provide information, graphics and program link to include on City of Columbus's website.

2. Implement the Community Backyards Rebate Program.

a. Interested residents within City of Columbus service area must complete an educational course to receive a rebate in one of two ways: attendance at a free in-person workshop facilitated by Franklin Soil and Water and partnering organizations, or completion of the online backyard conservation course and quiz through www.communitybackyards.org.

b. The educational courses, in-person and online, will place the primary focus on stormwater, stormwater pollution and stormwater pollution abatement. Instructors and online content will provide information on rain barrels, rain gardens, lawn care, and native plants.

c. All participants will be registered as a GreenSpot Member at the time of completing the course. A list of Columbus *Backyards* participants will be sent to the GreenSpot Program Coordinator on a monthly basis.

d. Vouchers will be personalized for participants after their eligibility information is confirmed through our GIS or the Franklin County Auditor website. The vouchers will include available rebate items, rebate amount, and purchasing details.

e. Vouchers are valid for 60 days with limited extensions upon request. Vouchers and rebates will not be accepted after December 1, 2019.

f. In-person workshop attendees will receive their voucher at the end of the workshop. Their information and eligibility will be verified prior to the workshop. Attendees who did not register for the workshop will need to provide their information on a sign-in sheet. Their eligibility will be verified the next business day and their vouchers will be emailed or mailed out to qualifying participants.

g. Online course and quiz participants will receive a voucher through email or mail after passing the quiz (70% or better) within two weeks of participation.

3. Manage and track program participation, vouchers and rebates.

   a. Original receipt or copy, voucher, and photo of items must be submitted to Franklin Soil and Water in exchange for a reimbursement rebate check for no more than $50 for rain barrels, trees, or native plants. Refunds will be limited to **one reimbursement per household per year**.

   b. Reimbursements will be available on a first come, first serve basis. Once reimbursement dollars are expended for each item, reimbursements will not be available for the remainder of 2019. Available vouchers and their corresponding expiration date will be tracked to ensure that the largest number of potential rebates is available at any given time.

   c. In the interest of convenience, program growth, and support of local retailers that carry appropriate items, Franklin Soil and Water has agreements with select local retailers (Rain Brothers LLC, City Folks Farm Shop, Scioto Gardens, and Kurtz Brothers) for immediate discounts at point-of-sale. Vendors may invoice Franklin Soil and Water monthly or more frequently for the amount of vouchers claimed. To be paid, vendors must be able to verify voucher numbers and products sold. Because only approved items are purchased and verified by the retailer, it will not be necessary to send in receipts, photos, and voucher/certificates to Franklin Soil and Water for pre-approval.

   d. "Approved" items are enclosed rain barrels with diverters to avoid overflow and prevent mosquitos; and perennials, shrubs, or trees. No vegetables, herbs, annuals, or invasive plants (as per Ohio Invasive Plants Council, ODNR, and Midwest Invasive Plant Network) are permitted. Though native plant use is highly encouraged, non-native perennials are eligible for reimbursement as long as they are not listed on the invasive list provided on the website and through confirmation emails.

5. Work with Neighborhood Pride coordinators and the Department of Neighborhoods to offer information to homeowners on the Low Income Water and Sewer program offered through the Department of Public Utilities. Qualified residents who complete the Backyards course may receive a free rain barrel. Fourteen low-income rain barrels are currently available.

6. Provide rain garden assistance and education.

a. Guidance from Franklin Soil and Water and onsite evaluations will be available to help ensure proper planning and placement of rain gardens. Efforts will be made to avoid placement over lateral lines in SSO and CSO area.

b. Support Gardening for Clean Water Program to promote rain gardens and community backyards conservation practices at local nurseries. Currently Oakland Nurseries, Straders, Dills Garden Center, Kurtz Brothers, Darby Creek Nurseries, and Scioto Gardens Landscape Nursery are participating. We will reach out to Fishers Garden Center in 2019. This includes workshops to garden center staff on installing rain gardens, labeling rain garden plants in the nursery and providing an educational kiosk at participating locations.

Overview of Grant Revenue

Grant Revenue Detail	Cost	Item(s)	Budget
Columbus Grant -- Sewer and Drains			$56,500
Columbus Grant – Water			$24,000
FSWCD Funding Match (Rebates of $32,500 not matchable)			$17,000
Total Grant Revenue			**$97,500**

Estimated Expenditures

Conservation Education Detail	Cost	Item(s)	Budget
Workshops and Classes: 6 classes throughout year.			
Partner Organization: full class	400	5	$2,000
Grange Insurance Audubon Center (facilities cost)	200	1	$200
Total Conservation Education			**$2,200**

Rebate Dollars Detail	Cost	Item(s)	Budget
Rain Barrels	50	350	$17,500
Plants and Trees	50	300	$15,000
Total Rebate Dollars			**$32,500**

Additional Expenses Detail	Cost	Item(s)	Budget
"Train the Trainer" workshop			$500
Paid Advertising (Magazines, Newspapers, Prints)			1,500
Public Relations/Outreach and Advertisements/ (PR Staff)			$4,000
Gardening for Clean Water Outreach and Support			$2,000
Video/power point/ quiz/ website updates, educational material development, printing			$2,000
Registration, Ordering, Pick-up, Customer Service (Admin Staff)			$49,800
10 Site Visits for Rain Gardens (x 150/ea)			$1,500

GIS Mapping Assistance			$1,500
Total Additional Expense			**$62,800**

Total Estimated Expenditures			**$97,500**

Exhibit C

Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

Attachment C

2019 Clean Water Guide for Home Contractors

Scope of Services

The purpose of these services are to provide public outreach and education to City of Columbus contractors including single lot redevelopment, residential remodeling and repair, painting and landscaping.

Franklin SWCD will provide the following services for the City of Columbus Department of Public Utilities:

1. Promote proper waste management and disposal of paint and concrete waste water by contractors.

    a. Work with City of Columbus Staff, Ohio EPA Small Business, and contractors to promote messaging.
    b. Print 8 panel fold brochures to be handed out at stores and events.
    c. Develop short videos to promote painting and concrete waste water messaging
    d. Work with Columbus staff to develop bilingual education on 8 panel fold brochures and post card mailing.
    e. Send a direct mailer (post card) to city of Columbus's contractor list.
    f. Offer 50 30x30 washouts to contractors as supplies last at Franklin Soil and Water Conservation District's office.
    g. Develop relationship with at least four businesses that sell products, supplies and equipment to painting and mason contractors.
    h. Attend at least two events to outreach to contractors.
    i. Promote messaging in at least one contractor publication or radio station with this targeted demographic.

2. Identify additional opportunities to promote messaging and pursue these opportunities or make recommendations for programming in 2020.

Funding

***Contractor Education and Outreach* Program Estimated Expenditures**	
Funding Request = $23,000	
FSWCD Contribution = $8,000 Total Project Cost = $31,000	
Material and Supplies	Budget
Development of educational video	$2,000
Development and printing of Bi-lingual Brochures	$2,500
Develop and print postcard for contractor mailing	$1,500
Advertising	$2,000
Total Materials Development	**$8,000**

Program Outreach and Management	Budget
Promote program and develop relationships with relevant trade organizations and contractor businesses. This includes attending events.	$20,000
Conduct one direct mailing including postage.	$1,500
Evaluate program and make recommendations for 2020	$1,500
Total Program Outreach	**$23,000**

Total Estimated Expenditures	**$31,000**

Exhibit D

Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

Attachment D

2019 Stormwater and Conservation Education in Schools within the City of Columbus

Scope of Services

The purpose of these services are to provide environmental education on topics related to storm water pollution including water quality, soils and soil erosion in relation to Ohio State Science Standards.

Franklin SWCD will provide the following services for the City of Columbus Department of Public Utilities:

1. Provide targeted programming to an estimated 4,200 Students by providing classroom activities and presentations.

2. Maintain a variety of programs and hands on displays available to teachers and adaptable to meet specific needs.

3. Franklin Soil and Water Conservation District will give a full account of programming types and numbers twice a year and upon request.

4. Franklin Soil and Water Conservation District will recognize City of Columbus as a supporter and partner and incorporate materials from *Columbus GreenSpot, KNOW Your Stream, and Blueprint Columbus* into education programs.

Funding

The City of Columbus shall compensate the SWCD in the amount of $17,640.

Exhibit E

Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

Attachment E

2019 Outreach to Developers, Contractors and Stormwater Professionals.

Scope of Services

Franklin SWCD will provide the following services for the City of Columbus Department of Public Utilities:

- Provide free registrations for City staff for 2019 for events where we manage the registration. This includes any OSWA or FSWCD education event for which Franklin SWCD manages registration.

Funding

The City of Columbus shall compensate the SWCD in the amount of $800.00

Exhibit F

Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

Attachment F

2019 Watershed Master Plan Assistance

Scope of Services

Franklin Soil and Water Conservation District (FSWCD) will provide assistance to the City of Columbus Division of Public Utilities (DPU) in three areas:

1) Work with Delaware Soil and Water Conservation District to develop a 9-point watershed plan for Duncan Run in the Hoover Reservoir watershed.

2) Work with Delaware Soil and Water to develop and mail an educational postcard about the importance of maintaining buffers along the reservoir as well as other management practices for water quality. This postcard may also promote the Community Backyards program where residents would qualify for $50.00 rebate for specific conservation practices.

3) As funding allows, provide support to Be the Change for Clean Water messaging on Farming for our Future and/or Only Rain Down the Drain and in Ditches.

Funding

The City of Columbus shall compensate the SWCD in the amount of $20,000

Exhibit G

Franklin Soil and Water Conservation District

Creating Conservation Solutions for Over 70 Years

Attachment G

2019 Scope of Services for the Franklin County Stream Resource Geodatabase to manage stormwater and improve water quality

The purpose of this agreement is to provide support and coordination for the benefit of the Franklin County Stream Resource Geodatabase and the City of Columbus, Division of Sewerage and Drainage in managing stormwater and improving water quality.

Franklin SWCD will provide the following services for the City of Columbus:

1. Staff will perform maintenance and quality control on Columbus data in the Stream Resource Geodatabase. This will include adjustment of geometry if necessary, or adjustment of attributes if necessary. Maintenance and quality control will be provided against the most recent copy of the Columbus stormwater database as provided by Columbus (planned for March 2019) as part of our data exchange.
2. Staff will add new or modified Columbus stormwater data to the Stream Resource Geodatabase as provided from the most recent copy of the Columbus stormwater database. Staff will modify existing surface drainage in the stream resource geodatabase as needed to connect new stormwater data from the City or reflect modification or elimination of surface drainage.
3. Staff will continue to include unincorporated stormwater data into the stream resource geodatabase as this data is developed to a degree for inclusion. Staff will review connections between Columbus stormwater data and unincorporated stormwater data and make adjustments as necessary.
4. Work will predominantly be in the Lower Scioto River Watershed from the Olentangy River confluence to the southern Franklin County line. As time permits, work will start in the Lower Big Creek Watershed from the Three Rivers Confluence to the county line. Surface drainage outside the road r.o.w. and road drainage will be adjusted to 1 foot lidar elevations in the watersheds. Changes that affect Columbus stormwater data will be tracked in an excel spreadsheet and provided to Columbus during the subsequent data exchange.
5. Franklin Soil and Water Conservation District will recognize the City of Columbus as a partner and supporter on programming and communication materials.

Funding

The City of Columbus shall compensate Franklin SWCD in the amount of $20,000.

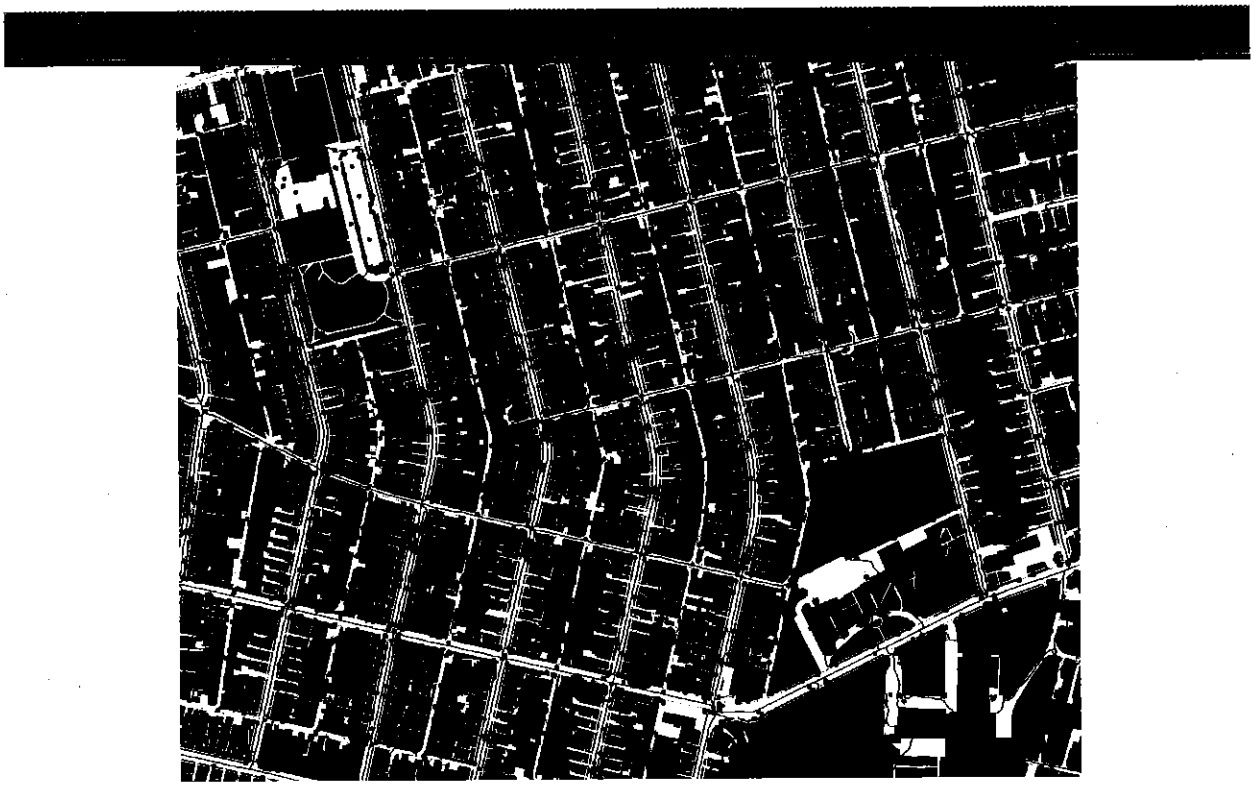
Attachment - H Exhibit H

Franklin Soil and Water Conservation District
Creating Conservation Solutions for Over 70 Years

City of Columbus

Proposal to Develop Urban Watershed Delineations

2019



Contents

1.0 Introduction

Franklin Soil and Water Conservation District is pleased to offer the following proposal for providing continued assistance to the City of Columbus with developing urban delineations and associated services to assist with the Blueprint Columbus effort currently underway and projects supporting the results of the study. The focus of this effort is eliminating sanitary sewer overflows while also investing in Columbus neighborhoods and the local economy by using means other than gray infrastructure. The following provides an overview of our organization, elaborates on our understanding of the scope of services required for this project, and outlines a proposal for undertaking the project.

Franklin Soil and Water Conservation District

Franklin Soil and Water Conservation District (FSWCD) is the natural resource agency in Franklin County with the sole purpose of promoting conservation and responsible land use for better water quality and natural resource management. This is accomplished through establishing partnerships, providing technical guidance, and engaging communities. All of our programs are focused on protecting or improving water quality and natural resources for the benefit of Central Ohio residents.

With a staff of 19 experienced and highly qualified individuals, we have been developing and implementing conservation solutions for over 70 years in Franklin County and are excited to continue this challenging effort. Stormwater management is central to our work, and we continually strive to develop new ideas, tools, and approaches to increase the visibility and implementation of stormwater management approaches and practices. This project aligns very well with our organization's mission and we believe it is a responsible and worthwhile endeavor continuing to promote and pursue.

FSWCD has intergovernmental working agreements with a majority of the municipalities in Franklin County, Franklin County, and all the townships. Included in these partnerships is the City of Columbus (City), which has been a supporter and beneficiary of our stormwater management efforts for many years. Starting in 2001, FSWCD and the City initiated a partnership for the mapping of stormwater infrastructure and surface water resources. These efforts include refinement of surface water flow routes, in-field verification and mapping of outfalls, and connectivity of stormwater lines throughout Columbus as well as a majority of the municipalities within Franklin County.

2.0 Project Understanding

By means of meetings, correspondence, and discussions with City staff, the following is FSWCD's understanding of the services being requested by the City of Columbus for this ongoing effort. Note that some of the following are excerpts from The City of Columbus Department of Public Utilities website.

In recent years, the US Environmental Protection Agency started encouraging the adoption of an integrated planning approach to address Clean Water Act (CWA) requirements. This approach is intended to be an option to help municipalities meet their CWA obligations by optimizing the benefits of their infrastructure improvement investments through the appropriate prioritization and sequencing of work. This policy encourages cities to integrate the work needed to comply with both stormwater regulations and elimination of sewer overflows, and strongly promotes the use of green infrastructure to meet these challenges.

The City submitted a proposal (titled: Blueprint Columbus) to Ohio EPA as an alternative to the City's 2005 Wet Weather Management Plan in September of 2015. On December 1, 2015 the City received an official approval letter from Ohio EPA granting the City to proceed with Blueprint Columbus. We were very pleased to hear of the approval and are grateful that we have been able to contribute to this new comprehensive approach to managing stormwater!

Core to implementing an integrated plan is a having a thorough understanding of the municipal separate storm sewer system (MS4) including, but not limited to: the extents of the system, system components and system connectivity, as well as land cover, land use, and land ownership across the landscape contributing flows to the MS4. However, when evaluating urban watersheds in an environment such as Columbus, understanding the makeup of watersheds is complicated by the fact that subsurface drainage changes the configuration of watersheds from boundaries which originally corresponded to naturally occurring surface drainage to configurations dictated by the extensive network of stormwater pipes and appurtenances.

The intent of this project is to continue the process of developing and refining urban watershed delineations in Blueprint Columbus project areas and summarizing a variety of statistics for the delineations. The approach to this project will be to utilize 'best available data' from the City and FSWCD using a GIS. This data will then be provided to the City in file geodatabase format for review, comment and use.

Starting in 2016, FSWCD has, and will continue to produce preliminary base maps for the Blueprint Columbus project areas. This mapping includes impervious surfaces, stormwater related structures, and non-stormwater related structures. Additional priority areas and associated needs will be identified by the City as this effort continues to develop during the upcoming years.

This effort is being undertaken with the understanding that priorities and emphasis my change. For the City, Jason Sanson is to be the point of contact and Fang Cheng will assist in coordination with the delineations. The following sections describe in more detail the approach to this effort.

3.0 Technical Expertise

This urban watershed delineation project is GIS-based, utilizing data provided by the City and developed by FSWCD. The GIS software used in this project will predominantly be ESRI's ArcMap package and associated ArcInfo level geoprocessing tools.

Core to FSWCD's current operations is the use of GIS and associated mapping, and core to this effort is the district's Geomatics program. FSWCD has made extensive use of GIS supported by sixteen years of field data acquired by district staff using GPS equipment. This combination of customized, accurate field data, supplemented by substantial amounts of base data throughout Franklin County, is central for the day-to-day operations of the organization and has improved the services and products that the District is able to provide to the central Ohio community. The ability to use GIS has established ongoing partnerships, has allowed FSWCD to expand services, and further organizational goals by producing more comprehensive, accurate products.

Work directly related to urban watershed delineations include the following efforts developed and maintained by FSWCD: Stream Resource Mapping, Stream Resource Geodatabase and Urban SubH20shed (Subwatershed) Initiative.

- **Stream Resource Mapping**
  Initiated in 2001, FSWCD, in partnership with the City of Columbus and Franklin County Commissioners, started an effort to create a high-resolution dataset of surface drainage throughout Franklin County. This effort was predominantly completed in 2007 and resulted in over 1,600 miles of streams being walked by staff members and over 40,000 features identified, documented with pictures, and managed with a GIS.

- **Stream Resource GeoDatabase**
  Started in 1998 prior to the Stream Resource Mapping effort, a comprehensive database of surface water drainage and subsurface stormwater infrastructure was created and is continually updated and improved for the extents of Franklin County as an ongoing effort. Over the past 20 years, FSWCD has mapped almost all the surface drainage in the county, including previously unmapped headwater streams and outfalls into streams. This information has been reconciled with existing storm sewer data in most communities,

including the City of Columbus. Features include an array of information including historical data and directionality of flow. This dataset consists of over 8,500 miles of drainage and over 350,000 features.

- **Watershed Analysis Projects**
  FSWCD has been able to leverage their GIS to assist various municipalities and county agencies with a variety of analysis projects to meet the varying needs of their partners. These include, but are not limited to: stream walks to inventory riparian corridors to document existing conditions as well as providing data for flow models and municipal work orders, health based assessments for planning of outreach, inspections and utility work, watershed assessments for prioritizing locations for green infrastructure projects and outreach to assist with water quality/quantity concerns, and natural resource evaluations on a county-wide and watershed scales to target appropriate locations for natural resource protection and/or enhancement projects.

4.0 Proposed Staffing

FSWCD is prepared to continue this project upon execution of applicable contracts. FSWCD has a seasoned staff with many project staff members employed at FSWCD for over five years. FSWCD is a dynamic and flexible organization capable of engaging and managing additional staff if workload and available funding permit. For this urban subwatershed project, oversight and coordination of the project will be conducted by Josh Garver. Day-to-day planning, coordination, and delineations and creation of basemaps will be conducted by Ryan Pilewski, and Kyle Sohner. Coordination of updating GIS layers for stormwater lines and surface drainage to be conducted by Jeff Pierce. Additional GIS support will be provided by Aaron Hebert.

Josh Garver, GISP, Assistant Director

Josh Garver is assistant director at FSWCD. Josh has been with FSWCD for eleven years where he has also been employed as the GIS natural resources specialist and member of the geomatics team. He provides technology guidance and support to staff, maintains GIS data layers, and is involved in a variety of projects providing GIS expertise and support. Josh also coordinates GIS-based projects with various Franklin County agencies and local municipalities, which focus on improving water quality and meeting requirements of the NPDES permit held by Franklin County and its townships. Josh has a Master's Certificate in GIS from North Carolina State University, a minor in City and Regional Planning from The Ohio State University and a BS in Landscape Architecture from The Ohio State University. Prior to joining FSWCD, Josh worked several years in landscape architecture and planning firms as a project landscape architect, designing and managing a variety of urban, park and GIS-centric projects.

Ryan Pilewski, MCRP, Watershed Coordinator

Ryan Pilewski is a Watershed Resource Specialist and a member of the geomatics and conservation implementation team at FSWCD. Ryan works with local stakeholders on implementing watershed actions plans and Total Maximum Daily Load reports, including coordinating GIS-based projects with a focus on improving water quality. Ryan also works with municipalities on developing and implementing stormwater management plans as part of the NPDES Phase II permit. Ryan received a BS in Natural Resources Management with a specialization in open space planning from Slippery Rock University of Pennsylvania and a Masters in City and Regional Planning, specializing in watershed management from The Ohio State University. Prior to joining FSWCD, Ryan gained experience evaluating recreational lands with the National Forest Service within the Allegheny National Forest and providing planning and zoning compliance support at the City of Dublin.

Jeff Pierce, GIS Natural Resources Coordinator

Jeff Pierce is GIS natural resources coordinator and a member of the geomatics team at FSWCD. Jeff graduated from Wilmington College (OH) with a BA in English and Communications. He also holds a MS in Educational Leadership and a Master of Environmental Sciences in Applied Ecology and Resource Analysis from Miami University. Jeff has served as a past member of the NRCS statewide GIS committee, as the Chair of the Ohio Geographically Referenced Information Program's statewide hydrology committee, and as a voting member of the Heart of Ohio RC&D Council. He has been with FSWCD since 1995 and founded the first soil and water conservation district GIS program in Ohio.

Kyle Sohner, GIS Technician

Kyle Sohner is a GIS intern and a member of the geomatics team at Franklin Soil and Water Conservation District, where his responsibilities include coordination with GIS staff in assisting with the development and maintenance of district GIS programs and watershed implementation initiatives related to current programs and projects. Kyle graduated from Ohio University, with a BA in environmental geography where he focused on environmental and urban planning, cartography, computer mapping and environmental legislation. He received the 2015 Outstanding Graduating Senior award for the Geography Department. Prior to joining Franklin Soil and Water, Kyle directed company affairs for cycling events nationwide

Aaron Hebert, GIS Natural Resource Specialist

Aaron Hebert is GIS specialist and a member of the geomatics team at FSWCD, where his responsibilities include coordination with GIS staff in managing hardware and data related to current programs and projects. Aaron graduated from Western State College of Colorado, with a BA in history with a geography minor. He has also completed a GIS-certificate program at Columbus State Community College. Prior to joining FSWCD, Aaron interned with the Ohio Department of Natural Resources, editing land parcel data in eastern Ohio.

5.0 Primary Office Location

It is expected that all production work related to this project will be conducted on-site at the FSWCD office. Various meetings and coordination will take place with City staff as necessary at locations agreed to by both parties on an as-needed basis. To support the desktop production work, it is expected that occasional, but minimal, field investigations will be necessary. These investigations will be conducted by district staff and will be coordinated from the FSWCD office.

Franklin Soil and Water Conservation District
1404 Goodale Blvd., Suite 100
Columbus, Ohio 43212
(614) 486-9613
www.franklinswcd.org

Jennifer Fish, CMS4S, Director
Josh Garver, GISP, Assistant Director

6.0 Project Approach

The intent of this project is to continue with the development of urban watershed delineations with currently available data. The intent is not to create or otherwise locate additional data outside of what is addressed in this proposal. The bulk of the time and effort related to the watershed delineations will be spent in a GIS desktop capacity. The process will be an iterative process that will focus on deriving delineations by evaluating the relationship between surface elevations, the locations of inlet structures, the flow direction of surface water, and the flow within stormwater infrastructure. Surface elevations will be obtained through data layers provided by the City and the locations and flow direction of stormsewer components will be obtained from the Stream Resource Geodatabase (SRG) maintained by FSWCD as well as updates from the City.

At this state of the project, FSWCD expects to be primarily coordinating with the City by means of Fang Cheng as the Columbus Blueprint project areas are defined.

An interactive, collaborative team environment internal to FSWCD will be used for the delineations and creation of basemap features. The City will provide an additional quality control component to the delineations with feedback to FSWCD for revisions and refinements of the delineations. Open and timely dialogue between FSWCD, and the City will be required to facilitate efficient production of the delineations.

At this point in the project, the phase I and phase II delineations have been completed for the service areas of Columbus (other than the combined sewer area downtown) and phase III delineations are being conducted for Blueprint Columbus project areas as directed by the City. This third phase of delineations segments the phase II delineations based on catch basins (stormsewer inlets). To this end, for each project area, there are delineations defined for each catch basin and if/as requested by the City, each of these delineations also contains take-off calculations for defined land cover conditions. This level of delineation requires dedicated communication and review by the City to provide and/or confirm current stormsewer components and locations.

For the 2019 working agreement, the current intent is to complete basemap development, impervious surfaces creation, and catch basin delineations for one additional project area defined by the City – this is currently slated to be the Livingston James 5 and Plum Ridge project area. Due to recent requests by consultants, in addition to these products, the impervious surfaces will be created for the extents of drainage to the Blueprint project area (areas outside the project area that drain into

the project area). As has been seen in other project areas, including the extent of the drainage area can increase the overall volume of work very significantly.

If time and personnel allow, in addition to one additional project area, FSWCD will initiate delineation work in the downtown area of Columbus where there are a lot of combined sewers. While the intent is a final product that closely resembles all delineations done to date, this may not end up being the case due to the complexity of the stormsewer network. Rather than being one simple polygon for each delineation, the use of multipart polygons and maybe even points associated with outlet locations will be considered. The development of any delineations in this area will be coordinated closely with the City.

The approach to this project is adaptive with priorities, accommodations, and products reviewed, discussed and agreed to periodically by FSWCD, and the City. This project will be reviewed at least on an annual basis to assess the current state of the project, evaluate developing priorities and plan for further efforts. In addition to the larger project reviews, progress and delineation reviews will be conducted as outlines in section '6.1 Delineation Review' below.

6.1 Delineation Review

Planned, periodic updates on the delineations will continue to be provided to the City at the City's request. The intent of these updates will be to promote dialogue between the City and FSWCD and allow all parties to make needed adjustments in the process. The updates are to include:

A review of the delineations developed

The most recent GIS files of the delineations

Questions and concerns encountered during the delineation process which need addressed

At this time, questions and concerns arising during the delineation process will continue to be tracked within a GIS feature class maintained by FSWCD. This feature class will designate the location of the question or concern by means of a point feature and will have associated notes in the attribute table elaborating on the situation encountered. This file will be reviewable by Columbus staff at the regularly scheduled meetings or as needed using their GIS. Comments from City staff will be logged in the attribute table and returned to FSWCD for use with the delineations.

In addition, during the creation of stomwater and non-stormwater features associated with the base maps, notes are placed in the attribute table elaborating on questions or clarifications for the features created and how they relate to the most recent data provided by the City.

6.2 Primary Data for Deriving Watershed Delineations and Source

The following are the primary GIS layers used in the urban watershed delineations. These data are currently available, are derived from currently available data and/or include data that may be provided as updates by the City or other local municipalities.

1' Contours (City)

Terrain model (City)

City stormwater infrastructure (City)

Stormwater infrastructure in county and surrounding municipalities (Stream Resource Geodatabase: FSWCD)

Digital Elevation Model (derived from terrain: FSWCD)

Building/Structure Layer (Auditor data; needs processing)

Most recent aerial photography (City/State)

Drainage mapping data and photos (FSWCD)

Digital copy of engineering plans (City)

Online aerial photography to assist in evaluating 'on the ground' conditions (Various)

6.3 Basemaps

To assist with the development of Blueprint Columbus, FSWD will be developing basemaps for use in the planning process. Components of these basemaps will include: impervious surfaces (buildings, roads, driveways, parking lots, sidewalks, and alleys), tree canopy, stormsewer structures (catch basins, crossover inlets & outlets, curb inlets, manholes, pipe inlets, and pipe outlets/outfalls), and other utility structures (fire hydrants, light posts, traffic lights poles, traffic signs, and other utility poles).

The basemap production will be conducted using GIS in a heads-up digitizing capacity. Newly acquired aerial imagery, LiDAR point sets and a terrain model provided by the City will be used for deriving elevations and the locations of the various base map components. A combination of the City's current sewer layers, google streetview and other aerial imagery will be used to make the best determination of the types and locations of structures.

6.4 Project Adaptation

This project is being undertaken in conjunction with the City to implement components of Blueprint Columbus, and as such, this project is continuing with some needs and parameters undefined. FSWCD and the City are undertaking this work in a "cooperative approach" capacity with the intent of maintaining a "one team" culture for the project to encourage a spirit of cooperation, mutual trust and respect. This approach is to play an important role in the continuation of this project as both FSWCD and the City refine the parameters of the project and better define the formatting of the resulting GIS data.

6.5 Project Constraints

The primary constraining aspects of this project with respect to completing watershed delineations are a lack of data, errant data, and incomplete data. Due to the nature of watersheds not corresponding to political boundaries, the accurate delineation of the watersheds will be limited by the availability and completeness of surface drainage and stormsewer infrastructure data. While the City and FSWCD maintain extensive stormwater datasets which are used for the delineations, the watersheds will encompass areas outside of the Columbus service area and Franklin County. To the maximum extent practical, delineations will be completed with the data available and/or provided to FSWCD during the course of the project. The intent of this project is to develop urban watershed delineations and basemaps with currently available data. The intent is not to create or otherwise locate additional data outside of what is addressed in this proposal.

In addition to the lack and completeness of data, errors in existing data may cause inaccuracies in the delineations. Examples of these errors have been explored by all parties and their possible impacts have been noted and accepted as part of this project. Elevation data obtained from the City will be used to determine surface water flow direction. As such, the accuracy of the delineations will be directly tied to the accuracy of the elevation information received from the City. It is expected that occasional, but minimal, field verification of features will be undertaken by the City, or consulting firms when uncertainty during the desktop work is encountered to verify the existence of features and/or the direction of flow within the stormwater network.

An additional known barrier to accurate delineations involves multiple flow directions within the stormwater network and the inclusion of combined sewers, sewer overflows and current construction projects related to stormwater management. The primary known area of concern for these conditions is the downtown area of Columbus.

6.6 Data Format

All delineations and associated attribution will be provided to the City in ESRI's file geodatabase format. Upon request and in coordination with City staff, an overview exhibit will be produced and maintained for the watershed delineation project showing areas of completion, areas to be

completed, areas of concern/interest, and additional supporting information relevant to the continuation and support of the project.

7.0 Intergovernmental Working Agreement

This working agreement is between the City of Columbus (City) and Franklin Soil and Water Conservation District (FSWCD). This agreement is effective upon execution by the City and terminates on March 31, 2020. This agreement is subject to the limitations of authorities, resources and policies of FSWCD and the City.

FSWCD is a government service agency that is funded by local government grants and state matching funds for the purpose of meeting local soil and water conservation needs. For the services described herein, Columbus shall compensate FSWCD in the form of a working agreement in the amount of $110,000.00. FSWCD reserves the rights to expend these funds as needed to meet service agreements, overhead, and general program costs. While amounts shown are calculated off of anticipated assistance needed, compensation is not intended to be a fee for service arrangement. Additional services may be provided upon review of available needs, funding and resources.

In the event that assistance exceeds or is less than the estimated numbers for services provided, the next years grant will be adjusted accordingly to compensate for previous year's overages or underage. If both parties agree that amount of assistance provided is on target or close to target, the next year's grant will be calculated solely on anticipated assistance needed.

It is Mutually Agreed:

That FSWCD is a conservation, technical and education service agency and therefore is not granted regulatory authority in the Ohio Revised Code.

That the working relationship will be defined to include lines of communications with appropriate departments.

That the City and FSWCD will meet when necessary to review and coordinate activities with the aim of developing a multi-discipline approach to resource management.

That all parties will provide feedback in a timely manner when requested to assist with project development.

That all parties will review quality of service and address concerns as they arise and at least every six months.

That this working agreement may be amended or terminated at any time by mutual consent, or the agreement may be terminated by either party giving sixty (60) days notice in writing to the other.

Urban Watershed Delineations for the City of Columbus: 2019		
Project	**Time Frame**	**Working Agreement Amount**
Undertake urban watershed delineations for the City of Columbus and develop associated basemaps as described herein.	Through March 31, 2020	**$110,000.00**