Resolution No. 9-18

A RESOLUTION APPROVING, WITH CONTINGENCY, THE CITY OF COLUMBUS PETITION FOR AN ADJUSTMENT OF THE COLUMBUS REGIONAL FACILITY PLANNING BOUNDARY AND AUTHORIZING THE VILLAGE ADMINISTRATOR TO EXECUTE THE SAME AND DECLARING AN EMERGENCY.

WHEREAS, the Village of Plain City is authorized, pursuant to R.C. 715.08, provide for the supply of water, by the construction of wells, pumps, cisterns, aqueducts, water pipes, reservoirs, and water works for the protection of such water supply, and, pursuant to R.C. 715.40, to open, construct, and keep in repair, sewage disposal works, treatment plants, and sewage pumping stations, together with facilities and appurtenances necessary and proper therefor; and,

WHEREAS, the Village of Plain City operates a Village owned water and wastewater facilities to provide water and wastewater services to the residents of the Village of Plain City; and

WHEREAS, the Council of the Village of Plain City, as well as its administrative staff, have devoted considerable time evaluating the existing Village water and wastewater treatment facilities to include repairs, improvements to same in order to determine the most appropriate course of action for the Village of Plain City in consideration of the public health, safety, welfare as well as considerations relating to the cost of such repairs and improvements in light of the future growth and development of the Village of Plain City; and

WHEREAS, the Council of the Village of Plain City engaged the services of a professional engineering firm to perform a feasibility study to evaluate the options available to the Village with respect to the provision of water and wastewater services to include maintenance and repairs of the existing Village facilities, expansion of the existing Village facilities, connection to the City of Marysville and connection to the City of Columbus for the provision of such water and wastewater services to Village residents; and

WHEREAS, upon careful consideration of Council's evaluation and the evaluation and recommendations of professional engineering services, the Council of the Village of Plain City determined that connection to the City of Columbus for the provision of water and wastewater services was in the best interest of the Village; and

WHEREAS, in accordance with the Village's desire to connect to the City of Columbus for the provision of water and wastewater services, the City of Columbus has prepared a Petition to the Ohio Environmental Protection Agency for an Adjustment of the Columbus Regional Facility Planning Area Boundary (Attached hereto as Exhibit 1) setting forth the proposed new Planning Area Boundary in Appendix A attached thereto; and

WHEREAS, the City of Columbus has requested the Village's approval and endorsement of the Petition for an Adjustment of the Columbus Regional Facility Planning Area Boundary in order to assist with the approval process with the Ohio EPA; and

WHEREAS, the Village of Plain City desires to enter into a satisfactory Master Meter Services Agreement with the City of Columbus that is subject to the approval of the Village Council; and,

WHEREAS, the Council for the Village of Plain City recognizes the need to approve and endorse the Petition but conditions such approval upon a Master Meter Services Agreement that is satisfactory to the Council of the Village of Plain City to include terms restricting the City of Columbus' right to annex territory within the 2018 Adjusted Columbus RFPA Boundary as

depicted on Appendix A attached to the Petition; and

WHEREAS, the Council for the Village of Plain City desires to authorize the Village Administrator to endorse the Petition subject to and conditioned upon a Master Meter Services Agreement between the Village of Plain City and the City of Columbus that is satisfactory to the Council of the Village of Plain City; and

WHEREAS, it is necessary that this resolution be declared to be an emergency measure, effective immediately upon passage for the preservation of the public peace, health and safety of the Village. Such emergency exists as, time is of the essence to expedite the City of Columbus' Petition so as to move forward with the process of connecting to Columbus water and wastewater services.

NOW THEREFORE BE IT RESOLVED by the Council of the Village of Plain City, Ohio, as follows:

Section 1. Council hereby approves the endorsement of the Petition for an Adjustment of the Columbus Regional Facility Planning Area Boundary (Attached hereto as Exhibit 1) subject to and conditioned upon a Master Meter Services Agreement between the Village of Plain City and the City of Columbus that is satisfactory to the Council of the Village of Plain City .

Section 2. Council hereby authorizes the Village Administrator to endorse, on behalf of the Village of Plain City, the Petition for an Adjustment of the Columbus Regional Facility Planning Area Boundary.

Section 3. This resolution is declared to be an emergency measure, effective immediately upon passage for the preservation of the public peace, health and safety of the Village. Such emergency exists as, time is of the essence to expedite the City of Columbus' Petition so as to move forward with the process of connecting to Columbus water and wastewater services.

Passed: March 12, 2018.

Attest: Renee Sonnell
Village Fiscal Officer

Darrin Lane
Mayor

Vote: Suspend Three Readings: 6 aye ____ nay ____ abstain

Emergency: 5 aye 1 nay ____ abstain

Certificate of Publication

The undersigned, being Village Fiscal Officer of the Village of Plain City, hereby certifies that the foregoing was published by posting for 15 days as required by law and in accordance with Section 123.01 of the Codified Ordinances. The posting was done from 3-29, 2018 to 12-31, 2018 at the Office of the Fiscal Officer located at 213 South Chillicothe Street; the Plain City Public Library located at 305 W. Main Street; the Security National Bank located at 105 W. Main Street; the Richwood Banking Co. located at 601 W. Main Street; all being in the Village of Plain City, Ohio and the Village of Plain City Website at www.plain-city.com.

Date: March 28, 2018

Renee Sonnett
Village Fiscal Officer

Before the Ohio Environmental Protection Agency

City of Columbus
Department of Public Utilities
910 Dublin Road
Columbus, Ohio 43215
Designated Management Agency
Columbus Regional Facility Planning Area

Madison County Commissioners
1 North Main Street
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

Bryan Dhume, P.E, P.S.
Madison County Engineer
825 US 42 NE
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

Union County Commissioners
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District and as Designated Planning Agency for the Union County (Jerome Township)
Community Level Facility Planning Area

Jeff Stauch, P.E., P.S.
Union County Engineer
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District

Village of Plain City
213 South Chillicothe Street
Plain City, Ohio 43064
Designated Planning Agency for the Village of Plain City

City of Columbus Petition For An Adjustment Of The Columbus Regional Facility Planning Area Boundary

EXHIBIT 1

Pursuant to Prescription 25-P3 in Appendix 9-1 of Ohio EPA's *State Water Quality Management Plan including Section 208 Areawide Waste Management Plans* (Ohio EPA Division of Surface Water 2006) ("208 Plan"), the City of Columbus hereby petitions the Director of the Ohio Environmental Protection Agency (Ohio EPA) for an adjustment of the Columbus Regional Facility Planning Area ("RFPA") boundary. Columbus requests that the RFPA boundary be extended westward to include the Village of Plain City ("Village") in Madison and Union Counties and an adjacent Village of Plain City expansion area. A map depicting Columbus' requested boundary adjustment, the current corporate limits of the Village of Plain City, and the requested Village of Plain City expansion area is attached hereto in Appendix A. The current Columbus RFPA boundary in this area is depicted in Appendix A and in Map 25-10 contained in Appendix 9-2 of the 208 Plan. This petition has been endorsed and approved by "each affected management agency, each affected satellite suburban community, and other political jurisdiction or private entity that has authority to provide wastewater collection and treatment for the area in question," as required in Prescription 25-P3.

A. Reasons For Columbus' Boundary Change Request

The Village of Plain City has determined that it is in its best long-term interest to stop operating its wastewater treatment plant and to connect its wastewater collection system to the City of Columbus collection system and to contract with Columbus for the treatment of the Village's wastewater. In addition, the Village expects future development in the Village's expansion area and intends to provide wastewater collection by the Village and wastewater treatment by Columbus in the expansion area. Accordingly, the Village has requested that Columbus connect its collection system to the Village's system and treat the Village's wastewater. Upon connection of the Village's collection system to Columbus' system, the Village will take its wastewater treatment plant out of service. The Village's wastewater plant currently discharges to the Big Darby Creek. Taking the Village's wastewater treatment plant out of service will improve water quality in the Big Darby, which is a designated National and State Scenic River.

B. Columbus RFPA Boundary Changes Under Prescription 25-P3, Appendix 9-1 Of The 208 Plan

Prescription 25-P3 governs Columbus RFPA boundary changes. Prescription 25-P3 provides as follows:

25-P3 Boundary Changes, Metro Columbus RFPA

Adjustments to the boundaries of the Metro Columbus RFPA (Map 25-1) may be requested at any time. Petitions for boundary adjustments must include written endorsements of support from each affected management agency, each affected satellite suburban community, and any other political jurisdiction or private entity that has authority to provide wastewater collection and treatment for the area

in question. Furthermore, all applicable facility planning work must be completed for the area added to, or deleted from, the Metro Columbus RFPA (see Chapter 9 for guidance on preparing facility plans). The Director of Ohio EPA shall require appropriately detailed updated facility planning documentation for major boundary adjustments (see Chapter 9 for guidance on preparing facility plans). Small changes require a demonstration of adequate capacity to handle the added wastewater. Boundary adjustments, if granted, will be part of the State of Ohio 208 Plan upon review and approval by Ohio EPA. The Director of Ohio EPA shall make a determination relative to each valid petition for Metro Columbus RFPA boundary adjustments. Boundary adjustments, with or without a petition, may also be proposed by the State when the 208 Plan is updated.

Given the size of the adjustment to the Columbus RFPA requested in this petition, Columbus is treating this as a major RFPA adjustment. Accordingly, Columbus is submitting along with this petition an updated facility plan. (*City of Columbus 2018 Facilities Plan Update* is contained in Appendix B attached hereto.) The plan demonstrates that with certain improvements Columbus will have sufficient capacity in its collection system and its wastewater treatment plants to treat expected wastewater flows from the Village of Plain City and its expansion area and still meet levels of service required in Columbus' 2015 Integrated Plan.

C. Columbus Has The Capacity To Serve The RFPA Expansion Area Requested In This Petition And Is Prepared To Serve As the Regional Planning Agency For That Area

In order to serve the Village and its expansion area, Columbus will construct a 36" interceptor sewer to a point near Kileville where that sewer will connect to the Village's expanded collection system. (See *City of Columbus 2018 Facilities Plan Update* contained in Appendix B attached hereto.) The Village will be constructing additional wastewater collection infrastructure, including pump stations, to deliver wastewater from the Village and its expansion area to the Columbus interceptor sewer at Kileville. The Village's expanded infrastructure and Columbus' collection system will have sufficient capacity to handle the projected peak wastewater flows from the village and its expansion area. Columbus has sufficient capacity to treat this projected flow at its existing wastewater treatment plants. (See *City of Columbus 2018 Facilities Plan Update* contained in Appendix B attached hereto.) Columbus is prepared to serve as the regional facility planning agency for the RFPA expansion area requested in this petition and will enter into the appropriate service agreements with the Village of Plain City and other jurisdictions as necessary to fulfill its regional planning responsibilities.

D. Conclusion

For the reasons stated herein, Columbus requests that Ohio EPA adjust the Columbus RFPA boundary as requested herein and as shown on the map contained in Appendix A attached hereto.

Respectfully submitted:

_____ Date:_____

Tracie Davies
Director
City of Columbus Department of Public Utilities
910 Dublin Road
Columbus, Ohio 43215
Designated Management Agency Columbus RFPA

Endorsed and Approved by:

Madison County Commissioners
1 North Main Street
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

David D Dhume Date: 3-12-18

David Dhume
Madison County Commissioner

Mark A. Forrest Date: 3-12-18

Mark Forrest
Madison County Commissioner

D. Hunter Date: 3-12-18

David Hunter
Madison County Commissioner

Date: 3/12/18

Bryan Dhume, P.E, P.S.
Madison County Engineer
825 US 42 NE
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

Union County Commissioners
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District and as Designated Planning Agency for the Union County (Jerome Township)
Community Level Facility Planning *Area*

Date:_____

Charles Hall
Union County Commissioner

Date:_____

Gary Lee
Union County Commissioner

Date:_____

Steve Stolte
Union County Commissioner

Date:_____

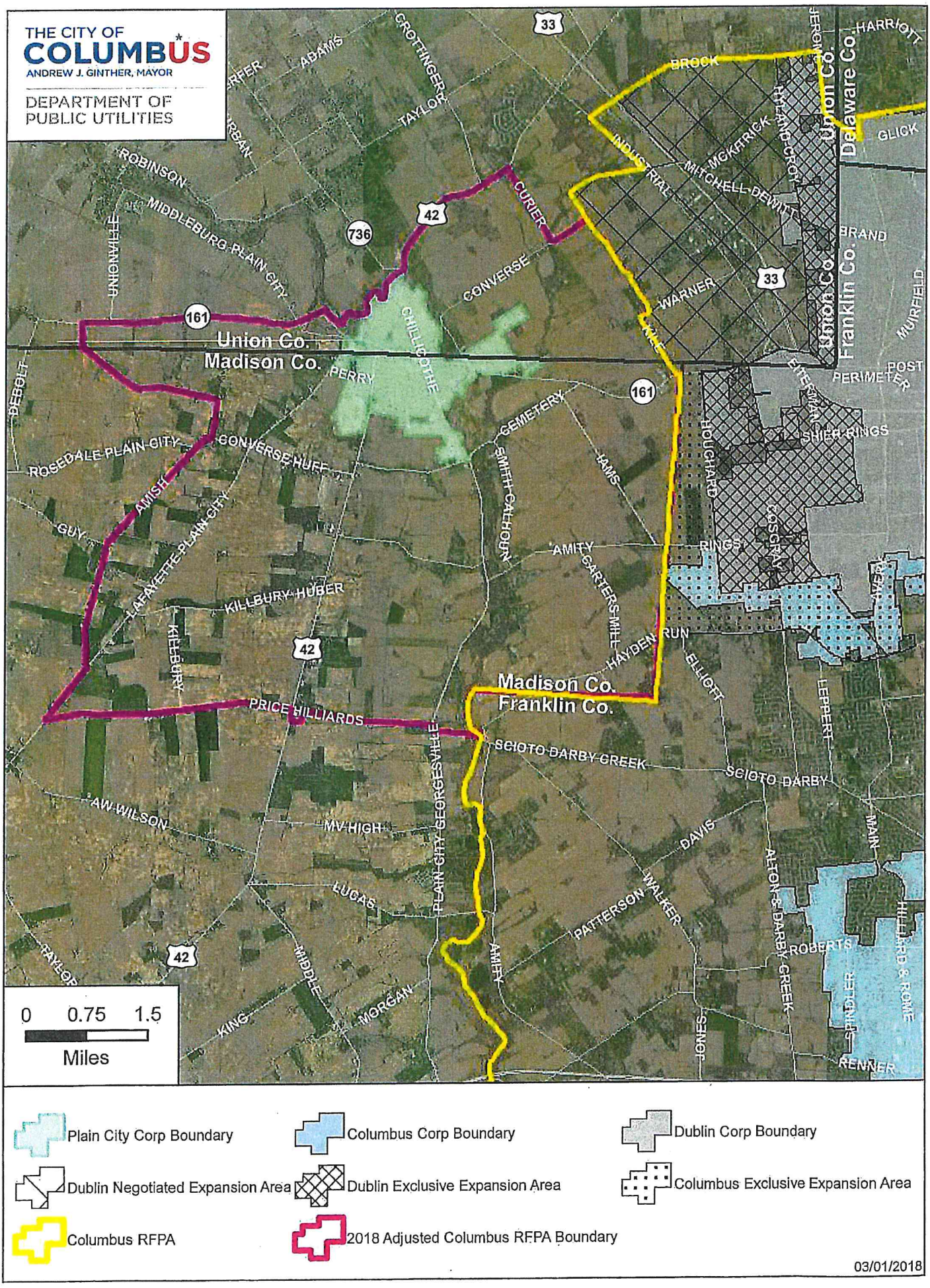
Jeff Stauch, P.E., P.S.
Union County Engineer
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District

Date:_____

_____

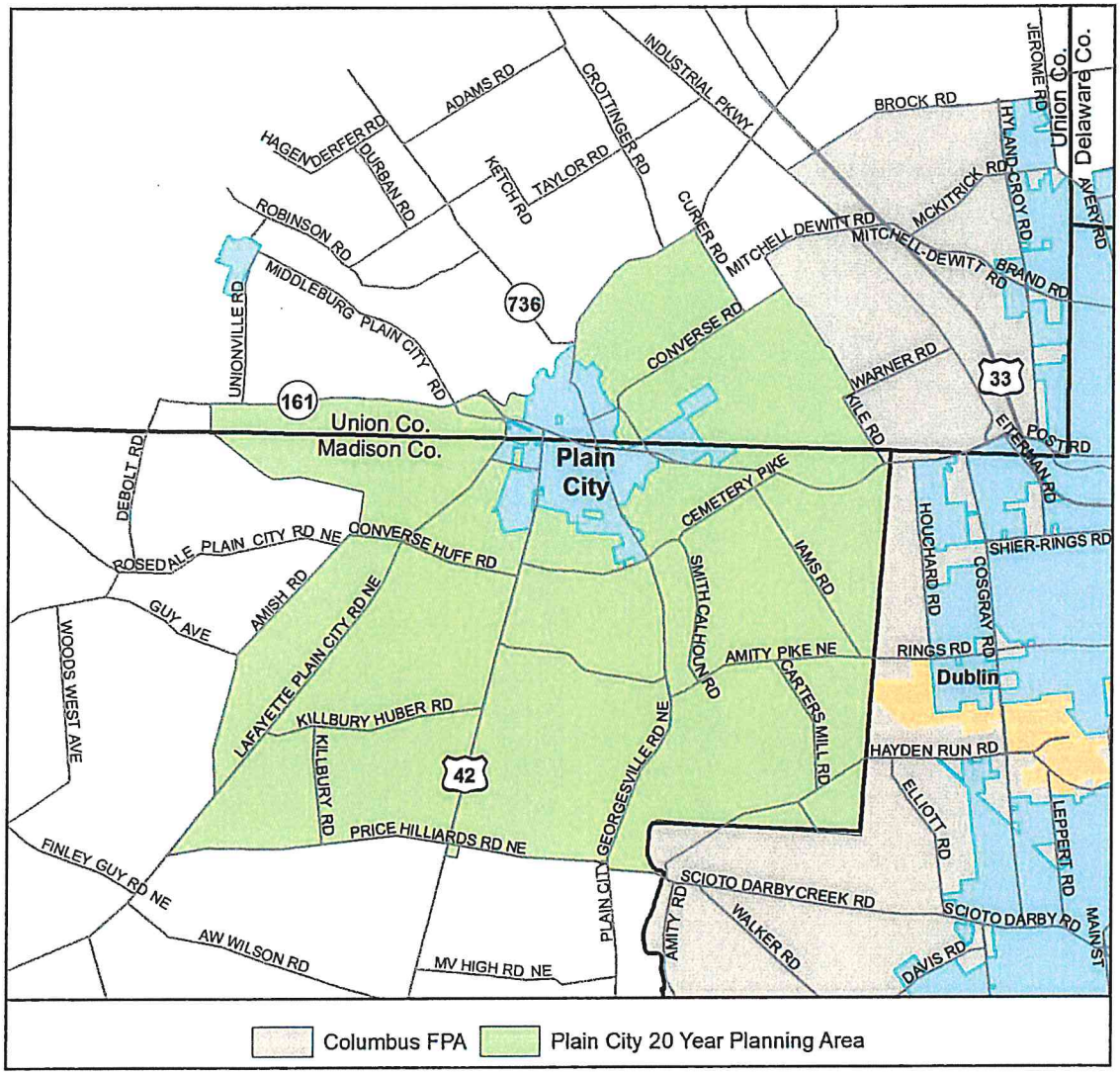
Kevin Vaughn
Village Administrator
Village of Plain City
213 South Chillicothe Street
Plain City, Ohio 43064
Designated Planning Agency for the
Village of Plain City

Appendix A


THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR
DEPARTMENT OF
PUBLIC UTILITIES
Union Co.
Madison Co.
Madison Co.
Franklin Co.
Union Co.
Delaware Co.
Union Co.
Franklin Co.
0 0.75 1.5
Miles
Plain City Corp Boundary
Columbus Corp Boundary
Dublin Corp Boundary
Dublin Negotiated Expansion Area
Dublin Exclusive Expansion Area
Columbus Exclusive Expansion Area
Columbus RFPA
2018 Adjusted Columbus RFPA Boundary
03/01/2018

Appendix B

Hazen and Sawyer
150 East Campus View Blvd, Suite 150
Columbus, OH 43235 • 614-781-9655



City of Columbus
2018 Facilities Plan Update

Draft Report
March 1, 2018

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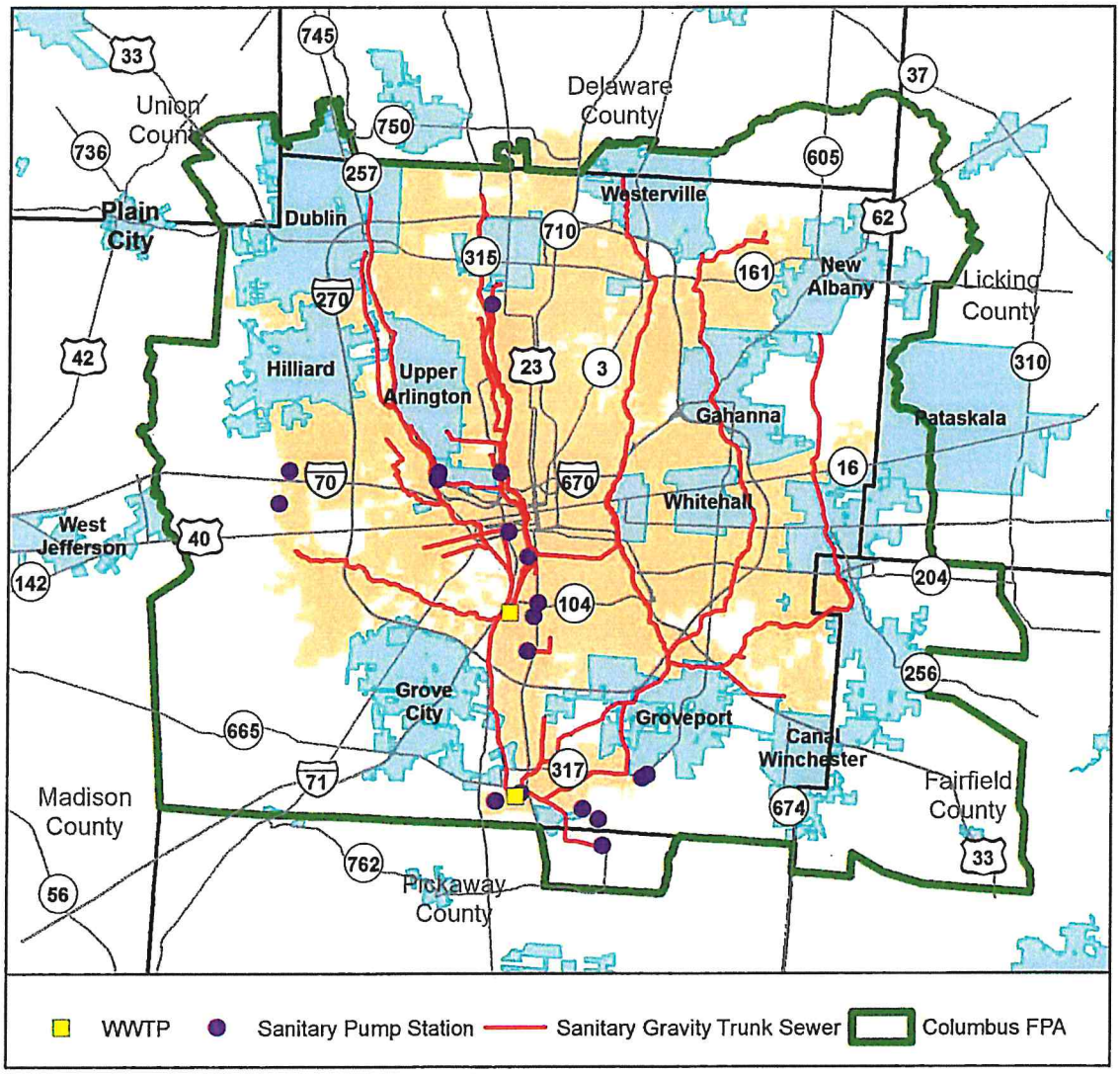
Executive Summary

The Village of Plain City anticipates significant development beginning soon and spanning over the next 20 years. This development will exceed the Village's treatment capacity, and the Village determined that connection to Columbus' system would be cost effective and protective of Big Darby Creek. The City of Columbus has sufficient capacity for transporting and treating the flow at its two treatment facilities. This facility plan outlines the improvements needed to connect the systems and provide treatment.

1. Columbus' Service Area

The City of Columbus provides sewer and wastewater treatment services for the majority of Franklin County, as well as some portions of the surrounding counties. Figure 1 below shows the existing Facilities Planning Area (FPA) for the City of Columbus in gray. Key features such as wastewater treatment plants, trunk sewers, and pump stations are also indicated on the map.

Figure 1: City of Columbus Existing Facilities Planning Area



1.1 Columbus' Sewer System Conditions

The City of Columbus recently submitted The Integrated Plan and 2015 WWMP Update Report (Integrated Plan) to the Ohio EPA in response to two consent orders. The Integrated Plan analyzed the collection system thoroughly using state of the art modeling software and analysis methods to provide recommendations for both the combined sewer system (located in and around downtown Columbus) and the sanitary sewer system. The Ohio EPA approved the Integrated Plan in December 2015.

The combined sewer system recommendations include several projects. The majority of these projects are smaller, focusing on inflow redirection (redirecting stormwater sources out of the combined sewer) and internal sewer structures such as weirs to hold back flow and maximize storage in the system. One combined sewer project however, the Lower Olentangy Tunnel, is the single largest project recommended. This tunnel will provide combined sewer overflow relief for the lower Olentangy region and will connect into Columbus' previously constructed OARS tunnel. All the combined sewer consent order projects will be completed by July 1, 2025.

The sanitary sewer system work focuses on the elimination of sanitary sewer overflows (SSOs) in these systems. The Integrated Plan proposed Blueprint Columbus (Blueprint) as the method for addressing SSOs. Blueprint focuses on rehabilitating the sanitary sewer collection system (both private and public lines) in order to reduce rain derived water (stormwater) from entering the sanitary system. The rehabilitation of the sanitary sewer collection system will displace stormwater and additional steps are needed to address this displacement, as to not cause additional issues such as flooding or degradation of water quality. Blueprint addresses the displacement through the installation of green infrastructure, that will provide both treatment and detention, for these displaced stormwater flows. The Blueprint program implements the following:

- Sanitary sewer and private sanitary lateral lining
- Roof redirection
- Voluntary sump pump program
- Green infrastructure

The Integrated Plan identifies over 18,000 acres where Blueprint will be implemented by the end of the program in 2035. In addition to Blueprint, some areas require supplemental projects to upsize sanitary sewers, install bulkheads, or remove relief structures. Completion of this work will enable the City of Columbus to achieve compliance with their SSO requirements in the consent order.

The City of Columbus is in the process of implementing the projects recommended in the Integrated Plan and continues to coordinate with the Ohio EPA regarding the status of these consent order projects. The anticipated cost for the Blueprint program is $1.7 billion. Details on individual projects and their associated costs can be found in the Integrated Plan (https://www.columbus.gov/utilities/projects/blueprint/).

The Integrated Plan achieves a 10-year level of service at the City's SSOs and the associated water in basements (WIBs) in these systems. Under the Integrated Plan, a collection system model was constructed, calibrated, and executed for a multitude of scenarios. Twenty years of historical rainfall

were simulated in the model; therefore a 10-year level of service is achieved if the number of activations is 2 or fewer. Likewise, WIB locations were determined from the modeling where the hydraulic grade line of the sewer exceeded the estimated basement floor elevation more than 2 times in the 20-year period. Table 1 summarizes the levels of service required by the plan at the end of the program in 2035.

Table 1: Integrated Plan Levels of Service

Location Type	Level of Service
SSO	10-year
WIB	10-year

1.2 Columbus' Wastewater Treatment Capacity

The City of Columbus owns and operates two wastewater treatment plants: Jackson Pike and Southerly (JPWWTP, SWWTP). The plants are rated for 68 and 114 million gallons per day (mgd) average daily flow, respectively. The treatment plants were upgraded to capture additional peak flows in 2010. The peak capacity at both plants was increased by 50%, so that the JPWWTP now has a peak capacity of 150 mgd, and the SWWTP can treat a peak of 330 mgd. These improvements helped to achieve substantial reduction in the City's most active combined sewer overflow and were part of the City's approved 2005 Wet Weather Management Plan (WWMP). A unique feature of Columbus' system is that between the plants is an interconnecting sewer which allows flows that exceed the capacity of the JPWWTP to be sent to the SWWTP for treatment.

During the negotiations with the Ohio EPA regarding the WWMP project implementation schedule and the opportunity to explore Blueprint, the Ohio EPA agreed to accelerate the schedule for a treatment project to provide more peak treatment capacity. Both parties agreed that a chemically enhanced primary treatment (CEPT) train to treat an additional 110 mgd of flow would be constructed at the SWWTP. The CEPT project is currently under construction and will be online at the end of 2019. The Integrated Plan modeling indicates that the facility will be operated approximately 3 times a year and will help achieve the required levels of service.

The CEPT process was chosen over conventional biological treatment because the population of the service area could not yet support a fourth full treatment train at the SWWTP (the only plant where sufficient footprint exists for conventional expansion). Prior projections estimated that the fourth biological treatment train at the SWWTP could not be supported until 2050.

The Integrated Plan also calls for a second barrel of the interconnecting sewer to be constructed near the SWWTP. For much of its length the interconnecting sewer is 13-feet in diameter. However, just before the Scioto River crossing, the diameter of the interconnecting sewer is 8.5 feet. By 2035 a second 8.5-foot diameter section will be added to reduce bottlenecks in this sewer which will occur in the future conditions.

2. Village of Plain City Needs

The Village of Plain City is located northwest of Columbus Facilities Planning Area, at the headwaters of the Big Darby Creek, a state and national scenic river. Planned development in the Plain City area caused Plain City to evaluate options to effectively treat additional wastewater flows.

2.1 Wastewater Treatment

The Village of Plain City owns and operates a collection system and wastewater treatment plant, which discharges into Big Darby Creek. The wastewater treatment plant is rated at 0.75 mgd, the flow rate observed historically at the plant is below 1 mgd over 90% of the time. The table below shows flow statistics from the Plain City treatment plant.

Table 2: Plain City Wastewater Treatment Plant Flow Statistics (8/1/2012 – 9/1/2017)

Percentile	Flow Rate (mgd)
Minimum	0.1447
10%	0.31792
20%	0.36602
30%	0.40806
40%	0.45714
50%	0.5025
60%	0.55934
70%	0.63486
80%	0.7293
90%	0.90924
Maximum	1.0779*

* OEPA records indicate 10.779 MGD as the maximum flow. Plain City staff indicated that this is off by an order of magnitude.

The Plain City treatment plant has frequently exceeded its total suspended solids (TSS) effluent limit. The plant, has also exceeded the effluent limits for carbonaceous biochemical oxygen demand (CBOD), total phosphorus (TP), pH, and bacteria as well. Table 3 provides a summary of the recent permit exceedances.

Table 3: Plain City Wastewater Treatment Plant Permit Exceedances (8/1/2012 – 9/1/2017)

Month and Year of Permit Exceedance	TSS	CBOD	Other
January 2013	X		
July 2013			pH
May 2014	X	X	
June 2014	X		TP
July 2014	X		
September 2014			Fecal coliform
March 2015	X	X	TP
April 2015	X		
July 2015	X		
September 2015			E. coli
December 2015	X		
June 2016	X		
July 2016	X		

2.1.1 Big Darby Creek

The Big Darby Creek watershed drains agricultural areas and suburbs. The Plain City wastewater treatment plant discharges directly to the Big Darby Creek. Plain City is within the Robinson Run-Big Darby Creek Watershed Assessment Unit boundary which has 9 monitored stations.

The Ohio 2016 Integrated Report summarizes the data acquired during the 2014 sampling effort to determine if these waters meet their assigned use designations. The Big Darby is designated an exceptional warmwater habitat (EWH) water, meaning that it has exceptional or unusual biological communities. The Big Darby is also identified as an outstanding state water, thus requiring an additional level of protection.

Assessment data indicate that the Big Darby is fully supporting the human health use because fish tissue levels of PCBs or mercury are below water quality standards. The recreation use designation is listed as impaired, however a total maximum daily load (TMDL) has been completed for this watershed, and no sources of impairment are listed in the report. The Robinson Run-Big Darby watershed is in full attainment based on biological and chemical data collected.

Table 4: 2014 Big Darby Creek Sampling Results

Sampling Location	Attainment Status	Use Designation	River Mile	Drainage Area (sqm)
BIG DARBY CREEK S OF PLAIN CITY @ CEMETERY PIKE	Full	EWH	51.1	157.0
PLAIN CITY WASTEWATER TREATMENT PLANT				
BIG DARBY CREEK AT PLAIN CITY, UPST. U.S. RT. 42 AND RANCO	Full	EWH	54.1	138.0
BIG DARBY CREEK SE OF UNIONVILLE CENTER, ADJ. ROBINSON RD.	Full	EWH	58.8	131
BIG DARBY CREEK SE OF BRIDGEPORT @ ST. RT. 38	Full	EWH	62.6	121.0
BIG DARBY CREEK UPST BUCK RUN, ADJ. MIDDLEBURG-PLAIN CITY RD	Full	EWH	64.38	85.0
BIG DARBY CREEK @ MILFORD CENTER CEMETERY	Full	EWH	66.1	83.1

Overall these reaches of the Big Darby Creek are healthy and thriving. Additional development in this area will be subject to TMDL requirements and the Antidegradation Rule.

2.1.2 Growth

There is interest in developing the agricultural land along State Route 161 between Plain City and Dublin (an existing City of Columbus contract community). The development is planned to include a mix of industrial and residential areas. However, the Village's wastewater treatment plant does not have sufficient capacity to serve the entire planned area. Table 5 below shows the projected wastewater flows from existing through full build out in 20 years.

Table 5: Projected Wastewater Flows

Scenario	Average Daily Flow (mgd)	Peak Flow (mgd)
Current	0.75	3.0
Year 5	1.12	4.0
Year 20	3.96	11.99

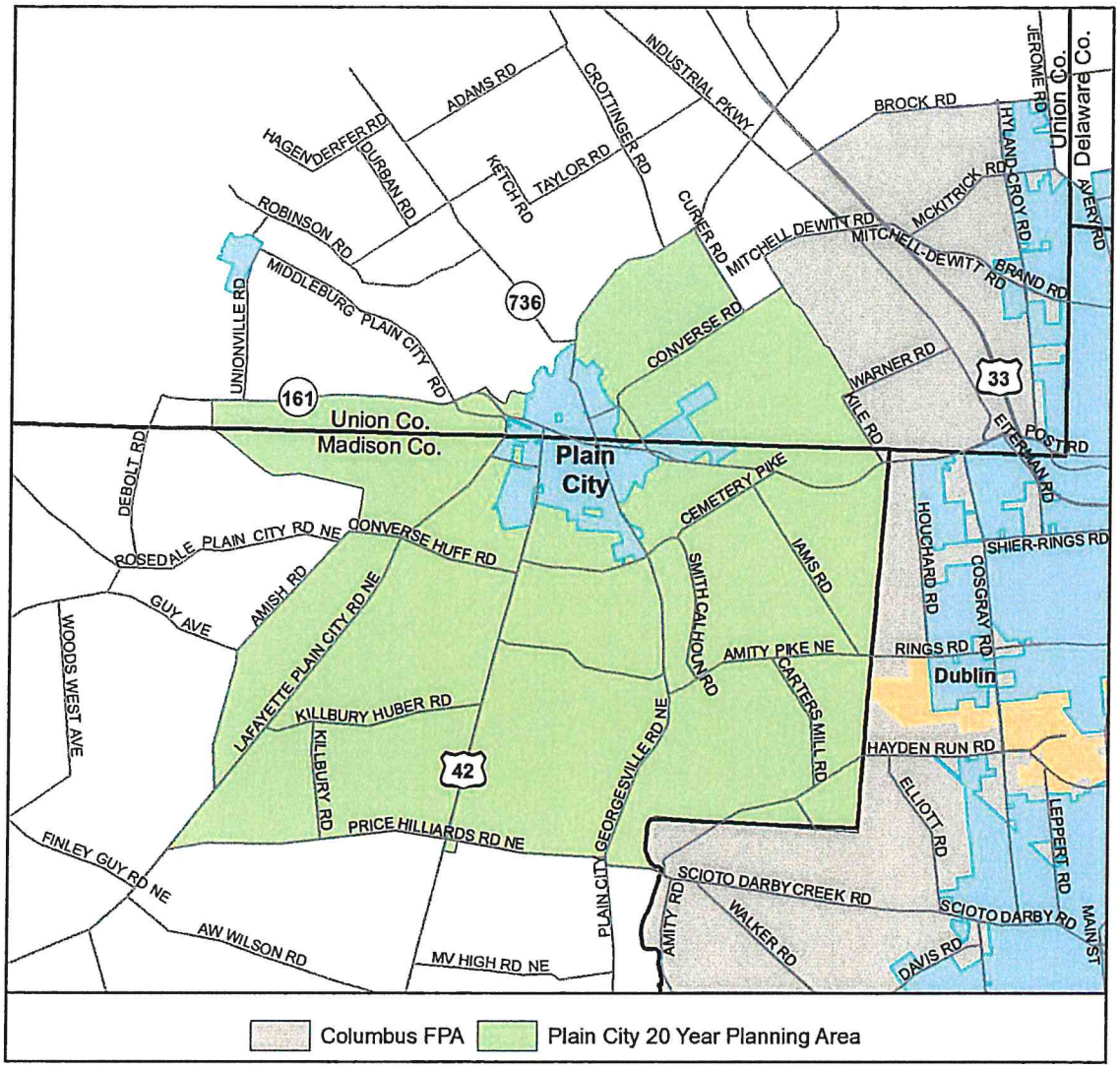
The Village initiated a study to determine how best to serve the development. The study analyzed three different options: expansion of the existing Plain City services, connection to the Marysville system, or connection to the Columbus system. The study concluded that connection to Columbus would be the most cost-effective option for the Village and could also allow the planned development to be served faster than if the Village were to provide service. Moreover, further expansion of the Plain City WWTP would mean ever decreasing concentrations in the effluent due to the static waste load allocated to the plant in the TMDL. Regionalization to Columbus would be protective of the Big Darby watershed, allowing the wastewater treatment plant to discontinue discharge into the creek.

Therefore, to serve the planned development and protect the Big Darby watershed cost effectively the village chose regionalization over expansion.

2.2 Delineation of Proposed Additional Service Area

Plain City delineated a 20-year service boundary to indicate the area expected to be served in the full development horizon. This area is directly adjacent to Columbus' existing FPA and contains the existing Plain City service area, the planned development area between Plain City and Dublin as well as area to the west and south. This proposed service area would add approximately 23,014 acres to Columbus' FPA, 2,700 of which associated with the current planned development.

Figure 2: Plain City 20-Year Facilities Planning Area



2.3 Areas Without Sewers

As development continues in the planning area indicated in Figure 2 sewers conveying wastewater to the City of Columbus treatment system will be provided. Expansion to areas surrounding Plain City will remove home sewage treatment systems in the Big Darby watershed. Timing and extents of expansion of the sewer system is dependent on future development pace and location. The Village of Plain City will construct trunk sewers and provide transport to Columbus. Future developments will be responsible for service lines within the development itself.

3. Improvements Necessary

The Plain City system will require improvements in both the collection system and at the treatment plant in order to connect to the Columbus' system. The Plain City analysis developed requirements for their collection system and treatment plant based on the projected equivalent residential units (ERUs) from future development. Development will consist of a mix of flex industrial, mixed residential, conservation residential, and a cross roads center for commercial and industrial use. Flow rates were assigned to the planned uses and the equivalent ERUs for the 5- and 20-year horizons were prepared; they are presented in the table below.

Table 6: Equivalent Residential Units for the Planning Horizons

Area	Existing	Year 5	Year 20
Current Service Area	1,646	1,882	2,003
Development in the 161 Corridor	0	1,113	11,129
Total	**1,646**	**2,995**	**13,132**

Also, the additional service area impact was assessed on Columbus' treatment system. Flows associated with Plain City were simulated in the modeling tool developed as part of Columbus' Integrated Planning effort so that compliance with consent order requirement could be assessed. The additional flow from Plain City has an impact on Columbus' system requiring the construction of pre-established projects to be accelerated and modified in their construction.

3.1 Collection System

3.1.1 Plain City

To connect to the Columbus collection system, the following improvements were identified as necessary (individual service lines would be the responsibility of the developer):

- 2,000 feet of 36-inch sewer (gravity)
- 16,000 feet of 24-inch sewer (gravity)
- 27,500 feet of sanitary force main
- 2 sanitary pump stations

To support development in the first 5 years 2,000 feet of 36-inch sewer will be installed to bring flow from the development, under Big Darby Creek, to the existing Plain City WWTP for treatment. This sewer will serve developments located immediately east of Plain City.

The first pump station will be located east of Plain City, near Kileville. This pump station will serve initial developments in the area, near Dublin, and will deliver flows to Columbus' proposed 36-inch sewer planned for the area (as referenced in 3.1.2). The force main will be approximately 6,500-feet in length. It is anticipated that this pump station will be online in the first 5 years.

The second pump station will be located at the existing WWTP and will send flow to Columbus through a force main (21,000-feet in length). Initially only one force main will be installed, but a second force main will be necessary in the future. This project is not planned for completion in the first 5 years.

Table 7: Plain City Collection System Improvement Estimated Costs

Improvement	Total Estimated Project Cost	By Year 5	By Year 20
2,000 feet of 36-inch gravity sewer under Big Darby	$800,000	$800,000	
16,000 feet of 24-inch gravity sewer along State Route 161	$4,000,000		$4,000,000
East Pump Station	$1,500,000	$750,000	$750,000
Force mains from East Pump Station to Columbus' sewer	$780,000	$422,500	$357,500
Pump Station at Plain City WWTP	$3,500,000		$3,500,000
Force main from Plain City WWTP to Columbus' sewer	$6,930,000		$6,930,000
Land, Easements, Engineering and Permits	$3,824,998	$1,228,700	$2,596,298

3.1.2 Columbus

Columbus would be responsible for building approximately 19,500-feet of 36-inch sewer to Kileville to receive flow from the east pump station. This project will take approximately 5 years to complete and is necessary to connect the two collection systems.

The Plain City flow will increase the flow in the Scioto Main Trunk Sewer. Currently there is a project under design that will perform lining on the Scioto Main between Griggs Dam and West Broad Street. Construction of this project is expected to be complete in 2022. All collection system modeling assumes that this improvement is already constructed.

To determine the impact Plain City's flows would have on Columbus' system collection system, modeling was performed. The model and tools used were the same as those developed under the Integrated Plan. Collection system modeling indicated that at the end of the 20-year development period not all consent order required levels of services are met. There are increases for a SSO (095) located on the Scioto Main, and for potential WIBs (PWIBs) in the area. The number of activations need to be 2 or

below for the SSO (20-year model run). The modeled PWIB results count the number of houses where the level of service is not met. The goal for PWIBs is to have no increase above the base condition. Table 8 demonstrates that by adding Plain City flows both SSOs and PWIBs increase.

Table 8: Columbus Consent Order Compliance at 20-Year Horizon, 20-Year Run

Condition	SSO 095 (Activations)	Number of PWIBs Inside of Blueprint Areas	Number of PWIBs Outside of Blueprint Areas
Base Condition	2	39	96
With Plain City	3	286	110

Collection system modeling then investigated the 5-year horizon. This model run indicated that the addition of Plain City flows would increase number of PWIBs; the results are shown in the table below. Note that in the 5-year horizon SSO 095 is not in compliance for the 2020 condition because the planned improvements to eliminate this SSO are not yet in place.

Table 9: Columbus Consent Order Compliance at 5-Year Horizon, 20-Year Run

Condition	SSO 095 (Activations)	Number of PWIBs Inside of Blueprint Areas	Number of PWIBs Outside of Blueprint Areas
2020 Condition	3	139	10
With Plain City	3	212	11

Improvements are needed in Columbus' collection system to serve the Plain City area and provide reliable service to existing Columbus customers. The Integrated Plan recommended a second barrel of Columbus' interconnector sewer to reduce overflows for SSO 095 and reduce PWIBS due to surcharging of the Scioto Main. The improvements to SSO 095 and PWIBs from the construction of this project are shown in Table 8 as the base condition. This improvement was planned for the end of the Integrated Plan program, with construction completed in 2035.

In order to meet or exceed the base conditions shown in Table 8 with the addition of Plain City flows, further modeling indicated that the planned second barrel would need to be extended to the Interconnector Pump Station on the west side of the Scioto River along with hydraulic improvements at Southerly's influent junction chamber. A summary of the improvements are provided in Table 10.

Table 10: Recommended Improvements

Project	Description
Second Barrel of the Interconnector Sewer	Construct 3,090 linear feet of 8.5-foot pipe from the Interconnector Pump Station to the Influent Junction Chamber (including additional siphons under the Scioto River)
Influent Junction Chamber	Rehabilitate the Interconnector gate (8-ft x 8-ft) to improve hydraulic capacity

The recommended improvements were simulated in both the 20- and 5-Year planning horizons. Results are given in the tables below. Because there is a greater than 50% increase in PWIBs in the 5-year horizon, Columbus proposes to move these improvements up in the schedule, to coincide with 5-year flows from Plain City. Tables 11 and 12 show the results after construction of these improvements.

Table 11: Columbus Consent Order Compliance at 20-Year Horizon Including Recommended Improvements, 20-Year Run

Condition	SSO 095 (Activations)	Number of PWIBs Inside of Blueprint Areas	Number of PWIBs Outside of Blueprint Areas
Base Condition	2	39	96
With Plain City	3	286	110
With Plain City and Recommended Improvements	1	36	0

Table 12: Columbus Consent Order Compliance at 5-Year Horizon Including Recommended Improvements, 20-Year Run

Condition	SSO 095 (Activations)	Number of PWIBs Inside of Blueprint Areas	Number of PWIBs Outside of Blueprint Areas
2020 Condition	3	139	10
With Plain City	3	212	11
With Plain City and Recommended Improvements	1	20	0

The estimated costs for the recommended improvements are included in the table below.

Table 13: Columbus Collection System Improvement Estimated Costs

Improvement	Estimated Cost
19,500 feet of 36-inch gravity sewer (Kileville Sewer)	$36,000,000
Second Barrel of the Interconnector Sewer	$18,400,000
Influent Junction Chamber Hydraulic Improvements	$200,000

3.2 Wastewater Treatment

3.2.1 Plain City

Plain City will perform as needed repairs to maintain their WWTP for at least 5 years as sewers to connect the areas are constructed. The Village currently has adequate capacity at the treatment plant to treat the subdivision currently under construction. The subdivision will add 236 ERUs. Coupled with planned infiltration and inflow reduction projects set to be constructed in the coming years, the plant flows should increase only modestly.

It is anticipated that after 5 years the Columbus sewer to Kileville will be complete. A force main will be connected to Columbus' sewer from the Plain City WWTP after the initial 5-year period. At the WWTP a new pump station will be constructed to pump all flow to Columbus' system. Once the pump station and force main are constructed the Plain City WWTP can be taken offline.

Table 14: Plain City Wastewater Treatment Improvement Estimated Costs

Improvement	Estimated Cost, by Year 5
Upgrades to the Plain City WWTP and collection system	$5,000,000

3.2.2 Columbus

The City of Columbus has adequate treatment capacity to treat average daily and peak flows from the Village of Plain City without additional wastewater treatment plant upgrades.

3.3 Schedule for Improvements

A number of improvements are necessary to convey the flows from Plain City to Columbus for treatment. Table 15 below summarizes the schedule for those improvements. A number of improvements are planned for the first 5 years. Work will begin on these projects upon approval of the revised 208 plan, however, in conjunction with the designs, collection system monitoring will occur to monitor the flows

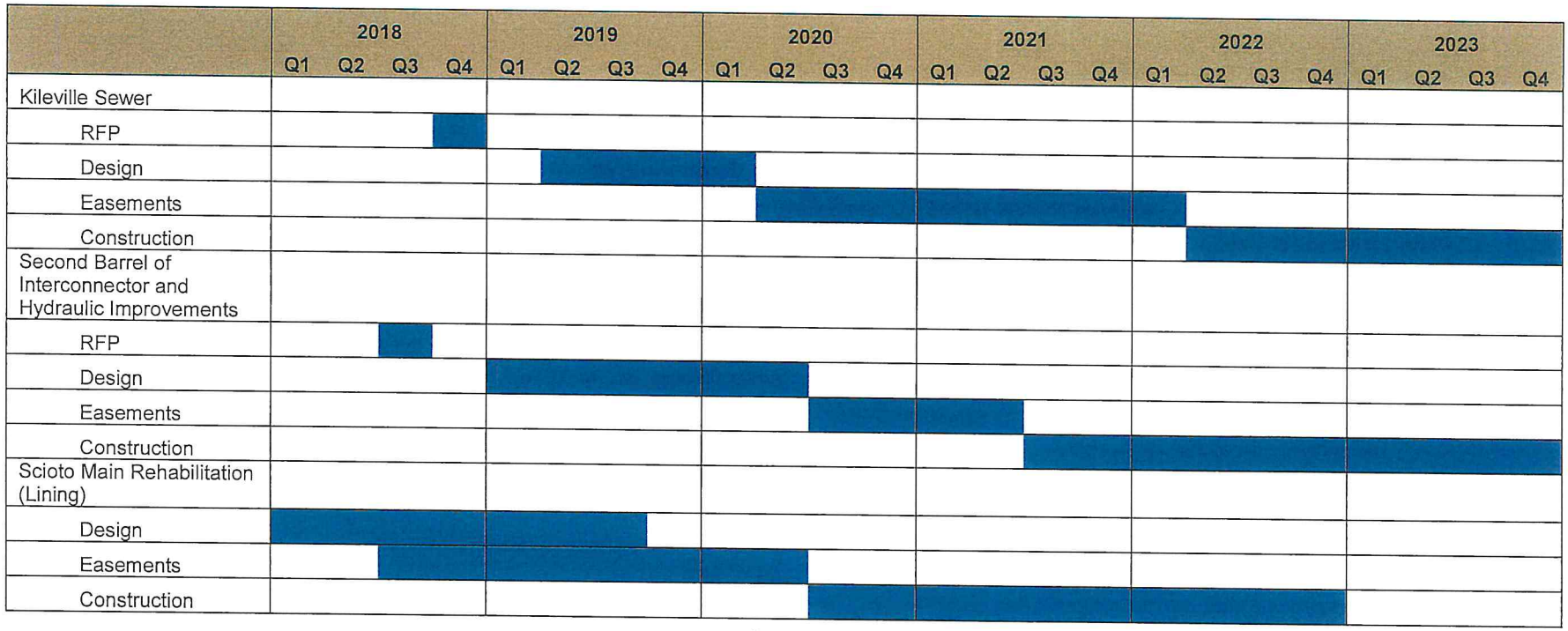
from Plain City. This data will help inform the designs and assist in planning any additional efforts that may be required prior to the projects coming online. Improvements scheduled between years 5 and 20 will be constructed as needed based on planned development and existing flows. A detailed schedule for Columbus' 5-Year improvements is given in Table 16.

Table 15: Schedule for Improvements

Year 0 - Year 5	Year 5 - Year 20
2000 feet of 36-inch gravity sewer under Big Darby Creek (to Plain City WWTP)	Pump Station at the Plain City WWTP (and necessary expansions)
Upgrades to Plain City WWTP and collection system	21,000 feet of force main (to Columbus' sewer from Plain City WWTP, including expansion)
East Pump Station	East Pump Station expansion
6500 ft of force main from East Pump Station to Columbus' sewer	Second force main from East Pump Station to Columbus' sewer
19,500 ft of 36-inch gravity sewer (Kileville Sewer) (Columbus)	16,000 feet of 24-inch gravity sewer along State Route 161
Second Barrel of the Interconnector Sewer (Columbus)	Plain City WWTP Offline
Influent Junction Chamber Hydraulic Improvements (Columbus)	

The City of Columbus will enter into a contract agreement with the Village of Plain City. The Village will be a master metered community with the City of Columbus. This means that the Village will still own, maintain, and operate their collection system. The Village will be responsible for providing flow to the City of Columbus' sewers. Columbus will enter a long-term agreement with the Village and the Village will provide Columbus payment for the treatment and conveyance of wastewater from the Village. The City of Columbus will be responsible for the operation and maintenance of its collection system and the wastewater treatment plants.

Table 16: City of Columbus Schedule for Improvements



Before the Ohio Environmental Protection Agency

City of Columbus
Department of Public Utilities
910 Dublin Road
Columbus, Ohio 43215
Designated Management Agency
Columbus Regional Facility Planning Area

Madison County Commissioners
1 North Main Street
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

Bryan Dhume, P.E, P.S.
Madison County Engineer
825 US 42 NE
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

Union County Commissioners
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District and as Designated Planning Agency for the Union County (Jerome Township)
Community Level Facility Planning Area

Jeff Stauch, P.E., P.S.
Union County Engineer
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District

Village of Plain City
213 South Chillicothe Street
Plain City, Ohio 43064
Designated Planning Agency for the Village of Plain City

City of Columbus Petition For An Adjustment Of The Columbus Regional Facility Planning Area Boundary

Pursuant to Prescription 25-P3 in Appendix 9-1 of Ohio EPA's *State Water Quality Management Plan including Section 208 Areawide Waste Management Plans* (Ohio EPA Division of Surface Water 2006) ("208 Plan"), the City of Columbus hereby petitions the Director of the Ohio Environmental Protection Agency (Ohio EPA) for an adjustment of the Columbus Regional Facility Planning Area ("RFPA") boundary. Columbus requests that the RFPA boundary be extended westward to include the Village of Plain City ("Village") in Madison and Union Counties and an adjacent Village of Plain City expansion area. A map depicting Columbus' requested boundary adjustment, the current corporate limits of the Village of Plain City, and the requested Village of Plain City expansion area is attached hereto in Appendix A. The current Columbus RFPA boundary in this area is depicted in Appendix A and in Map 25-10 contained in Appendix 9-2 of the 208 Plan. This petition has been endorsed and approved by "each affected management agency, each affected satellite suburban community, and other political jurisdiction or private entity that has authority to provide wastewater collection and treatment for the area in question," as required in Prescription 25-P3.

A. Reasons For Columbus' Boundary Change Request

The Village of Plain City has determined that it is in its best long-term interest to stop operating its wastewater treatment plant and to connect its wastewater collection system to the City of Columbus collection system and to contract with Columbus for the treatment of the Village's wastewater. In addition, the Village expects future development in the Village's expansion area and intends to provide wastewater collection by the Village and wastewater treatment by Columbus in the expansion area. Accordingly, the Village has requested that Columbus connect its collection system to the Village's system and treat the Village's wastewater. Upon connection of the Village's collection system to Columbus' system, the Village will take its wastewater treatment plant out of service. The Village's wastewater plant currently discharges to the Big Darby Creek. Taking the Village's wastewater treatment plant out of service will improve water quality in the Big Darby, which is a designated National and State Scenic River.

B. Columbus RFPA Boundary Changes Under Prescription 25-P3, Appendix 9-1 Of The 208 Plan

Prescription 25-P3 governs Columbus RFPA boundary changes. Prescription 25-P3 provides as follows:

> *25-P3 Boundary Changes, Metro Columbus RFPA*
>
> Adjustments to the boundaries of the Metro Columbus RFPA (Map 25-1) may be requested at any time. Petitions for boundary adjustments must include written endorsements of support from each affected management agency, each affected satellite suburban community, and any other political jurisdiction or private entity that has authority to provide wastewater collection and treatment for the area

in question. Furthermore, all applicable facility planning work must be completed for the area added to, or deleted from, the Metro Columbus RFPA (see Chapter 9 for guidance on preparing facility plans). The Director of Ohio EPA shall require appropriately detailed updated facility planning documentation for major boundary adjustments (see Chapter 9 for guidance on preparing facility plans). Small changes require a demonstration of adequate capacity to handle the added wastewater. Boundary adjustments, if granted, will be part of the State of Ohio 208 Plan upon review and approval by Ohio EPA. The Director of Ohio EPA shall make a determination relative to each valid petition for Metro Columbus RFPA boundary adjustments. Boundary adjustments, with or without a petition, may also be proposed by the State when the 208 Plan is updated.

Given the size of the adjustment to the Columbus RFPA requested in this petition, Columbus is treating this as a major RFPA adjustment. Accordingly, Columbus is submitting along with this petition an updated facility plan. (*City of Columbus 2018 Facilities Plan Update* is contained in Appendix B attached hereto.) The plan demonstrates that with certain improvements Columbus will have sufficient capacity in its collection system and its wastewater treatment plants to treat expected wastewater flows from the Village of Plain City and its expansion area and still meet levels of service required in Columbus' 2015 Integrated Plan.

C. Columbus Has The Capacity To Serve The RFPA Expansion Area Requested In This Petition And Is Prepared To Serve As the Regional Planning Agency For That Area

In order to serve the Village and its expansion area, Columbus will construct a 36" interceptor sewer to a point near Kileville where that sewer will connect to the Village's expanded collection system. (See *City of Columbus 2018 Facilities Plan Update* contained in Appendix B attached hereto.) The Village will be constructing additional wastewater collection infrastructure, including pump stations, to deliver wastewater from the Village and its expansion area to the Columbus interceptor sewer at Kileville. The Village's expanded infrastructure and Columbus' collection system will have sufficient capacity to handle the projected peak wastewater flows from the village and its expansion area. Columbus has sufficient capacity to treat this projected flow at its existing wastewater treatment plants. (See *City of Columbus 2018 Facilities Plan Update* contained in Appendix B attached hereto.) Columbus is prepared to serve as the regional facility planning agency for the RFPA expansion area requested in this petition and will enter into the appropriate service agreements with the Village of Plain City and other jurisdictions as necessary to fulfill its regional planning responsibilities.

D. Conclusion

For the reasons stated herein, Columbus requests that Ohio EPA adjust the Columbus RFPA boundary as requested herein and as shown on the map contained in Appendix A attached hereto.

Respectfully submitted:

_____ Date:_____

Tracie Davies
Director
City of Columbus Department of Public Utilities
910 Dublin Road
Columbus, Ohio 43215
Designated Management Agency Columbus RFPA

Endorsed and Approved by:

Madison County Commissioners
1 North Main Street
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

_____ Date:_____

David Dhume
Madison County Commissioner

_____ Date:_____

Mark Forrest
Madison County Commissioner

_____ Date:_____

David Hunter
Madison County Commissioner

Date:_____

Bryan Dhume, P.E, P.S.
Madison County Engineer
825 US 42 NE
London, Ohio 43140
On Behalf of the Madison County Sewer and Water District

Union County Commissioners
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District and as Designated Planning Agency for the Union County (Jerome Township)
Community Level Facility Planning *Area*

Date:_____

Charles Hall
Union County Commissioner

Date:_____

Gary Lee
Union County Commissioner

Date:_____

Steve Stolte
Union County Commissioner

Date:_____

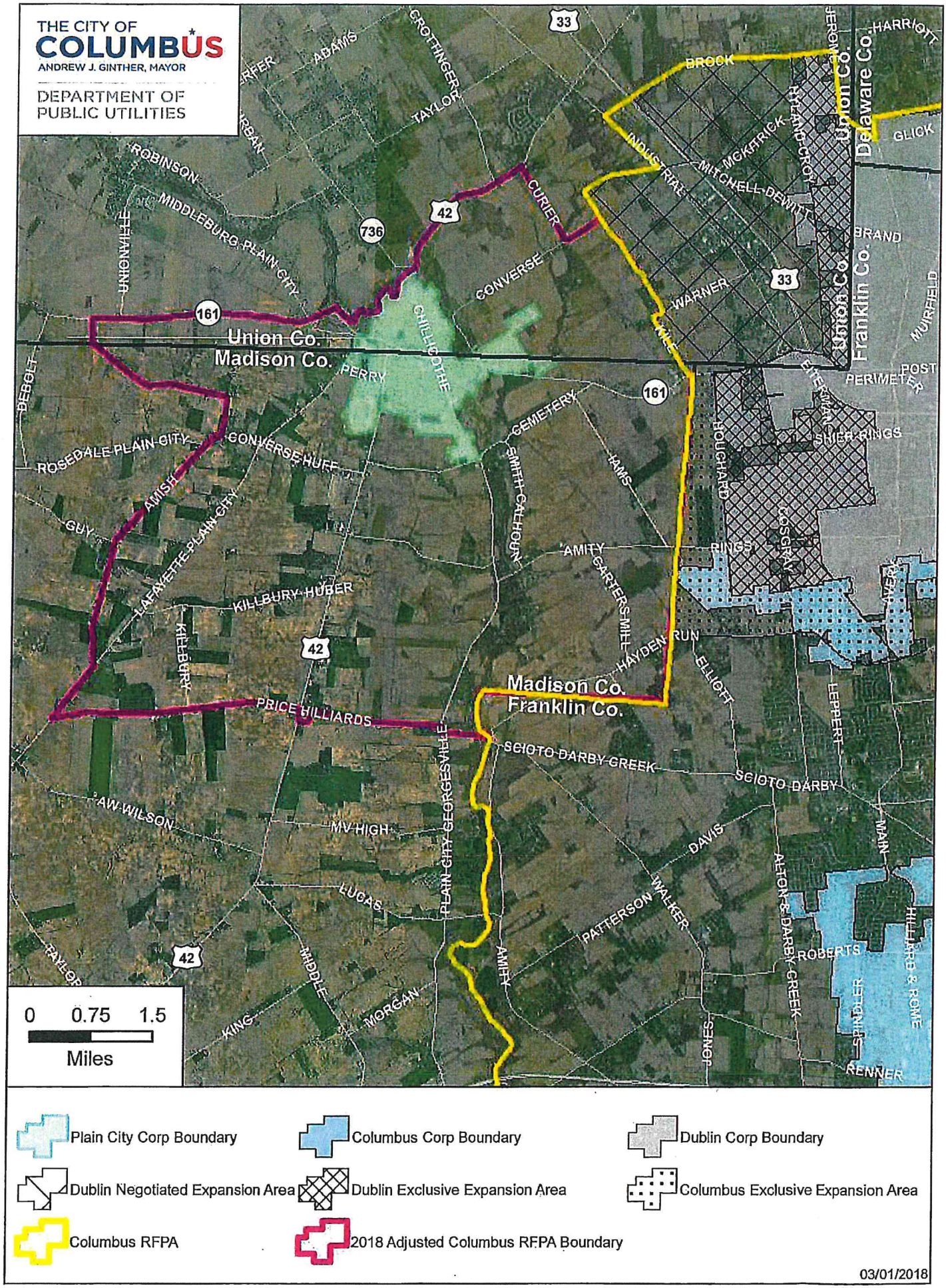
Jeff Stauch, P.E., P.S.
Union County Engineer
233 West Sixth Street
Marysville, Ohio 43040
On Behalf of the Union County Sewer District

Date:_____

_____

Kevin Vaughn
Village Administrator
Village of Plain City
213 South Chillicothe Street
Plain City, Ohio 43064
Designated Planning Agency for the
Village of Plain City

Appendix A


THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR
DEPARTMENT OF
PUBLIC UTILITIES
Union Co.
Madison Co.
Madison Co.
Franklin Co.
Union Co.
Delaware Co.
Union Co.
Franklin Co.
0 0.75 1.5
Miles
Plain City Corp Boundary
Columbus Corp Boundary
Dublin Corp Boundary
Dublin Negotiated Expansion Area
Dublin Exclusive Expansion Area
Columbus Exclusive Expansion Area
Columbus RFPA
2018 Adjusted Columbus RFPA Boundary
03/01/2018