



CITY OF FLINT

FY2026 DRINKING WATER STATE REVOLVING FUND

TORREY ROAD BOOSTER STATION REHABILITATION AND NORTHWEST TRANSMISSION MAIN WATER EXTENSION IMPROVEMENTS

PROJECT PLAN

Prepared By:



June 1, 2025

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EXECUTIVE SUMMARY

The City of Flint (City) completed a Water System Reliability Study as requested by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). State rules require the completion of the study every five years to evaluate the water system's present and future demands. The City of Flint's Water System Reliability Study and General Plan was previously completed in 2016 and will be updated in 2025.

The City has authorized the preparation of this *2026 Drinking Water State Revolving Fund (DWSRF) Project Plan* to develop a plan for water distribution system improvements. Information from this plan will be incorporated into an application document that will be submitted to EGLE for consideration to receive a DWSRF low interest construction loan to make necessary capital improvements to the City's water distribution system. All forms required for submittal on June 1, 2024 can be found in Appendix I. The City submitted an *Intent to Apply* form in October 2024 to the EGLE Water Infrastructure Financing Section (WIFS). This form is included in Appendix II for reference.

The proposed projects that have been identified to be included in the Project Plan are the replacement of the Northwest Transmission Main and repairs to the Torrey Road Booster Station. The proposed Northwest Transmission main repairs are to be completed in two phases. Phase one includes transmission main from the Dupont and Pasadena intersection to the Dupont and Seminole intersection. Phase two includes transmission main starting at the Dupont and Bishop Intersection to the City's Water Treatment Facility. Between the two phases, roughly 30,000 feet of watermain is expected to be installed.

Improvements to the Torrey Road Booster Station include building upgrades, installation of two new pumps, new piping and valves, control panel and programming updates, and various other station improvements. The Torrey Road Booster Station is located along Hammerberg Road between the I-69 entrance ramp and W Twelfth Street.

1.0 PROJECT BACKGROUND

The City of Flint is located along the Flint River and encompasses a total area of approximately 34 square miles. The City of Flint is the largest City in Genesee County and the fourth largest metropolitan area in Michigan. The City owns and operates its own public water system. The 2020 Census reported the City population at 81,252 people. Figure 1 below shows a vicinity map of the City and surrounding communities.

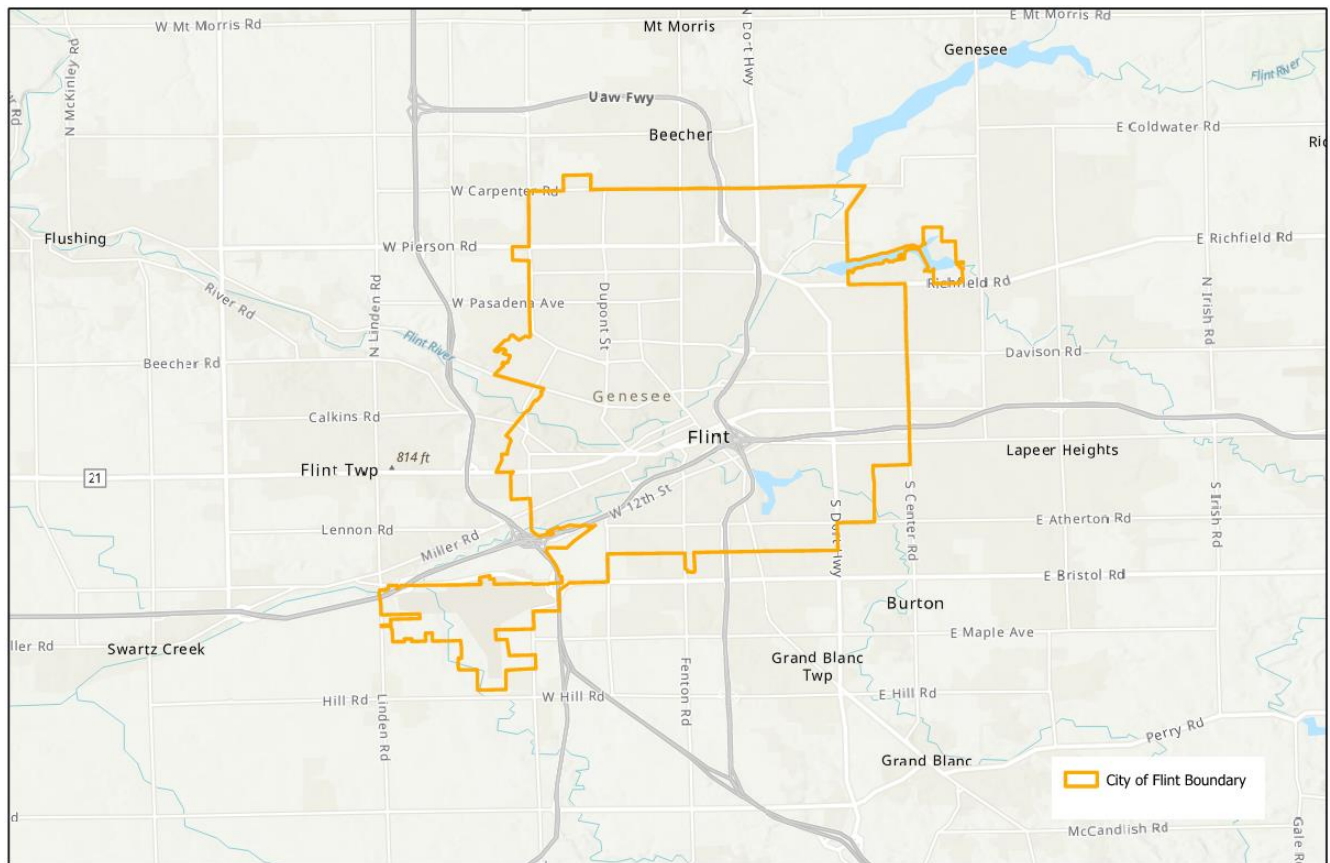


Figure 1 – City of Flint Vicinity Map

Every day, an average of 13.2 Million-gallons (MG) of water serve residential, commercial, industrial, and institutional users. Refer to Figure 2 on the following page for a map of the City's water distribution system.

It is the intent of the City to submit the final Project Plan by June 1, 2025 to EGLE to qualify for a low interest DWSRF loan to provide clean drinking water to the City's citizens and increase reliability.

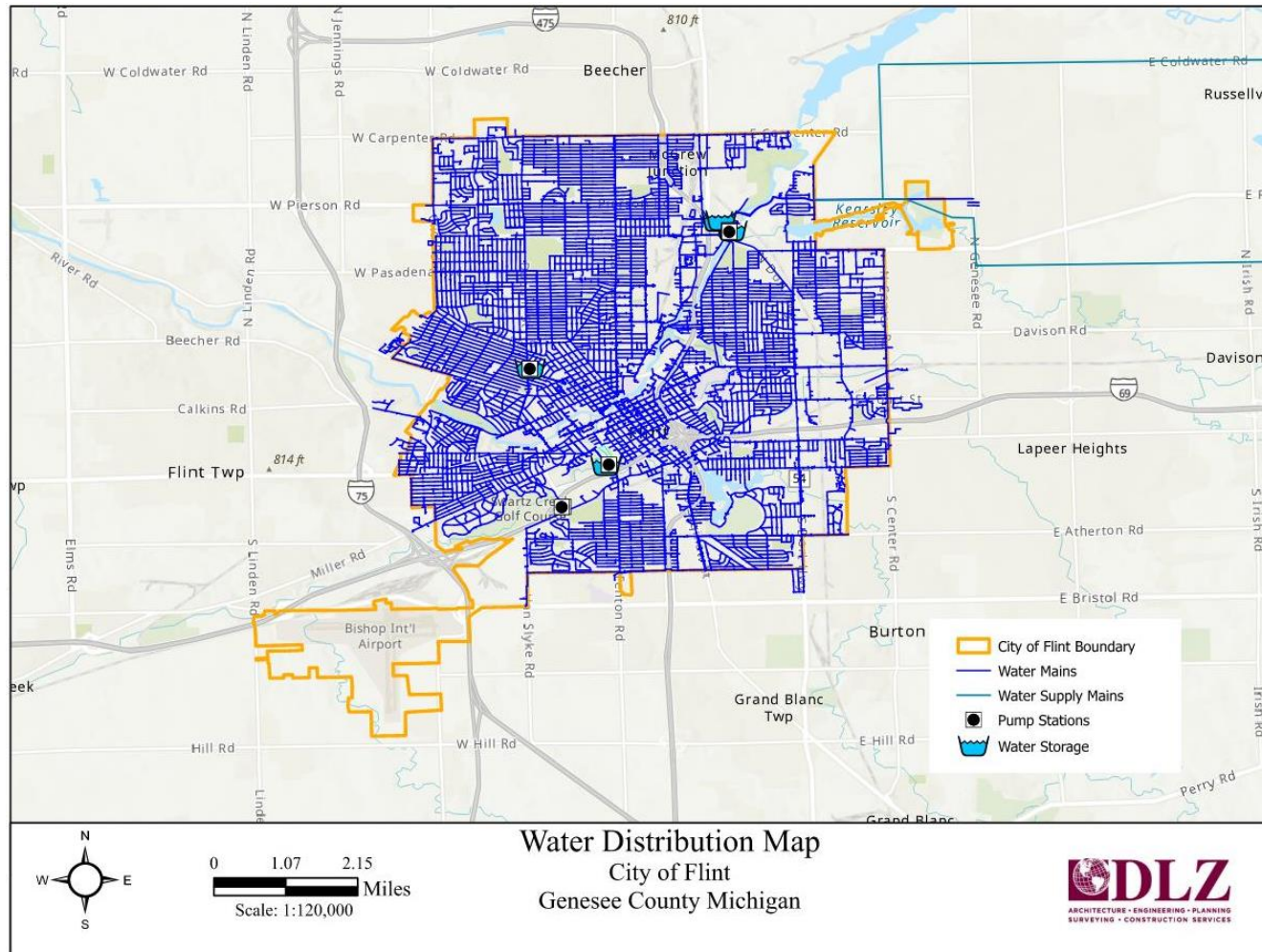


Figure 2 – City of Flint Water Distribution System

1.1 STUDY AREA

The study areas for this project are in Genesee County, Town 07N, Range 06E. The Northwest Transmission main project is located in the northern half of the City traversing Sections 01, 12, 31, 32 and 36. The Torrey Road Booster Station is located in Section 24 just south of the City limits. Refer to Figure 3 for a section map of the study areas.

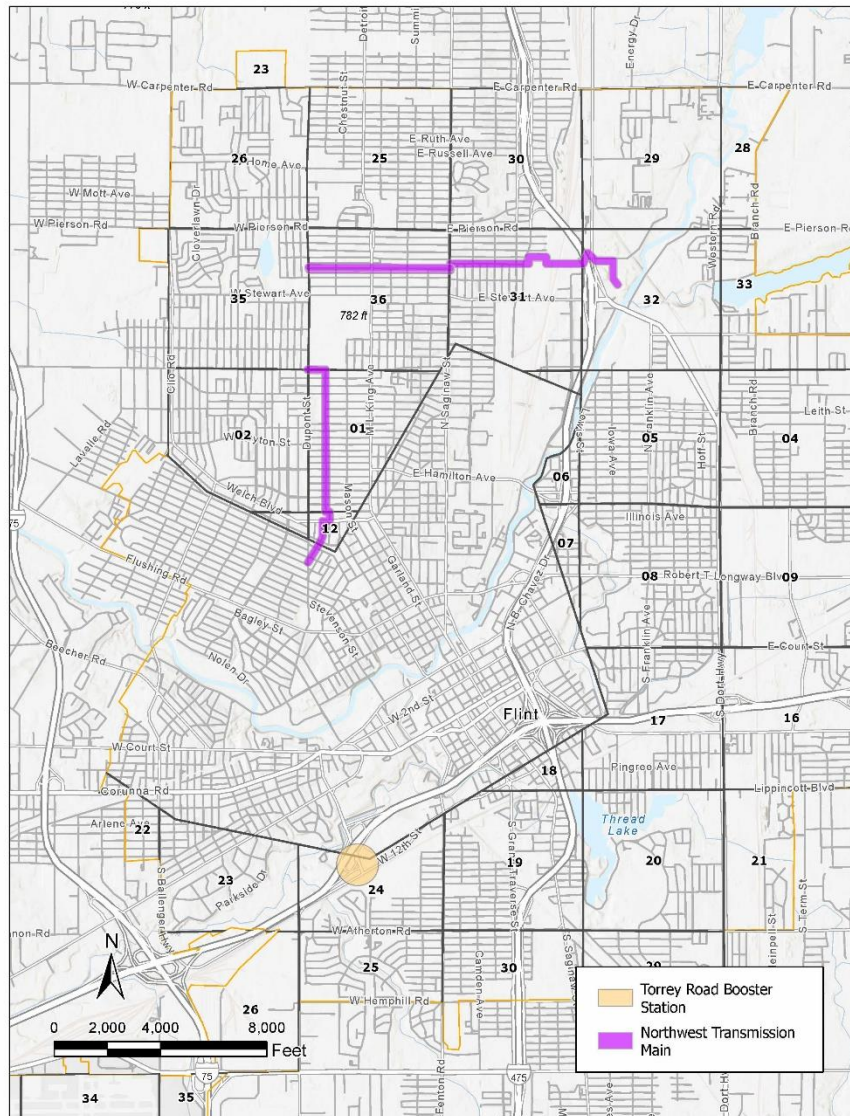


Figure 3 – Section Map of Study Areas

1.2 LAND USE/ZONING

The City encompasses approximately 34 square miles. It is bordered by the City of Burton to the south and east, Genesee Charter Township to the north and east, Mt. Morris Township to the north and west, Flint Charter Township to the west and south, and Mundy Township to the south.

The City, which incorporated in 1855, is a full service community offering residents, visitors, and businesses several municipal services including a full service Police Department, Fire, EMS, fully developed and natural setting parks, miles of passive recreation trail ways, multi-purpose recreation fields, and a full-service Department of Public Works (DPW).

The City offers a diverse mixture of land uses from: civic/cultural areas; commerce; manufacturing; community open space; downtown districts; green, mixed residential, and traditional neighborhoods; and the University Core. There are nine major water bodies that are present in or flow through the City including the Flint River, Gilkey Creek, Swartz Creek, Carman Creek, Thread Creek, Thread Lake, Kearsley Creek, Kearsley Reservoir, and Flint Park Lake. Land use is illustrated in the map in Figure 4.

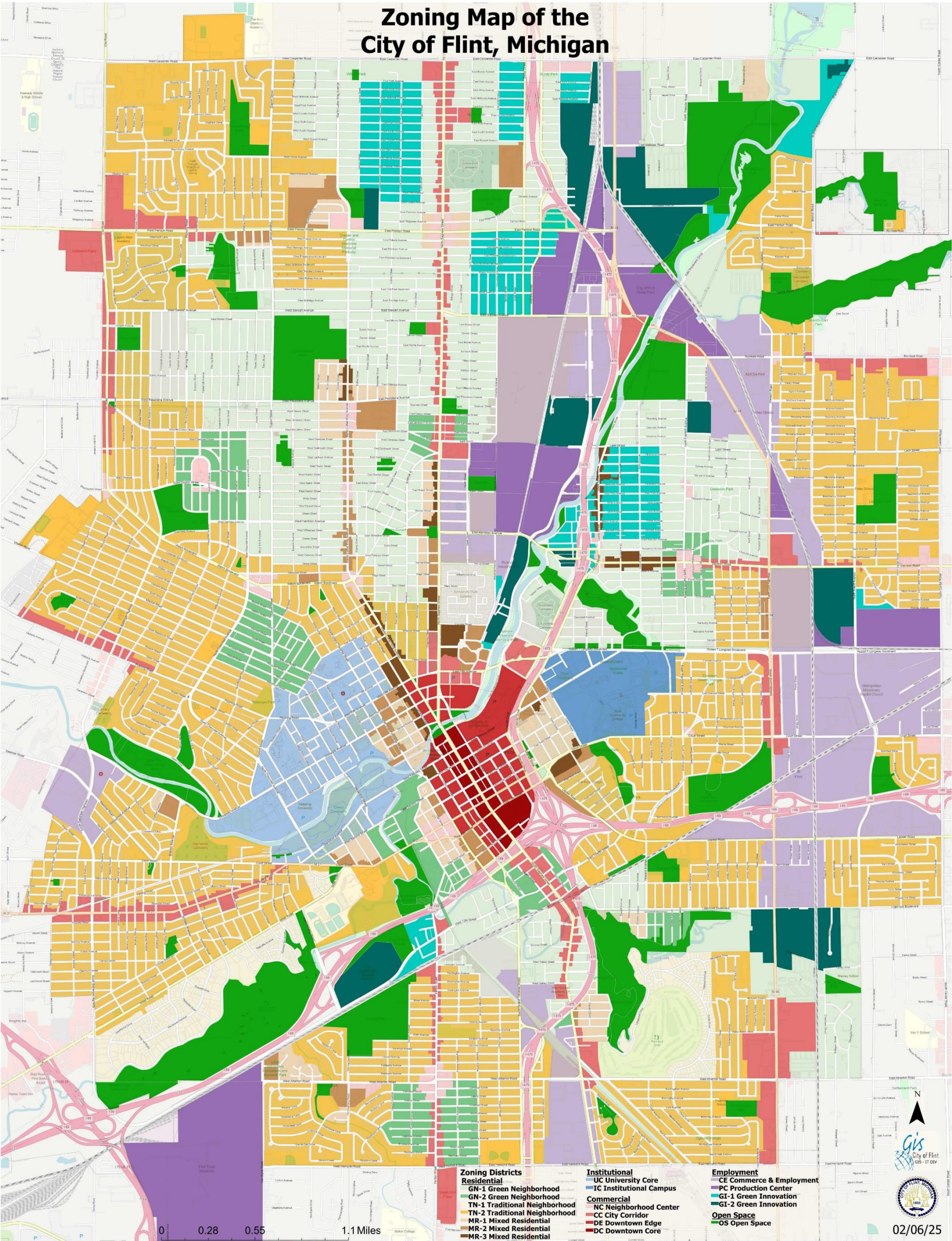


Figure 4 – Land Use/Zoning Map

1.3 POPULATION DATA

The City has a population of 81,252 as of the 2020 U.S. Census. The City is not expected to experience a rapid growth in population in the coming few decades, but rather a continual decline. The total population of the City has decreased by approximately 21,182 in the last 10 years. On average, the City has lost 19,000 people per decade. However, during the next few decades, the population rate of decrease is expected to slow. Population projections are shown in Table 1 and Table 2. Project data is provided by the Genesee County Metropolitan Planning Commission (GCMPC).

Table 1 – Population Projections

Year	Population	Source
1980	159,611	Census
1990	140,925	Census
2000	124,943	Census
2010	102,434	Census
2015	98,297	Census
2020	81,252	Census
2025	77,343	GCMPC
2030	72,527	GCMPC
2035	69,646	GCMPC
2040	67,133	GCMPC
2050	61,172	GCMPC

Table 2 – Population Projection for City of Flint Study Areas

Area Description	Existing Population (2020)	Projected Population 2025	Projected Population 2030	Projected Population 2040	Projected Population 2050
NW Transmission Main Study Area	636	605	567	525	479
Torrey Rd Booster Station Study Area	14,660	13,955	13,086	12,113	11,037

1.4 EXISTING ENVIRONMENTAL EVALUATION

1.4.1 CULTURAL AND HISTORIC RESOURCES

There are multiple Cultural and Historical sites within the City of Flint; however it was determined that there would be no impacts to these locations from the proposed projects. The historical sites from the National Register of Historic Places are listed in Table 3. Further investigation with SHPO and THPO will be undertaken during the design phase.

Table 3 – City of Flint Cultural and Historical Sites

Cultural and Historical Sites – City of Flint	
Aitkan, Robert, Farm House	First National Bank and Trust Company Building
House at 6112 Carpenter Road	Berridge Hotel
House at 4305 South Linden Road	Tinlinn Apartments
Thayer, H. Elmer, House	Hotel Durant
Knight, Morris A., House	Glenwood Cemetery
Industrial Savings Bank Building	United States Post Office
Paterson, William A., Factory Complex	Flint Journal Building
Capitol Theatre Building	Swayze Apartments
Johnson, Abner C., House	Durant-Dort Carriage Company Office
Genesee County Courthouse and Jail	Superintendent's Cottage
West Second Street-Swartz Creek Bridge	Elks Lodge Building
Beach-Garland Street-Flint River Bridge	Applewood
Genesee County Savings Bank Building	Civic Park Historic District
Coolidge, Calvin, Elementary School	Whaley, Robert J., House
City of Flint Municipal Center	

1.4.2 AIR QUALITY

There are no known air quality issues in the City of Flint.

1.4.3 WETLANDS

Wetlands are defined by Michigan's wetland statute, Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. EGLE has integrated National Wetlands Inventory (NWI) mapping and hydric soil mapping into Wetlands Map Viewer, which was queried to identify potential wetlands within the project area. The projects proposed are not adjacent to wetlands.

1.4.4 GREAT LAKES SHORELANDS, COASTAL ZONES, AND COASTAL MANAGEMENT AREAS

There are no great lakes shorelands, coastal zones, or coastal management areas within the influence of the projects.

1.4.5 FLOODPLAINS

There are no floodplains designated within the Northwest Transmission Main or Torrey Road Booster Station project limits. All required permits will be obtained, as necessary. FEMA FIRM Flood Maps of the project locations are available in Appendix III.

1.4.6 NATURAL OR WILD AND SCENIC RIVERS

There are no natural, wild, or scenic rivers within the project areas, according to the National Wild and Scenic Rivers System.

1.4.7 MAJOR SURFACE WATERS

The City is located within the Flint Watershed (HUC 04080204). There are no lakes, ponds or streams located near the project areas. The proposed projects are not anticipated to cause direct impacts on surface waters.

1.4.8 TOPOGRAPHY

Any disturbance to the ground during repair work will be temporary and will not result in permanent topographic alteration. Restoration requirements will be included in future contract documents.

The National Geodetic Vertical Datum was used to determine the land elevations of the Township. The highest spot within the City is found in the southeast region of the City which stands 860 feet above sea level. The lowest spot in the City is at the Flint River at 685 feet above sea level. The Torrey Road Booster Station project sits roughly 730 feet above sea level while the Northwest Transmission Main project ranges from 760 to 795 feet above sea level.

1.4.9 GEOLOGY

There are no known geological resources within the proposed project areas.

1.4.10 SOIL TYPES

The United States Department of Agriculture Web Soil Survey was used to determine the types of soils found within our project limits. The soils found within all proposed project locations are as follows: Ceresco Fine Sandy Loam, Kibbie Fine Sandy Loam, Urban land-crozier complex, and Conover loam.

1.4.9 AGRICULTURAL RESOURCES

No prime or unique agricultural areas are located within or adjacent to the project areas.

1.4.10 FAUNA AND FLORA

The United States Fish and Wildlife Services (USFWS) and State of Michigan Natural Features Inventory (MNF) review were not required for this project scope. The USFWS Information for Planning and Consultation (IPaC) Tool will be used to determine the endangered species that may be present within the proposed project areas during the design phase.

1.5 EXISTING FACILITIES

1.5.1 SOURCE FACILITIES

The City of Flint Water Treatment Plant (WTP) was constructed in 1952, replacing the city's original WTP. That plant treated water from the Flint River until 1970 when its role transitioned to a secondary or backup supply system to purchased water from the Detroit Water & Sewerage Department (DWSD), which began to supply the City system with treated water. The City reverted back to sourcing and treating their own water from the Flint River from April of 2014 to October of 2015. High lead concentrations in that water raised water quality concerns and the City resumed purchasing water from DWSD to supply the water system again at that time. Currently, the existing WTP building has been converted to offices and the filtration equipment has been abandoned. The elevated tank, chemical building, reservoir, and pump station at the WTP site are still in use.

In 2016, the Great Lakes Water Authority (GLWA) formed and began operations as an independent regional water and wastewater authority and while separate from DWSD, began leasing the regional water infrastructure and treatment facilities from the City of Detroit. GLWA draws water from Lake Huron and treats it before a 72-inch transmission main conveys the water to the City of Flint's transmission and distribution facilities. This 72-inch transmission main also provides water service to Genesee County and several other communities in southeast Michigan.

The City of Flint also purchases a small amount of water from the Genesee County Water System (GCWS), operated by the Genesee County Drain Commissioner Division of Water and Waste Services. The Supply Agreement is provided in Appendix IV. The GCWS sources water from Lake Huron with the Karegnondi Water Authority (KWA) Pipeline delivering untreated water to the Genesee County treatment plant in Oregon Township, Lapeer County. The KWA consists of Genesee County Drain Commissioner, Lapeer County Drain Commissioner, Lapeer City, Sanilac County Drain Commissioner, and the City of Flint.

In April of 2022, the City completed transition to a 95/5 blend: 95% GLWA source water and 5% GCWS source water to supply the water system. Water samples will be taken quarterly for the next year by the Michigan

Department of Health and Human Services to ensure the high quality of water continues to be provided to City customers.

1.5.2 WATER TREATMENT AND RESIDUAL DISPOSAL

Currently, the City of Flint does not treat their own water; however the City of Flint monitors the water source from both GLWA and KWA as it enters the City system at the Chemical building. The City can add chlorine and phosphate to maintain the desired chlorine residual level and phosphate levels at the chemical building prior to distribution into the City of Flint's distribution and storage system. The City also monitors chlorine residual levels at the Dort pump station and Cedar Street pump station and can add chlorine at both locations should the chlorine residual levels drop below desired levels.

1.5.3 WATER STORAGE AND PUMP STATIONS

The City of Flint owns and operates several pumping stations and storage facilities. All facilities were evaluated during EGGLE'S 2023 Water System Sanitary Survey, and deficiencies were identified in the report. A copy of the 2023 survey can be found in Appendix V. The City of Flint uses a SCADA monitoring system at their reservoirs, pumping stations, and water treatment plant. Based on the sanitary survey report, the storage reservoirs, storage tanks, and pumping stations are not meeting all Michigan Safe Drinking Water Act requirements. The Cedar Street and Dort reservoirs and pump stations have been updated since the 2023 survey. A brief overview of each facility can be found below.

1. Cedar Street Reservoir and Pumping Station (P.S. No. 3)

The Cedar Street reservoir is a 20 MG ground storage facility located at the end of Cedar Street and Fenton Road, near Thread Creek. The reservoir and pumping station facility were originally constructed in 1948 and are being rehabilitated currently. The pumping station is equipped with three split case pumps rated at 5 MGD. This station has a total capacity of 15 MGD and a firm pump capacity of 10 MGD. The reservoir and pumping stations are currently used as a standby water supply during peak demands and emergency events.

The Cedar Street reservoir and pumping station can be controlled manually or from the water treatment plant. The reservoir is typically filled at night during periods of low demand. The pumping station is stocked with chlorination supplies to provide additional chlorine residual as needed. Water quality in the reservoir has been an issue at times due to the large volume of the reservoir and its location on the opposite side of the City from the water supply.

2. Dort Reservoir and Pumping Station (P.S. No. 4)

The Dort reservoir and pumping station is located at the City of Flint Water Treatment Plant. The pumping station was constructed in 1948/1949 and upgraded in 2022. The reservoir is a 20 MG ground storage facility constructed in 1966 and upgraded in 2022. The pumping station is equipped with three split case pumps and one turbine pump. Pumps 1, 3, and 4 are 5 MGD pumps. The existing pump 1 was maintained and renamed to pump 2 with the previous 15 MGD pump. This station has a total capacity of 30 MGD with a firm pumping

capacity of 26 MGD. The reservoir and pumping stations are currently used for emergency water storage and to house additional water supply for use during peak water demands.

3. West Side Reservoir and Pumping Station (P.S. No. 5)

The West Side reservoir and pumping station is located near Mackin Road and Jean Avenue. The pump station and reservoir are currently out of service with no plans to refurbish or place online. The reservoir is a 12 MG ground storage facility that was installed in 1970. The pumping station is equipped with four turbine pumps, all installed in 1970. Pumps 1 and 2 are three-stage turbine pumps, each with 4 MGD capacity. Pumps 3 and 4 are two-stage turbine pumps with 8 MGD each. This station has a total capacity of 24 MGD and a firm pump capacity of 16 MGD. The facility currently has no backup generator power.

The West Side reservoir and pumping station can be controlled manually or from the water treatment plant. When in service during the winter months, the reservoir is typically filled at night during the low demand periods. When in service during the summer months, the station operates continuously all day and alternates every other day with the Cedar Street pump station. The pumping station is stocked with chlorination supplies to provide additional chlorine residual as needed.

4. Torrey Road Pumping Station

The Torrey Road pumping station is equipped with two centrifugal pumps rated at 4 MGD with VRD control and were installed in 2014. This station has a total capacity of 8 MGD but a firm pump capacity of 4 MGD. The primary function of this station is to provide increased pressure to the southwest portion of the City. The Torrey Road station acts as an in-line booster, taking water from the 24-inch transmission main on Hammerburg Road and discharging it to the 18-inch transmission main supplying the southwest pressure district. No backup power connections are provided at this facility.

5. Water Treatment Plant Elevated Tank

A 2 MG elevated storage tank is located at the Water Treatment Plant site. The elevated storage tank was constructed in 1952 and refurbished in 2023. This tank serves as emergency water storage and acts as a pressure buffer. The elevated tank fills and drains as system demands and pressures indicate. During the 2023 refurbishment, the tower was sand blasted inside and out. All cracks, holes and seams were repaired, and a fresh paint job was completed. A mixer was also installed inside to help avoid stagnation. The previous EGLE request of properly air gapping the drains and overflow lines were updated and screened.

6. Water Treatment Plant Ground Storage

Also located at the Water Treatment Plant site is a 3 MG ground storage tank. It was constructed in 1954 as an emergency water supply and pumping source during peak demands. The ground storage tank is no longer in service, and there are no plans of rehabilitating the tank for future use.

1.5.4 SERVICE LINES

Service leads within the City have been providing adequate service. There are approximately 56,038 parcels in the City of Flint, and 43,406 are believed to be currently occupied.

The service leads material distribution is located in Table 4 below; this information is from the *2016 Water Reliability Study* and the best information available at this point. The information was provided by the Department of Natural Resources with aid from local records and investigations. A portion of the service lines are lead piping. Experience has demonstrated many of the unknown services are also lead piping. It is expected that at least 18 percent of services may be lead. The City has replaced lead and galvanized services within the right-of-way during road and utility repair or replacement projects. The City and State are also working to provide material replacement of lead and galvanized services from the main all the way to the water meter. As of July 2021, the City has performed 27,133 excavations, found 17,074 copper service lines and replaced 10,059 services to the water meter.

Table 4 – Service Line Material Composition (as of 2016)

Service Material	All Parcels		Occupied Parcels	
	Quantity	Percentage	Quantity	Percentage
Copper	25,784	46.0%	22,995	52.9%
Galvanized	12,011	21.4%	7,889	18.2%
Lead	4,341	7.8%	3,414	7.9%
Unknown	13,898	24.8%	9,104	21.0%
Other	4	<0.1%	4	<0.1%
Total	56,038		43,406	

1.5.5 DISTRIBUTION SYSTEM

The water distribution system provides service to the entire City of Flint. It is comprised of approximately 583 miles of water main ranging in size from 2-inch diameter pipe to 72-inch diameter pipe. Much of the distribution network is arranged in looping patterns to increase hydraulic capacity and water quality. Looping systems prevent water from stagnating in dead end pipe sections that promote bacterial growth. Transmission mains ranging from 12-inch to 24-inch diameter in size make up 11 percent of the system and are generally located near the center of the City, creating an interior transmission loop. Smaller 6-inch and 8-inch diameter water mains (approximately 75% of the system) branch off the transmission mains to service individual neighborhoods.

A breakdown of the water system by pipe size is shown in Table 5 below.

Table 5 – Water Main by Diameter

Diameter (in)	Length (ft)	Percentage of System
2	3,338	0.11%
3	8,022	0.26%
4	137,586	4.47%
6	1,588,740	51.59%
8	760,968	23.74%
10	18,029	0.59%
12	249,851	0.35%
14	24,906	0.81%
16	108,265	3.52%
18	58,452	1.90%
20	94	0.00%
24	119,622	3.88%
30	17,973	0.58%
36	10,668	0.35%
42	1,769	0.06%
48	400	0.01%
72	759	0.02%
Total	3,079,442	100%

The City's GIS data revealed that approximately 97% of the water system consists of cast iron pipes. Cast Iron tends to corrode and develop a pitted interior as it ages due to oxidation. When pitting occurs, the pipes allow for an environment that supports bacterial growth. Ductile iron, steel, concrete, galvanized, and other types of pipes make up the remainder of the system. A breakdown of the system's pipe materials is shown in Table 6.

Table 6 – Water Main by Material

Material	Length (ft)	Percentage of System
Cast Iron	2,976,032	96.64%
Ductile Iron	81,210	2.64%
Steel	14,130	0.46%
Concrete	6,721	0.22%
Other	1,067	0.03%
Galvanized	282	0.01%
Total	3,079,442	100%

In the early 1900s, the City’s water main only spread as far as the downtown sector, near the Flint River. Around 1920 the City experienced a large expansion due to the auto industry and many new water customers were added to the system farther from the river. In the 1950s, the City, including the water system, expanded once again to reach the current City limits. The average age of the City’s water main is approximately 89 years old. A breakdown of the approximate age of system pipes can be found in Table 7.

Table 7 – Water Main Age

Installation Date	Length (mi)	Percentage of System
1900-1910	20.2	3.5%
1911-1920	148.1	25.9%
1921-1930	194.2	34.0%
1931-1940	35.9	6.3%
1941-1950	7.1	1.2%
1951-1960	142.9	25.0%
1961-1970	11.7	2.1%
1971-1980	1.4	0.3%
1981-1990	9.7	1.7%
1991-2000	1.1	0.2%
2001-2011	10.8	1.9%

1.5.5.1 Appurtenances

An analysis of the system’s water valves was undertaken from May to July of 2015. The initial survey, as a part of this analysis, found that only 44 percent of 8,228 in-line and hydrant valves assessed were in operable condition. To address this issue, a maintenance program was introduced that included the regular working of the valves on a rotating basis, with emphasis on the larger, critical valves. A follow up review was completed at the end of the analysis, and it was concluded that operability of the valves increased by approximately 26 percent, raising operability rates from 44 percent to 70 percent. The City Water Department staff continues to address remaining inoperable valves as a part of the maintenance program.

Since 2013, the City has completed annual inspections of hydrants within their distribution system. The inspections include the flushing of all hydrants, which addresses water age issues within the system. The City replaces hydrants on an as needed basis as a part of their maintenance program.

The City of Flint is responsible for five (5) dams that are no longer used for water supply but remain under the City’s care. They were constructed between 1920 and 1955 when the Flint River was used for the City’s water supply. The Holloway, Kearsley, Hamilton, and Thread Lake Dams were inspected in 2015, while the Utah Dam has not been inspected since 2008. The Thread Lake dam was recently rehabilitated after a flood caused the gates to fail. The conditions of each dam from their most recent inspection are as follows in Table 8.

Table 8 – Dam Summary

Dam	Last Inspection	Dam Components	Condition
Holloway Dam	2015	Spillways, Control Structures, Dam Embankments	Good
Kearsley Dam	2015	Spillways, Control Structures, Dam Embankments	Poor
Hamilton Dam	2015	Dam Superstructure, Dam Substructure	Very Poor
		Dam Base, Sheet Piling	Fair
Thread Lake Dam	2015	Spillways, Control Structures, Dam Embankments	Poor
Utah Dam	2008	Superstructure concrete, Piers, Access Platform	Poor
		Gates	Inoperable
		Overall Structure	Fair to Poor

1.5.6 WATER METERS

The City replaces 3,000 meters per year on average. This equates to approximately 7 percent of all meters in the system. The City is nearing completion of an \$11 million investment project to upgrade all household water meters throughout the City with Badger LTE-M model meters which are remote broadcast over a cellular network. The City completed replacement of all water meters in 2022.

1.5.7 DISTRIBUTION SYSTEM OPERATION AND MAINTENANCE

The City of Flint water system was designed to service a population more than double that of Flint's current population size. A system with excess capacity can result in less revenue to support maintenance, high water age, and water quality issues. A list of some of the maintenance activities performed by the City to mitigate these issues include:

- Routine sampling of chlorine residual monitoring locations to stabilize chlorine levels throughout the system.
- Frequent flushing of water mains due to residual levels exceeding MCL requirements.
- Disinfectant Byproduct (DBP) every three months at each of the testing sites.
- Replacement of water meters that have surpassed the 20-year life span.
- During Fall, the annual hydrant flushing program inspects and flushes hydrants within the system.
- A maintenance program was introduced for the system's valves to provided regular working and maintenance. The program focuses on the larger, critical valves on a more regular basis.

1.5.7.1 Water Main Breaks

The City has seen an increase in water main breaks caused by aged cast iron pipes and older pipes. When most of the City's water mains were installed, the typical bury depth was 3 ½ feet. Today's standards require 5 to 6 feet of ground cover for new water main installations. Continuous months of temperatures below freezing are believed to be the cause of increased water main breaks due to a rise in frost depths. Recent water main break information by year can be found in Table 9.

Table 9 – Water Main Breaks

Year	Number of Breaks
2010	134
2011	193
2012	148
2013	147
2014	296
2015	259
2016	Information Not Available
2017	Information Not Available
2018	Information Not Available
2019	Information Not Available
2020	Information Not Available
2021	238
2022	112
Note 1: Number of breaks to date, January 1, 2022 to May 10, 2022	

1.5.8 DESIGN CAPACITY

The Detroit raw water transmission system has a capacity of 60 MGD but is configured to deliver a maximum of 18 MGD to the Flint Water Treatment Plant. The average daily supply the GLWA source main delivers to the Flint Water Treatment Plant is 10 MGD.

The City of Flint developed a hydraulic model in 2009 to aid in the analysis of water quality issues. Physical characteristics such as topography, pipe length, pipe diameter, tank elevations, and interior roughness were taken into consideration. Commercial water was added to the system demands while residential water use was averaged and dispersed throughout the system.

Average daily demand (ADD) is defined as the yearly water consumption divided by the number of days in the year. This rate is used for projecting supply and pumping costs that configure water sales. In 2024, the average daily demand was 7.1 Million-gallons per day (MGD).

Maximum daily demand (MDD) is defined as the maximum consumption of water that occurs over a 24-hour period. This demand is used to determine the size of water supply facilities and to ensure those facilities are

meeting production and storage volume requirements for adequate water supply. The most recent maximum daily demand was 14.0 MGD in March 2025.

Table 10 shows the City's average day demand and maximum daily demand from 2010-2025. As can be deduced from the yearly totals, the water demand in the City is decreasing over time. The decrease in MDD from 2010 to 2025 correlates to the decrease in population and updates to the water system. Note that the City commenced purchasing water from the Great Lakes Water Authority and Genesee County Water System in 2021 and the full year's usage is not available.

Table 10 – Historical Water Use

Year	Total Volume Pumped (MG)			MDD/ADD Ratio
	Yearly Total	Average Day	Maximum Day	
2010	5145	14.1	17.5	1.24
2011	5081	13.9	20.4	1.47
2012	4406	12.1	17.8	1.48
2013	4903	13.4	17.4	1.29
2014	6645	18.2	24.5	1.34
2015	5951	16.3	25.4	1.56
2016	4628	12.6	18.9	1.5
2017	4205	11.3	18.8	1.67
2018	4153	11.2	18.7	1.67
2019	3815	10.3	15.4	1.50
2020	3570	9.63	17.6	1.83
2021	3745	10.1	16.1	1.60
2022	3749	10.2	23.3	2.28
2023	3075	8.3	15.8	1.92
2024	2862	7.1	11.3	1.60
2025 ¹	954	10.3	14.0	1.37

Note 1: Available Daily Water Usage from January to March 2025.

1.5.9 EMERGENCY CONNECTIONS TO ADJACENT WATER SYSTEMS

The City's contingency plan outlines the emergency precautions that should be followed in the event of an infrastructure failure or local disaster. The City's system has emergency interconnections to the Genesee County water system at Frances and Lewis Roads. However, the systems operate at different hydraulic grade lines and the conditions of the connections are unknown. In the event of an emergency, the County could provide the volume of water the City needs but not at the required pressure. Water would need to go to the Dort Station before distribution to the system.

1.5.10 CLIMATE RESILIENCY

The largest climate threat to the City's water system would be the increased frequency of severe storms that may cause power outages. Ninety-five percent of the City's water is supplied from the Great Lakes Water Authority and their booster stations are equipped with backup generators. As a result, a power outage will not affect delivery of water unless it is a large-scale sustained regional power loss that impacts delivery of water to the City's system to adequately maintain the City's storage and pumping systems.

Out of the four (4) pumping facilities, the Cedar Street Pumping Station is the only facility that can be operated by generator. The Dort Reservoir has access to power via the redundant power service serving the Water Treatment Plant. The Torrey Road and West Side pumping stations and reservoirs do not have access to back-up power. With the City signing a long-term water supply agreement with GLWA and GCDC, standby power options should be included for the pumping stations. According to City staff, the City of Flint is confident that GLWA is considering climate change and incorporating necessary steps to address them in their operating plans.

Failure of the remote monitoring SCADA system would require manual system monitoring and operation by City water department staff. The large storage volumes within the City would allow the system to continue operating in this manner until SCADA can be restored.

1.6 SUMMARY OF PROJECT NEED

1.6.1 TORREY ROAD BOOSTER STATION REHABILITATION

The Torrey Road booster station is equipped with two centrifugal pumps rated at 4 MGD with VRD control that were installed in 2014. This station has a total capacity of 8 MGD but a firm pump capacity of 4 MGD. The primary function of this station is to provide increased pressure to the southwest portion of the City. The pump station requires improvements at this time.

In the *Hydraulic Report* completed by Tetra Tech in 2024, hydraulic modeling and analysis determined the need for improvements at the Torrey Road Booster Station. Pressures are lowest in the southwest portion of the system. The pipes within the service area appear to be in poor condition with high energy losses. The City's targeted minimum pressure is 40 psi and the service area minimum pressures are 33, 30 and less than 20 psi during ADD, MDD, and PHD scenarios, respectively. The minimum fire flow residual pressure is also not met.

The map displays the Torrey Road Booster Station area in Flint, Michigan. The station is marked with a blue square and labeled "Torrey Road Booster Station". The map includes a scale bar (0 to 4,000 feet) and a north arrow. The area is divided into sections numbered 18, 19, 22, 23, 24, 25, 26, 30, and 34. Key streets shown include W 5th Ave, W 2nd Ave, W 12th St, W 10th St, W 8th St, W 6th St, W 4th St, W 2nd St, W Court St, W 1st St, W 12th St, W 10th St, W 8th St, W 6th St, W 4th St, W 2nd St, W Court St, W 1st St. Other streets include Torrey Rd, W 12th St, W 10th St, W 8th St, W 6th St, W 4th St, W 2nd St, W Court St, W 1st St, W 12th St, W 10th St, W 8th St, W 6th St, W 4th St, W 2nd St, W Court St, W 1st St. The map also shows the Flint River and Swartz Creek.

Figure 5 – Proposed Torrey Road Booster Station Rehabilitation

1.6.2 NORTHWEST TRANSMISSION MAIN

The Northwest Transmission Main is the northwest portion of the large 24-inch water main loop that conveys water throughout the City of Flint. With aging and decaying portions of the transmission main, the overall reliability and water quality of the system is decreasing.

Phase one includes transmission main from the Dupont and Pasadena intersection to the Dupont and Seminole intersection. Phase two includes transmission main starting at the Dupont and Bishop Intersection to the City's Water Treatment Facility. Between the two phases, roughly 30,000 feet of watermain is expected to be installed. Replacement of the transmission main is expected to reduce water main breaks, provide high water quality, and increase reliability for the City. Valves and hydrants along the transmission main will also be replaced, providing reliable access for fire flows and required shut offs for emergency purposes. The proposed water main replacements and affected parcels are identified in Figure 6.

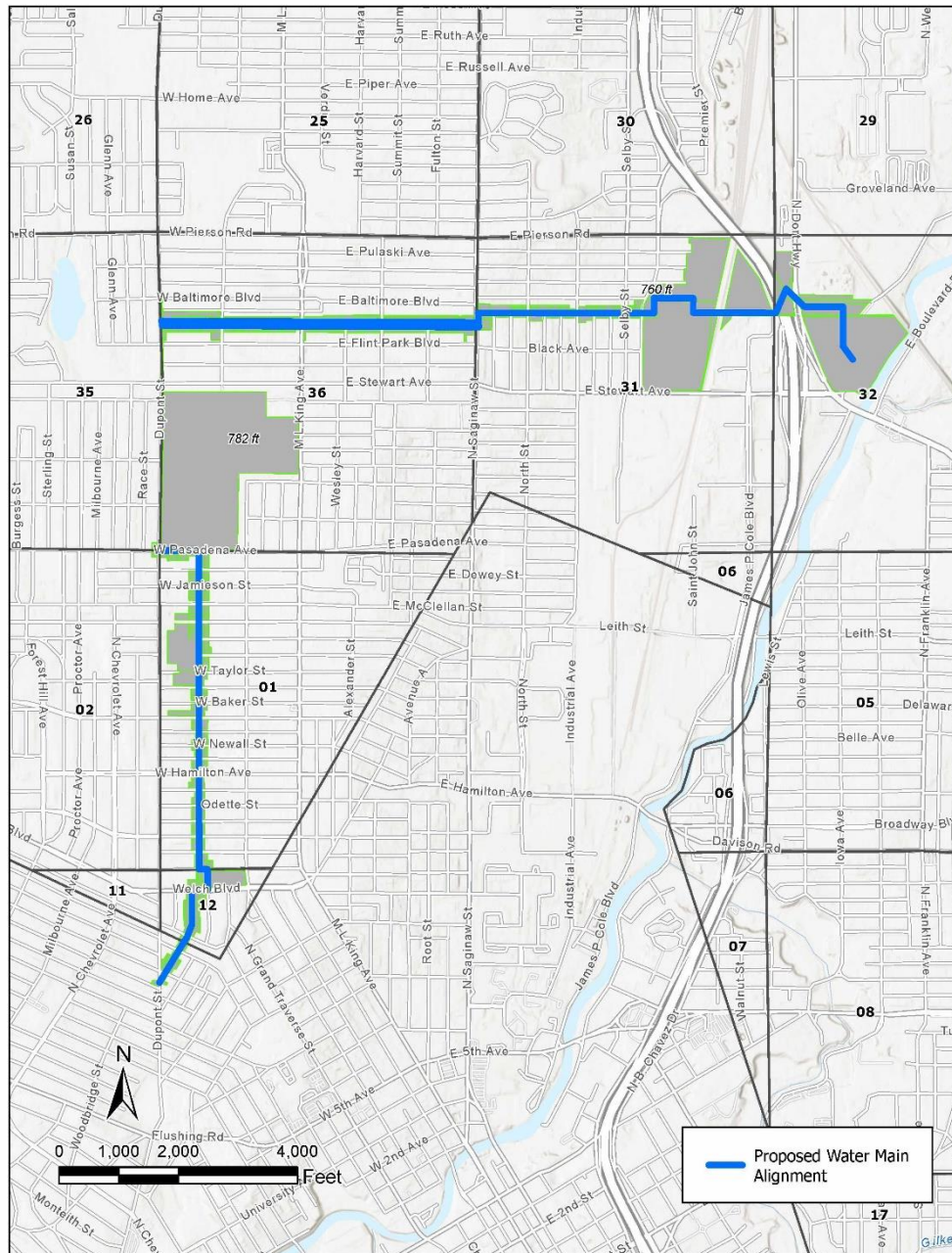


Figure 6 – Proposed Northwest Transmission Main

1.6.3 ORDERS OR ENFORCEMENT ACTIONS

A voluntary agreement with the Michigan Department of Environmental Quality (now EGLE), on December 17, 2018, was issued to supersede the requirements ordered by the Safe Drinking Water Act (Appendix VI). The agreement outlined programs and timelines the City of Flint needed to adopt or follow to avoid monetary penalties to the State. Some of the conditions outlined in the agreement are as follows:

- Formally adopt a cross-connection control program to avoid non-potable water entering the public water system.
 - Hydrocorp was contracted to perform this task and the deficiency has been removed.
- Implement previously approved Standard Operating Procedures (SOPs).
 - 18 new Standard Operating Procedures were approved for implementation. At this time 13 SOP's have been implemented. The remaining are depending on increased revenue to pay for personnel and the completion of Cedar Street Reservoir and Pump Station project.
- Conduct a preliminary and final inspection of the Cedar Street Reservoir.
 - The Cedar Street Reservoir is currently within the restoration phase of construction.
- Provide a proposal indicating how the City will meet technical, managerial, and financial capacity by 2023.
 - Once the asset management plan for the WTP & WSC is complete, the plan will be tied to the rate study to fulfill the requirement above.

The agreement will not be terminated until all conditions have been met. Both parties' goal is to provide the City of Flint a self-reliant water system.

1.6.4 DRINKING WATER QUALITY PROBLEMS

In December of 2014, the City of Flint yielded unsatisfactory results of total trihalomethanes (TTHM) in their water system. The maximum concentration level of TTHM is 80 parts per billion (ppb). The city was non-compliant with levels of TTHM at 93.6 ppb. In October 2015, the City's Technical Advisory Committee recommended returning to the GLWA water source after reports of elevated blood levels in children were analyzed. At this time, the Flint River produced two consecutive lead and copper tests that exceeded the 5 micrograms per liter (µg/L) standard.

Every six (6) months, the City is required to provide lead and copper test results to EGLE. Since July 2016, the City has met the lead and copper rule (LCR) standard of 15 parts per billion. The most recent period of July to December 2024, the City's water system tested at 3 ppb, well below the LCR requirement.

1.6.5 PROJECTED NEEDS FOR THE NEXT 20 YEARS

As shown in the 20-year Capital Improvement Plan (CIP), prepared by Arcadis, in Appendix VII, the City of Flint classifies their capital improvements into three (3) groups: Administrative and Support, Water Distribution, and Rehabilitation and Replacement. The City is currently undertaking, or has undertaken recently, seven (7) infrastructure improvement projects including: water quality monitoring, adding a secondary water source, service line replacements, construction of a chemical feed building at the water treatment plant, residential

water meter upgrades, and local assistance/capacity development by adding personnel and expertise to oversee the projects and construction.

In addition to the current projects and the proposed improvements to the Torrey Road Booster Station and the Northwest Transmission Main, the City still has important issues to address within their water system. Four of the five dams maintained by the City are in imminent need of attention. It is recommended that Hamilton Dam be removed and replaced, but the Utah Dam needs to be completely removed from the system. The Kearsley Dam is not at the point of removal, but there is major work to the structural concrete and bridge required. At Holloway Dam, maintenance is only suggested. The recommended work includes installation of a river flow gauge, replacement of drum gate bearings, and new instruments to read water surface levels. In addition, the average age of water distribution system water main is nearly 100 years old and many water mains are still in need of replacement. An additional transmission main replacement will be necessary as well as systematic replacement of the smaller system mains in the next twenty years.

2.0 ANALYSIS OF ALTERNATIVES

2.1 ALTERNATIVE 1 – “NO-ACTION”

The No-Action alternative represents a do-nothing or business-as-usual scenario. This would mean that the City takes no action to improve their existing infrastructure and leaves the system as-is. In this scenario, the Torrey Road Booster Station would not be rehabilitated and the Northwest Transmission Main would not be replaced and improved. As these existing facilities and infrastructure are nearing the end of their useful lives, the No-Action alternative will not be considered due to their criticality within the City’s water system.

The failure of the Northwest Transmission main would disrupt system looping, creating multiple dead-end water mains, and cut off water feeds to adjacent neighborhoods. The Torrey Road Booster Station is critical to providing adequate water pressure and flows to southwest Flint. Improvements should be made to ensure sufficient pressure and flows are maintained within the service area.

2.2 ALTERNATIVE 2 – “OPTIMUM PERFORMANCE OF EXISTING FACILITIES”

Optimum performance of the existing facilities involves operational changes, addition of new equipment, or the addition and training of operating personnel. However, replacing several valves and piping and implementing operational changes at the Torrey Road Booster Station and Northwest Transmission Main only serves as a temporary solution. Operational changes and the optimum performance of the existing infrastructure has not been selected as an alternative. However, operational changes to the Torrey Road Station will be implemented as part of the improvements to the existing infrastructure, which is discussed under Alternative 4, to optimize the operation of the proposed improvements.

2.3 ALTERNATIVE 3 – “REGIONAL ALTERNATIVES”

There are various regional alternatives that have been considered for the Torrey Road Booster Station and the Northwest Transmission Main. One Regional Alternative to the Torrey Road Booster Station is to construct a

secondary station at a different location. From an economic standpoint, this is not a feasible option as it would be more expensive to construct an entirely new station rather than provide improvements on existing infrastructure. It also does not make sense to construct a new booster station without addressing the deficiencies at the Torrey Rd Booster Station. Regional alternatives to the Northwest Transmission Main include changing the routing of the existing main and abandoning the transmission main. These regional alternatives will not be considered as they do not present a cost effective and feasible approach to achieving high water quality and reliability.

2.4 ALTERNATIVE 4 – “IMPROVE EXISTING INFRASTRUCTURE”

An alternative was explored to improve the existing infrastructure, which involves the repair and rehabilitation of the Torrey Road Booster Station and the replacement of the Northwest Transmission Main. As recently as 2014, the City of Flint installed new pumps at the Torrey Road Booster Station, however, the service area continued to experience low pressures. The existing pumps overheat at full speed, so the pumps are always operated around 96 percent speed. The Torrey Road Booster station improvements are recommended to address existing pressures within the City’s area of service. The overall improvements include the replacement of existing pumps at the booster station, installing VFDs with upgraded pressure sensors and instrumentation, replacing existing pipes and installing check valves around the service area.

Due to nearing the end of its useful life, segments of the Northwest Transmission Main need to be replaced. These replacements address reliability issues associated with the aging infrastructure. Water main replacements will address water quality and public health concerns in the most cost-effective manner available. The previously proposed improvements in 2020 have not yet been addressed, and the condition of the existing water main continues to be a concern.

Alternative 4 was chosen as the selected alternative due to the direct and comprehensive water quality and reliability improvements to the City of Flint infrastructure. Designs for the Torrey Road Booster Station and the Northwest Transmission Main were started under an existing State Grant and are approximately 90% complete, however significant cost overruns under that existing grant has pushed these projects outside of the fundable range. Funding under this DWSRF will allow the design to be finalized and provide the necessary funds to complete construction of the proposed projects.

2.5 MONETARY EVALUATION

2.5.1 SUNK COSTS

Sunk costs are reflective of any financial investments or commitments made before or during the project planning. These sunk costs are typically not included in the cost analysis as they have been committed regardless of the alternative chosen for the final project. In this case, the only sunk costs associated with these alternatives are the costs for this project planning document. This value will not be included in the monetary evaluation portion of this project.

2.5.2 PRESENT WORTH

Present worth is used to evaluate the various alternatives and will include O&M, capital construction costs, salvage values and replacement costs. Per the EGLE Project Planning Guidance document, the real discount (interest rate) to be used to evaluate the present worth is to be taken from the Federal Office of Management and Budget (OMB) Appendix C of Circular A-94. For a 20-year planning period, the real discount rate is 2.2%.

To compare the four alternatives provided, the present worth of the estimated cost for each alternative was compared in Table 11.

Table 11 – Present Worth of Estimated Construction Costs of Alternatives

Alternative	Description	Total Construction Cost	Present Worth of Construction Costs
1	No-Action	\$ 0 ¹	\$ 0 ¹
2	Optimum Performance	\$ 0 ¹	\$ 0 ¹
3	Regional Alternatives	\$ 30,000,000+ ²	\$ 30,000,000+ ²
4	Improve Existing Infrastructure	\$25,330,400.00	\$25,079,603.96
Note 1: Option 1 and 2 will have no initial construction cost due to leaving the system as-is (Alternative 1) and operating the system to an optimum performance, which the City of Flint is currently doing (Alternative 2). However, the assets will continue to deteriorate due to the age of the system and costs will continue to increase as time progresses for routine maintenance and spot repairs. This option is not recommended. Note 2: According to the 2016 Water Reliability Study for the City of Flint, the replacement cost for the Northwest Transmission main was estimated at \$20,000,000.00. This would cover the replacement of 30,000 feet of pipe. Adjusting for inflation from 2016 dollars and not considering the increase in price due to current supply issues, the regional alternative of complete transmission main replacement would be nearly \$26,650,000.00. Adding the potential costs of a new booster station as part of the Regional Alternative 3, in addition to addressing some of the existing deficiencies at the Torrey Booster station, the construction costs itself will easily exceed \$30,000,000.00.			

The No-Action alternative will have no construction costs as this alternative involves leaving the current system as-is and does not propose any improvements to either the Torrey Road Booster Station or the Northwest Transmission main. Alternative 2 also has no construction costs as the City is currently running the system at an optimum performance. This includes running the pumps at Torrey Road at less than their full capacity due to concerns with overheating, and maintaining the existing transmission main.

Alternative 3 includes the regional alternatives of constructing a new pump station in addition to the improvements at the Torrey Road Booster Station to address the pressure concerns. The remainder of the costs are for the complete replacement of the transmission main, which was estimated to be \$20,000,000.00 in 2016. Simply adjusting for inflation to 2025 dollars, the complete reconstruction of the transmission main

would be over \$26.6 million. Uncertainties in the supply of materials and the volatility of the market can easily place the total construction costs for Alternative 3 over the \$30 million mark.

Alternative 4 represents the estimated construction costs for both the proposed Torrey Road Booster Station project and the rehabilitation and reconstruction of the Northwest Transmission main. Though still expensive due to the large scope of the projects, the \$25 million in estimated construction costs is still less than what is proposed in Alternative 3 and will meet the goals of improving existing infrastructure to provide high quality water to the residents of the City of Flint.

2.5.3 SALVAGE VALUE

For a 20-year project planning period, it is expected that portions of the proposed projects will outlive the 20-year period. The salvage value evaluates the costs that can be recuperated after a 20-year period. For these projects, salvage values were applied using a straight-line depreciation, and the useful life of structures and equipment was estimated. Salvage values were not evaluated for Alternatives 1 and 2 as the value for salvaging the equipment does not outweigh not improving or replacing the existing infrastructure. The salvage values for Alternative 3 were not evaluated as the portions of the existing infrastructure are past their useful life and would not contribute any value.

2.5.4 ESCALATION

Cost escalation applies only energy costs and land value. Alternatives 1, 2, and 4 were assumed to not have any changes in overall energy cost or land value and so escalation was not applied. Alternative 3 may require the acquisition of land as part of a new booster station, however this value was not estimated as the construction costs of Alternative 3 already outweighed that of the other alternatives.

2.5.5 INTEREST DURING CONSTRUCTION

It is not expected that interest during construction would be sufficient due to the short construction time frame for the booster station improvements. The Northwest Transmission Main will be completed in two phases and is not expected to accrue significant interest during the construction period. Interest was not evaluated for Alternatives 1 and 2 as there are no construction costs. The interest generated for Alternative 3 would be greater than Alternative 4 due to the higher capital construction costs, and was therefore not specifically analyzed.

2.5.6 USER COSTS

User costs for Readiness to Serve Charges and Metered Water Rates contributes to the revenue that the City generates as part of their Water Fund. Changes in the water rate schedule would alter the amount of revenue that the City has in their budget. Implementing Alternatives 1 or 2 would not require any changes to the user costs as there are no associated capital construction costs. Alternative 3 would require an increase as the capital cost for the project is expected to be greater than \$30 million, so the City would need a way to generate that revenue. Similarly, Alternative 4 would also require potential user rate increases to pay for the construction and completion of the proposed projects. A detailed analysis of the potential user rate increases will be discussed in the Selected Alternative section of this project planning document.

2.6 ENVIRONMENTAL EVALUATION

2.6.1 CLIMATE

No Action – There would be no change to the water distribution system and thus there are no expected changes to climate or weather conditions.

Optimum Performance of Existing System – Neither increased maintenance of the existing Northwest Transmission Main or upgrading the Torrey Road pump station is expected to adversely affect climate or weather conditions.

Regionalization – Using standard construction practices, no unusual complications are expected from routing an alternative watermain route and abandoning the Northwest Transmission Main. A new booster station located in a different area than the Torrey Road station would be needed for optimal performance of the alternative watermain route. This alternative is not anticipated to cause adverse climate or weather conditions.

Improve Existing Infrastructure - Using standard construction practices, no unusual complications are expected as a result of replacing the Northwest Transmission Main with new piping. The Torrey Road pump station would receive upgrades to equipment and processes needed to meet city standards. This alternative is not anticipated to cause adverse climate or weather conditions.

2.6.2 AIR QUALITY

No Action - There would be no change to the water distribution system and thus there are no expected changes to air quality.

Optimum Performance of Existing System - Increased maintenance of the existing Northwest Transmission Main and upgrading the Torrey Road pump station is not expected to negatively impact air quality.

Regionalization – An alternative path for the Northwest Transmission main would need to be constructed, and the existing main abandoned. There is a possibility that heavy machinery used in construction could generate airborne dust near the project location. A new booster station located in a different area than the Torrey Road station would be needed for optimal performance of the alternative watermain route, and construction of that new station could increase airborne dust as well. Procedures to minimize dust from these activities are discussed in the Mitigation section of this Project Plan.

Improve Existing Infrastructure - During construction, heavy machinery has the potential to produce airborne dust. Procedures to minimize the dust are discussed in the Mitigation section of this Project Plan.

2.6.3 WETLANDS

Wetlands are defined by Michigan's wetland statute, Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. EGLE has integrated National Wetlands Inventory (NWI) mapping and hydric soil mapping into Wetlands Map Viewer, which was queried to identify potential wetlands within the project area.

Phase one of the Northwest Transmission project area is located approximately 1.1 miles east of the nearest wetland, Phase two is located approximately 0.4 miles southwest of a wetland. The Torrey Road pump station is located approximately 0.5 miles southwest of the nearest wetland.

No Action - There would be no change to the water distribution system and thus there are no expected changes to nearby wetlands.

Optimum Performance of Existing System – Additional maintenance to the Northwest Transmission main would not impact the nearest wetland. Upgrades to the Torrey Road pump station are not anticipated to affect the nearest wetland.

Regionalization - A new watermain replacement for the Northwest Transmission Main would need to be determined and constructed, possibly disturbing wetlands. The new booster station would likely be located in an area that does not disturb nearby wetlands.

Improve Existing Infrastructure – Replacement of the Northwest Transmission Main and upgrading the Torrey Road pump station is anticipated to have no impact upon the wetlands closest to their locations.

2.6.4 COASTAL ZONES

There are no coastal zones within the influence of the project, all alternatives would result the same; there would be no impact.

2.6.5 FLOODPLAINS

No Action – There are no changes to the system. Floodplains would continue to exist in their current state without modification as a result of this alternative.

Optimum Performance of Existing System – The Northwest Transmission main is not located within a floodplain, additional maintenance to the system would thus have no impact to floodplains. The Torrey Road pump station is located approximately 650 feet outside a floodplain and upgrades to the facility are not anticipated to impact the nearest floodplain.

Regionalization - A new watermain replacement for the Northwest Transmission Main and new booster station would need to be determined and constructed, possibly disturbing floodplains. Necessary permits would be obtained for any work that may occur in a floodplain.

Improve Existing Infrastructure - Based upon the visual observation, proposed construction methods, and proximity of flood zones to the project locations this alternative will have no impact on floodplains. Necessary permits would be obtained for any work that may occur in a floodplain.

FEMA FIRM Flood Maps of the project locations are available in Appendix III.

2.6.6 NATURAL, WILD OR SCENIC RIVERS

There are no natural, wild, or scenic rivers within the City of Flint according to the National Wild and Scenic Rivers System.

2.6.7 MAJOR SURFACE WATERS

The City of Flint includes portions of the Flint River, and several smaller inland lakes.

No Action - There are no changes to the system. Rivers and lakes would continue to exist in their current state without modification as a result of this alternative.

Optimum Performance of Existing System – Additional maintenance to the Northwest Transmission Main would not have an impact on these surface waters. Upgrades to the Torrey Road pump station are also anticipated to have no impact.

Regionalization - A new watermain replacement for the Northwest Transmission Main and new booster station would need to be determined and constructed, though planning would likely involve avoiding surface waters.

Improve Existing Infrastructure - It is anticipated (based upon proximity) that this alternative will have no impact on these surface waters.

2.6.8 AGRICULTURAL RESOURCES

No Action – The City of Flint does not have agricultural zoning areas, continuation of the system even to failure would not be expected to impact agricultural resources.

Optimum Performance of Existing System – As there are no agricultural resources within the City of Flint, this alternative would have no impact.

Regionalization - A new watermain replacement for the Northwest Transmission Main and booster station would need to be determined and constructed, though planning would likely avoid agricultural resources as they are located on private land.

Improve Existing Infrastructure - No prime or unique agricultural areas are located within the influence of this alternative.

2.6.9 EXISTING PLANT/ANIMAL COMMUNITIES AND ENVIRONMENTALLY SENSITIVE HABITATS

According to the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) website, there are several species that fall under the Threatened or Endangered species categories. The Indiana Bat is an endangered species and has a final critical habitat that was published in the Federal Register; however, the project area does not overlap with the final critical habitat of this species (published in the Federal Register on September 22, 1977). Threatened animal species include the Northern Long-eared Bat and the Eastern Massasauga Rattlesnake. The Eastern Massasauga tends to live in wet areas and will also use adjacent uplands during parts of the year. The Northern Long-eared Bat is found across 37 states along the eastern and north

central parts of the United States and all Canadian provinces. Threatened flowering plants such as the Eastern Prairie Fringed Orchid does not have a designated critical habitat but can be found in a variety of areas such as meadows and bogs. The Monarch Butterfly is proposed as a threatened species that prefer temperate climates and migrate during the fall to warmer climates. The Monarch Butterfly has a proposed critical habitat; however, the project area does not overlap with the proposed critical habitat of this species (published in the Federal Register on December 12, 2024).

No Action – There would be no change to sensitive habitats or species as the project location does not overlap with the critical areas identified above.

Optimum Performance of Existing System – Continued maintenance of the Northwest Transmission Main and upgrades to the Torrey Road pump station would likely have no impact upon the species identified above, as these locations do not overlap with critical habitats.

Regionalization - A new watermain replacement for the Northwest Transmission Main and booster station would need to be determined and constructed, though this route would likely not overlap with the habitat of the species identified above.

Improve Existing Infrastructure – Improvements made with this alternative are expected to have no impact on the habitats of the species identified above, as the locations of the project areas do not overlap with critical habitats.

2.6.10 TOPOGRAPHY

No Action – As there is no change to the system, there would be no change to the topography of the project locations.

Optimum Performance of Existing System – Increased maintenance of the Northwest Transmission Main and upgrades to the Torrey Road pump station would likely not result in changed topography. If changes to topography are required, they would be temporary and returned to pre-construction conditions at the conclusion of the project.

Regionalization - A new watermain replacement for the Northwest Transmission Main and booster station would need to be determined and constructed that may result in topographical changes.

Improve Existing Infrastructure – With this alternative, any disturbance to the ground during repair work will be temporary and will not result in permanent topographical alteration. Construction plans are anticipated to note grade to be restored to existing conditions prior to construction activities.

2.6.11 GEOLOGY

No Action – As there is no change to the system, there would be no impact to geology.

Optimum Performance of Existing System – Improved maintenance of the Northwest Transmission main would not change the existing geology of the area. Upgrades to the Torrey Road pump station are anticipated to have no impact.

Regionalization - Geology may change as a consequence of an alternative route for the replacement of the existing Northwest Transmission Main and construction of a new booster station.

Improve Existing Infrastructure – In this alternative, improvements to the system will be made; however, the project sites will be returned to near pre-construction conditions and have minor, if any impact to geology.

2.6.12 SOILS

No Action – Soils may be impacted as a result of this alternative. As the Northwest Transmission Main continues to deteriorate, leaks and breaks in the system may disturb surrounding soils resulting in uncontrolled subsidence of the ground. The Torrey Road station would continue to operate as is, resulting in adequate pressure.

Optimum Performance of Existing System – As with the No Action alternative, the Transmission Main would continue to deteriorate although at a reduced rate. Upgrades to the Torrey Road station may result in soil disturbance, but this would be modest and temporary until permanent soil stabilization is reestablished. An SESC permit would be obtained, if necessary.

Regionalization - Soils will not be heavily impacted for the installation of a new watermain route as this would likely be done with horizontal directional drilling methods, which is less invasive when compared to open cut excavation methods. The existing watermain would be abandoned with flowable grout or removed. A new booster station would be constructed to service the new watermain route and would disturb soil during construction and until permanent soil stabilization is established. An SESC permit would likely be required and obtained.

Improve Existing Infrastructure – As with the Regionalization and Optimum Performance alternatives, soils will not be heavily impacted as watermain installation will be done with horizontal directional drilling methods. Upgrades to the Torrey Road station may result in soil disturbance, but this would be modest and temporary until permanent soil stabilization is reestablished. An SESC permit would be obtained, if necessary.

2.6.13 CONTAMINATION

No Action – There are five Part 201 sites, and five Part 213 sites (four open, one closed) within 1,000 feet from the Northwest Transmission Main. Continued operation of the system without improvements would lead to increased leaks and breaks, permitting pathways for possible contaminants to enter into the system. Additionally, the failure of this system would disrupt the water supply loop creating dead-ends in the watermain that permits stagnation. There are no Part 201 or 213 sites located within 1,000 feet of the Torrey Road station, so contamination is unlikely.

Optimum Performance of Existing System – Increased maintenance of the current Northwest Transmission Main would be a temporary solution as the pipe continues to age and deteriorate. Contaminants are not anticipated to be encountered while installing improvements to the Torrey Road booster station as the site is not located near Part 201 or Part 213 sites.

Regionalization – An alternative route would be established and areas of contamination would be taken into consideration when designing the watermain and new booster station for proper materials and construction methods. New watermain pipe would be resilient to infiltration of surrounding groundwater.

Improve Existing Infrastructure - Areas of contamination would be taken into consideration when designing the watermain for proper materials and construction methods. Though the Transmission Main project location is not directly involved with contaminated sites, there is still a possibility of finding contamination within the project areas. Due to the type of construction, dewatering may be required. If so, mitigation will be required by the contractor to prevent contaminate exposure within the project areas. Contaminants are not anticipated to be encountered while installing improvements to the Torrey Road booster station as the site is not located near Part 201 or Part 213 sites.

A list of contaminated sites can be found in Appendix VIII.

2.7 TECHNICAL CONSIDERATIONS

No Action – With this alternative, the Torrey Road pump station would be unable to provide adequate pressure. The Northwest Transmission Main would continue to deteriorate and eventually fail, permitting the possibility of contaminants to enter or grow in the system.

Optimum Performance of Existing System – Increased maintenance of the Northwest Transmission Main may have extended life; however, it would continue to deteriorate. Upgrades to the Torrey Road pump station would achieve the City's pressure requirements.

Regionalization – New watermain installation would be required and would follow applicable standards. A new booster station would be required with the new watermain installation to achieve the City's pressure requirement, and the design and construction would also follow applicable standards.

Improve Existing Infrastructure - All proposed installations of the watermain and pump station improvements will follow applicable standards and an EGLE Permit for Water Supply Systems Act 399 Permit will be obtained for all construction activities.

2.8 NEW/INCREASED WATER WITHDRAWALS

It is anticipated that there will be no new or increased water withdrawals as a result of any of the proposed alternatives for this project.

3.0 SELECTED ALTERNATIVES

3.1 DESIGN PARAMETERS

Alternative 4 has been selected as the most operational and cost-effective option for the City. The repairs and rehabilitation to the Torrey Road Booster Station and Northwest Transmission Main will assure continued reliable water volume, pressure, and quality to the City of Flint into the foreseeable future. With the proposed DWSRF funding, the City of Flint is seeking to repair roughly 30,000 feet of water main and replace existing valves and hydrants for the Northwest Transmission Main. The loan will also fund the replacement of the existing pumps, piping and valves, and install other various mechanical, electrical, and structural components as necessary at the Torrey Road Booster Station to provide adequate and reliable water to the affected community.

Estimated construction costs for each of the alternatives are summarized in Table 11. Alternative 1 does not provide an adequate solution as it leaves the system as-is without improvements and optimization. The system will continue to deteriorate with age and could lead to critical system failure. System optimization and management, as outlined, in Alternative 2 can provide temporary relief of water system issues, but it does not present a long-term solution to the aging infrastructure and the system and/or components will eventually fail once the assets are past their useful life. Alternative 3 does not present a cost or operationally effective solution for the City of Flint. The construction of an additional booster station may also place unintended stress on the existing water main piping. Therefore, Alternative 4 was selected as it is both the most operational and cost-effective option for the City.

3.2 USEFUL LIFE

The weighted useful life of the Alternative 4 is an estimate that determines the life cycle of the proposed project. This estimation considers the monetary value of each component along with the assumed useful life of each component. The weighed useful life is calculated by taking the sum of each asset's dollar value multiplied by its estimated useful life, and dividing that by the total estimated dollars spent on the assets.

The useful life is also used to determine the salvage values and replacement costs of equipment and project components. When evaluating useful life, it is important to compare the weighted useful life to the expected project planning period, which for this project, is 20 years. The weighted useful life of the Torrey Road Booster Station is 26 years, and the weighted useful life of the Northwest Transmission Main is 29 years. The calculations for the weighted useful life are found in Appendix IX.

3.3 WATER AND ENERGY EFFICIENCY

The proposed improvements to the Northwest Transmission Main are extremely representative of both water and energy efficiency. By replacing the existing infrastructure, the City will address concerns of the loss in quality, flow, and pressure due to the frequent water main breaks that the transmission main experiences. Experiencing less water main breaks improves the overall efficiency at which water is provided to the residents of the City. From an energy efficiency standpoint, less water main breaks and less maintenance means that less truck miles will be driven to get maintenance crews out to the water main. There will also be less energy used to power any equipment during water main breaks and/or other maintenance issues.

For the Torrey Road Booster Station, one of the main focuses of the rehabilitation is to run the station efficiently and effectively to provide adequate flows. From an energy efficiency standpoint, the replacement of the pumps with pumps that are properly sized will allow the pumps to run at their optimum capacity. The replacement of valves, and piping has the potential to improve the efficiency at which it can provide water.

3.4 SCHEDULE FOR DESIGN AND CONSTRUCTION

The project is currently proposed to being construction in August of 2026. For Q3 funding, the submittal of draft designs will be submitted to EGLE for review and finalization by March of 2026. Permit applications will then follow and it is anticipated that the EGLE approval of plans and the beginning of the bidding process will soon follow in April/May of 2026. This provides a beginning construction start of August 2026. The estimated project schedule can be see below in Table 12.

Table 12 – Estimated Project Schedule

Milestone Description	On or Before Date
Public Hearing Advertisement	May 9, 2025
Public Hearing, Resolution from Township Board Passed & Signed	May 21, 2025
Final Project Plan Submitted to EGLE	May 30, 2025
Publication of Environmental Assessment	March 17, 2026
Public Notice Clearance	April 16, 2026
EGLE Approval of Project Plan	April 16, 2026
Submittal of Draft Rate Methodology and Legal Documents	November 21, 2025
EGLE Comments of Draft Rate Methodology and Legal Documents	December 19, 2025
Submittal of Final Rate Methodology and Legal Documents	January 23, 2026
EGLE Approval of Rate Methodology and Legal Documents	February 27, 2026

Submittal of Draft Plans and Specifications to EGLE	January 9, 2026
EGLE Comments of Draft Plans and Specifications	February 6, 2026
Submittal of Final Design/Plans and Specifications to EGLE	March 13, 2026
All Permit Applications Submitted	March 13, 2026
Issuance of Construction Permit by EGLE	April 16, 2026
EGLE Approval of Plans and Specifications	April 16, 2026
Submittal of Application Part I and Part II	March 26, 2026
Bid Ad Published	April 16, 2026
Bids Received and Opened	May 14, 2026
Submittal of DWSRF Application Part III (w/ tentative contract awards)	May 26, 2026
Resolution of Tentative Contract Award by Governing Body	May 26, 2026
EGLE Order of Approval Issued	June 24, 2026
Borrower's Pre-Closing w/ MMBA	July 6, 2026
MMBA Closing	July 16, 2026
Notice to Proceed Issued No Later Than	August 25, 2026
Begin Project Construction	August 25, 2026
Project Construction Complete	November 25, 2028

3.5 COST SUMMARY

Detailed cost breakdowns and estimates for each identified project is provided in Appendix IX.

Item quantities for the Torrey Road Booster Station were based on estimates provided by Tetra Tech. Item quantities for the Northwest Transmission Main were developed based on already completed construction designs by Rowe. Present worth analysis was applied to the construction costs of each alternative. Refer to the Total Project Budget Breakdown in Table 13 below.

3.5.1 PROJECT BUDGET

The overall project budget is based on the proposed capital construction costs for both the Torrey Road Booster Station and the Northwest Transmission main, along with associated design fees, construction administration fees, cost of soil borings, and services such as legal/financial and bond counsel. The sum of these results in an Overall Project Budget of \$29,456,400.00. Table 13 includes the breakdown of these components.

Table 13 – Total Project Budget Breakdown

Description	Cost
Total Construction Cost	\$25,330,400.00
Total Design Fees	\$354,881.56
Total Construction Administration	\$3,601,000.00
Total Soil Borings	\$130,000.00
Project Plan	Sunk Cost
Legal/Financial Service	\$64,000.00
Bond Counsel	\$75,000.00
Total Project Budget	\$29,456,400.00

3.5.2 SALVAGE AND REPLACEMENT COSTS

The project planning period for the monetary evaluation is 20 years. The cost analysis considers the salvage value of items over this 20-year period, as well as any replacement costs that are associated with items that have a life shorter than or equal to 20 years. The present worth of the salvage values were calculated using a straight-line depreciation. Salvage and replacement values are presented a part of the Present Worth Analysis in Table 14. A complete breakdown of salvage values, salvage years, and replacement costs can be found in Appendix IX.

Replacement costs were applied to items that have a 20 year or shorter useful life. This determined that throughout and after the 20-year planning period, a component will have either been replaced due to having a shorter than 20-year useful life, or will require replacement at the end of the 20-year life span.

The replacement cost for components at the Torrey Road Booster Station is \$437,399.20 and the replacement costs of the Northwest Transmission Main is \$8,388,947.00. This totals \$8,826,346.20 in replacement costs.

3.5.3 OPERATION AND MAINTENANCE COSTS

Per the City's Budget, the City has budgeted \$33 million in Operation and Maintenance (O&M) for FY2025, this covers the O&M for the entirety of the City. To estimate the O&M costs that are associated with theses proposed projects, it was assumed that the Torrey Road Booster Station and the proposed Northwest Transmission Main improvements make up about 1% of the system (roughly 30,000 ft of water main improvements versus nearly 3 million feet of water main in the City's system). Therefore, it was assumed that 1% of the proposed O&M budget would be towards the proposed projects, resulting in \$330,000.00 in estimated annual O&M fees for the proposed project.

3.5.4 PRESENT WORTH ANALYSIS

A Present Worth Analysis was conducted by accounting for the total capital costs, salvage values, replacement costs and O&M costs for the entirety of the proposed booster station and water main projects. The present worth was evaluated using a real discount (interest) rate from the OMB Appendix C of circular No. A-94 of 2.2%. A breakdown of the Present Worth Analysis can be found in Table 14 below, and a full breakdown can be found in Appendix IX.

Table 14 – Present Worth Analysis Breakdown

Description	Total Cost
Capital Cost	\$29,486,400.00
Discount Rate (%)	2.2%
Planning Period (years)	20
Capital Present Worth	\$28,851,663.41
Salvage Value	\$4,235,424.13
Salvage Value Present Worth	\$2,681,810.55
Replacement Cost	\$8,826,346.20
Replacement Cost Present Worth	\$6,231,127.32
O&M Cost per year	\$330,000.00
O&M Present Worth	\$5,293,261.20
Total Present Worth	\$37,694,241.38

3.5.5 INTEREST RATE SAVINGS

Again, the 2.2% is the real discount rate for 20-year planning periods from the OMB Appendix C – Circular No. A-94. This interest rate is used in the annual Principal and Interest Loan calculation to determine the annual amount of Principal and interest to be paid by the Township for the 20-year project period. Based on a total project cost of \$29,486,400.00 at an interest rate of 2.2%, over a 20-year loan period, the annual principal and interest payment would be \$1,838,282.98. The total cumulative 20-year payment with the DWSRF loan will be \$36,765,659.67.

An estimated interest rate of 4.50% was used to calculate the annual principal and interest payment should the City of Flint choose to finance the project using the conventional bond market and their bond rating over the 20-year loan period. The annual principal and interest payment would be approximately \$2,266,800.74. The estimated annual principal and interest savings that the Township would realize by utilizing the real

discount rate of 2.2% is \$428,517.76. The savings projected over the entire 20-year loan period results in the City saving \$8,570,355.17 as illustrated in Figure 7 below.

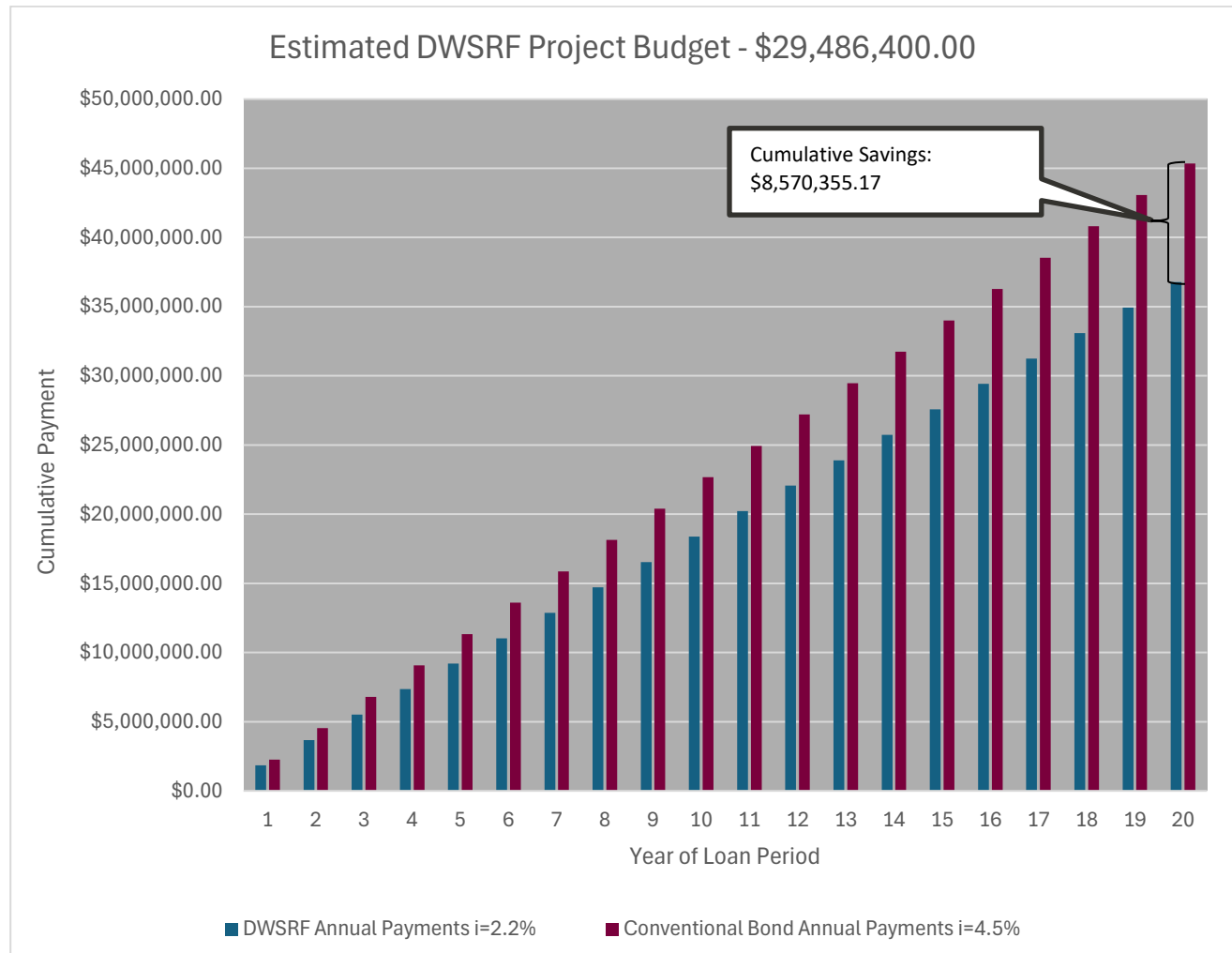


Figure 7 – Savings for DWSRF Loan at 2.2% vs. Conventional Bond at 4.5%

3.5.6 USER COSTS

The City will use the revenue generated from their water system to pay for the annual principal DWSRF low-interest rate loan payments. Per their FY2023 and FY2024 actual budgets, the City generated on average roughly \$16 million. With the proposed annual payments of \$1,838,282.98, the City will have to generate nearly \$18 million of total revenue from their water system. One way to achieve the additional revenue is for the City to apply a one-time 11% increase in their Readiness to Serve charges and metered water rates, this 11% increase on the water rates can be found in Appendix IX. The City can also opt to do a gradual annual rate increase instead to achieve the revenue required for the annual loan payments. The City will review the potential rate increases to determine what is required to fund the DWSRF loan payments.

3.6 IMPLEMENTABILITY

The City of Flint has the Management and Operational staff necessary to implement the project. If this project is funded with the DWSRF low interest loan funding, the City is ready to design, construct, operate, and maintain the project.

4.0 ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS

EGLE representatives have noted this proposed project identifies as non-equivalent. Therefore, coordination with the State Historic Preservation Office (SHPO), Tribal Historic Preservation Office (THPO), US Fish and Wildlife Service (USFWS), and Natural Features Inventory (MNFI) for further environmental assessments was not necessary at this stage.

4.1 DIRECT IMPACTS

In general, impacts due to construction that cannot be prevented will be mitigated by any or all necessary methods. The construction contract documents will further detail specified mitigation methods.

4.1.1 CONSTRUCTION/OPERATIONAL IMPACTS

Short-term impacts such as noise, dust and minor traffic disruption cannot be avoided. Construction impacts will be minimized by adhering to the Soil Erosion and Sedimentation Act and the following of normal business hours. Specific techniques used for Soil Erosion and Sedimentation Control will be specified in the construction contract documents. Soil erosion and sedimentation control and restoration items are included in the overall project cost. Project traffic control will be implemented to cause minimal disruption to the Township.

4.1.2 SOCIAL IMPACTS

Long-term impacts due to the proposed project is not anticipated. The aesthetic impacts due to construction within the project areas will be mitigated by site restoration.

4.2 INDIRECT IMPACTS

Site restoration within the project boundaries will be used to mitigate long term aesthetic impacts of construction. Although wetland impacts are not expected at this stage, any impacts will either be restored or mitigated to meet permitting and soil erosion requirements.

4.3 CUMULATIVE IMPACTS

The proposed improvements are located within previously developed areas and growth is not promoted in areas not currently served by the City of Flint. Therefore, indirect impacts are not likely to be a concern for these improvements.

5.0 MITIGATION

Mitigation methods will be implemented when construction impacts cannot be avoided. It is not anticipated that required mitigation would be more rigid than a normal water main installation and booster station rehabilitation project.

6.0 PUBLIC PARTICIPATION

A Public Hearing Notice was published on May 16, 2025, in *The Flint Journal*, notifying the public of a hearing to be held on May 27, 2025 at 5:30 PM. A copy of the public hearing notice can be found in Appendix X. The public is invited to comment during the 10 day-long comment period as advertised in the local paper and at the scheduled public hearing. A hard copy of the Project Plan was made available to the public at the City's Water Treatment Plant and was available at the Public Hearing. A copy of the Project Plan will be submitted to the Genesee County Metropolitan Planning Commission. The operation, costs, and impacts of the project will be summarized in a presentation at the public hearing.

APPENDIX I

DWSRF SUBMITTAL FORMS



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Finance Division

**DRINKING WATER STATE REVOLVING FUND (DWSRF)
PROJECT PLANNING DOCUMENT SUBMITTAL FORM**

Part 54, Safe Drinking Water Assistance, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Project Name: _____

Project Description: _____

Legal Name of Applicant: _____
(Name of the applicant municipality bonding for the project. Ex. A county bonding on behalf of a village or township)

Applicant Address: _____

City: _____ Zip Code: _____ County: _____

Applicant's Federal Employer Identification Number (EIN): _____

Congressional District: _____ State Senate District: _____ State House District: _____

Population served by Water Supply: _____ Water Supply Serial Number (WSSN): _____

Estimated Total Project Cost: _____ Target Construction Start Date: _____

Applicant Authorized Representative Name: _____

Title: _____ Phone: _____ Email: _____

Authorized Representative Address. If same as applicant address above, check here ☐

Address: _____ City: _____ Zip Code: _____

Signature of Authorized Representative

Date

State approval of the water supplier's Source Water Protection Plan including a Surface Water Intake Protection Program or Wellhead Protection Program (if applicable).

☐ Attached ☐ N/A

Completed [DWSRF Priority Ranking Worksheet](#). Questions should be directed to the assigned [DWEHD district engineer](#) or Brandon Onan at OnanB@Michigan.gov or 616-307-6736.

☐ Attached Excel file.

Joint Resolution of Project Planning Document Adoption/Authorized Representative Designation.

☐ Attached

A final project planning document, prepared and adopted in accordance with EGLE's DWSRF Project Planning Document Preparation Guidance, must be submitted by the annual deadline as indicated on EGLE's [DWSRF website](#) for a proposed project to be considered for placement on Michigan's Project Priority List (PPL) for the upcoming fiscal year.

Please email your final project planning document and attachments with this form to your EGLE Water Infrastructure Funding and Financing Section Project Manager.

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations. Questions or concerns should be directed to the Nondiscrimination Compliance Coordinator at EGLE-NondiscriminationCC@Michigan.gov or 517-249-0906.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.

APPENDIX II

2026 DWSRF INTENT TO APPLY FORM



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Finance Division

FISCAL YEAR 2026 INTENT TO APPLY FORM

This form must be submitted by all applicants seeking financing through the State Revolving Fund programs in fiscal year (FY) 2026 (October 1, 2025 – September 30, 2026). This includes the Drinking Water State Revolving Fund (DWSRF), Clean Water State Revolving Fund (CWSRF), and Strategic Water Quality Initiatives Fund (SWQIF). The Intent to Apply form may be submitted at any time but is due on or before November 1, 2024. Applicants must complete a separate form for CWSRF and DWSRF, if applying for both.

General Information

Date Submitted: **10/31/2024**

ITA Tracking Number: **1031-3838**

Is this project a carry-over from a plan submitted within the previous five fiscal years?

☐ Yes ☒ No ☐ Unknown

Project Name:

Northwest Transmission Main, Baxter & Potter PRV Vault, Torrey Road Booster Station

Project Need:

Rehabilitation of existing infrastructure to achieve reliability and maintain water quality. The NW Transmission main project include downsizing existing mains through the City to maintain pressure and remediate main breaks. The Baxter/Potter PRV involved mandated updates to the existing PRVs from GLWA to maintain correct pressure in the system. The Torrey Rd Booster station is old and performs under expected metrics.

FY26 Project Scope:

First half of the NW Transmission main project and all of the Torrey Rd Booster station and Baxter/Potter PRV projects.

Municipal Applicant Legal Name*: **City of Flint** County*: **Genesee**

Applicant Contact Person Name*: **Kenneth Miller** Title*: **DPW Administrator**

Phone Number*: **(810) 265-6687** Email*: **kjmiller@cityofflint.com**

Alternative Email: **cedwards@cityofflint.com**

Consulting Engineer Name: **Brian Bachler, PE** Firm: **DLZ**

Phone Number: **(248) 836-4068** Email: **bbachler@dlz.com**

Project Information

Project funding source*:

- ☐ Clean Water State Revolving Fund
- ☒ Drinking Water State Revolving Fund
- ☐ Strategic Water Quality Initiatives Fund

Treatment Facility Name (if applicable): **GLWA**

Will the proposed project result in a new or increased discharge requiring NPDES permit issuance?

- ☐ Yes ☐ No ☐ Unknown

Are you planning on constructing a new well? ☐ Yes ☒ No ☐ Unknown

Proposed Construction Start Date: **12/2025**

FY 2026 Estimated Total Project Cost: **\$ 20,000,000**

(FY 2026 loan amount including any LSLR and/or Emerging Contaminant costs if applicable)

Will the project planning document include future work beyond the FY 2026 loan:
(This would include projects to be financed by future SRF loan(s) in FY 2027-2030.)

- ☒ Yes ☐ No ☐ Unknown

FY 2026 Lead Service Line Replacement Cost: **\$ 0**

Estimated Number of Lead Service Lines replaced by FY 2026 project: **0**

FY 2026 Emerging Contaminant Cost: **\$ 0**

Identify additional funding sources being used on the project (check all that apply):

- | | |
|-------------------------------|---------------------------------|
| ☐ MDOT | ☐ USDA |
| ☐ MEDC | ☐ Other: |

Identify any completed project-related planning documents (check all that apply):

- | | | |
|--|--|---|
| ☒ Capital Improvements Plan | ☐ Project Plan | ☐ NASSCO Report |
| ☒ Asset Management Plan | ☐ Infiltration & Inflow Study | ☐ Master Plan |
| ☒ Preliminary Engineering Report | ☐ Sanitary Sewer Evaluation Study | ☒ Reliability Study |
| ☒ Environmental Report | ☐ Watershed Management Plan | ☐ DSMI |
| ☐ Other: | | |

Additional Information

Overburdened Community Status Determination Worksheets for FY 2026 cannot be completed until early 2025. Once the form is available, it will be posted to the [SRF: Affordability Criteria website](#) and information will be sent to all applicants. Note that a new form is required every year for all applicants.

Please note: Applicants for CWSRF funding may be required to use a Qualifications-based Selection (QBS) process to select and hire an architectural and engineering firm for those costs to be eligible for CWSRF funding. This includes planning, design engineering and construction engineering services. Your assigned project manager will discuss these requirements in more detail.

After your submission is received, you will be contacted by an assigned EGLE Water Infrastructure Funding and Financing Section (WIFFS) project manager within the next couple weeks to discuss the next steps. The project manager can help to identify project funding opportunities, challenges, and project planning guidance to assist the efforts of the applicant and their consulting engineer.

For questions, please visit our website at Michigan.gov/CWSRF and Michigan.gov/DWSRF, or contact WIFFS at 517-284-5433 or EGLE-WIFFS@Michigan.gov. You may also contact the [SRF Project Manager](#) located in your EGLE District Office

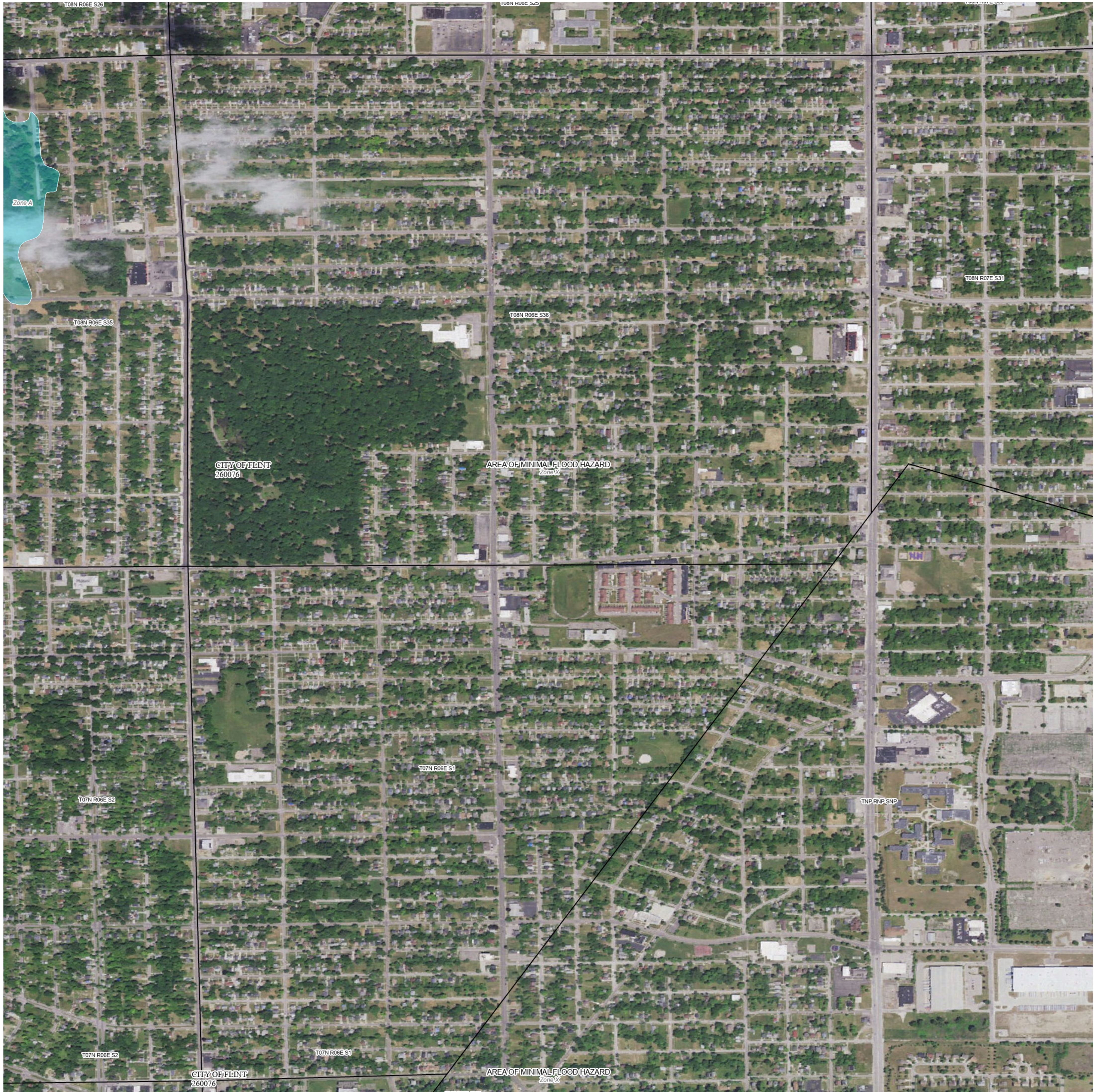
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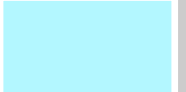
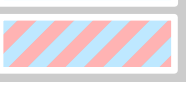
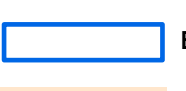
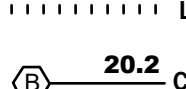
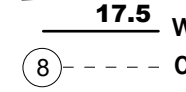
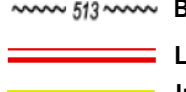
APPENDIX III

FEMA FIRM FLOOD MAPS



FLOOD HAZARD INFORMATION

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

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

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-6627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

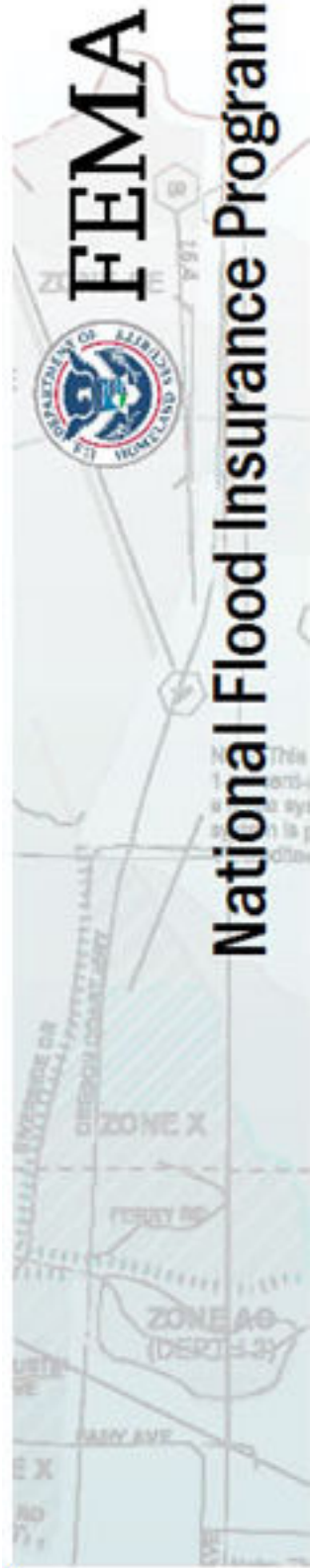
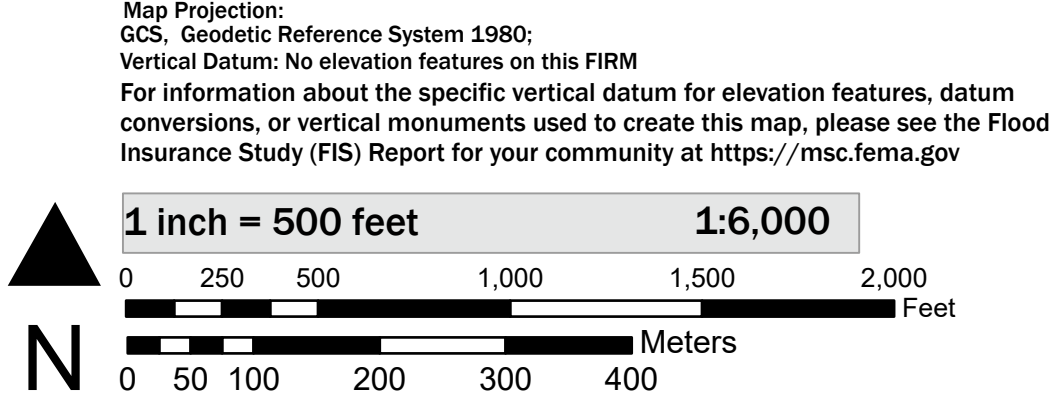
To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

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This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

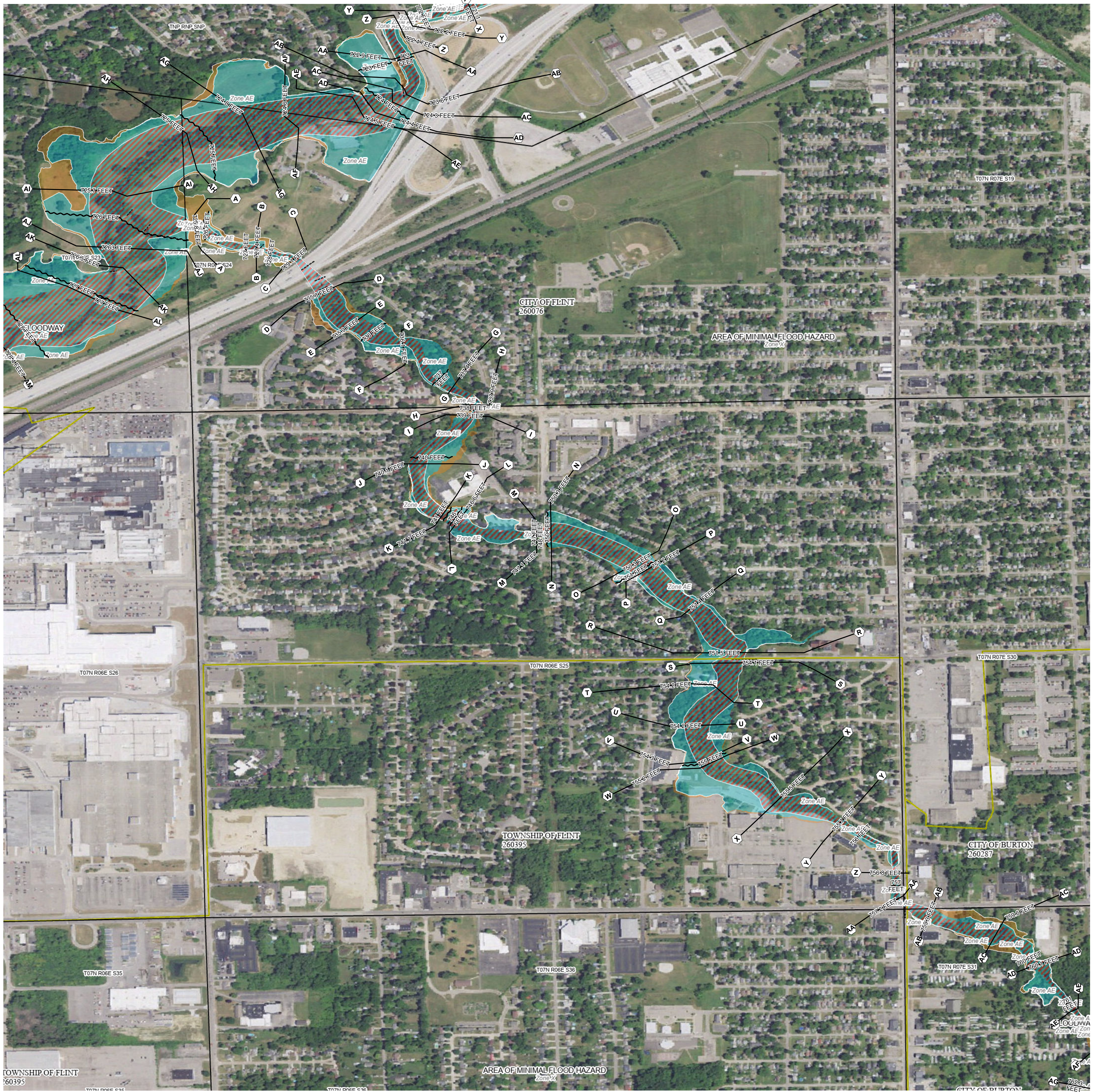
SCALE



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

PANEL 187 OF 475

Panel Contains:		
COMMUNITY	NUMBER	PANEL
CITY OF FLINT	260076	0187



FLOOD HAZARD INFORMATION

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

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

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-6627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

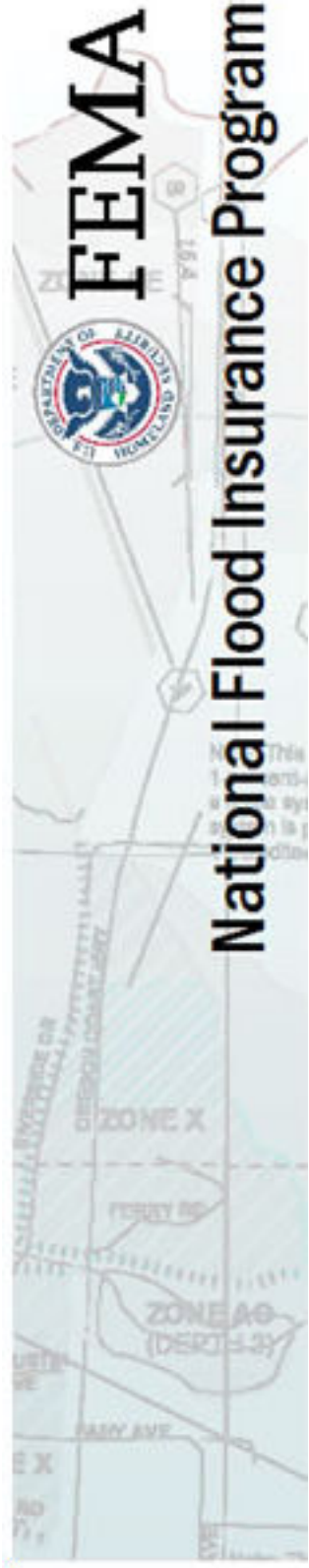
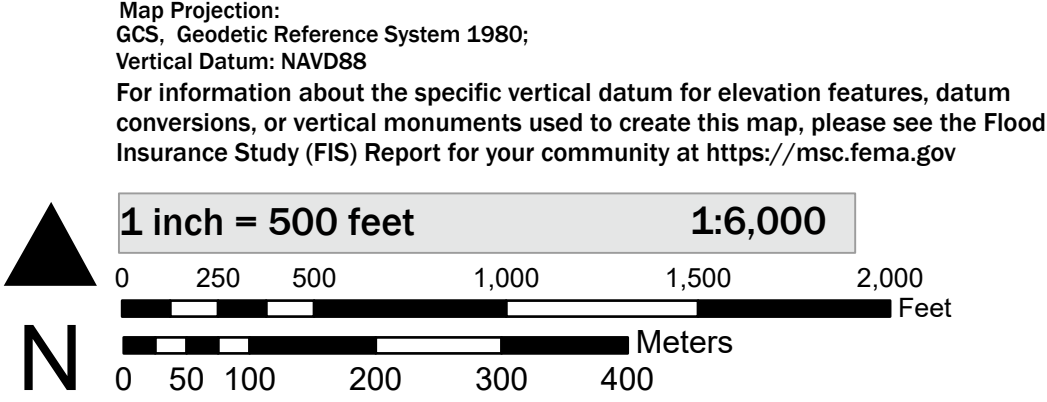
To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

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This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

PANEL 302 OF 475

Panel Contains:	260076	0302
COMMUNITY	260395	0302
CITY OF FLINT	260287	0302
TOWNSHIP OF FLINT		
CITY OF BURTON		

APPENDIX IV

WATER SUPPLY AGREEMENT

170354.3

RESOLUTION NO.: _____

PRESENTED: 11-21-2017

ADOPTED: _____

AMENDED RESOLUTION TO APPROVE MASTER AGREEMENT BETWEEN THE CITY OF FLINT, DEPARTMENT OF ENVIRONMENTAL QUALITY OF THE STATE OF MICHIGAN, THE GENESEE COUNTY DRAIN COMMISSIONER, THE GREAT LAKES WATER AUTHORITY AND THE KAREGNONDI WATER AUTHORITY

BY THE MAYOR:

The City of Flint ("COF"), Department of Environmental Quality of the State of Michigan ("DEQ"), the Genesee County Drain Commissioner ("GCDC"), the Great Lakes Water Authority ("GLWA"), and the Karegnondi Water Authority ("KWA") have worked in collaboration for the purposes of effectuating the overall agreement described in the Statement of Principles for Long Term Water Delivery to the City of Flint ("Statement of Principles"), signed by the Parties and dated April 18, 2017 and implemented through the Master Agreement and the exhibits attached thereto and incorporated therein (collectively, referred to as the "Transaction Documents").

WHEREAS, the aforementioned parties have come to a collective agreement to enter into a partnership for the purpose of Flint receiving long term water source from GLWA to provide safe drinking water to the residents of the City, to relieve the City of its debt service payment obligations on the KWA bonds, obtain ownership of the 72-inch pipe and a backup water source in the event of an emergency.

WHEREAS, The Mayor and Flint City Council have worked in collaboration with the State which has resulted in the Governor's legal counsel, stating in writing that the current board member of GLWA appointed by the Governor will be asked to resign and that upon application of a qualified representative from the City of Flint, the Governor intends to appoint a Flint resident to that seat; that \$750,000 will be granted to the City of Flint, in some combination of GLWA Water Residential Assistance Program (WRAP) funds and by the State of Michigan from its Reserve Fund, for estimated water bill relief; that funds earmarked in the WIIN Fund for residential infrastructure will be immediately released by the State of Michigan to the City of Flint upon submittal and approval by EPA of an Intended Use Plan based on the amended Project Plan to be submitted by the City of Flint and proof of qualified expenditures pursuant to that Plan; and that the State of Michigan will request that the General Motors Engine Plant return as a user of the City of Flint water supply system.

WHEREAS, GLWA and the City have agreed to a Water Service Contract ("Water Contract") regarding the long-term service of potable water to the City of Flint. Great Lakes Water Authority shall sell and supply water to the City of Flint in accordance with the terms of the GLWA/Flint Water Contract for a period of thirty years from the effective date of the GLWA/Flint

Water Contract. The Master Agreement along with the following exhibits comprising the Transaction Documents are attached:

- Exhibit A - GLWA/Flint Water Contract
- Exhibit A-2 - Irrevocable License of Essential Water Mains and Raw Water Rights
- Exhibit B - GLWA/GCDC Finished and Backup Water Contract
- Exhibit C - Baseline Trust and All Receipts Trust Agreement
- Exhibit D - KWA/GLWA/Flint Three Party Agreement
- Exhibit E - DEQ/GCDC Grant Agreement (City not a party)
- Exhibit F - Contract for Deed, Quit Claim Deed for 72-inch pipe and Bill of Sale related to 72-inch pipe, License of 72 Inch Main by City of Flint to GLWA, and Sublicense of the 72 Inch Main by GLWA to the County of Genesee
- Exhibit G - KWA/Flint Raw Water Contract Amendments (Exhibits to Three Party Agreement)
- Exhibit H - Letter from the Governor's legal counsel

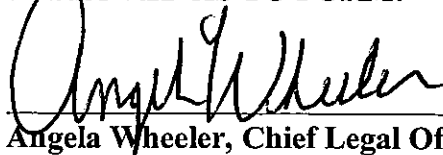
WHEREAS, Mayor Karen Weaver recommends that the Water Service Contract should be entered into in collaboration with the DEQ, GCDC, GLWA and KWA.

WHEREAS, Subject to GLWA Board approval that the language that was added to the proposed Master Agreement (other than timing adjustments) and Article 12.04(B) & (F), (G), (H) and 12.06 that expired on October 1, 2017, be removed; that upon full execution of such agreements, the Michigan Department of Environmental Quality and the City of Flint and the Flint City Council all stipulate to setting aside the judgment, withdrawing of all pleadings and other filings by all parties in US District Court Case No. 17-12107, and that the case be dismissed; and that the Great Lakes Water Authority be advised that the Flint City Council withdraws all statements in all its pleadings regarding the non-payment of water bills owed to the Great Lakes Water Authority by the City of Flint. ("Additional Terms").

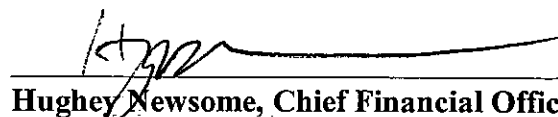
NOW THEREFORE BE IT RESOLVED that the Flint City Council approves the Master Agreement and the Exhibits attached to the master agreement, inclusive of the Water Service Contract between the City of Flint and the Great Lakes Water Authority contingent upon the Additional Terms; and

The Mayor and the City Clerk are authorized to execute and deliver the Transaction Documents to be executed by the City and to do all other things necessary to effectuate the execution and delivery of the Transaction Documents in accordance with the provisions of this Resolution.

APPROVED AS TO FORM:


Angela Wheeler, Chief Legal Officer

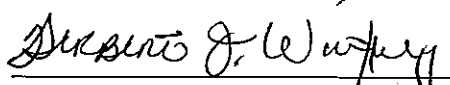
APPROVED AS TO FINANCE:


Hughey Newsome, Chief Financial Officer

FOR THE CITY OF FLINT:


Dr. Karen W. Weaver, Mayor

APPROVED BY CITY COUNCIL:


Herbert Winfrey, City Council President

PRESENTED TO CITY COUNCIL:

11-21-2017

ADOPTED BY CITY COUNCIL:

11-21-2017

Master Agreement

This Master Agreement is made as of the date of execution, between and among the City of Flint ("the City"), the Department of Environmental Quality of the State of Michigan ("DEQ"), the Genesee County Drain Commissioner ("GCDC"), the Great Lakes Water Authority ("GLWA"), and the Karegnondi Water Authority ("KWA") (together, the "Parties", or each singly a "Party"), for the purposes of effectuating the overall agreement described in the Statement of Principles for Long Term Water Delivery to the City of Flint ("Statement of Principles"), signed by the Parties and dated 18 April 2017, which is attached to this document as Attachment 1.

- A. **Incorporation.** This Master Agreement fully incorporates the agreements that are Exhibits to this Master Agreement as listed in Paragraph I, and such Exhibits therefore shall be considered part of this Master Agreement unless clearly stated otherwise in this Master Agreement.
- B. **Third Party Beneficiaries.** The parties acknowledge and agree that all Parties benefit from the interlocking set of transactions that together encompass this Master Agreement, and that all promises by any single Party as part of this Master Agreement (including those made in the Exhibits to this Master Agreement) are made to the benefit of all Parties to this Master Agreement. The Parties acknowledge and agree that each Party, and each of its respective successors and assigns, shall have all the rights of a third-party beneficiary in respect to this Master Agreement and shall be entitled to rely upon and directly enforce its provisions. Such rights vest immediately upon execution of this Master Agreement by all Parties. Nothing in this clause shall be read to allow enforcement of third party beneficiary rights if such enforcement would abridge, impair, or destroy the rights which the promisee of a promise made for the benefit of another person or would otherwise have as a result of such promise. Nothing in this clause shall be read to create a third party beneficiary right or to allow enforcement of third party beneficiary rights by an individual or entity that is not a Party, successor to a Party, or assignee of a Party to this Master Agreement. Notwithstanding anything herein to the contrary, the provisions of this Paragraph B shall only apply to Exhibits A, B, C, D, and E to this Master Agreement, and shall not apply to any other Exhibits.

The Parties are aware that the necessity to enter into this Master Agreement, its validity, or the capacity of the City of Flint to enter into this Master Agreement are subject to challenge in the case of *MDEQ v City of Flint*, USDC case No. 17-12107 DML-SDD (the "Litigation"). GLWA, GCDC, and KWA are not plaintiffs or defendants in the Litigation.

The Parties to the Master Agreement wish to ensure that the Litigation does not impose additional costs or burdens on them. The Parties agree that if (a) (1) the City of Flint files an action with the City named as plaintiff (2) an action pursuant to a binding resolution of the City Council (3) by a simple majority of the City Council, which is 5 members, (4) the Mayor, (5) City Administrator, (6) City Clerk, or in the

event that an action is filed by an (7) City executive staff member or principal official, which includes members responsible for budget, personnel, planning, legal counsel and administrative services, (8) executive department heads, which are defined as public safety, public works, utilities, parks and recreations, transportation including aviation, finance, community development and environmental protection; or (9) City board, commission or agency, (each, a "Flint Challenger") and/or (b) (1) no more than 4 City Council member(s) or unauthorized (2) instrumentality of the City (3) officer (4) employee, and/or (5) any other individual purportedly acting on behalf of the City (each a "Potential Flint Challenger") and/or (c) a third party, including a former officer or a former employee (each, a "Third Party Challenger") challenges the validity, execution or the capacity of any Party or the Signatory Representative of any Party to enter into the Master Agreement, then the City of Flint shall reimburse any other Party(ies) to this Master Agreement for that Party's expenses associated with enforcing, upholding or defending the Master Agreement. The rights and remedies set forth are intended to be an addition and supplement to the specific rights and remedies contained in any Exhibit within the Master Agreement.

In the event any litigation is brought that attempts to invalidate or nullify this Master Agreement or any of its incorporated Agreements, the Parties agree to give reasonable notice to each other of the litigation.

- C. **Amendment.** This Master Agreement may not be amended without the consent of all Parties. Any Parties to agreements that are Exhibits to this Master Agreement, if they wish to amend such as Exhibit, must give no less than 45 days' written notice to all Parties. If requested by any Party, the signatories to the affected Exhibit must meet and confer with the requesting Party regarding a proposed amendment within 15 days of receiving such a request. Amendment of any Exhibit may not be done without the consent of all Parties to this Master Agreement, except that a Party that fails to request an opportunity to meet and confer within 15 days of receiving notice of a proposed amendment shall be deemed to have consented to such amendment. Consent to an amendment by any Party shall not be unreasonably withheld. Notwithstanding anything herein to the contrary, the provisions of this Paragraph C shall only apply to Exhibits A, B, C, and D to this Master Agreement, and shall not apply to any other Exhibits.
- D. **Assignment.** This Agreement shall not be assigned, in whole or in part, by any Party without the prior written consent of all of the other Parties provided. Consent to an assignment by any Party shall not be unreasonably withheld. Notwithstanding anything in this Paragraph D, if an Exhibit to this Master Agreement specifically provides for assignment of such exhibit without consent, nothing in this paragraph shall be read to require consent by any Party to such assignment, and such assignment shall be sufficient to assign all rights under this Master Agreement, including third-party beneficiary rights.
- E. **Terms and Termination.** This Master Agreement shall become effective upon execution by all of the Parties and shall remain in effect until the latest of the

termination dates of Exhibit A, B, C or D upon the time of the first execution of those documents. If any Exhibit to this Master Agreement is later amended to alter a termination date, such amendment shall not be deemed to have altered the termination date of this Master Agreement. The Master Agreement may only be terminated prior to the end of the term with the written consent of all Parties.

If for any reason the Master Agreement and/or the Water Service Contract between GLWA and the City of Flint are/is declared void or nullified for any reason during its Term, then the City of Flint shall pay to GLWA the total amount of the credits issued to the City of Flint. In the event the City of Flint wishes to repay such credits over a period of years, it may do so in one of two ways. The City of Flint may repay such credits over a period of not more than five years (or such longer period as may be agreed upon by the City of Flint and GLWA) by (a) executing a new water service contract for the standard term or (b) by serving as a non-contract customer with GLWA for the designated period of years, for water at then-prevailing rates for non-contract customers.

- F. **Authority to Enter into this Master Agreement.** Each of the Parties hereby represents and warrants that it is duly authorized and empowered to execute, deliver, and perform this Master Agreement and that such action does not conflict with, or violate, any provision of law, regulation, rule, policy, contract, or other instrument to which it is a party or by which it is bound and that this Master Agreement constitutes a valid and binding obligation of it enforceable in accordance with its terms.

The City is a home rule city, organized under Act 279 of 1909, as amended ("Act 279") with full power and authority under Act 279 to own and operate its water supply system, and execute, deliver and perform the agreements contemplated hereby. Each of GLWA and KWA are municipal authorities, organized under Act 233 of 1955, as amended ("Act 233") with full power and authority under Act 233 and Act 94 of 1933, as amended ("Act 94") to own, operate and finance their respective water supply systems, and execute, deliver and perform the agreements contemplated hereby. GCDC is a Michigan county agency organized pursuant to Act 342 of 1939, as amended ("Act 342"), to own and operate its water supply system, and execute, deliver and perform the agreements contemplated hereby.

- G. **Counterparts.** This Master Agreement may be executed in counter parts.
- H. **Severability.** If any provision of this Master Agreement or its application to any Party or circumstance shall to any extent be invalid or unenforceable, the remainder of this Master Agreement shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law. Similarly, if any provision of any Exhibit to this Master Agreement or its application to any signatory or circumstance shall to any extent be invalid or unenforceable, the remainder of this Master Agreement shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law.

I. **Exhibits.** The following are the Exhibits to this Master Agreement:

Exhibit A	Water Service Contract Between Great Lakes Water Authority, a Michigan Municipal Authority, and City of Flint, together with Irrevocable License of Essential Water Mains and Raw Water Rights
Exhibit B	Reciprocal Backup Water Service Contract Between Great Lakes Water Authority, a Michigan Municipal Authority and Genesee County Drain Commissioner, a Michigan County Agency
Exhibit C	Baseline and All Receipts Trust Agreement
Exhibit D	Three Party Agreement
Exhibit E	Grant Agreement
Exhibit F	Contract for Deed and Bill of Sale, License and Sublicense of 72-inch Water Main
Exhibit G	Second Addendum to Raw Water Supply Contract (Exhibit to Three Party Agreement)

(Signatures to Follow on Separate Page)

Agreed to by:

City of Flint

By: Karen Weaver
Its: Mayor

Date

**Department of Environmental Quality
State of Michigan**

By: C. Heidi Grether
Its: Director

Date

**Genesee County Drain Commissioner --
Division of Water & Waste Services**

By: Jeffrey Wright
Its: Drain Commissioner

Date

Great Lakes Water Authority


By: Sue F. McCormick
Its: CEO

11. 2. 17
Date

Karegnondi Water Authority

By: John O'Brien
Its: Deputy CEO

Date

Agreed to by:

City of Flint

By: Karen Weaver
Its: Mayor

Date

**Department of Environmental Quality
State of Michigan**

By: Heidi C. Grether
Its: Director

Date

**Genesee County Drain Commissioner --
Division of Water & Waste Services**

By: Jeffrey Wright
Its: Drain Commissioner

11-3-17
Date

Great Lakes Water Authority

By: Sue F. McCormick
Its: CEO

Date

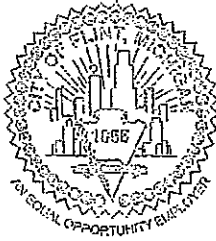
Karegnondi Water Authority

By: John O'Brien
Its: Deputy CEO

11/3/17
Date

ATTACHMENT 1

STATEMENT OF PRINCIPLES



CITY OF FLINT

Statement of Principles

Dr. Karen W. Weaver
Mayor

Long Term Water Delivery to the City of Flint

The below represents a statement of the structure for a set of inter-related transactions that will comprise an overall agreement resulting in primary and backup water for the City of Flint and system improvements for all parties. The signatories agree to work in good faith to speedily agree to the necessary legal documents (in the form of an overall master agreement with each individual agreement as an exhibit to that master agreement). They further agree to use their best efforts to secure all authorization or approvals required by the entity's policies, ordinances, and governing law for those agreements from all governing bodies necessary to put these agreements into effect as soon as is practicable.

1. The Great Lakes Water Authority (GLWA) will provide long-term wholesale finished water services to Flint, with pricing for the services that treats Flint similarly to all other GLWA wholesale model contract customers, including access to Water Residential Assistance Program funds to assist low-income customers. GLWA will receive the right that Flint has to purchase raw water through the Karegnondi Water Authority (KWA) and credit Flint in like amount to the debt paid during the contract period.
2. Certain trust arrangements will be put in place for ease of flow of funds from Flint to GLWA and the KWA in normal operation. Additionally, in the event Flint does not fully meet its obligations to the KWA, the Genesee County Drain Commission (GCDC), and GLWA, an alternative trust will come into operation. That trust would receive all Flint customer collections and ensure a flow of funds to meet obligations to the KWA, GCDC, and GLWA. Additionally, Flint will provide a customer security deposit of \$3.75M with GLWA, for no less than two years and no greater than six years (as long as timely payments are made and agreed upon performance objectives met). KWA has a conditional right to access the customer security deposit under certain circumstances.
3. GLWA will provide short-term wholesale finished water services to the GCDC until the GCDC water treatment plant is operational and servicing GCDC's customers, with pricing for the services that treats GCDC similarly to all other GLWA wholesale model contract customers.
4. GLWA and the GCDC will provide one another with reciprocal backup water services. The price for backup water services will be established through an agreed upon detailed pricing methodology in the contract and it will be the same for both parties.
5. The State of Michigan (State), through its Department of Environmental Quality (DEQ), will provide a grant in an amount of \$7.5M to the GCDC for installing a 42-inch transmission main parallel to the existing 72-inch transmission main that currently supplies treated water from the GLWA to GCDC customers and Flint. This will allow GCDC to supply treated water from its new water treatment plant to its customers on or after October 2017. The 72-inch transmission line will be returned to Flint's ownership.
6. The State will provide assistance, in compliance with all existing laws, to GCDC, Flint and the KWA in obtaining refinancing of the 2016 KWA bond issue and in completing the approval process for the GCDC to use its water treatment plant.

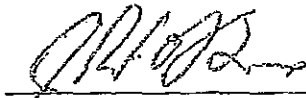
7. Flint will build a new supply connection from the end of the GCDC service system north of Flint to the Flint water system to provide a backup water supply. Flint intends to utilize WIIN funding to complete this project.

Signed by:



City of Flint

By: Dr. Karen W. Weaver, Mayor



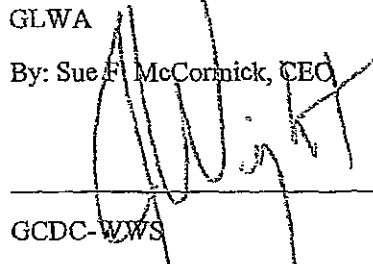
KWA

By: John O'Brien, Deputy CEO



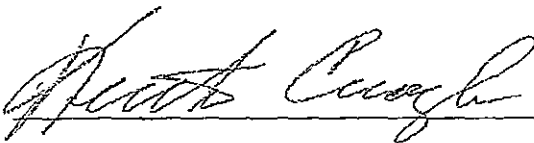
GLWA

By: Sue F. McCormick, CEO



GCDC-WWS

By: Jeffrey Wright, Drain Commissioner



State of Michigan

By: Keith Creagh, Director

EXHIBIT A

WATER SERVICE CONTRACT
BETWEEN
GREAT LAKES WATER AUTHORITY, A MICHIGAN MUNICIPAL AUTHORITY
AND
CITY OF FLINT, A MICHIGAN MUNICIPAL CORPORATION

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**WATER SERVICE CONTRACT
BETWEEN
GREAT LAKES WATER AUTHORITY
AND
CITY OF FLINT**

This Water Service Contract is made between the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended, with its principal place of business located at 735 Randolph, Detroit, Michigan 48226, and the City of Flint, a Michigan municipal corporation. GLWA and Customer may be referred to individually as “Party” or collectively as the “Parties.”

Recitals

The purpose of this Contract is to provide for the long-term service of potable water to Customer; and

On September 9, 2014, the State of Michigan, the Counties of Macomb, Oakland, and Wayne, and the City of Detroit entered into a Memorandum of Understanding (“MOU”) regarding the formation of the GLWA; and

Page 4-5 of the MOU states that for the water and sewer systems operated by GLWA, “Each system, as a whole, is assumed to experience revenue requirement increases of not more than 4% for each of the first ten years under Authority management. The rates and percentage increases for different customers may vary in order to meet their specific revenue requirements”; and

Page 3 of the MOU further provides for and GLWA has established a Water Residential Assistance Program (“WRAP”) funded annually in “an amount equal to .5% of the base budgeted operating revenues”; and

On June 12, 2015, GLWA and the City of Detroit entered into a Regional Water Supply System Lease (the “Lease”) for the purpose of leasing the System owned by the City of Detroit which System, under the terms and conditions of the Lease, will be operated and maintained by the GLWA for a minimum term of 40 years; and

Under the terms and conditions of the Lease, all wholesale service functions previously conducted by the City of Detroit are now conducted by GLWA; and

Customer seeks to obtain water services from GLWA, which GLWA is willing and able to provide; and

The Parties have been advised that the Michigan Department of Environmental Quality (“MDEQ”) will require Customer to maintain a redundant source of water supply in addition to water supplied by GLWA for use in case of emergency; and

GCDC is willing and able to provide GLWA with a portion of the required redundant source of water supply for Customer; and

As a part of the consideration for this Contract, Customer will be eligible to participate in GLWA's WRAP consistent with the terms of the WRAP as may be amended from time-to-time; and

GLWA and Customer will operate their respective water systems in a manner which benefits all GLWA customers; and

The City of Detroit implemented and GLWA continues a voluntary partnering effort with its wholesale water customers, of which the Technical Advisory Committee is a central part, and which is intended to assist GLWA in data gathering, alternative evaluations and recommendations, achieving full disclosure of charges, identifying true cost of service principles to guide revenue collection, and to provide assistance with a cohesive planning effort for GLWA's water service area; and now,

ACCORDINGLY, THE PARTIES AGREE AS FOLLOWS:

**Article 1.
Definitions**

1.01 The following words and expressions, or pronouns used in their stead, shall be construed as follows:

"Adjusted Prevailing Water Charge" shall have the meaning ascribed in Article 3 herein.

"Allocation Flow Rate" shall mean the value that is established as a result of a breach of Section 5.03 herein and which value shall replace the contractual Maximum Flow Rate in the charge calculation process in the event that Section 5.04(C) herein is applied by GLWA.

"Annual Volume" shall mean the actual volume of water used by Customer for the period of July 1st to June 30th as measured on bills issued from August 1st through July 31st.

"Board" shall mean the GLWA Board of Directors.

"Contract" shall mean each of the various provisions and parts of this document, including all attached Exhibits and any amendments thereto, as may be executed and approved by Customer's governing body and the Board.

"Contract Term" shall have the meaning ascribed in Article 2 herein.

"Customer" shall mean the Party that enters into a contract with GLWA by way of this Contract, whether an authority, city, township, village or other municipal corporation recognized by the State of Michigan.

“Customer Maximum Day Demand” shall mean Customer’s recorded water usage on the GLWA Maximum Day. Customer Maximum Day Demand shall, in conjunction with Customer Peak Hour Demand, be a component of its Maximum Flow Rate.

“Customer Peak Hour Demand” shall mean Customer’s recorded water usage during the GLWA Peak Hour. Customer Peak Hour Demand, in conjunction with Customer Maximum Day Demand, shall be a component of its Maximum Flow Rate.

“Early Termination Costs” shall have the meaning ascribed in Article 3 herein.

“Filling Schedule” shall have the meaning ascribed in Article 22 herein.

“GCDC” shall mean the Genesee County Drain Commissioner, a county agency of Genesee County under the authority granted by Act 342, Public Acts of Michigan, 1939, as amended, including its successors in interest.

“GLWA” shall mean the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended, governed by its Board of Directors and its day-to-day operations conducted by its Chief Executive Officer, including its successors in interest.

“GLWA Maximum Day” shall mean the maximum reported water production day for the System during any twenty-four hour period as measured from 12:00 a.m. Eastern Standard Time in any given calendar year, as determined by GLWA in reviewing water production and storage reports.

“GLWA Peak Hour” shall mean the hour during the GLWA Maximum Day in which the most water is delivered to the System, measured from top-of-the-hour to top-of-the-hour (e.g. 7:00 a.m. to 8:00 a.m.), and as determined by GLWA in reviewing water production and pumping reports. In calculating the GLWA Peak Hour, the time period from 11:00 PM to 5:00 AM Eastern Standard Time (EST) shall not be considered provided, however, that if Customer has an approved Filling Schedule, the time period specified in the Filling Schedule shall supersede the time period of 11:00 PM to 5:00 AM EST.

“KWA” shall mean the Karegnondi Water Authority, a Michigan municipal authority organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended, including its successors in interest.

“KWA Refunding Bonds” means any bonds issued by KWA pursuant to the KWA Financing Contract (including any future supplement or amendment thereto) to refund, directly or indirectly through a series of refundings, all or any portion of the KWA System Bonds.

“KWA System Bonds” means, collectively, the Series 2014 Bonds and the Series 2016 Bonds.

“New KWA Bonds” means any bonds issued after the Effective Date (as defined in Section 2.01) by KWA for which Customer has agreed or agrees, by contract or otherwise, to pay all or a portion of the debt service on such bonds. For the avoidance of doubt, “New KWA Bonds” does not include the KWA System Bonds or the KWA Refunding Bonds.

“Maximum Flow Rate” shall mean the aggregate amount of water usage that Customer commits not to exceed, as determined by the Customer Maximum Day Demand and the Customer Peak Hour Demand, collectively.

“Meter Facilities” shall mean a location in which a water meter is housed including, without limitation, meter pits and meter vaults.

“MGD” shall mean million gallons per day.

“Minimum Annual Volume” shall mean fifty percent of Customer’s Projected Annual Volume.

“Notices” shall mean all notices, consents, approvals, requests and other communications required to be given under the terms of this Contract.

“Pressure Problem” shall have the meaning ascribed in Article 5 herein.

“Pressure Range” shall have the meaning ascribed in Article 5 herein.

“Projected Annual Volume” shall mean the projected annual water sales to Customer as set forth in Exhibit B.

“Series 2014 Bonds” means the \$220,500,000 original principal amount Water Supply System Bonds (Karegnondi Water Pipeline), Series 2014A, issued by KWA pursuant to the Financing Contract (as defined in Section 25.01).

“Series 2016 Bonds” means the \$74,370,000 original principal amount Water Supply System Bonds (Karegnondi Water Pipeline), Series 2016, issued by KWA pursuant to the Financing Contract (as defined in Section 25.01).

“Service Area” shall mean the mutually agreed upon area where Customer is permitted to distribute water received from GLWA under the terms of this Contract which (a) may be entirely within the corporate limits of Customer or may exceed the corporate limits of Customer and (b) which may or may not include the entire geographical area within the Customer’s corporate limits.

“System” shall mean the public water works system leased, operated and maintained by GLWA and owned by the City of Detroit and, beginning on January 1, 2016, any improvements, additions and/or changes to the System made by GLWA, which improvements, additions and/or changes shall be owned, operated and maintained by GLWA.

“Technical Advisory Committee” shall mean the committee consisting of representatives of GLWA, wholesale water customers of GLWA and their respective representatives, and shall include its successor or replacement if altered or discontinued. The Technical Advisory Committee or its successor shall remain in existence for a minimum term of January 1, 2008 until December 31, 2038 unless the committee determines otherwise.

“Water Distribution Points” shall have the meaning ascribed in Article 4 herein.

Article 2. Contract Term

- 2.01 Term. GLWA shall sell and supply water to Customer from the System in accordance with the terms of this Contract for a period of thirty years from the effective date of this Contract and any ten-year renewal terms (collectively the “Contract Term”), subject to Article 3 herein. The effective date of this Contract shall be the Effective Date of the Master Agreement to which this Contract is attached as Exhibit A (“Effective Date”). This Contract replaces and supersedes any prior water service contracts between the Parties and any prior water service contracts between the City of Detroit and Customer.
- 2.02 Renewal. In addition to the terms of Section 26.01(A), this Contract shall automatically renew at the conclusion of the thirty-year term for an additional ten-year term, unless a Party provides written notification to the other Party in accordance with Article 16 on or before the conclusion of the twenty-fifth year of the thirty-year term stating its intent not to renew this Contract. Thereafter, this Contract shall automatically renew every ten years for an additional ten-year term, unless a Party provides written notification to the other Party in accordance with Article 16 on or before the conclusion of the fifth year of the then current ten-year term stating its intent not to renew this Contract. The automatic renewals of this Contract shall not preclude a review of its terms and the Parties are encouraged to reaffirm or amend its terms as necessary. The Parties may, in writing, mutually agree upon a longer renewal term.
- 2.03 Notification of Renewal. GLWA shall notify Customer of its first Contract renewal option during the twenty-fifth year of the thirty-year term; provided, however, that GLWA’s failure to so notify Customer shall not obviate Customer’s obligations as set forth in Section 2.02.

Article 3. Early Termination Costs

- 3.01 Early Termination Costs. In addition to any other remedies provided for by law or by the terms of this Contract, Customer shall be liable to GLWA for the payment of any costs incurred by GLWA related to providing water to Customer in the event Customer terminates this Contract before the conclusion of a Contract Term (“Early Termination Costs”), unless Customer terminates this Contract for cause in accordance with Article 10; provided, however, that payment of such Early Termination Costs by Customer shall not entitle Customer to receive water service from GLWA.

- 3.02 Calculation of Costs. Payment of Early Termination Costs will be calculated by applying the Adjusted Prevailing Water Charge to the Minimum Annual Volume requirements for the remainder of the Contract Term. The Adjusted Prevailing Water Charge shall be the charge assessed by GLWA to Customer as of Customer's effective termination date, adjusted annually to reflect projected inflationary increases utilizing a locally based wholesale price index. The Parties may agree upon another standardized price index. The Board may seek a recommendation from the Technical Advisory Committee on the amount of the Early Termination Costs.
- 3.03 Specifically Constructed Facilities. If GLWA has constructed or the City of Detroit previously constructed facilities specifically for the benefit of Customer, additional costs may be included in the calculation of the Early Termination Costs, provided that any such facilities shall be identified in a written agreement between GLWA and Customer at or near the time of construction. Those facilities, as of the Effective Date, which GLWA considers to have been constructed specifically for the benefit of Customer are indicated on Exhibit A.
- 3.04 Formation of Water Authority. Customer may join with another authority, city, township, village or other municipal corporation recognized by the State of Michigan to form a water authority for the sole purpose of collectively contracting for water service from GLWA. The exercise of this right shall not be construed as an early termination of this Contract and this Contract shall be voided upon the approval of a new water service contract by Customer's governing body and the Board.
- 3.05 Customer Annexation or Consolidation. In the event the territory of Customer is annexed or consolidated with another Michigan municipal corporation and if said municipal corporation is a current customer of GLWA, then such an annexation or consolidation shall not be construed as an early termination of this Contract and this Contract shall be voided upon the approval of a new or amended water service contract with the annexing or consolidating municipal corporation.

Article 4.

Service Area; License to Use Essential Water Mains

- 4.01 Delivery Location. Water shall be delivered by GLWA to Customer at the location(s) identified in Exhibit A (collectively, the "Water Distribution Points"), and at other locations as may be mutually agreed upon in writing by GLWA and Customer.
- 4.02 Limit of Responsibility. GLWA shall have no responsibility for distributing, operating, repairing, replacing and maintaining any portions of Customer's water supply system downstream of the Water Distribution Points shown in Exhibit A, provided, however, that this Section 4.02 does not prevent the application of the provisions of Section 11.02 herein.
- 4.03 GLWA Responsibility. GLWA owns or leases, and is responsible for operating and maintaining all parts of the System upstream from Customer's Water Distribution Points which, for the purposes of this Section 4.03, shall not include the future FL-02 Meter Facility which is a part of the GCDC water system. Should GLWA fail to maintain the

Meter Facilities and/or any GLWA owned or leased equipment within the Meter Facilities, Customer shall provide written notice to GLWA which describes the objectionable condition of the Meter Facility and/or the equipment within, and its intent to take reasonable steps to maintain the condition and charge the reasonable cost of doing so to GLWA. Upon receipt of the notice and subject to Section 11.01, GLWA shall have thirty calendar days to repair the condition specified in the notice, unless the nature of the repair or a force majeure event prevents the repair within the thirty-day period. If GLWA has not repaired the condition at the conclusion of the thirty-day period and has not provided a written explanation to Customer explaining the reason for the delay (e.g. necessary parts are on order or occurrence of a force majeure event specified in Section 11.01), then Customer may take reasonable steps to maintain the specified condition and charge the reasonable cost of doing so to GLWA.

A. With reasonable prior written notice to GLWA, and occurring not more than once in any three (3) year period, Customer may at its own expense have an expert acceptable to GLWA inspect and verify the accuracy of GLWA meter(s). GLWA assumes no liability for any disruption of the water supply to Customer associated with such an inspection.

- 4.04 Extension of Service Area. Customer's distribution of water supplied by GLWA shall be limited to the Service Area stated in Exhibit A. The Parties agree that situations may arise in which Customer desires to extend its Service Area, either temporarily or permanently, beyond its corporate limits. Should such a situation arise, Customer shall provide written notice to GLWA explaining the nature, duration and extent of the requested Service Area extension. GLWA shall have the option, which it may exercise at any time, of requiring a written amendment to this Contract to accommodate the change in Service Area. Should GLWA determine that an immediate amendment is required, the Parties shall, within thirty calendar days of Customer's request, meet to negotiate mutually agreeable terms for the extension of the Service Area. GLWA shall not unreasonably deny a request to extend the Service Area.
- 4.05 Change or Addition of Water Distribution Points. Water Distribution Points may be added or changed only by the express written agreement of GLWA and Customer and shall be embodied in a written amendment to this Contract.
- 4.06 Supplier. Except as provided in Article 17 herein, GLWA shall be the sole supplier of public potable water to Customer's Service Area. GLWA may supply such potable water either through the System or it may purchase the potable water from other water utilities, including without limitation the GCDC.
- 4.07 License of 72 Inch Main. The 72 inch water main extending west from the GLWA Water Distribution Point located at the intersection of Baxter and Potter Roads in Genesee County to the Flint city limits ("72 Inch Main"), as depicted in Exhibit A, shall at all times remain under the ownership or legal control of Customer in order for GLWA to supply potable water in normal and emergency conditions to the Service Area, other GLWA customers, and GCDC and its customers. No later than May 1, 2018, Customer shall operate and maintain in good working condition the 72 Inch Main provided, however, that if Customer thereafter discontinues its use of the Licensed Main (as defined

in Section 4.07 (B)) for delivery of Customer's primary or secondary water source, which discontinuance is otherwise in compliance with the terms of this Contract, then GLWA shall assume responsibility to operate and maintain the Licensed Main in good working condition.

- A. In consideration of the mutual promises and undertakings of this Contract, Customer has granted and hereby grants to GLWA at no additional charge an exclusive, transferrable, non-revocable license, for a term coincident with the term of this Contract and any renewals thereof, to use the 72 Inch Main to supply potable water GLWA receives from GCDC in normal or emergency conditions to the Service Area and other GLWA customers. GLWA agrees that the license granted herein does not transfer title to the 72 Inch Main to GLWA nor does it confer any rights in GLWA to tap new connections into the 72 Inch Main. Customer may not terminate this license at any time prior to the expiration of this Contract, and any renewals thereof, and its exclusive remedies for breach of this Contract are damages and equitable relief. This license shall survive any sale or other transfer of legal control of the 72 Inch Main until the expiration of this Contract, and any renewals thereof.
- B. In consideration of the mutual promises and undertakings of this Contract, Customer has granted and hereby grants to GLWA at no additional charge an exclusive, transferrable, perpetual, non-revocable license to use that portion of the 72 Inch Main extending approximately 2500 feet west from the GLWA Water Distribution Point located at the intersection of Baxter and Potter Roads in Genesee County to the water transmission main owned by GCDC and supplying its Henderson Road Pump Station (the "Licensed Main"), and depicted on Exhibit A as EC-1, to supply potable water in normal and emergency conditions to the Service Area, other GLWA customers, and GCDC and its customers. GLWA agrees that the license granted herein does not transfer title to the Licensed Main to GLWA nor does it confer any rights in GLWA to tap new connections into the Licensed Main to serve other GLWA customers without Customer's written approval, which approval shall not be unreasonably withheld. Customer may not terminate this license and its exclusive remedies for breach of this Contract are damages and equitable relief. This license for the Licensed Main shall survive the termination of this Contract and any sale or other transfer of legal control of the 72 Inch Main and/or the Licensed Main.

4.08 License of Dort Highway Main. Customer shall complete construction of the Dort Highway potable water main ("Dort Highway Main"), depicted in Exhibit A, as soon as is practicable but in no case later than December 31, 2019. The Dort Highway Main shall at all times remain under the ownership or legal control of Customer in order for GLWA to supply potable water in normal and emergency conditions to the Service Area and other GLWA customers. Customer shall at all times operate and maintain in good working condition the Dort Highway Main.

- A. In consideration of the mutual promises and undertakings of this Contract, Customer grants to GLWA at no additional charge an exclusive, transferrable, non-revocable license for a term coincident with the term of this Contract and any

renewals thereof to use the Dort Highway Main to supply potable water GLWA receives from GCDC in normal or emergency conditions to the Service Area and other GLWA customers. GLWA agrees that the license granted herein does not transfer title to the Dort Highway Main to GLWA nor does it confer any rights in GLWA to tap new connections into the Dort Highway Main. Customer may not terminate this license at any time prior to the expiration of this Contract, and any renewals thereof, and its exclusive remedies for breach are damages and equitable relief. This license shall survive any sale or other transfer of legal control of the Dort Highway Main until the expiration of this Contract, and any renewals thereof.

4.09 Ownership Change. If at any time the 72 Inch Main, the Licensed Main or the Dort Highway Main is sold or legal control thereof is otherwise transferred to any other entity without GLWA's consent, which consent will not be unreasonably withheld, then:

- A. GLWA will have no obligation to provide water to Customer under the terms of this Contract unless and until ownership or legal control is restored to Customer; and
- B. GLWA will have the right, upon written notice to Customer, to terminate this Contract coincident with the change in ownership or legal control; and
- C. GLWA will have no liability whatsoever to Customer or any third party for any claim for damages under any legal theory or cause of action should GLWA cease providing Customer with water as a result of the application of this Section 4.09.

4.10 Raw Water Main. The Parties acknowledge the existence of a 36-inch raw (non-potable) water main owned by KWA which, as of the Effective Date, extends from the GCDC water treatment plant and terminates at a KWA meter pit in the proximity of Center Road near Pierson Road ("Raw Water Main"), as depicted in Exhibit A. If GLWA desires to connect to the Raw Water Main at a future date, the Parties shall meet and endeavor to determine a mutually agreeable approach on how to utilize such main and assess the costs and charges associated therewith. If the Parties are unable to reach mutual agreement on the matter, then GLWA may connect to the Raw Water Main in its sole and reasonable discretion.

Article 5.

Pressure; Maximum Flow Rate; Minimum Annual Volume

5.01 Pressure Range. GLWA shall use its best efforts to deliver water at the Water Distribution Points at a pressure range ("Pressure Range") adequate to meet the reasonable requirements of Customer. For purposes of evaluating this effort, water pressure shall be determined by reviewing the average hourly pressure measured from top-of-the-hour to top-of-the-hour (e.g. 7:00 a.m. to 8:00 a.m.). The Pressure Range to be provided by GLWA to Customer's Water Distribution Points is specified in Exhibit B. The location at which the water pressure will be measured shall be specified in Exhibit A and identified as point "P". A Pressure Range will not be established for water meters that are not located on a GLWA transmission main, or which are located on a GLWA

transmission main and are downstream of and subject to the flow demands of a water meter for another GLWA customer.

5.02 Remedy for Non-Compliance with Pressure Range. If the water pressure at Customer's Water Distribution Points is above or below the Pressure Range, at Customer's request the Parties shall meet within thirty calendar days to discuss the reasons for the non-compliance and, if agreed necessary, develop and implement a mutually agreeable written corrective action plan within sixty calendar days of the meeting, or as otherwise agreed. The corrective action plan shall include a timetable for resolution of the non-compliance issue(s).

- A. If it is determined that another customer's exceedance of the rates of flow established by that customer's Maximum Flow Rate caused or contributed to GLWA's inability to meet its Pressure Range agreement with Customer, then the corrective action plan shall provide for the resolution of the issue.
- B. If Customer is exceeding the rates of flow established by its Maximum Flow Rate on a day other than the GLWA Maximum Day at the time Customer experiences a variation from the Pressure Range, then GLWA shall be relieved from its obligation to provide water to Customer within the Pressure Range for that period of time during which Customer is exceeding the rates of flow established by its Maximum Flow Rate.

5.03 Maximum Flow Rate. Customer's Maximum Flow Rate is specified in Exhibit B. Customer shall not exceed the Maximum Flow Rate specified in Exhibit B, as measured in million gallons on the GLWA Maximum Day and during the GLWA Peak Hour.

- A. GLWA shall notify all customers in writing on or before October 1 of each calendar year if Customer or any other wholesale customer is alleged to have exceeded its Maximum Flow Rate in a given calendar year. The notice shall state the day and/or hour that Customer or any other wholesale water customer is alleged to have exceeded its Maximum Flow Rate.
- B. If Customer is alleged to be in breach of its obligations under this Section 5.03, the Parties shall endeavor to meet before November 1 of the current calendar year, or as soon as practicable, for the purposes of validating the breach, reviewing and analyzing the causes, and to negotiate a possible remedy pursuant to Sections 5.04 and 5.05 herein.
- C. The Technical Advisory Committee's Analytical Work Group, or its successor shall review any alleged breach of this Section 5.03.
 - i. The Analytical Work Group shall meet once, at a minimum, on or before November 1 of each calendar year to review the alleged breaches, if any, and may thereafter schedule subsequent meetings as necessary to conclude its review.

- ii. GLWA will seek a recommendation from the Analytical Work Group on (1) an Allocation Flow Rate, if any, and/or (2) concurrence with the remedy tentatively negotiated between Customer and GLWA, if any. Customer and GLWA shall have the right to present any information related to the alleged breach a Party deems necessary to the deliberations.
- iii. Any recommendation submitted by the Analytical Work Group shall be received by GLWA on or before December 1 of each calendar year.

5.04 Remedy for Non-Compliance with Maximum Flow Rate. GLWA has no obligation to supply to Customer more than the Maximum Flow Rate. If Customer exceeds its Maximum Flow Rate on the GLWA Maximum Day or during the GLWA Peak Hour, GLWA and Customer may, as needed, take one or more of the following actions set forth in this Section 5.04. The applicability of any particular action shall be evaluated by GLWA on a case-by-case basis.

- A. GLWA may require that Customer take all reasonable steps to reduce its consumption to the Maximum Flow Rate. Such steps may include water conservation measures, outdoor water use restrictions, water loss studies and remediation, and an internal system operation evaluation.
- B. The Parties may meet to negotiate a new Maximum Flow Rate. If so negotiated, Customer shall pay the charge associated with the new Maximum Flow Rate in the subsequent fiscal year.
- C. For charge-making and cost allocation purposes only, GLWA may recalculate Customer's charge for the current and/or subsequent fiscal years utilizing a revised cost allocation formula as follows:
 - i. GLWA shall, as set forth below, establish an Allocation Flow Rate to replace the contractual Maximum Flow Rate in the charge calculation process.
 - ii. The Allocation Flow Rate shall be applied from no earlier than the first exceedance date forward.
 - iii. The Allocation Flow Rate will be at least equal to the flow rate demonstrated by Customer on the GLWA Maximum Day, and may be higher than the actual flow rate demonstrated by Customer.
 - iv. Pursuant to Section 5.03(C), if GLWA receives a recommendation on the Allocation Flow Rate to be applied from the Analytical Work Group and the recommendation is higher than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate, then GLWA shall be limited to establishing an Allocation Flow Rate that is at least equal to the flow rate demonstrated by Customer on the GLWA Maximum Day and no higher than the recommendation provided by the Analytical Work Group.

- v. If no recommendation on the Allocation Flow Rate to be applied is received by GLWA, or if GLWA receives a recommendation and the recommendation is less than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate, then GLWA shall be limited to establishing an Allocation Flow Rate that is at least equal to the flow rate demonstrated by Customer on the GLWA Maximum Day and no higher than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate.
- vi. The Allocation Flow Rate will continue to be applied to each subsequent year's charge calculation process until the Maximum Flow Rate is renegotiated.
- vii. If a charge has been approved for the subsequent fiscal year (July 1st to June 30th) but the charge has not yet been applied, GLWA may modify Customer's charge for that subsequent fiscal year to account for an exceedance of its Maximum Flow Rate.
- viii. If GLWA and/or the City of Detroit has built capital facilities based upon Customer's negotiated Maximum Flow Rate and Customer consistently exceeds its Maximum Flow Rate, then GLWA may re-calculate the amount of Customer's percentage of the capital cost of such facilities.

5.05 Procedure for Non-Compliance with Maximum Flow Rate. In addition to the remedies specified in Section 5.04, if Customer has failed in its obligations under Section 5.03, the Parties shall meet to discuss the reasons for the non-compliance and if agreed necessary, develop a mutually agreeable written corrective action plan by December 31 of the year in which the non-compliance occurred, or as otherwise agreed. Any corrective action plan required under this Section 5.05 shall include a timetable for resolution of the non-compliance issue(s).

- A. If the Parties determine that a corrective action plan is not required and an incident of non-compliance occurs in the subsequent calendar year, the Parties shall meet to develop a mutually agreeable written corrective action plan by December 31 of the year in which the non-compliance occurred, or as otherwise agreed.
- B. In the event the reason for Customer's non-compliance under Section 5.03 is due to a Customer water main break, fire or meter calibration performed by GLWA, these events will be taken into consideration in determining (1) whether a corrective action plan is warranted and (2) the extent to which, if any, the steps specified in Section 5.04 should apply.

5.06 Minimum Annual Volume. Customer shall purchase from GLWA not less than the Minimum Annual Volume of water specified in Exhibit B. If Customer's Annual Volume is less than the Minimum Annual Volume, Customer shall pay to GLWA an

amount computed by applying the current charge to the Minimum Annual Volume less any amounts already billed to the Customer by GLWA.

- 5.07 Periodic Review. For Customer and System planning purposes and, with regard to the Minimum Annual Volume, enforcement of the provisions of Article 3, a Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume shall be established by mutual agreement for the Contract Term. A contractually binding Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume shall be established by mutual agreement for the first two years of the Contract Term. Not later than the second year of the Contract Term, GLWA and Customer shall negotiate a contractually binding Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume for the succeeding three years of the Contract Term. Not later than the fifth year of the Contract Term, and every five years thereafter, GLWA and Customer shall negotiate a contractually binding Maximum Flow Rate, Pressure Range, Projected Annual Volume and Minimum Annual Volume for the succeeding five years of the Contract Term. If the Parties do not negotiate new or revised Maximum Flow Rates, Pressure Ranges, Projected Annual Volumes and Minimum Annual Volumes according to the aforementioned schedule, then the figures established for planning purposes (as shown in italicized type in Exhibit B) shall become contractually binding for the then-current three or five year term.

- 5.08 Remedy for Excessive Rate(s) of Flow Causing Pressure Problem(s). Customer acknowledges that Customer's rates of flow may cause and/or contribute to GLWA's inability to meet its Pressure Range agreements with Customer and/or GLWA's other customers (hereinafter, "Pressure Problem"). GLWA may review or monitor Customer's daily rates of flow if a Pressure Problem occurs and GLWA's Pressure Range agreement with Customer and/or another customer of GLWA is alleged to have been breached. The approximate rate of flow by individual meter location used to establish the Pressure Range and Maximum Flow Rate is specified in Exhibit B. If a Pressure Problem occurs, the Parties shall meet to discuss the reasons for the Pressure Problem and develop and implement a mutually agreeable written corrective action plan within sixty calendar days of the Pressure Problem, or as otherwise agreed. The corrective action plan may require one or both of the following steps:

- A. GLWA may require that Customer take all reasonable steps to reduce its consumption to the rate of flow established by the Maximum Flow Rate. Such steps may include water conservation measures, outdoor water use restrictions, water loss studies and remediation, and an internal system operation evaluation. In addition, GLWA may require that Customer adjust its rate of flow at individual meters, including the establishment of a not-to-exceed flow rate for individual meters.
- B. The Parties may meet to negotiate a new Maximum Flow Rate. If so negotiated, Customer shall pay the charge associated with the new Maximum Flow Rate in the subsequent fiscal year.

If the Parties determine that a corrective action plan is not required and a subsequent Pressure Problem occurs, the Parties shall meet to develop and implement a mutually

agreeable written corrective action plan within sixty calendar days of the subsequent Pressure Problem, or as otherwise agreed. Any corrective action plan required under this Section 5.08 shall include a timetable for resolution of the Pressure Problem. In the event the reason for the Pressure Problem is due to a Customer water main break, fire or meter calibration performed by GLWA, these events will be taken into consideration in determining (1) whether a corrective action plan is warranted and (2) the extent to which, if any, the steps specified above in this Section 5.08 should apply. In developing any corrective action plan, the Parties will take into account that Customer may be served by multiple points of connection and will utilize their collaborative best efforts to work towards developing the best solution to minimize capital and operating costs.

- 5.09 GLWA Costs for Corrective Action Plan. If at any time GLWA is required under the terms of this Article 5 to develop and implement a corrective action plan and the plan involves incurring capital costs, GLWA will determine whether the costs will be charged as a System cost or whether the cost will be borne by a specific customer or customers. If GLWA determines that all or part of the costs should be borne by a specific customer or customers, GLWA will seek a recommendation from the Technical Advisory Committee on the assessment of the costs.
- 5.10 Customer Costs for Corrective Action Plan. If at any time Customer is required under the terms of this Article 5 to develop and implement a corrective action plan, Customer shall be so informed in writing and Customer will pay all costs related to the corrective action plan.

Article 6.

Technical Advisory Committee

- 6.01 Establishment. The Technical Advisory Committee exists to facilitate a cooperative working partnership between GLWA and its wholesale water customers by facilitating the development of recommendations regarding System planning and supply to GLWA management and the Board. The Technical Advisory Committee shall maintain bylaws that govern the way it conducts its business. In the event of a conflict between the terms of the bylaws adopted by the Technical Advisory Committee and the terms of this Contract, the terms of this Contract shall control.
- 6.02 General Responsibilities. The Technical Advisory Committee shall periodically review and evaluate the charges, charge methodology, and performance of the System. The Technical Advisory Committee shall review and evaluate flow rates, pressures and annual volumes for the System at a minimum of every five years to assist GLWA in the System planning effort. The Technical Advisory Committee shall have the opportunity each year to review the Capital Improvement Program as prepared by GLWA, prior to its adoption by GLWA. The Technical Advisory Committee may consider Customer proposals for improving the operation of Customer's water system and/or the System. GLWA will supply the Technical Advisory Committee with information GLWA deems reasonably necessary to accomplish the general responsibilities defined in this Section 6.02.

- 6.03 Annual Report by GLWA. GLWA will present an annual report to the Technical Advisory Committee which shall consist of (1) all instances of non-compliance with the Parties' obligations contained in Article 5 herein, including Customer and GLWA responses thereto; (2) a general report on System operation and maintenance; and (3) a report that lists those contracts, if any, that have been entered into by GLWA and another customer(s) where the terms of the contract(s) invoke the application of Article 14 herein.
- 6.04 Notification of Charges. GLWA shall provide Customer and the Technical Advisory Committee with notice of the proposed charges for each fiscal year as early as possible before the implementation of the charges.
- 6.05 Disclosure of Charge Information by GLWA. Each year, GLWA will disclose to Customer and the Technical Advisory Committee information related to wholesale charges.
- 6.06 Disclosure of Retail Rate Information by Customer. Each year, Customer will disclose to its customers information related to its retail rates and other charges, and information regarding what portion of those costs is related to charges from GLWA and/or other major service providers.
- 6.07 Work Groups. The Technical Advisory Committee may create work groups to address specific issues facing the System. The work groups in existence as of January, 2016, are the Analytical Work Group, the Asset Management and CIP Work Group, the Best Practices Work Group, the Charges Work Group, and the Public Education Work Group. Any reference to a particular work group in this Contract shall include its successor or replacement if altered or discontinued.

Article 7. Charges

- 7.01 Charges. Customer agrees to pay for all water supplied by GLWA from the GLWA System at such charges as GLWA may establish. Charges shall be reasonable in relation to the costs incurred by GLWA for the supply of water and shall conform to Public Act 34 of 1917, Michigan Compiled Laws, Sec. 123.141, et seq., as amended. GLWA shall give written notice of any changes in the charges. Notice shall be made in accordance with Section 5c of Public Act 279 of 1909, Michigan Compiled Laws, Sec. 117.5c, as amended, ("Act 279"). GLWA will also supply Customer with water GLWA receives from GCDC pursuant to the Reciprocal Backup Water Service Contract between GLWA and GCDC, attached as Exhibit B to the Master Agreement. Customer acknowledges and agrees that monthly service charges from GCDC will be incurred by GLWA pursuant to the Reciprocal Backup Water Service Contract and such service charges will be assessed to Customer on a direct pass through basis from GLWA at the time they are incurred by GLWA (the "Pass-Through Charges"). Customer shall pay the Pass-Through Charges in accordance with Article 12. Customer further acknowledges and agrees that its obligation to pay the Pass-Through Charges shall survive any termination of this Contract.

- 7.02 Notification of Charges. As soon as possible in the charge-making process, GLWA shall provide information on proposed charges and the draft data and information used in the calculation of proposed charges in a format that will enable Customer to assist in the charge-making process. Not less than thirty calendar days prior to the hearing required by Act 279, GLWA shall provide Customer with written notice of a proposed charge and the underlying data used to calculate the charges. GLWA shall meet with Customer to review the charges and the data.
- 7.03 Estimate of Usage. In the event meters fail to correctly measure the quantity of water supplied to Customer for any period of time, GLWA shall provide a reasonable estimate of the quantity of water supplied to Customer for such period provided that there is a reasonable basis for the estimate. Customer and GLWA shall, either through their respective technical representatives and/or the Technical Advisory Committee, seek agreement upon a method to estimate such quantities. In the event the Parties are unable to agree upon a method to estimate such quantities, GLWA's determination of a method shall be conclusive and Customer agrees to accept the estimate established by GLWA.
- 7.04 Charge Methodology. GLWA agrees to provide to Customer an updated description of the methodology for charge-making in the form of the "Rates 101" document produced by the Technical Advisory Committee, as may be periodically updated. Until the updated document is completed, the current "Rates 101" document, entitled *DWSD Rates: Understanding DWSD Wholesale Water Rates*, shall remain in effect. The charge methodology documents referred to in this paragraph and any updates thereto shall be provided to Customer via posting on the GLWA website.

Article 8.

Meters and Meter Facilities

- 8.01 Metering Requirement. All water furnished by GLWA to Customer shall be measured by water meters installed in Meter Facilities at Customer's Water Distribution Points unless, in GLWA's determination, it is not feasible to install water meters due to the configuration of Customer's water system.
- 8.02 Existing Distribution Points. Upon the later of May 1, 2018, or the upgrade of the FL-01 Meter Facility by Customer to the satisfaction of GLWA, GLWA shall own, operate and maintain the water meter and Meter Facility for the Water Distribution Point designated in Exhibit A as FL-01. The Parties further agree that Customer shall have access to the FL-01 Meter Facility for all purposes necessary and incident to the operation of Customer's water system. Customer agrees to provide prior notice to GLWA any time it requires access to the FL-01 Meter Facility; the Parties shall mutually agree upon the time and method of such notice.
- 8.03 Customer Maintenance Responsibilities. Customer shall be responsible for maintaining at its Water Distribution Points any and all appurtenances as may be designated as Customer's responsibility in Exhibit A. Should Customer fail to maintain the appurtenances shown in Exhibit A, GLWA may take reasonable steps to maintain the appurtenances and charge the reasonable cost of doing so to Customer. Prior to GLWA taking action to maintain the appurtenances, GLWA shall give Customer thirty days

written notice to complete the required maintenance. Notice to Customer shall not be required if, in GLWA's determination, there exists an emergency condition affecting the operation of the System or if the health, safety and welfare of the general public may be jeopardized.

8.04 RESERVED.

8.05 Meter Repair and Replacement. If GLWA initiates a meter repair or meter replacement, the cost shall be recovered through GLWA's charges as a System cost. If Customer requests a meter replacement for reasons other than malfunction or disrepair, Customer shall pay the cost of the replacement.

8.06 Pressure Regulating Facilities. After the effective date of this Contract, all newly installed Customer-owned pressure regulating facilities shall be installed in a facility that is separate from GLWA's Meter Facility; the butterfly valves within the FL-01 Meter Facility are not affected by this Section 8.06.

Article 9. Dispute Resolution

9.01 Any and all claims alleging a breach of this Contract may first be submitted to an alternative dispute resolution process. An alternative dispute resolution process may include, but is not limited to, facilitation, binding arbitration, or non-binding arbitration. Each Party shall be responsible for its own costs and fees (including expert witness fees and attorney fees), unless otherwise agreed to in writing. The Parties shall agree upon the form and procedures for the agreed upon alternative dispute resolution process. This Article 9 shall not prohibit a Party from seeking relief directly from a court of competent jurisdiction at any time.

Article 10. Default Provisions

10.01 In the event either Party commits a material breach of this Contract, the Party alleging the breach shall give written notice of the breach to the other Party within a reasonable time of discovering the breach. The Party in breach shall be given a reasonable time to cure the breach. If the Party in breach fails to cure the breach, the non-breaching Party may declare this Contract in default and pursue all available legal remedies, including termination of this Contract for cause and/or, if the non-breaching Party is GLWA and Customer has filed a petition under Chapter 9 of 11 U.S.C §101 et seq., GLWA shall be entitled, under and subject to the conditions of 11 U.S.C §366, to petition the court for adequate assurances for payment in the form of a security deposit (separate and distinct from the Security Deposit Account contemplated in Section 12.04) of not less than two times the average monthly amount billed under Section 7.01 in the proceeding twelve months. In the event that the Party in breach is showing reasonable progress toward curing the breach, the Party alleging the breach may extend the time for curing the breach.

Article 11.

Force Majeure, Hold Harmless and Other Events

- 11.01 **Force Majeure.** No failure or delay in performance of this Contract, by either Party, shall be deemed to be a breach thereof when such failure or delay is caused by a force majeure event including, but not limited to, any Act of God, strikes, lockouts, wars, acts of terrorism, riots, epidemics, explosions, sabotage, breakage or accident to machinery or lines of pipe, the binding order of any court or governmental authority, or any other cause, whether of the kind herein enumerated or otherwise, not within the control of a Party, except that no cause or contingency shall relieve Customer of its obligation to make payment for water delivered by GLWA.
- 11.02 **GLWA Held Harmless.** As a result of Customer's public health emergency arising from the quality of water provided through Customer's water supply system, the Parties do not know the extent of the claims and/or damages which may result from the emergency, nor if the provision of water services by GLWA will abate, improve or otherwise alleviate the emergency. For this reason, to the extent permitted by law, Customer shall indemnify, defend and hold harmless GLWA and the City of Detroit from and against any and all alleged liabilities, obligations, damages, penalties, claims, costs, charges, losses and expenses (including, without limitation, fees and expenses for attorneys, expert witnesses and other consultants) that may be imposed upon, incurred by or asserted against GLWA and/or the City of Detroit and their respective departments, officers, directors, employees or agents by reason of any of the following alleged to be attributable to the provision of water services under the terms of this Contract:
- A. Any and all alleged injury to persons or damage to property; and
 - B. Any alleged failure by Customer or its agents to perform its obligations, either express or implied, under this Contract; and
 - C. Any alleged act, error or omission of Customer or its agents with regard to (i) Customer's distribution of water supplied by GLWA downstream of any Water Distribution Point, and (ii) any alteration by Customer or its agents to the water supplied by GLWA downstream of any Water Distribution Point, including without limitation any chemical additions to the water as set forth in Section 17.06.
- 11.03 **GLWA Liability for Breakage to Pipes.** Except to the extent that GLWA is the proximate cause, GLWA shall not be held liable or accountable for any bursting, leakage, breakage, damage or accident of any kind that may occur to Customer's water works system, or any damages of any kind or nature, including, but not limited to, injury to persons or damage to property, resulting from or alleged to result from such bursting, leakage, breakage, damage or accident that may occur to water mains or pipes located downstream of the Water Distribution Points specified herein, or located within Customer's distribution system. The terms of this Section 11.03 shall not and shall not be construed to apply to alleged damages or claims of any kind or nature related to, resulting from, or arising out of Customer's public health emergency arising from the quality of water provided through Customer's water supply system, nor shall its terms be used to assign or attempt to assign liability to GLWA for the same.

- 11.04 Discontinuance of Service. In the event the public health, safety and welfare requires GLWA to discontinue temporarily all or part of the supply of water to Customer, no claims for damages of any kind or nature for such discontinuance shall be made by Customer against GLWA. GLWA will provide notice to Customer of any temporary discontinuance of the water supply.

Article 12.

Timely Payment; Trust Accounts; Security Deposit Account

- 12.01 Billing and Payment. Bills for water service shall be rendered to Customer on the 20th day of each month. All such bills shall be due and payable on the 30th day of each month immediately following the month in which the bill is rendered except for the month of February, in which case the due date shall be the last day of the month of February. Any portion of the charges that are not paid by the due date shall be subject to a finance charge at a rate of 1.5% per month for each month that they remain unpaid. Any portion of the total bill, plus any finance charges applied to the bill which are not paid by the next billing date, shall be shown on the next bill as arrears.
- 12.02 Dispute. GLWA may disconnect water service if bills are overdue ninety calendar days from the billing date, in addition to any other remedies provided for in this Contract. GLWA shall not terminate water service if there is a good faith dispute concerning the accuracy of billings. If the accuracy of a bill is in dispute, Customer shall have ten (10) business days from the date of the invoice in which to provide written notice to GLWA, KWA and the Trustee under the Baseline and All Receipts Trust Agreement (as defined below), of its dispute with the bill and shall place the disputed amount in an escrow account pending resolution of the dispute. Accrued interest on the escrow account shall belong to the Party that prevails in the resolution of the dispute.
- 12.03 Trust Accounts. The Parties acknowledge and agree that two trusts, the "Baseline Trust" and the "All-Receipts Trust", will be established and managed in accordance with the terms and conditions of Exhibit C of the Master Agreement. Should there be any conflict between the terms of this Contract and the terms of Exhibit C of the Master Agreement, the terms of Exhibit C of the Master Agreement shall control.
- 12.04 Security Deposit Account. Customer will fund a security deposit account, established and held by GLWA ("Security Deposit Account"), as security for payments due GLWA under this Contract in accordance with the following terms and conditions:
- A. Prior to or concurrent with the execution of this Contract, Customer will provide to GLWA an amount equal to \$3,750,000.00 which GLWA will hold in an interest bearing account. All interest earned on funds in the Security Deposit Account shall accrue and shall be deposited therein and applied as provided in this Section 12.04. All fees related to the Security Deposit Account including, without limitation, the establishment and maintenance thereof, shall be paid by Customer.

- B. Subject to Section 12.04 (D), GLWA will maintain the Security Deposit Account for a period of no less than 2 years and no greater than 6 years provided that if Customer satisfies the metrics set forth in Section 12.04 (C) (i), (ii) and (iii) at any time after the 2 year period but before the conclusion of the 6th year, then the funds held by GLWA in the Security Deposit Account will be returned to Customer in accordance with this Section 12.04. However, in the event a Flint Challenger and/or a Third Party Challenger, as defined in 12.04 (F), challenges the validity of the Contract or the authority of Customer to enter into the Contract, or the authority of Customer's representative to execute the Contract, the Security Deposit Account will not be returned to Customer until the statute of limitations bars challenges by a Flint Challenger and/or a Third Party Challenger. If at the conclusion of the 6th year Customer has satisfied the metrics in Section 12.04 (C) (i) and (ii), then the funds held by GLWA in the Security Deposit Account will be returned to Customer in accordance with this Section 12.04. Unless modified by Section 12.04 (D), the time period stated herein shall begin to run coincident with the Effective Date.
- C. The funds held by GLWA in the Security Deposit Account will be returned to Customer in full, plus applicable accrued interest if any in accordance with Section 12.04 (A), if at any time after the initial 2 year period Customer can demonstrate to the reasonable satisfaction of GLWA:
- i. It has made all payments due under this Contract in full and on time and;
 - ii. It has met all obligations payable from its water and sewer funds, including without limitation Customer's obligations to its bond holders, suppliers, vendors and employees, and it has performed all such obligations in a timely manner; and
 - iii. It has established a collection rate for its water and sewer billings of at least 90% for the preceding 12 month period.
- D. If at any time Customer fails to make full and timely payment and GLWA is required to utilize the proceeds of the Security Deposit Account to cure an event of non- or partial payment as described in Section 12.04 (F), then the period outlined in Section 12.04 (B) shall restart at year zero.
- E. Customer acknowledges and agrees that GLWA may grant KWA certain rights in and to the Security Deposit Account in connection with Customer's obligations to KWA for debt service payable from the Trust Accounts defined below, as described under Section 12.05 (ii) below.
- F. Customer acknowledges and agrees that should (a) (1) the Customer files an action with the City named as plaintiff (2) an action pursuant to a binding resolution of the City Council (3) by a simple majority of the City Council, which is 5 members, (4) the Mayor, (5) City Administrator, (6) City Clerk, or in the event that an action is filed by an (7) City executive staff member or principal

official, which includes members responsible for budget, personnel, planning, legal counsel and administrative services, (8) executive department heads, which are defined as public safety, public works, utilities, parks and recreations, transportation including aviation, finance, community development and environmental protection; or (9) City board, commission or agency, (each, a “Flint Challenger”) and/or (b) (1) no more than 4 City Council member(s) or unauthorized (2) instrumentality of the City (3) officer (4) employee, and/or (5) any other individual purportedly acting on behalf of the City (each a “Potential Flint Challenger”) and/or (c) a third party, including a former officer or a former employee (each, a “Third Party Challenger”) challenges the validity of the Contract or the authority of Customer to enter into the Contract, or the authority of Customer’s representative to execute the Contract, then GLWA may utilize any funds in this Security Deposit Account necessary to reimburse GLWA for any funds expended in defending that challenge, without further approval of the Customer.

- G. Customer acknowledges and agrees that GLWA may grant KWA and GCDC certain reimbursement rights in and to the Security Deposit Account in connection with their defense of claims that challenges the validity of the Contract or the authority of Customer to enter into the Contract, or the authority of Customer’s representative to execute the Contract regardless of whether it is a Flint Challenger and/or a Third Party Challenger.
- H. Customer further acknowledges and agrees that in the event that reimbursement of funds expended in defending a challenge to this Contract becomes necessary, consistent with subsections F and G above, GLWA shall be entitled to simultaneously assess multiple charges to restore the shortfall in the Security Deposit Account. Customer shall pay such charges on or before the due date.
- I. Should GLWA be required to utilize any amount of the funds in the Security Deposit Account, including accrued interest, to cure an event of non- or partial payment by Customer to GLWA, or to KWA for debt service payable from the Trust Accounts defined below, as described under Section 12.05 (ii) below, or for reimbursement under subsections F-H above, GLWA may, for each such shortfall or reimbursement, restore this amount by adding to Customer’s monthly charges for the subsequent 12 month period an amount equal to 1/12th of the dollars used to cure the event. Customer acknowledges and agrees that in the event of more than one shortfall, GLWA shall be entitled to simultaneously assess multiple charges to restore the shortfall in the Security Deposit Account. In the event that accrued interest is used by GLWA to restore any shortfall or reimbursement, upon the return of the funds in the Security Deposit Account Customer shall only be entitled to that interest remaining, if any, beyond that which was used to restore any shortfall.

12.05 Credits to Wholesale Billing Account Resulting from Trust Account Payments. Customer is obligated to make, or cause to be made, payments to GLWA, KWA and GCDC under the terms of trust accounts established pursuant to the terms of Exhibit C (“Trust Agreement”) of the Master Agreement (“Trust Accounts”). If Customer timely and fully pays, directly or via the Trust Accounts, its monthly amounts (i) due to GLWA for water supplied under this Contract, which includes the Pass-Through Charges from GCDC that are assessed on a direct pass through basis from GLWA to Customer pursuant to Section 7.01; however for purposes of this Section, amounts due will be considered timely and fully paid if Customer has deposited funds as provided in Section 12.02 equal to the Pass-Through Charges from GCDC and the balance of the monthly amounts due to GLWA on such bill that is not in dispute, and (ii) due to KWA for KWA Designated Debt Service (as such term is defined in the Trust Agreement), then GLWA shall in the current or subsequent month issue a credit to Customer’s wholesale billing account equal to the lesser of (y) the KWA Designated Debt Service paid by or on behalf of Customer through the Trust Agreement or (z) in the event of any bond issue not consented to by GLWA under Section 26.01, when such consent is required, the debt service payment currently scheduled as set forth in the Trust Agreements, all under (ii) above.

12.06 Suspension of Credits because of a Flint Challenger. In the event that a Flint Challenger challenges the validity of the Contract or the authority of Customer to enter into the Contract, or the authority of Customer’s representative to execute the Contract, then GLWA may suspend the issuance of credits to Customer pursuant to Section 12.05 above. If a Flint Challenger challenges the validity of the Contract or the authority of Customer to enter into the Contract, or the authority of Customer’s representative to execute the Contract, then among the factors that GLWA may consider before exercising its sole discretion under this Section to suspend the further issuance of credits to the Customer are the following:

- A. Whether the Customer files a motion to intervene as a party-defendant in support of GLWA in the cause of action filed by the Flint Challenger.
- B. Whether the Customer files a motion to challenge the standing of the Flint Challenger’s cause of action.
- C. Whether the Customer formally refuses any request by the Flint Challenger for legal representation in the Flint Challenger’s cause of action.
- D. Whether the Customer’s Council adopts a resolution, which is approved by the Mayor, providing that the Customer shall not remit or reimburse any legal expenses incurred by the Flint Challenger, including the Flint Challenger’s attorney fees, court costs or other costs incurred by the Flint Challenger.

If there is a dispute as to whether the *Potential* Flint Challenger is actually a Flint Challenger, either the Customer or GLWA can motion the trial court within 21 days of service of the Complaint for a judicial determination of the issue. The credits will be paid to Customer from the date the motion is filed until the trial court issues a ruling on whether the *Potential* Flint Challenger is a Flint Challenger. The trial court’s ruling on whether the *Potential* Flint Challenger is a Flint Challenger is final and cannot be appealed. If (a) the trial court determines that the *Potential* Flint Challenger is a Third

Party Challenger and not a Flint Challenger and (b) Customer complies with Section 12.07, then the credits will be paid to Customer.

If for any reason this Contract is declared void or nullified for any reason during its Term, then the Customer shall pay to GLWA the total amount of the credits issued to the Customer. In the event the Customer wishes to repay such credits over a period of years, it may do so in one of two ways. It may repay such credits over a period of not more than five years (or such longer period as may be agreed upon by the Customer and GLWA) by (a) executing a new water service contract for the standard term or (b) by serving as a non-contract customer with GLWA for the designated period of years, for water at then-prevailing rates for non-contract customers. In all circumstances, service shall not be terminated by Customer prior to full repayment of such credits.

- 12.07 Suspension of Credits because of a Third Party Challenger. In the event that (a) a Third Party Challenger challenges the validity of the Contract or the authority of Customer to enter into the Contract, or the authority of Customer's representative to execute the Contract and (b) the Customer does not intervene in the litigation to support GLWA, KWA, GCDC defense from the Third Party Challenger, then GLWA may suspend the issuance of credits to Customer pursuant to Section 12.05 above. If for any reason this Contract is declared void or nullified for any reason during its Term, then the Customer shall pay to GLWA the total amount of the credits issued to the Customer. In the event the Customer wishes to repay such credits over a period of years, it may do so in one of two ways. It may repay such credits over a period of not more than five years (or such longer period as may be agreed upon by the Customer and GLWA) by (a) executing a new water service contract for the standard term or (b) by serving as a non-contract customer with GLWA for the designated period of years, for water at then-prevailing rates for non-contract customers. In all circumstances, service shall not be terminated by Customer prior to full repayment of such credits.

- 12.08 Account Stated. If Customer fails to make timely payment on invoices due as set forth in this Contract, the GLWA shall be entitled to utilize the All Receipts Trust under the conditions set forth in Exhibit C of the Master Agreement. In addition, GLWA shall be entitled to claim a judgment against Customer for the entire unpaid balance, including any Early Termination Costs, together with late fees, interest, and the costs and reasonable attorney fees required to obtain that judgment. GLWA shall be entitled to file this Contract in a court of proper jurisdiction as evidence of Customer's agreement to pay amounts due and owing in accordance with this Contract.

Article 13. Assignment

- 13.01 This Contract shall not be assigned, in whole or in part, by either Party without the prior written consent of the other Party provided, however, that GLWA may assign this Contract to the City of Detroit without prior notice to Customer at the conclusion of the Lease term. Consent to an assignment by either Party shall not be unreasonably withheld.

Article 14. Ensuring Equality of Contract Terms

- 14.01 If GLWA enters into any contract, and any amendments thereto, with a water service customer other than Customer, and the material terms of such other contract are more favorable than the material terms of Customer's Contract, Customer may elect to adopt all of such other material terms. However, if Customer exercises the option provided for in this Article 14, Customer must accept all material terms of the other contract in their entirety and may not select among various terms contained in multiple other contracts by, for example, selecting the Contract Term from one contract and the Early Termination Costs provision of another contract. The terms and conditions of Exhibit B of this Contract are specifically excluded from the application of this Article 14.

Article 15. Amendment

- 15.01 The Parties may periodically consider it in their best interests to change, modify or extend a term, condition or covenant of this Contract for reasons which may include, but are not limited to, the creation, expansion or closing of industry or other business. Any change, addition, deletion, extension or modification that is mutually agreed upon by GLWA and Customer shall be incorporated in a written amendment to this Contract. Such amendments shall not invalidate this Contract nor relieve or release either Party of any of its respective obligations under this Contract unless so stated in the amendment.
- 15.02 No amendment to this Contract shall be effective and binding upon the Parties unless it expressly makes reference to this Contract, is in writing, is signed and acknowledged by duly authorized representatives of both Parties, and is approved by Customer's governing body and the Board.

Article 16. Notices

- 16.01 Except as otherwise specified herein, all notices, consents, approvals, requests and other communications (collectively, "Notices") required or permitted under this Contract, including without limitation those for billing, payment and other routine correspondence regarding day-to-day operational matters, shall be given in writing and mailed by first class mail to the Parties and at the addresses identified in Exhibit B.
- 16.02 All Notices shall be deemed given on the day of post-marked mailing. Any Notice given by a Party hereunder must be signed by an authorized representative of such Party.
- 16.03 Notwithstanding the requirement above as to the use of first-class mail, Notices regarding change of address and any Notices required by Sections 2.02, 4.03, 4.09, 7.01, 7.02, 8.03, 10.01, 12.02, 25.03 and 26.01 shall be sent by certified first-class mail, postage prepaid.

Article 17. Water Quality

- 17.01 Contamination. For the protection of the health of all consumers supplied with water from the System, Customer agrees to guard carefully against all forms of contamination.

Should contamination occur, the area or areas affected shall immediately be shut off and isolated, and shall remain so until such conditions shall have been abated, and the water declared safe and fit for human consumption by the properly constituted governmental health agencies having jurisdiction of the area affected. Customer shall immediately notify GLWA, and GLWA shall immediately notify Customer, of any emergency or condition that may affect the quality of water in either Party's system.

- 17.02 Blending. Maintaining a daily flow through the Dort Highway Main is necessary to meet water quality regulatory standards in the event emergency backup services are required. Unless otherwise agreed by the Parties and approved by any necessary state and/or federal regulatory body, GLWA may supply to Customer from the Dort Highway Main approximately 5% of Customer's daily flow of potable water produced by GCDC (estimated at 0.5 MGD) in compliance with the requirements of any law, regulation, permit or order of any state and/or federal agency. Customer shall be responsible for installing, operating, maintaining, controlling and monitoring the necessary infrastructure and appurtenances, including but not limited to flow control devices, to ensure compliance with this limit. The remainder of Customer's daily flow of potable water produced by GLWA will be received through the 72 Inch Main. Customer will blend the water received through the Dort Highway Main with that water received through the 72 Inch Main at Customer's water treatment plant prior to its distribution and any required additional treatment as may be required of Customer by state and/or federal law, regulation, permit or order. The provisions on blending in this Section 17.02 are not considered a co-mingling of water sources and do not invoke the provisions of Section 17.03, below.
- 17.03 Co-mingling of Water Sources. Except in cases of emergency, Customer will not permit water from any other source of supply to be mixed or mingled with water from the System without prior written approval from GLWA. In cases of emergency, only such water from sources other than GLWA shall be used as shall meet the requirements of the MDEQ, and then only in such quantities as shall be necessary to relieve the emergency.
- 17.04 Emergency Connections. During emergencies and notwithstanding the terms of Section 17.02, GLWA may provide and Customer may receive up to 100% of its daily flow of potable water through the Dort Highway Main provided, however, that the emergency backup flow will be in such quantities as GCDC can reasonably deliver to GLWA and Customer has no guarantee from either GCDC or GLWA as to how much flow will be provided. Additionally, during emergencies, Customer's water facilities may be used and connected, at the discretion of GLWA, to water facilities serving other communities for flow in either direction to provide an adequate water supply from the System to Customer and to other areas and other units of government. Customer shall be permitted to immediately make an emergency connection when the connection point to be used has been previously approved for emergency use by GLWA in writing, provided that Customer shall, after making the connection, promptly notify GLWA of such event. When the emergency has been abated, the emergency connection must be severed as soon as practicable. GLWA, or its designee, must approve, in writing, the continuation of any emergency connection that is required for longer than seven calendar days. If an approved emergency connection continues for more than seven calendar days, Customer

must provide GLWA with weekly updates on the emergency and a schedule for abatement of the emergency that must be approved by GLWA in writing.

- 17.05 Water Quality. GLWA shall endeavor to remain in compliance with all applicable Michigan and Federal laws, rules and regulations regarding drinking water quality.
- 17.06 Chemical Additions. Customer has advised GLWA that in order to more effectively address its public health emergency, it may inject additional chemical treatments into the water it receives from GLWA. Customer acknowledges that such additional chemical treatments may result in taste, color and/or odor changes to the water provided by GLWA. In order that the public be kept fully informed as to the explanation for any taste, color and/or odor changes and to ensure that GLWA's long established, award winning brand is not diminished in any way, Customer agrees to coordinate with and seek the approval of GLWA regarding its public relations communications on these issues. Furthermore, Customer acknowledges that such additional chemical treatments may change the water chemistry of the water provided by GLWA, and if not made properly by Customer, could have adverse effects on distribution system corrosion control, disinfection by-products formation and water quality in general.

Article 18.

Rights-of-Way

- 18.01 Use of Rights-of-Way. Customer shall assist GLWA to obtain permission to use streets, highways, alleys, and/or easements in the local governmental units within Customer's jurisdiction for the purpose of constructing, maintaining, and operating water facilities to adequately service Customer's jurisdiction and other areas. This assistance shall include obtaining the consent of the local governmental units, as provided in Article 7, Section 29, Michigan Constitution of 1963. In the event of such construction, GLWA shall request Customer and local governmental units within Customer's jurisdiction to execute such separate instruments granting rights-of-way in its streets, highways, and alleys as may be reasonably required by GLWA. GLWA shall give Customer notice of any construction work in Customer's jurisdiction. GLWA shall comply with any of Customer's ordinances that apply to the construction. Customer shall inform GLWA of the applicable ordinances. GLWA and Customer shall meet to review the construction and its impact on their respective operations. GLWA shall restore all existing structures and/or improvements laying in the right-of-way of construction to as good a condition as before the construction took place. As contemplated by this paragraph, any such water facilities existing on or before December 31, 2015, shall remain under the ownership of the City of Detroit as leased to GLWA, and any new water facilities constructed on or after January 1, 2016, shall be owned by GLWA, and in no case shall either the existing or new water facilities be operated or maintained by any entity other than GLWA or its authorized representatives.
- 18.02 Relocation of Facilities. Should future construction by any city, township, village, or county require relocation of a water transmission main, Meter Facility or other GLWA facility, the cost incurred by GLWA for such relocation, if not reimbursed by the entity requiring the relocation, will be charged in future charges as a common-to-all cost to all System users.

- 18.03 Easements. Subject to the provisions of Section 18.01 and to the extent that Customer has jurisdiction, GLWA shall be granted temporary and permanent easements, and shall be permitted to use the streets, alleys and highways within Customer's legal jurisdiction for the purpose of constructing, operating and maintaining the System, including the relocation of water transmission mains, Meter Facilities or other GLWA facilities. This consent by Customer is given in compliance with Article 7, Sec. 29 of the Michigan Constitution of 1963, provided that GLWA shall provide Customer with a written explanation of the type of easement required and the duration thereof.

Article 19.
Access to Towers and Antennas

- 19.01 Where possible, each Party shall give to the other Party access to towers and antennas under its respective jurisdiction for the purpose of transmitting information recorded in the Meter Facilities. Access shall not be unreasonably denied by either Party.

Article 20.
Relationship to Wastewater Services

- 20.01 Customer and GLWA acknowledge that future growth in the System may place additional burdens on their respective wastewater systems. Customer, if it is also a wastewater disposal services customer of GLWA, understands that any increase in the volume of water it receives from the System is not a guarantee of increased capacity in the wastewater disposal system owned by the City of Detroit and leased by GLWA.

Article 21.
Construction Standards

- 21.01 GLWA shall have the right to review and approve Customer's construction plans for Meter Facilities at new Water Distribution Points, water mains sized twenty-four inches and larger, pump stations, reservoirs, water towers, and any other construction that will cross, or be within close proximity to, or have influence upon System infrastructure. GLWA's approval of construction plans shall be timely and shall not be unreasonably withheld.

Article 22.
Operation of Storage

- 22.01 Prior to Customer's operation of any new or existing water storage facility, Customer shall seek GLWA's written approval of the filling schedule ("Filling Schedule") of the storage facility. GLWA may periodically require Customer to change or adjust a previously approved Filling Schedule. The Parties shall collaborate on devising a mutually beneficial Filling Schedule. If the Parties are unable to agree upon a Filling Schedule, GLWA's determination of a Filling Schedule shall be final. All Filling Schedules shall be for a period of six consecutive hours. Customer shall at all times abide by the then-current GLWA approved Filling Schedule. GLWA shall act promptly in approving Filling Schedule requests. Nothing in this Article 22 shall prevent Customer from operating its storage facility at any time, provided that any storage operation that falls outside of the approved Filling Schedule shall not be exempt from the terms of Article 5 herein.

Article 23.
Miscellaneous

- 23.01 If any provision of this Contract or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remainder of this Contract shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law.
- 23.02 This Contract, including Exhibits A, B and C, contains the entire agreement between the Parties and all prior negotiations and agreements are merged into this Contract. Neither Party has made any representations except those expressly set forth in this Contract, and no rights or remedies are, or shall be, acquired by either Party by implication or otherwise unless expressly set forth in this Contract.
- 23.03 Unless the context otherwise expressly requires, the words "herein," "hereof," and "hereunder," and other words of similar import, refer to this Contract as a whole and not to any particular section or subdivision.
- 23.04 The headings of the sections of this Contract are for convenience only and shall not be used to construe or interpret the scope or intent of this Contract or in any way affect the same.

- 23.05 The rights and remedies set forth in this Contract are not exclusive and are in addition to any of the rights or remedies provided by law or equity. This Contract and all actions arising under it shall be governed by, subject to, and construed according to the laws of the State of Michigan.
- 23.06 Pursuant to the terms of its Lease with GLWA, the City of Detroit is an acknowledged third party beneficiary of this Contract and this Contract shall not be construed to benefit any persons other than GLWA, the City of Detroit and Customer.
- 23.07 This Contract may be executed in any number of originals, any one of which shall be deemed an accurate representation of this Contract. Promptly after the execution of this Contract, GLWA shall provide a copy to the Customer.
- 23.08 The rights and benefits under this Contract shall inure to the benefit of and be binding upon the respective Parties hereto, their agents, successors, and assigns.
- 23.09 The Recital paragraphs of this Contract and any and all documents, memoranda, reports, exhibits or other written material referred to in this Contract are and shall be fully incorporated by reference herein.
- 23.10 This Contract shall be deemed to be mutually drafted and shall not be construed against either Party.

Article 24.

KWA Board Appointments; Bylaws and Articles of Incorporation

- 24.01 Customer will consult with GLWA and GLWA will recommend and approve of each of Customer's appointments to the KWA Board which selection cannot at any time be modified by Customer without the prior written approval of GLWA. Subsequent to GLWA's approval, Customer will execute a letter to KWA confirming the appointment of each new Board representative.
- 24.02 Customer will consult with GLWA in connection with any proposed amendments to the Articles of Incorporation or Bylaws of KWA, and shall not consent to any such changes without receipt of prior written consent of GLWA.

Article 25.

KWA Raw Water

- 25.01 Raw Water and License. Subject to the KWA Financing Contract, dated August 1, 2013 ("Financing Contract"), and the Raw Water Supply Contract, dated June 28, 2013 ("Raw Water Contract"), Customer has rights to up to 18 MGD raw water capacity, delivery of that raw water and its use. Customer makes an irrevocable grant of an exclusive license of these rights related to the 17.46 MGD of the raw water capacity as provided in this Section 25.01 to the extent of Customer's rights therein, whether now existing or hereafter arising, to use in any way GLWA determines in its sole discretion and otherwise in compliance with the Raw Water Contract. Customer may not terminate this license and Customer's exclusive remedies for breach are damages and equitable relief.

This license shall survive the termination of this Contract and any default by Customer under the Raw Water Contract. GLWA shall be entitled to receive delivery of 17.46 MGD and Customer shall retain 0.54 MGD for the term of this Contract and thereafter as provided for herein.

- 25.02 Failure to Pay. If Customer fails to pay all of its debt service obligations then due to KWA and as a result the County of Genesee acquires Customer's rights pursuant to Exhibit B of the Financing Contract, then GLWA shall be relieved of its obligation to provide emergency backup service to Customer, including without limitation that flow from the Dort Highway Main, but in no event will GLWA charges to Customer be reduced, modified or adjusted as a result.
- 25.03 GLWA Right to Purchase Capacity. After Customer fulfills all of its debt service payment obligations to KWA pursuant to the Financing Contract, (a) all of Customer's remaining interest in 17.46 MGD shall transfer to GLWA upon GLWA delivering written notice to KWA of such transfer and (b) GLWA shall have, within 6 months after the date of Customer's fulfillment of its debt service obligation, the exclusive right to purchase the remaining 0.54 MGD for \$3,000,000.
- 25.04 Flint Right to Purchase Capacity. If after the expiration of this Contract, GLWA, in its sole discretion, determines that it no longer wishes to use the rights so licensed, or any portion thereof, then Customer shall have a right of first refusal to purchase said rights prior to GLWA's sale of such rights at a price equal to the then-current aggregate amount of credits granted to Customer for debt service under Section 12.05.

Article 26. KWA Bonds

- 26.01 New and Refunding Bonds.
- A. The Parties acknowledge and agree that, subsequent to the Effective Date, KWA will issue KWA Refunding Bonds for the purpose of refunding the outstanding Series 2016 Bonds and may also issue, from time to time, additional series of KWA Refunding Bonds. In the event that Customer shall consent to the issuance of any KWA Refunding Bonds, other than for the purpose of refunding the outstanding Series 2016 Bonds in accordance with the parameters set forth in Exhibit C, that would have the effect of (i) extending the term of the bonds to be refunded, or (ii) increasing any annual debt service obligation of Customer with respect to the bonds to be refunded, such event shall not constitute a breach or default by Customer under this Contract; provided, however, that in such event (y) the monthly credits to Customer's wholesale billing account shall be calculated in accordance with Section 12.05 and (z) if the maturity date of such KWA Refunding Bonds is extended beyond the term of this Contract, the term of this Contract under Article 2 is automatically and without further action extended to the new maturity date. Furthermore, Customer shall provide prior written notice to GLWA of any proposed consent by Customer to any KWA Refunding Bonds.

- B. Customer acknowledges and agrees that, in the event that Customer becomes contractually obligated for the payment of debt service on any New KWA Bonds, it shall not be entitled to any additional credits to its wholesale billing account for its debt service payment obligations under Section 12.05 with respect to such New KWA Bonds, unless consented to in writing by GLWA.
 - C. The Parties agree that neither (a) the Financing Contract, nor any amendment thereto, related to the KWA System Bonds and/or KWA Refunding Bonds nor (b) the Raw Water Contract shall be amended by Customer without GLWA's consent in a way that changes the 18 MGD of capacity or adversely impacting GLWA's rights or obligations under this Contract.
- 26.02 Insurance. While any KWA System Bonds remain outstanding, Customer shall maintain or cause to be maintained insurance (which may include self-insurance) on its facilities with commercially reasonable and available coverage.
- 26.03 Record Keeping. Customer will keep proper books of record and account in which shall be made full and correct entries of all transactions relating to the KWA System Bonds and any and all amounts payable through the Trust Accounts.

(Signatures appear on next page)

Accordingly, GLWA and Customer, by and through their duly authorized officers and representatives, have executed this Contract.

City of Flint:

By: _____
Karen Weaver
Mayor

Attest: _____
Inez Brown
City Clerk

APPROVED BY
FLINT CITY COUNCIL ON: _____
Date

APPROVED AS TO FORM BY
FLINT CITY ATTORNEY ON:

Signature Date

Great Lakes Water Authority:

By: _____
Sue F. McCormick
Its: Chief Executive Officer

APPROVED BY
GLWA BOARD OF DIRECTORS ON: _____
Date

APPROVED AS TO FORM BY
GLWA GENERAL COUNSEL ON:

Signature Date

EXHIBIT A

Service Area Map; Essential Water Mains

This Exhibit contains the following information:

1. The corporate limits of Customer;
2. The agreed upon water Service Area of Customer which (a) may or may not be entirely within the corporate limits of Customer and (b) which may or may not include the entire area within the Customer's corporate limits;
3. The specific location of the Water Distribution Points, including any GLWA approved emergency connections;
4. The designation of appurtenances to be maintained by Customer and those to be maintained by GLWA; and
5. A list of any closed meter locations. The Parties acknowledge and agree that as of the Effective Date there are no closed meter locations.
6. A list of what facilities, if any, have been constructed specifically for the benefit of Customer. The Parties acknowledge and agree that as of the Effective Date there are no such facilities.
7. A list of any retail or commercial accounts of Customer that are outside of Customer's corporate limits.

EXHIBIT B

Projected Annual Volume and Minimum Annual Volume (Table 1)
Pressure Range and Maximum Flow Rate (Table 2)
Flow Split Assumptions (Table 3)
Addresses for Notice (Table 4)

Table 1 and Table 2 set forth the agreed upon Projected Annual Volumes, Minimum Annual Volumes, Pressure Ranges and Maximum Flow Rates for the term of this Contract provided that figures in bold type face are immediately enforceable pursuant to the terms of Section 5.07 and italicized figures are contained for planning purposes only but will become effective absent the negotiated replacements anticipated in Section 5.07.

The approximate rate of flow by individual meter set forth in Table 3 is the assumption upon which the Pressure Range commitments established in Table 2 have been devised. Should Customer deviate from these assumptions at any meter(s), GLWA may be unable to meet the stated Pressure Range commitments in this Contract or in the contract of another customer of GLWA and Section 5.08 of this Contract may be invoked.

EXHIBIT B

Table 1
Projected Annual Volume and Minimum Annual Volume

Fiscal Year Ending June 30	Projected Annual Volume (Mcf)	Minimum Annual Volume (Mcf)
2018	590,600	295,300
2019	590,600	295,300
2020	<i>590,600</i>	<i>295,300</i>
2021	<i>590,600</i>	<i>295,300</i>
2022	<i>590,600</i>	<i>295,300</i>
2023	<i>590,600</i>	<i>295,300</i>
2024	<i>590,600</i>	<i>295,300</i>
2025	<i>590,600</i>	<i>295,300</i>
2026	<i>590,600</i>	<i>295,300</i>
2027	<i>590,600</i>	<i>295,300</i>
2028	<i>590,600</i>	<i>295,300</i>
2029	<i>590,600</i>	<i>295,300</i>
2030	<i>590,600</i>	<i>295,300</i>
2031	<i>590,600</i>	<i>295,300</i>
2032	<i>590,600</i>	<i>295,300</i>
2033	<i>590,600</i>	<i>295,300</i>
2034	<i>590,600</i>	<i>295,300</i>
2035	<i>590,600</i>	<i>295,300</i>
2036	<i>590,600</i>	<i>295,300</i>
2037	<i>590,600</i>	<i>295,300</i>
2038	<i>590,600</i>	<i>295,300</i>
2039	<i>590,600</i>	<i>295,300</i>
2040	<i>590,600</i>	<i>295,300</i>
2041	<i>590,600</i>	<i>295,300</i>
2042	<i>590,600</i>	<i>295,300</i>
2043	<i>590,600</i>	<i>295,300</i>
2044	<i>590,600</i>	<i>295,300</i>
2045	<i>590,600</i>	<i>295,300</i>
2046	<i>590,600</i>	<i>295,300</i>
2047	<i>590,600</i>	<i>295,300</i>

EXHIBIT B

Table 2
Pressure Range and Maximum Flow Rate

Calendar Year	Pressure Range (psi)		Maximum Flow Rate (mgd)	
	Meter FL-01			
	<u>Min</u>	<u>Max</u>	<u>Max Day</u>	<u>Peak Hour</u>
2017	40	60	15.0	15.0
2018	40	60	15.0	15.0
2019	40	60	15.0	15.0
2020	40	60	15.0	15.0
2021	40	60	15.0	15.0
2022	40	60	15.0	15.0
2023	40	60	15.0	15.0
2024	40	60	15.0	15.0
2025	40	60	15.0	15.0
2026	40	60	15.0	15.0
2027	40	60	15.0	15.0
2028	40	60	15.0	15.0
2029	40	60	15.0	15.0
2030	40	60	15.0	15.0
2031	40	60	15.0	15.0
2032	40	60	15.0	15.0
2033	40	60	15.0	15.0
2034	40	60	15.0	15.0
2035	40	60	15.0	15.0
2036	40	60	15.0	15.0
2037	40	60	15.0	15.0
2038	40	60	15.0	15.0
2039	40	60	15.0	15.0
2040	40	60	15.0	15.0
2041	40	60	15.0	15.0
2042	40	60	15.0	15.0
2043	40	60	15.0	15.0
2044	40	60	15.0	15.0
2045	40	60	15.0	15.0
2046	40	60	15.0	15.0

EXHIBIT B

Table 3
Flow Split Assumptions

Meter	Assumed Flow Split (2017-2018)
FL-01	0 - 100%

Table 4
Addresses for Notice

If to the GLWA: Great Lakes Water Authority 735 Randolph Street, Suite 1901 Detroit, Michigan 48226 Attention: General Counsel	If to Customer: Mayor City of Flint 1101 S. Saginaw Street Flint, Michigan, 48502 Attention: City Attorney
---	--

EXHIBIT C

Parameters for Refunding of Series 2016 Bonds

1. Principal amount not to exceed \$79,000,000, the proceeds of which will be used for the purposes of (i) refunding the outstanding Series 2016 Bonds, (ii) to make an additional deposit to the KWA construction fund of not to exceed \$4,000,000 to pay or reimburse the costs of completing the construction of the KWA system, (iii) making a deposit to the debt service reserve account and (iv) paying costs of issuance.
2. Final maturity date not later than November 1, 2045.
3. Interest rate not to exceed the lesser of 8% per annum or such interest rate or rates that would ensure that no annual debt service obligation of Customer, on all outstanding KWA debt, exceed \$7,100,000 in any year; provided, however, that Customer may request of GLWA that Customer exceed that amount; and provided further that if GLWA does not agree and Customer nevertheless wishes to proceed, the monthly credits to Customer's wholesale billing account shall be subject to adjustment in accordance with Section 12.05 of this Contract.
4. Principal of the KWA Refunding Bonds shall not be subject to acceleration prior to maturity.
5. The KWA Refunding Bonds shall be structured on a level debt service basis, within a margin of \$250,000 per year; provided, however, that Customer may request of GLWA that Customer utilize a non-level debt service structure; and provided further that if GLWA does not agree and Customer nevertheless wishes to proceed, the monthly credits to Customer's wholesale billing account shall be subject to adjustment in accordance with Section 12.05 of this Contract.

EXHIBIT A-2

**IRREVOCABLE LICENSE OF
ESSENTIAL WATER MAINS AND RAW WATER RIGHTS
BY
CITY OF FLINT
TO
GREAT LAKES WATER AUTHORITY**

Drafted by and When Recorded Return to:

Ann D. Fillingham
Dykema
201 Townsend, Suite 900
Lansing, Michigan 48933
(517) 374-9146

**IRREVOCABLE LICENSE OF
ESSENTIAL WATER MAINS AND RAW WATER RIGHTS**

BY

CITY OF FLINT

TO

GREAT LAKES WATER AUTHORITY

This Irrevocable License of Essential Water Mains and Raw Water Rights (the "*License*") is made as of November 1, 2017 (the "*Dated Date*") by the City of Flint, a Michigan municipal corporation (the "*City*") to the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended ("*GLWA*").

RECITALS:

WHEREAS, the City and the Karegnondi Water Authority ("*KWA*") entered into a Raw Water Supply Contract, dated June 28, 2013 and effective October 1, 2013, between City and KWA, as amended through date hereof, including by that certain Second Addendum dated the date hereof ("*Raw Water Supply Contract*").

WHEREAS, under of the Raw Water Supply Contract, the City is granted certain rights to raw water capacity by KWA, subject to its obligations for payment thereunder;

WHEREAS, the City's rights are fixed at 18 Million Gallons Per Day, U.S. Standard Liquid Measure ("*MGD*") as of the Effective Date;

WHEREAS, as of the Effective Date defined below, the City owns or controls the 72 Inch Main and, upon construction, the Dort Highway Main, together with a portion of the 72 Inch Main known as the Licensed Main, all as described in greater detail in Exhibit A, attached hereto and incorporated herein by reference, (collectively, the "*Essential Water Mains*");

WHEREAS, as of the Dated Date, the City, KWA, GLWA, the Michigan Department of Environmental Quality and the Genesee County Drain Commissioner (collectively, the "*Parties*") are entering into a Master Agreement governing a number of inter-related transactions among the Parties described therein (the "*Master Agreement*") all effective as of the effective date defined therein (the "*Effective Date*") including execution of a Water Service Contract between the City and GLWA (as the same may be amended or supplemented, the "*Flint Contract*"); and

WHEREAS, pursuant to the transactions contemplated by the Master Agreement, the Essential Water Mains are to be licensed to GLWA and 17.46 MGD of the 18 MGD of the City's rights under the Raw Water Supply Contract are to be licensed to GLWA (City shall retain 0.54 MGD);

ACCORDINGLY, for good and valuable consideration in accordance with the Master Agreement, the receipt and sufficiency of which are hereby acknowledged, the City hereby irrevocably represents, warrants and grants to GLWA as follows:

ARTICLE I

REPRESENTATIONS AND WARRANTIES

Section 1.01 Rights and Due Authorization. The City freely owns or controls, and will own or control upon completion of construction in the case of the Dort Highway Main, the Essential Water Mains, and has full power and authority to license their use and the rights, hereunder. The City has duly authorized and validly executed and delivered this License.

Section 1.02 The Raw Water Supply Contract. The Raw Water Supply Contract is valid and enforceable according to its terms and does not conflict with or violate any agreement or covenants to which the City is a party; and the City will comply with the Raw Water Supply Contract. There are no defenses to or offsets against the obligations of the City under the Raw Water Supply Contract. All representations and warranties of the City in and under the Raw Water Supply Contract are true and correct except as may have been disclosed in writing to GLWA prior to the date hereof.

Section 1.03 Fair Value. The License being granted hereby is being given for fair value and in consideration of the rights, services and benefits granted to the City under and pursuant to the transactions contemplated by the Master Agreement. As of the Effective Date, the City is not insolvent, nor is it made insolvent as a result of the licenses granted hereunder. As of the Effective Date, the City is generally able to pay its debts as they become due.

ARTICLE II

IRREVOCABLE LICENSE

Section 2.01 Raw Water and License. Subject to the KWA Financing Contract dated August 1, 2013 ("*Financing Contract*"), and the Raw Water Supply Contract, Customer has rights to up to 18 MGD raw water capacity, delivery of that water and its use. Customer makes an irrevocable grant of an exclusive license of these rights related to the 17.46 MGD of raw water capacity, to the extent of Customer's rights therein, whether now existing or hereafter arising, to use in any way GLWA determines in its sole discretion and otherwise in compliance with the Raw Water Supply Contract. Customer may not terminate this license and Customer's exclusive remedies for breach are damages and equitable relief. City may not amend, or take any

action under, the Raw Water Supply Contract inconsistent with this irrevocable grant. This license shall survive the termination of the Flint Contract and any default by the City under the Raw Water Supply Contract. GLWA shall be entitled to receive delivery of 17.46 MGD and City shall retain 0.54 MGD for the term of the Flint Contract and thereafter as provided for therein.

Section 2.02 License of 72 Inch Main and Dort Highway Main. City hereby irrevocably grants to GLWA, at no additional charge, an exclusive license to use the 72 Inch Main and Dort Highway Main to supply potable water. This license does not confer any rights to GLWA to tap new connections into 72 Inch Main and Dort Highway Main to serve other GLWA customers without the City's written approval, which shall not be unreasonably withheld. This license is granted for an initial term of thirty (30) years, subject to ten year renewals thereafter, and shall, in any event, run concurrent with the term of the Flint Contract.

Section 2.03 License of Licensed Main. City hereby irrevocably grants to GLWA, at no additional charge, an exclusive license to use the Licensed Main to supply potable water. This license does not confer any rights to GLWA to tap new connections into the Essential Water Mains to serve other GLWA customers without the City's prior written approval, which shall not be unreasonably withheld. This license of the Licensed Main shall survive the termination of the Flint Contract and any sale or other transfer of legal control of the 72 Inch Main and/or the Licensed Main.

ARTICLE III

GLWA RAW WATER CAPACITY PURCHASE RIGHT

Section 3.01 Right to Purchase. After the City fulfills all of its debt service payment obligation to KWA pursuant to the Financing Contract (a) all of the City's remaining interest in 17.46 MGD shall transfer to GLWA upon GLWA delivering written notice to KWA of such transfer, and (b) GLWA shall have, within six months after the date of the City's fulfillment of its debt service obligation, the exclusive right to purchase City's 0.54 MGD for \$3,000,000.

ARTICLE IV

RAW WATER CAPACITY RIGHT OF FIRST REFUSAL

Section 4.01 Right of First Refusal. If, after expiration of the Flint Contract, GLWA, in its sole discretion, determines that it no longer wishes to use the rights so licensed, or any portion thereof, then City shall have a right of first refusal to purchase said rights for an amount to be determined pursuant to the Flint Contract, prior to GLWA's sale or transfer of said rights.

ARTICLE V

MISCELLANEOUS

Section 5.01 Savings Clause. If any provision of this License or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remainder of this License shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law. If any agreement or obligation contained in this License is held to be in violation of law, then such agreement or obligation shall be deemed to be the agreement or obligation of the City or GLWA, as the case may be, to the full extent permitted by law.

Section 5.02 Agreement of Parties. This License, the Flint Contract, and the Master Agreement contain the entire agreement between the parties thereto and all prior negotiations and agreements are merged into the agreement. Neither the City nor GLWA has made any representations except those expressly set forth in this License, the Flint Contract, and the Master Agreement, and no rights or remedies are, or shall be, acquired by either party by implication or otherwise unless expressly set forth in this License, the Flint Contract, and the Master Agreement.

Section 5.03 Remedies and Governing Law. The rights and remedies set forth in this License are not exclusive and are in addition to any of the rights or remedies provided by law or equity. This License and all actions arising under it shall be governed by, subject to, and construed according to the laws of the State of Michigan.

[Signature on Next Page]

IN WITNESS WHEREOF, this License is duly and irrevocably granted by the City to GLWA as of the Effective Date.

CITY OF FLINT

By: _____

Dr. Karen Weaver

Its: Mayor

STATE OF MICHIGAN)
) ss.
COUNTY OF GENESEE)

The foregoing instrument was acknowledged before me this ____ day of _____ 2017, by Dr. Karen Weaver, Mayor of the City of Flint.

Notary Public, State of Michigan

County, Michigan
Acting in the County of _____
My commission expires: _____

Exhibit A

Legal Description of Essential Water Mains

See Attached.

EXHIBIT B

RECIPROCAL BACKUP WATER SERVICE CONTRACT

BETWEEN

GREAT LAKES WATER AUTHORITY, A MICHIGAN MUNICIPAL AUTHORITY

AND

GENESEE COUNTY DRAIN COMMISSIONER, A MICHIGAN COUNTY AGENCY

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**RECIPROCAL BACKUP WATER SERVICE CONTRACT
BETWEEN
GREAT LAKES WATER AUTHORITY
AND
GENESEE COUNTY DRAIN COMMISSIONER**

This Reciprocal Backup Water Service Contract is made between the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended, with its principal place of business located at 735 Randolph, Suite 1900, Detroit, Michigan 48226, and the Genesee County Drain Commissioner, a Michigan county agency organized pursuant to Act 342, Public Acts of Michigan, 1939, as amended ("Act 342"), with its principal place of business located at 4610 Beecher Road, Flint, Michigan 48532. GLWA and GCDC may be referred to individually as "Party" or collectively as the "Parties."

Recitals

The Board of Commissioners of Genesee County authorized and directed, pursuant to the provisions of Act 342, the establishment of a water supply system designated as the GCDC System consisting of a source of water supply, transmission mains, and all other facilities necessary to supply water to various units of government located within and outside of Genesee County; and

GCDC is designated by Genesee County as the county agency pursuant to Act 342 to establish, maintain, and operate the GCDC System and to supervise and control the operation of that GCDC System; and

In 1968, GCDC, through a contract with Flint, began receiving water from the City of Detroit ("Detroit") which it then distributed to other Genesee County customers; and

In 2010, the Counties of Genesee, Lapeer and Sanilac and the Cities of Flint and Lapeer formed the KWA to deliver raw water to its member communities; and

In 2012, GCDC began construction of a water treatment plant ("GCDC WTP") to process the raw water delivered by the KWA to GCDC; and

Beginning in 2014, during the period that the KWA transmission pipeline was being constructed, Flint ceased receiving water from Detroit and instead began using water from the Flint River and treating it at the Flint Water Treatment Plant to provide water to its residents while GCDC continued to receive water from Detroit; and

Because Flint no longer required its 72" pipeline which connected Flint to the Detroit water system, Flint sold a portion of its 72" pipeline to GCDC; and

In 2014 and 2015 Flint, the Michigan Department of Environmental Quality ("MDEQ") and the United States Environmental Protection Agency determined that the water received by Flint residents from the Flint River and treated by Flint threatened their health and safety; and

On June 12, 2015, GLWA and Detroit entered into a Regional Water Supply System Lease (the "Lease") for the purpose of leasing the public water supply system owned by Detroit to GLWA to be operated and maintained by GLWA for a minimum term of 40 years; and

In October 2015, Detroit agreed to begin providing Flint with potable water again; and

On October 14, 2015, to allow Flint to receive Detroit water, GCDC granted Flint a license to transmit Detroit water through the 72" pipeline; and

Beginning on January 1, 2016, under the terms and conditions of the Lease, wholesale service functions previously conducted by Detroit are now conducted by GLWA; and

The Parties have been advised that the MDEQ will require Flint to maintain a redundant source of water if Flint continues to receive water from GLWA; and

To the extent available, GCDC is willing and able to provide GLWA with a portion of the required redundant source of water supply for Flint; and

GCDC seeks to obtain, and GLWA is willing and able to provide, short-term wholesale water supply services from GLWA; and

Each Party also seeks to obtain reciprocal backup water services from the other Party, which each Party is willing and able to provide; and

Accordingly, in consideration of the mutual covenants and agreements in this Contract, the Parties agree as follows:

Article 1. Definitions

1.01 The following words and expressions, or pronouns used in their stead, shall be construed as follows:

"Allocation Flow Rate" shall mean the value that is established as a result of a breach of Section 6.02 herein and which value shall replace the contractual Maximum Flow Rate in the charge calculation process in the event that Section 6.03C herein is applied by the GLWA.

"Annual Volume" shall mean the actual volume of water used by GCDC for the period of July 1st to June 30th as measured on bills issued from August 1st through July 31st.

"Backup Water" shall have the meaning ascribed in Article 2 herein.

"Board" shall mean the GLWA Board of Directors.

“Contract” shall mean each of the various provisions and parts of this document, including all attached Exhibits and any amendments thereto, as may be executed and approved by GCDC and the Board.

“Contract Term” shall have the meaning ascribed in Article 3 herein.

“Emergency” shall have the meaning ascribed in Section 2.05 herein.

“Flint” shall mean the City of Flint, a Michigan municipal corporation, located in Genesee County.

“GCDC” shall mean the Genesee County Drain Commissioner, a Michigan county agency, organized pursuant to Act 342, Public Acts of Michigan, 1939, as amended, including its successors in interest.

“GCDC Fixed Fee” shall mean the rate established by GCDC for providing the capacity to treat water at the volume of 2,000,000 gallons per day on a 30 day average.

“GCDC Maximum Day Demand” shall mean GCDC’s recorded water usage on the GLWA Maximum Day. GCDC Maximum Day Demand shall, in conjunction with GCDC Peak Hour Demand, be a component of its Maximum Flow Rate.

“GCDC Peak Hour Demand” shall mean GCDC’s recorded water usage during the GLWA Peak Hour. GCDC Peak Hour Demand, in conjunction with GCDC Maximum Day Demand, shall be a component of its Maximum Flow Rate.

“GCDC Projected Annual Volume” shall mean the projected annual water sales to GCDC as set forth in Exhibit B, Table 1.

“GCDC System” shall mean the public water works system owned, and/or operated and/or maintained by GCDC.

“GLWA” shall mean the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended, governed by its Board of Directors and its day-to-day operations conducted by its Chief Executive Officer, including its successors in interest.

“GLWA Maximum Day” shall mean the maximum reported water production day for the GLWA System during any twenty-four hour period as measured from 12:00 a.m. Eastern Standard Time in any given calendar year, as determined by GLWA in reviewing water production and storage reports.

“GLWA Peak Hour” shall mean the hour during the GLWA Maximum Day in which the most water is delivered to the GLWA System, measured from top-of-the-hour to top-of-the-hour (e.g. 7:00 a.m. to 8:00 a.m.), and as determined by GLWA in reviewing water production and pumping reports. In calculating the GLWA Peak Hour, the time period from 11:00 PM to 5:00 AM Eastern Standard Time (EST) shall not be considered.

“GLWA System” shall mean the public water works system leased, operated and maintained by GLWA and owned by the City of Detroit and, beginning on or after January 1, 2016, any improvements, additions and/or changes to the water system made by GLWA, which improvements, additions and/or changes shall be owned, operated and maintained by GLWA.

“KWA” shall mean the Karegnondi Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended, governed by its Board of Directors and its day-to-day operations conducted by its Chief Executive Officer, including its successors in interest.

“KWA System” shall mean the public water works system owned, and/or operated and/or maintained by KWA.

“Maximum Flow Rate” shall mean the aggregate amount of water usage that GCDC commits not to exceed, as measured in million gallons per day (MGD) as determined by the GCDC Maximum Day Demand and the GCDC Peak Hour Demand, collectively.

“Meter Facility(ies)” shall mean a location in which a water meter is housed including, without limitation, meter pits and meter vaults.

“Projected Annual Volume” shall mean the projected annual water sales to GCDC as set forth in Exhibit B.

“Redundant Water” shall have the meaning ascribed in Article 2 herein.

“Technical Advisory Committee” shall mean the committee consisting of representatives of GLWA, wholesale water customers of GLWA and their respective representatives, and shall include its successor or replacement if altered or discontinued. The Technical Advisory Committee or its successor shall remain in existence for a minimum term of January 1, 2008 until December 31, 2038 unless the committee determines otherwise.

“Water Distribution Points”, including “GLWA Water Distribution Points” and “GCDC Water Distribution Points”, shall have the meanings ascribed in Article 5 herein.

Article 2.

Short-Term Wholesale Services, Flint Redundant Supply, and Reciprocal Backup Services

- 2.01 **Purpose.** This Contract establishes the terms and conditions of the Parties relationship regarding the provision of three distinct types of water supply services between the Parties: (i) short-term wholesale potable water services by GLWA to GCDC, (ii) daily redundant supply of water to GLWA for the benefit of Flint using potable water provided by GCDC (“Redundant Water”), and (iii) reciprocal backup potable water services between GLWA and GCDC (“Backup Water”).
- 2.02 **Necessary Infrastructure.** This Contract necessitates the continued access to and use of certain water mains and Emergency Connections (as defined in Section 2.02C, below)

asset forth in this Section 2.02 (the "Necessary Infrastructure"). Any sustained unavailability or inaccessibility of any Necessary Infrastructure to or by a Party will permit a Party to invoke the provisions of Section 12.01 of this Contract.

- A. 72 Inch Main. The 72 inch potable water main extending west from the GLWA Meter Facility located at or near the intersection of Baxter and Potter Roads in Genesee County to the Flint city limits (the "72 Inch Main"), as depicted in Exhibit A.
- B. Dort Highway Main. The Dort Highway Main, once constructed, shall be defined as and comprised of the GCDC Main, the GLWA Pipe and the Flint Main (as each such term is defined in this Section 2.02).
 - i. GCDC shall at all times own, operate and maintain in good working condition that portion of the potable water main from the upstream entry point of the future GCDC FL-02 Meter Facility, located at or near Frances Road and Dort Highway, into the GCDC FL-02 Meter Facility, through the meter and terminating at the GLWA Pipe (defined in Section 2.02B(ii)), as depicted in Exhibit A (the "GCDC Main"), used by GCDC, in part, to supply both Redundant Water and Backup Water to GLWA.
 - ii. GLWA shall own and operate that portion of pipe and valve within the GCDC FL-02 Meter Facility, as depicted in Exhibit A (the "GLWA Pipe"), which shall be maintained by GCDC at no cost to GLWA.
 - a. GCDC and GLWA shall each own and maintain separate electronic communication systems within the GCDC FL-02 Meter Facility. GLWA shall have reasonable access to the GCDC FL-02 Meter Facility. The Parties shall use the meter depicted in Exhibit A for the purposes of billing for Redundant Water and Backup Water, in accordance with this Contract. The meter shall at all times be maintained in good working order by GCDC.
 - iii. The Parties acknowledge that Flint shall own, operate and maintain that portion of the Dort Highway Main from termination of the GLWA Pipe to the Flint Water Treatment Plant, as depicted in Exhibit A (the "Flint Main").
- C. Emergency Connections. GCDC shall at all times own, operate and maintain in good working order three connections that may be used to provide Backup Water to GLWA during an Emergency and identified as (i) EC-1, located at or near Henderson and Potter Roads, a 42" interconnection between the 72 Inch Main and the 48" GCDC main to the north; (ii) EC-2, located at or near Genesee and Richfield Roads, a 24" interconnection between the 72 Inch Main and the 30" GCDC main to the south; and (iii) EC-3, which may be constructed in the future and located at or near Henderson and Potter Roads, a 36" interconnection between the 42" GCDC main to the GLWA FL-01 Meter Facility located at or near Baxter

and Potter Roads (collectively, the "Emergency Connections"). Normally, all Emergency Connections shall be in the closed position.

- 2.03 Short-Term Wholesale Services. GLWA will be the sole supplier of short-term wholesale potable water supply services to GCDC until at least September 30, 2017, in accordance with the terms of this Contract and will supply GCDC with a volume of water necessary to meet the GCDC Peak Hour Demand as provided in Exhibit B, Table 2. GCDC will provide to GLWA a minimum of two weeks prior written notice of GCDC's intent to discontinue the GLWA short-term wholesale services; provided, however, that such notice shall not be issued prior to September 17, 2017. GCDC shall also provide a 48-hour written confirmation of turn off. The Parties anticipate that on or about October 1, 2017, GCDC will be able to supply its customers with potable water from the GCDC WTP. For any short-term wholesale services provided on or after October 1, 2017, GLWA will calculate the fixed fee on a daily prorated basis.
- 2.04 Redundant Water Supply. GCDC will supply Redundant Water to GLWA through the Dort Highway Main for GLWA to supply to Flint.
- A. GCDC will supply to GLWA a volume of Redundant Water of approximately 5% of Flint's daily flow. This volume is estimated to be 0.5 MGD and is expected to fluctuate on any given day.
 - B. The Parties acknowledge that Flint will in accordance with plans and specifications approved by GCDC construct and install at no cost to GCDC or GLWA, and GCDC will own, operate and maintain, a Meter Facility (to be designated as "FL-02") and meter at an agreed upon location to measure the volume of Redundant Water, as depicted in Exhibit A. The Parties further acknowledge that Flint will install any necessary equipment including, without limitation, flow control devices within the GCDC Meter Facility in order to manage and control the amount of water taken through the meter. GLWA shall have the right to access both the GCDC Meter Facility and the meter data.
- 2.05 Reciprocal Backup Services Provided by GCDC. Subject to the limitations of Section 2.05A and as requested by GLWA, GCDC will supply Backup Water to GLWA for use by GLWA for Flint and/or other GLWA customers during periods of planned maintenance, system repairs, system outages, loss of power supply, contamination, or other mutually acceptable reasons (collectively, "Emergency").
- A. Unless otherwise agreed by the Parties, the amount of Backup Water to be provided by GCDC may vary based upon the requirements of GLWA but in no case shall the available GCDC capacity be less than 2 MGD. Additional capacity requirements will be as GCDC has available to a maximum of 18 MGD.
 - B. If GLWA requires Backup Water from GCDC to address an Emergency, it shall notify GCDC of the same and the anticipated daily volume of Backup Water believed necessary for the Emergency. This notice shall be given with as much advance notice of the specific need and scope of the Emergency as is practicable under the circumstances. After GLWA notifies GCDC that it requires Backup

Water, both GCDC and GLWA shall take all steps necessary to deliver and receive the Backup Water. If GCDC cannot provide at least 2 MGD of Backup Water, GCDC shall notify GLWA within 8 hours.

- C. GCDC shall endeavor to provide Backup Water to GLWA at a minimum pressure of 40 pounds per square inch at the Water Distribution Point(s) set forth in Exhibit A.

2.06 Reciprocal Backup Services Provided by GLWA. Subject to the limitations of Section 2.06A and as requested by GCDC, GLWA will supply Backup Water to GCDC during an Emergency for use by GCDC for its customers, which customers shall not include Flint.

- A. Unless otherwise agreed by the Parties, the amount of Backup Water to be provided by GLWA may vary based upon the requirements of GCDC up to 18 MGD.
- B. If GCDC requires Backup Water from GLWA to address an Emergency, it shall notify GLWA of the same and the anticipated daily volume of Backup Water believed necessary for the Emergency. This notice shall be given with as much advance notice of the specific need and scope of the Emergency as is practicable under the circumstances. After GCDC notifies GLWA that it requires Backup Water, both GCDC and GLWA shall take all steps necessary to deliver and receive the Backup Water. If the GLWA Backup Water becomes unavailable, GLWA shall notify GCDC within 8 hours.
- C. GLWA shall endeavor to provide Backup Water to GCDC at a minimum pressure of 40 pounds per square inch at the Water Distribution Point(s) set forth in Exhibit A.

2.07 Effect of Default by Flint pursuant to the KWA Financing Contract. If the County of Genesee acquires Flint's capacity in the KWA System in accordance with the KWA Water Authority Financing Contract dated August 1, 2013, by and among KWA, Flint and the County of Genesee ("KWA Financing Contract") due to Flint's failure to fulfill its payment obligations as set forth in Exhibit B of the KWA Financing Contract ("Exhibit B"), GCDC shall reserve 2 MGD of GCDC's 42 MGD of capacity to provide emergency potable water to GLWA. Such use of GCDC capacity for the benefit of GLWA shall expire on the earlier to occur of: (a) Flint curing its default in payment(s) as provided under Exhibit B, including payment of all applicable interest and penalties; or (b) the expiration of the Term as defined in the Three Party Agreement between Flint, GLWA and KWA dated as of the Effective Date of the Master Agreement and attached thereto as Exhibit D.

2.08 Meter Data. In order to effectuate the terms and conditions of this Article 2, each Party shall freely and routinely, as mutually agreed, provide to the other Party metered commodity usage data from each metered Water Distribution Point in a form acceptable to that Party.

- 2.09 Notice of Shutdown. Each Party shall provide 3 days advance written notice to the other Party in the event of any scheduled shut down of any infrastructure necessary to the performance of this Contract and any Meter Facilities, when such shut downs are expected to last longer than 8 consecutive hours in duration.
- 2.10 Raw Water Main. The Parties acknowledge that KWA owns a 36-inch raw (non-potable) water main which, as of the Effective Date, extends from the GCDC WTP site and terminates at a KWA meter pit in the proximity of Center Road near Pierson Road (“Raw Water Main”), as depicted in Exhibit A.

Article 3. Contract Term

- 3.01 Term. The term of this Contract shall be for a period of thirty years from the effective date of this Contract (“Contract Term”). The effective date of this Contract shall be the Effective Date of the Master Agreement to which this Contract is attached as Exhibit B (the “Effective Date”).
- 3.02 Renewal. This Contract does not automatically renew, however, the relationship established between the Parties to this Contract is encouraged to continue beyond the Contract Term. On July 1, 2042, or at any time more than 194 calendar days prior to the expiration of the Contract Term, a Party desiring to extend the Contract Term shall provide notice thereof to the other Party in accordance with Section 17.03. The Party in receipt of a request to extend the Contract Term shall, within fourteen calendar days, provide a written acknowledgement (“Acknowledgement”) of such request and the Parties shall thereafter meet and discuss the continuation of the relationship established by this Contract, any extension of the Contract Term, modifications to the terms of this Contract, and any other matters of mutual concern. The Parties shall have 180 calendar days from the date of receipt of the Acknowledgement in which to negotiate the terms of any extension of the Contract Term; the Parties may agree to extend the negotiation period.

Article 4. Early Termination

- 4.01 No Early Termination. Subject to Section 12.01, termination of this Contract without cause prior to the expiration of its stated term is not permitted.
- 4.02 Early Termination Liquidated Damages. Notwithstanding the terms of Section 4.01, if either Party terminates this Contract without cause before the expiration of its term, that Party shall pay to the other Party the sum of \$2,000.00 per day as liquidated damages for that portion of the Contract Term remaining following the date of early termination.

Article 5. Delivery of Water

- 5.01 Delivery Location. Water shall be delivered by GLWA to GCDC at the location(s) identified in Exhibit A (collectively, the “GLWA Water Distribution Points”), and at

other locations as may be mutually agreed upon in writing by GLWA and GCDC. Water shall be delivered by GCDC to GLWA at the location(s) identified in Exhibit A(collectively, the "GCDC Water Distribution Points"), and at other locations as may be mutually agreed upon in writing by GLWA and GCDC.

- 5.02 Limit of Responsibility. Neither Party shall have any responsibility for distributing, operating, repairing, replacing and maintaining any portions of the other Party's water supply system downstream of the Water Distribution Points shown in Exhibit A, provided, however, that this Section 5.02 does not prevent the application of the provisions of Section 12.02 herein.
- 5.03 GLWAand GCDC Responsibility Defined. GLWA owns orleases,and is responsible for operating and maintaining all parts of the GLWA System upstream from the GLWA Water Distribution Points as depicted in Exhibit A. GCDC owns and is responsible for operating and maintaining all parts of the GCDC System upstream from the GCDC Water Distribution Points as depicted in Exhibit A. Ifeither Party fails to maintain its Meter Facilities and/or any equipment within its Meter Facilities, the other Party shall provide written notice to the owner of the Meter Facilities which describes the objectionable condition of the Meter Facility and/or the equipment within, and its intent to take reasonable steps to maintain the condition and charge the reasonable cost of doing so to the owner of the Meter Facilities. Upon receipt of the notice and subject to Section 12.01, the owner of the Meter Facilities shall have thirty calendar days to repair the condition specified in the notice, unless a Force Majeure Event prevents the repair within the thirty-day period. If the owner of the Meter Facilities has not repaired the condition at the conclusion of the thirty-day period and has not provided a written explanation to the other Party explaining the reason for the delay (e.g. necessary parts are on order or occurrence of a Force Majeure Event specified in Section 12.01), then the other Party may take reasonable steps to maintain the specified condition and charge the reasonable cost of doing so to the owner of the Meter Facilities.
- 5.04 Change or Addition of Water Distribution Points. Water Distribution Points may be added or changed only by the express written agreement of the Parties and shall be embodied in a written amendment to this Contract.
- 5.05 Sole Supplier. Except as provided in Article 18 herein, GLWA shall be the sole supplier of public potable water to Flint and to GCDCduring the short-term provision of wholesale water supply services to GCDC by GLWA.

Article 6.

Maximum Flow Rate

- 6.01 Application. The terms of this Article 6 shall only apply for as long as GCDC continues to receive short-term wholesale water supply services from GLWA and upon cessation of such services, this Article 6 shall no longer have any force and effect.
- 6.02 Maximum Flow Rate. GCDC's Maximum Flow Rate is specified in Exhibit B. GCDC shall not exceed the Maximum Flow Rate specified in Exhibit B, as measured in million gallons, on the GLWA Maximum Day and during the GLWA Peak Hour.

- A. GLWA shall notify all customers in writing on or before October 1 of each calendar year if GCDC or any other wholesale customer is alleged to have exceeded its Maximum Flow Rate in a given calendar year. The notice shall state the day and/or hour that GCDC or any other wholesale water customer is alleged to have exceeded its Maximum Flow Rate.
- B. If GCDC is alleged to be in breach of its obligations under this Section 6.02, the Parties shall endeavor to meet before November 1 of the current calendar year, or as soon as practicable, for the purposes of validating the breach, reviewing and analyzing the causes, and to negotiate a possible remedy pursuant to Sections 6.03 and 6.04 herein.
- C. The Technical Advisory Committee's Analytical Work Group, or its successor shall review any alleged breach of this Section 6.02.
 - i. The Analytical Work Group shall meet once, at a minimum, on or before November 1 of each calendar year to review the alleged breaches, if any, and may thereafter schedule subsequent meetings as necessary to conclude its review.
 - ii. GLWA will seek a recommendation from the Analytical Work Group on (1) an Allocation Flow Rate, if any, and/or (2) concurrence with the remedy tentatively negotiated between GCDC and GLWA, if any. GCDC and GLWA shall have the right to present any information related to the alleged breach a Party deems necessary to the deliberations.
 - iii. Any recommendation submitted by the Analytical Work Group shall be received by GLWA on or before December 1 of each calendar year.

6.03 Remedy for Non-Compliance with Maximum Flow Rate. GLWA has no obligation to supply to GCDC more than the Maximum Flow Rate. If GCDC exceeds its Maximum Flow Rate on the GLWA Maximum Day or during the GLWA Peak Hour, GLWA and GCDC may, as needed, take one or more of the following actions set forth in this Section 6.03. The applicability of any particular action shall be evaluated by GLWA on a case-by-case basis.

- A. GLWA may require that GCDC take all reasonable steps to reduce its consumption to the Maximum Flow Rate. Such steps may include water conservation measures, outdoor water use restrictions, water loss studies and remediation, and an internal system operation evaluation.
- B. The Parties may meet to negotiate a new Maximum Flow Rate. If so negotiated, GCDC shall pay the charge associated with the new Maximum Flow Rate in the subsequent fiscal year.

- C. For charge-making and cost allocation purposes only, GLWA may recalculate GCDC's charge for the current and/or subsequent fiscal years utilizing a revised cost allocation formula as follows:
- i. GLWA shall, as set forth below, establish an Allocation Flow Rate to replace the contractual Maximum Flow Rate in the charge calculation process.
 - ii. The Allocation Flow Rate shall be applied from no earlier than the first exceedance date forward.
 - iii. The Allocation Flow Rate will be at least equal to the flow rate demonstrated by GCDC on the GLWA Maximum Day, and may be higher than the actual flow rate demonstrated by GCDC.
 - iv. Pursuant to Section 6.02C, if GLWA receives a recommendation on the Allocation Flow Rate to be applied from the Analytical Work Group and the recommendation is higher than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate, then GLWA shall be limited to establishing an Allocation Flow Rate that is at least equal to the flow rate demonstrated by GCDC on the GLWA Maximum Day and no higher than the recommendation provided by the Analytical Work Group.
 - v. If no recommendation on the Allocation Flow Rate to be applied is received by GLWA, or if GLWA receives a recommendation and the recommendation is less than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate, then GLWA shall be limited to establishing an Allocation Flow Rate that is at least equal to the flow rate demonstrated by GCDC on the GLWA Maximum Day and no higher than twice the amount by which the demonstrated flow rate exceeded the original Maximum Flow Rate.
 - vi. The Allocation Flow Rate will continue to be applied to each subsequent year's charge calculation process until the Maximum Flow Rate is renegotiated.
 - vii. If a charge has been approved for the subsequent fiscal year (July 1st to June 30th) but the charge has not yet been applied, GLWA may modify GCDC's charge for that subsequent fiscal year to account for an exceedance of its Maximum Flow Rate.
 - viii. If GLWA and/or the City of Detroit has built capital facilities based upon GCDC's negotiated Maximum Flow Rate and GCDC consistently exceeds its Maximum Flow Rate, then GLWA may re-calculate the amount of GCDC's percentage of the capital cost of such facilities.

- 6.04 Procedure for Non-Compliance with Maximum Flow Rate. In addition to the remedies specified in Section 6.03, if GCDC has failed in its obligations under Section 6.02, the Parties shall meet to discuss the reasons for the non-compliance and if agreed necessary, develop a mutually agreeable written corrective action plan by December 31 of the year in which the non-compliance occurred, or as otherwise agreed. Any corrective action plan required under this Section 6.04 shall include a timetable for resolution of the non-compliance issue(s).
- A. If the Parties determine that a corrective action plan is not required and an incident of non-compliance occurs in the subsequent calendar year, the Parties shall meet to develop a mutually agreeable written corrective action plan by December 31 of the year in which the non-compliance occurred, or as otherwise agreed.
 - B. In the event the reason for GCDC's non-compliance under Section 6.02 is due to a GCDC water main break, fire or meter calibration performed by GLWA, these events will be taken into consideration in determining (1) whether a corrective action plan is warranted and (2) the extent to which, if any, the steps specified in Section 6.03 should apply.

Article 7.

Technical Advisory Committee

- 7.01 Establishment. The Technical Advisory Committee exists to facilitate a cooperative working partnership between GLWA and its wholesale water customers by facilitating the development of recommendations regarding GLWA System planning and supply to GLWA management and the Board. The Technical Advisory Committee shall maintain bylaws that govern the way it conducts its business. In the event of a conflict between the terms of the bylaws adopted by the Technical Advisory Committee and the terms of this Contract, the terms of this Contract shall control.
- 7.02 General Responsibilities. The Technical Advisory Committee shall periodically review and evaluate the charges, charge methodology, and performance of the GLWA System. The Technical Advisory Committee shall review and evaluate flow rates, pressures and Annual Volumes for the GLWA System at a minimum of every five years to assist GLWA in the GLWA System planning effort. The Technical Advisory Committee shall have the opportunity each year to review the Capital Improvement Program as prepared by GLWA, prior to its adoption by GLWA. GLWA will supply the Technical Advisory Committee with information GLWA deems reasonably necessary to accomplish the general responsibilities defined in this Section 7.02.
- 7.03 Annual Report by GLWA. GLWA will present an annual report to the Technical Advisory Committee which shall consist of (1) all instances of non-compliance with the Parties' obligations contained in Article 6 herein, including customer and GLWA responses thereto; and (2) a general report on GLWA System operation and maintenance; and (3) a report that lists those contracts, if any, that have been entered into by GLWA and another customer(s) where the terms of the contract(s) invoke the application of Article 14, Ensuring Equality of Contract Terms, of other GLWA customer contracts.

- 7.04 Notification of Charges. GLWA shall provide the Technical Advisory Committee with notice of the proposed charges for each fiscal year as early as possible before the implementation of the charges.
- 7.05 Disclosure of Charge Information by GLWA. Each year, GLWA will disclose to the Technical Advisory Committee information related to wholesale charges.
- 7.06 Work Groups. The Technical Advisory Committee may create work groups to address specific issues facing the GLWA System. The work groups in existence as of January, 2017, are the Analytical Work Group, the Asset Management and CIP Work Group, the Best Practices Work Group, the Charges Work Group, and the Public Education Work Group. Any reference to a particular work group in this Contract shall include its successor or replacement if altered or discontinued.

Article 8. Charges

- 8.01 Short Term Wholesale Service Charges. GCDC agrees to pay for all water supplied by GLWA for short-term wholesale services as set forth in Exhibits C and D.
- 8.02 Redundant Water and Backup Water Charges. The price for Redundant Water and Backup Water shall be determined on an annual basis based upon the cost incurred by GCDC to treat and deliver finished water to GLWA. The Redundant Water supplied shall be subject to the GCDC Fixed Fee and applicable commodity charges for actual usage. There shall be no charge to GLWA for the volume of raw water supplied by KWA to GCDC for treatment for the benefit of GLWA; however, the amount of raw water utilized to provide the GCDC potable water shall be deducted from the annual raw water capacity assigned to Flint by KWA. The price per unit of water for Redundant Water and Backup Water, regardless of which Party is providing the service, shall be the same. The billing methodology shall be as shown in Exhibits C and E.
- 8.03 Flint Pass-Through Charges. As set forth in Exhibit E, the Parties expect GCDC to assess a non-recourse monthly service charge to GLWA that is assessed on a direct pass-through by GLWA to Flint (the "Pass-Through Charge"). The Parties agree that the Pass-Through Charge is expected to be paid to GCDC by the Trustee of the Baseline and All Receipts Trusts (the "Trust Accounts") (as such Trust Accounts are established and managed in accordance with the terms and conditions of Exhibit C, "Baseline and All Receipts Trust Agreement", of the Master Agreement), and GCDC's recourse for Pass-Through Charges shall be from Flint, including from amounts deposited by Flint to and through the Trust Accounts on the dates and in the amounts established thereunder. Charges for short-term wholesale service under Section 8.01 above, and for redundant water and backup water under Section 8.02 above shall not constitute Pass-Through Charges and are not payable through the Trust Accounts.
- 8.04 Notification of Charges. Not less than 120 calendar days prior to a change in the charges for Redundant Water and Backup Water, GCDC shall provide GLWA with written notice containing information on the proposed charges and information used in the calculation

of proposed charges to GLWA in a format mutually agreed upon between the Parties. At any time and upon request, GCDC shall meet with GLWA to review the charges and information used to calculate the charges.

- 8.05 Estimate of Usage. In the event meters fail to correctly measure the quantity of water supplied to either Party for any period of time, a Party shall provide in writing a reasonable estimate of the quantity of water supplied to the other Party for such period provided that there is a reasonable basis for the estimate. The Parties shall, either through their respective technical representatives and/or the Technical Advisory Committee, seek agreement upon a method to estimate such quantities. The Parties acknowledge and agree that all quantities of Backup Water supplied by GCDC to GLWA from EC-1, EC-2 and the potential future EC-3 shall be estimated in accordance with the protocol set forth in Exhibit C.

Article 9.

Meters and Meter Facilities

- 9.01 Metering Requirement. All water furnished by a Party to the other Party shall be measured by meters installed in Meter Facilities at the Water Distribution Points when meters are available.
- 9.02 Existing Distribution Points. Except as provided in Section 9.04, each Party shall own or lease, and operate and maintain its respective water meters and Meter Facilities for all existing Water Distribution Points, as depicted in Exhibit A.
- 9.03 Maintenance Responsibilities. Each Party shall be responsible for maintaining at its respective Water Distribution Points any and all appurtenances as may be designated as that Party's responsibility in Exhibit A. If a Party fails to maintain its appurtenances shown in Exhibit A, the other Party may take reasonable steps to maintain the appurtenances and charge the reasonable cost of doing so to the responsible Party. Prior to a Party taking action to maintain the appurtenances, that Party shall give the responsible Party thirty days written notice to complete the required maintenance. Notice to the responsible Party shall not be required if, in the Party's determination, there exists an Emergency condition affecting the operation of their respective water system or if the health, safety and welfare of the general public may be jeopardized.
- 9.04 Ownership and Maintenance of Meters and Meter Facilities. Except as provided in Section 2.02 B (ii), each Party shall operate, maintain, repair and replace its respective meters and Meter Facilities at its respective expense. If a Party requests a new Water Distribution Point from the Party supplying water, the requesting Party shall furnish at its sole expense a meter and Meter Facility that meets the supplying Party's specifications and shall, after installation, give ownership of the meter and Meter Facility over to the supplying Party, unless in the mutual agreement of the Parties it is not feasible or practical to install a meter at the location. In furtherance of the foregoing understandings, the Parties acknowledge that, as each of the following is depicted on Exhibit A: (i) Flint will, at a future date, furnish a meter and Meter Facility that meets GCDC's specifications for the Water Distribution Point on the Dort Highway Main and shall, after installation, give ownership of the meter and Meter Facility over to GCDC; (ii) the meter and Meter

Facility located at Baxter and Potter Roads on the 72 Inch Main is owned by GLWA; (iii) the existing Water Distribution Points at EC-1 and EC-2 are not and are not expected to be metered, and the facility housing these two Water Distribution Points is owned by GCDC; and (iv) GLWA may at a future date furnish an interconnection referred to as EC-3, which may or may not be metered, that if constructed will meet GCDC specifications and, subsequent to its completion, ownership of which will be transferred to GCDC.

Article 10. Dispute Resolution

- 10.01 The Parties may agree to use alternative dispute resolution to resolve any dispute between the Parties. This Article 10 shall not prohibit a Party from seeking relief directly from a court of competent jurisdiction at any time.

Article 11. Default Provisions

- 11.01 In the event either Party commits a material breach of this Contract, the Party alleging the breach shall give written notice of the breach to the other Party within a reasonable time of discovering the breach. The Party allegedly in breach shall be given a reasonable time to cure the breach. If the Party in breach fails to cure the breach, the non-breaching Party may declare this Contract in default and pursue all available legal remedies, including termination of this Contract for cause. In the event that the Party in breach is showing reasonable progress toward curing the breach, the Party alleging the breach may extend the time for curing the breach.

Article 12. Force Majeure and Other Events

- 12.01 Force Majeure. No failure or delay in the performance of a Party's material obligations under this Contract, in whole or in part, shall be deemed to be a breach thereof when such failure or delay is caused by a force majeure event including, but not limited to, any Acts of God, strikes, lockouts, wars, acts of terrorism, riots, epidemics, explosions, sabotage, breakage or accident to machinery or lines of pipe, the binding order of any court or governmental authority, or any other cause, whether of the kind herein enumerated or otherwise, not within the control of a Party ("Force Majeure Event"), except that no cause or contingency shall relieve a Party of its obligation to make payment for water delivered to that Party. If a Party's ability to perform its material obligations under this Contract are affected by a Force Majeure Event, then the Party unable to perform (the "Affected Party") shall within a reasonable time provide written notice to the other Party of the nature of the Force Majeure Event and its anticipated duration, if known. If the effect of a Force Majeure Event continues for a period of 365 days, the Affected Party may give to the other Party a written notice of termination which shall take effect no earlier than 90 days after the delivery of such notice, or upon such other later date specified in the notice. If at the end of the period stated in the notice the effect of the Force Majeure continues, this Contract shall terminate.

- 12.02 Liability. Neither Party shall be held liable or accountable for any bursting, leakage, breakage, damage or accident of any kind that may occur to the other Party's water works system, or any damages of any kind or nature, including, but not limited to, injury to persons or damage to property, resulting from such bursting, leakage, breakage, damage or accident that may occur to water mains or pipes located downstream of the Water Distribution Points specified herein, or located within a Party's system.
- 12.03 Discontinuance of Service. In the event the public health, safety and welfare requires a Party to discontinue temporarily all or part of the supply of water to the other Party, no claims for damages of any kind or nature for such discontinuance shall be made by the other Party. The Party requiring the temporary discontinuance of the water supply will provide notice of the same to the other Party.

**Article 13.
Timely Payment**

- 13.01 Bills for water service shall be rendered by a Party to the other Party on a monthly basis. All such bills shall be due and payable within forty-five calendar days from the date shown on the bill. Any portion of the charges that are not paid by the due date shall be subject to a finance charge at a rate of 1.5% per month, or such lesser charge as allowed by applicable law, for each month that they remain unpaid. Any portion of the total bill, plus any finance charges applied to the bill which are not paid by the next billing date, shall be shown on the next bill as arrears. Either Party may disconnect water service if its bills are overdue ninety calendar days from the billing date. Neither Party shall terminate water service if there is a good faith dispute concerning the accuracy of billings. If the accuracy of a bill is in dispute, the disputing Party shall place the disputed amount in an escrow account pending resolution of the dispute. Accrued interest on the escrow account shall belong to the Party that prevails in the resolution of the dispute.

**Article 14.
Assignment**

- 14.01 This Contract shall not be assigned, in whole or in part, by either Party without the prior written consent of the other Party. Consent to an assignment by either Party shall not be unreasonably withheld.

**Article 15.
RESERVED**

**Article 16.
Amendment**

- 16.01 The Parties may periodically consider it in their best interests to change, modify or extend a term, condition or covenant of this Contract for reasons which may include, but are not limited to, the creation, expansion or closing of industry or other business. Any change, addition, deletion, extension or modification that is mutually agreed upon by GLWA and GCDC shall be incorporated in a written amendment to this Contract. Such

amendments shall not invalidate this Contract nor relieve or release either Party of any of its respective obligations under this Contract unless so stated in the amendment.

- 16.02 No amendment to this Contract shall be effective and binding upon the Parties unless it expressly makes reference to this Contract, is in writing, is signed and acknowledged by duly authorized representatives of both Parties, and is approved by GCDC and the Board.

Article 17. Notices

- 17.01 Except as otherwise specified herein, all notices, consents, approvals, requests and other communications (collectively, "Notices") required or permitted under this Contract, including without limitation those for billing, payment and other routine correspondence regarding day-to-day operational matters, shall be given in writing and mailed by first class mail to the Parties and at the addresses identified in Exhibit B, Table 3.
- 17.02 All Notices shall be deemed given on the day of post-marked mailing. Any Notice given by a Party hereunder shall be signed by an authorized representative of such Party.
- 17.03 Notwithstanding the requirement above as to the use of first-class mail, Notices regarding change of address and any Notices required by Sections 3.02, 5.03, 9.03, 11.01, and 12.01, shall be sent by certified first-class mail, postage prepaid, return receipt requested.

Article 18. Water Quality

- 18.01 Contamination. For the protection of the health of all consumers supplied with water from each Party's watersystem, each Party agrees to guard carefully against all forms of contamination. If contamination occurs, the area or areas affected shall immediately be shut off and isolated, and shall remain so until such conditions shall have been abated, and the water declared safe and fit for human consumption by the properly constituted governmental health agencies having jurisdiction of the area affected. GCDC shall immediately notify GLWA, and GLWA shall immediately notify GCDC, of any Emergency or condition that may affect the quality of water in either Party's system.
- 18.02 Blending. As long as supplied in compliance with the requirements of any law, regulation, permit or order of any state and/or federal agency, supplying approximately 5% of Flint's daily flow of potable water produced by GCDC (estimated at 0.5 MGD) through the Dort Highway Main is necessary and permissible under this Contract to meet water quality regulatory standards in the event Backup Water is required. The Parties understand that Flint will blend the water received through the Dort Highway Main with that water received through the 72 Inch Main at Flint's water treatment plant prior to its distribution and any required additional treatment as may be required of Flint by state and/or federal law, regulation, permit or order. The provisions on blending in this Section 18.02 are not considered a co-mingling of water sources and do not invoke the provisions of Section 18.03, below.

- 18.03 Co-mingling of Water Sources. Except in cases of Emergency and the provision of Redundant Water and Backup Water as contemplated in Sections 2.04, 2.05 and 2.06, the Parties will not permit water from any other source of supply to be mixed or mingled with water from the other Party's water system without prior written approval from the other Party. Notwithstanding the foregoing, the Parties acknowledge that GCDC will be allowed a ramping up period incident to the startup of the GCDC WTP. This ramping up period may include co-mingling of water produced by GLWA and water produced by the GCDC WTP within the GCDC System. GLWA will work with GCDC on a coordinated transition during the startup of the GCDC WTP and will waive the provisions of this Section 18.03 during the approved startup period, which period shall not exceed 8 weeks. In cases of Emergency, only such water from sources other than GLWA shall be used as shall meet the requirements of the Michigan Department of Environmental Quality, and then only in such quantities as shall be necessary to relieve the Emergency.
- 18.04 Emergency. During Emergencies, the water facilities of the Party experiencing the Emergency may be used and connected, at the discretion of the other Party, to water facilities serving other communities for flow in either direction to provide an adequate water supply from the GLWA System to GCDC and to other areas and other units of government. The Party experiencing the Emergency shall be permitted to immediately make an emergency connection when the connection point to be used has been previously approved for Emergency use by the other Party in writing, provided that the Party experiencing the Emergency shall, after making the connection, promptly notify the other Party of such event. When the Emergency has been abated, the emergency connection valve shall be closed as soon as practicable. The Party supplying water shall approve, in writing, the continuation of any emergency connection that is required for longer than seven calendar days. If an approved emergency connection continues for more than seven calendar days, the Party experiencing the Emergency shall provide the other Party with weekly updates on the Emergency and a schedule for abatement of the Emergency that shall be approved in writing.
- 18.05 Notice of Ramp Up or Ramp Down of Volume. In the event of an Emergency, the Party requiring the Backup Water shall provide notice as soon as reasonably practicable to the Party providing the Backup Water, by a mutually acceptable method, to increase or decrease the volume of potable water to be provided by the Party providing Backup Water.
- A. Ramp-Up Period. A Party shall not be responsible to supply Backup Water to the Party requiring Backup Water from the time a Party receives notice from the Party requiring Backup Water until 6 hours has passed.
- B. Ramp-Down Period. After a Party notifies the Party providing Backup Water that it is decreasing its demand due to the resolution of the Emergency, the Party providing Backup Water shall have 6 hours to decrease the water supply.
- 18.06 Water Quality. Each Party shall endeavor to remain in compliance with all applicable Michigan and Federal laws, rules and regulations regarding drinking water quality.

Article 19.

Rights-of-Way

- 19.01 Use of Rights-of-Way. GCDC shall use its best efforts (which efforts shall not include the payment of fees or costs) to assist GLWA to obtain permission to use streets, highways, alleys, temporary easements and/or permanent easements in Genesee County for the purpose of constructing, maintaining, and operating water facilities to adequately service GCDC's jurisdiction and other areas.
- 19.02 Relocation of Facilities. If future construction by any city, township, village, or county requires relocation of a water transmission main, Meter Facility or other GLWA facility, the cost incurred by GLWA for such relocation, if not reimbursed by the entity requiring the relocation, will be charged in future charges as a common-to-all cost to all GLWA System users.

Article 20. Access to Towers and Antennas

- 20.01 Where possible, each Party shall give to the other Party access to towers and antennas under its respective jurisdiction for the purpose of transmitting information recorded in the Meter Facilities. Access shall not be unreasonably denied by either Party.

Article 21. RESERVED

Article 22. Construction Standards

- 22.01 Either Party shall have the right to review and approve the other Party's construction plans for meters and Meter Facilities at new Water Distribution Points. For any other construction that will cross, be within close proximity to, or which may otherwise have influence upon the other Party's water system infrastructure used to perform this Contract, the constructing Party shall notify the other Party of the proposed construction and the Parties shall meet to determine whether review and approval of the construction plans by the other Party is necessary. A Party's approval of construction plans of the other Party shall be timely and shall not be unreasonably withheld.

Article 23. RESERVED

Article 24. Miscellaneous

- 24.01 Severability. If any provision of this Contract or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remainder of this Contract shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law.

- 24.02 Merger. Subject to the Master Agreement to which this Contract is an exhibit, this Contract, including its Exhibits A, B, C, D and E, contains the entire agreement between the Parties and all prior negotiations and agreements are merged into this Contract. Neither Party has made any representations except those expressly set forth in this Contract, and no rights or remedies are, or shall be, acquired by either Party by implication or otherwise unless expressly set forth in this Contract.
- 24.03 Interpretation. Unless the context otherwise expressly requires, the words "herein," "hereof," and "hereunder," and other words of similar import, refer to this Contract as a whole and not to any particular section or subdivision.
- 24.04 Headings. The headings of the sections of this Contract are for convenience only and shall not be used to construe or interpret the scope or intent of this Contract or in any way affect the same.
- 24.05 Governing Law. The rights and remedies set forth in this Contract are not exclusive and are in addition to any of the rights or remedies provided by law or equity. This Contract and all actions arising under it shall be governed by, subject to, and construed according to the laws of the State of Michigan.
- 24.06 Venue. Venue for disputes arising under this Contract shall be exclusive to Ingham County, Michigan.
- 24.07 Third Party Beneficiaries. Pursuant to the terms of its Lease with GLWA, Detroit is an acknowledged third party beneficiary of this Contract and this Contract shall not be construed to benefit any persons other than GLWA, Detroit, GCDC and, for the purposes of Section 8.02 only, KWA.
- 24.08 Counterparts. This Contract may be executed in any number of originals, any one of which shall be deemed an accurate representation of this Contract.
- 24.09 Benefits to Inure. The rights and benefits under this Contract shall inure to the benefit of and be binding upon the respective Parties hereto, their agents, successors, and permitted assigns.
- 24.10 Incorporation by Reference. The Recital paragraphs of this Contract and any and all documents, memoranda, reports, exhibits or other written material referred to in this Contract are and shall be fully incorporated by reference as though fully set forth herein.
- 24.11 Construction. This Contract shall be deemed to be mutually drafted and shall not be construed against either Party.
- 24.12 Waiver. Neither Party shall be deemed to have waived any of its rights under this Contract unless such waiver is in writing and signed by the other Party. No delay or omission on the part of a Party in exercising any right shall operate as a waiver of such right or any other right. A waiver on any one occasion shall not be construed as a waiver of any right on any future occasion.

24.13 Waiver and Release of Claims. Unless otherwise agreed in this Contract, each Party waives its rights to, and releases and forever discharges the other Party and its respective officers, directors, appointees, employees, agents, attorneys, representatives, successors and assigns (past, present and future) from, all manner of claims, actions, causes of action, demands, damages, lawsuits, debts, disputes, sums of money, promises, liabilities, obligations, losses, costs, expenses and compensation of every kind, name and nature, known or unknown, in law or equity, which it has or may have against the other Party relating in any way to, arising out of, or resulting from any and all water services provided by and between the Parties prior to 11:59 p.m. on the Effective Date of this Contract.

(Signatures appear on next page)

Accordingly, GLWA and GCDC, by and through their duly authorized officers and representatives, have executed this Contract.

Genesee County Drain Commissioner, as County Agency:

By: _____
Jeffrey Wright
Its: Drain Commissioner

Attest:

By: _____
John F. O'Brien
Its: Deputy Drain Commissioner

Great Lakes Water Authority:

By: _____
Sue F. McCormick
Its: Chief Executive Officer

APPROVED BY
GLWA BOARD OF DIRECTORS ON:

Date

APPROVED AS TO FORM BY
GLWA GENERAL COUNSEL ON:

Signature Date

EXHIBIT A

Map Depicting Significant Infrastructure

This Exhibit contains the following information:

1. The location of all necessary water mains established in Section 2.02;
2. The specific location of all GLWA and GCDC Water Distribution Points;
3. A list of all approved emergency connections;
4. The designation of appurtenances to be maintained by GCDC and those to be maintained by GLWA;

EXHIBIT B

Projected Annual Volume; Maximum Flow Rate; Addresses for Notice

Table 1
Projected Annual Volume

Fiscal Year Ending June 30	Projected Annual Volume (Mcf)
2017	523,000
2018	523,000

Table 2
Maximum Flow Rate

Calendar Year	Maximum Flow Rate (MGD)	
	<u>Max Day</u>	<u>Peak Hour</u>
2017	18.0	18.0
2018	18.0	18.0

Table 3
Addresses for Notice

If to the GLWA:	If to GCDC:
Great Lakes Water Authority 735 Randolph, Suite 1901 Detroit, Michigan 48226 Attention: General Counsel	Genesee County Drain Commissioner Division of Water and Waste Services G-4610 Beecher Road Flint, Michigan, 48532 Attention: Drain Commissioner

EXHIBIT C

Charge Methodologies

1. For water being transmitted from GLWA to GCDC during short term wholesale services: GCDC shall be charged for the volume of water received based upon the meter reading from meter FL-01 less the meter readings from Flint Station 2 and Flint Station 3 meters.
2. For Redundant Water being transmitted from GCDC to GLWA pursuant to Section 2.04 of this Contract: GLWA shall be charged for the volume of water received based upon the meter reading from meter FL-02 (See Exhibit A).
3. For Backup Water being transmitted in an Emergency from GCDC to GLWA: GLWA shall be charged for the volume of water received based upon the meter reading from meter FL-02 and the estimates from EC-1, EC-2 and, if constructed, EC-3, in accordance with the following estimation protocol:

In this protocol, the following definitions shall apply to the formula stated:

a = GCDC WTP average daily production for 7 days prior to the Emergency (minus) FL-02 average daily use for 7 days prior to the Emergency;

b = GCDC WTP average daily production for 7 days after the Emergency (minus) FL-02 average daily use for 7 days after the Emergency;

c = GCDC WTP average daily production during the Emergency (minus) FL-02 average daily use during the Emergency;

d = Time period of the Emergency converted to days; and

e = Calculated volume for GCDC storage tank elevation changes during the Emergency

$$\text{Estimate volume} = ((c - ((a + b)/2)) * d) + e$$

4. For Backup Water being transmitted in an Emergency from GLWA to GCDC: GCDC shall be charged the estimated volume for water received in accordance with the following estimation protocol:

In this protocol, the following definitions shall apply to the formula stated:

a = FL-01 average daily use for 7 days prior to the Emergency;

b = FL-01 average daily use for 7 days after the Emergency;

c = FL-01 average daily use during the Emergency; and

d = Time period of the Emergency converted to days

$$\text{Estimate volume} = ((c - ((a + b)/2)) * d)$$

EXHIBIT D

GLWA Short Term Water Charges*

*Charges are applicable beginning January 1, 2017, and continue in accordance with Section 2.03 of this Contract

FY 2018 Suburban Wholesale Water Service Charge Calculation Genesee County Drain Commission

	(1)	(2)	(3)	(4)
	Total Cost Pool \$	Genesee County Drain Commission SHARE % Share (a)	Allocation \$	Service Charge Schedule
BUDGET Categories				
Commodity	9,148,600	3.301%	302,000	
Max Day Usage	148,313,500	2.442%	3,621,900	
Peak Hour Increment	9,289,800	0.000%	0	
Peak Hour Distance	39,338,000	4.183%	1,645,400	
Commodity Distance-Elevation	23,033,000	8.313%	1,914,700	
Max Day Distance-Elevation	10,217,400	5.707%	583,100	
Peak Hour Distance-Elevation	70,080,200	4.618%	3,236,200	
Peak Hour Increment Distance-Elevation	11,516,600	0.000%	0	
Subtotal Common-To-All	320,937,100	3.522%	11,303,300	
Suburban Only - Meter Related	3,307,900	5.398%	178,600	
Suburban Only - Customer Outreach	0	0.000%	0	
Subtotal FY 2017 BUDGET			11,481,900	
Detroit / Suburban Ownership Adjustment	20,700,000	3.991%	826,100	
Total Amount for Net Charges	344,945,000		12,308,000	\$23.53 per Mcf avg u.c.
FY 2018 Service Charge Schedule				
Fixed Monthly Charges @ 60%			7,384,800	\$615,400 per month
Commodity Charges @ 40%		523,000	4,923,200	\$9.41 per Mcf
Final System Charge Adjustment- All wholesale water service charges reduced by:				-2.0%
Adjusted Fixed Monthly Charge				\$603,300 per month
Adjusted Commodity Charge				\$9.23 per Mcf
(a) Units / SHARE Calculations				
	Basis	Units Mcf/day	Applied Units Mcf/day ~	
Annual Sales - Mcf	523,000	1,432.9		Avg annual for 24 mos. -> 9/2015
Allocated Non-Revenue Water		358.2		Allocated share @ 25.0% of sales
Commodity Units		1,791.1	1,791.1	Ln 17 + Ln 18
Max Day Units - mgd	18.00	2,406.2	2,764.5	Contract or proxy + Ln 18
Peak Hour Units - mgd	18.00	2,406.2	2,764.5	Contract or proxy + Ln 18
Distance - miles	52.0			
Elevation - feet	866.0			
Dist-Elev Factor - miles	76.2			[Ln 23-610]/10.56 + Ln 22
Genesee County				
Cost Pool / Usage Category	Drain Commission	System	SHARE	
Commodity Units - Mcf	1,791.1	54,267	3.301%	Ln 19
Max Day Units - Mcf/Day	2,764.5	113,204	2.442%	Ln 20
Peak Hour Increment - Mcf/Day	0.0	27,072	0.000%	Ln 21 - Ln 20
Peak Hour Distance - Mcf-miles/Day	143,752.7	3,436,770	4.183%	Ln 21 x Ln 22
Commodity Distance-Elevation - Mcf-miles/Day	136,483.7	1,641,873	8.313%	Ln 19 x Ln 24
Max Day Distance-Elevation - Mcf-miles/Day	210,653.0	3,691,123	5.707%	Ln 20 x Ln 24
Peak Hour Distance-Elevation - Mcf-miles/Day	210,653.0	4,561,709	4.618%	Ln 21 x Ln 24
Peak Hour Increment Dist-Elev - Mcf-miles/Day	0.0	870,586	0.000%	[Ln 21 - Ln 20] x Ln 24
Suburban Equivalent Meters	3,600.0	66,689	5.398%	Equivalent 5/8" meters
Suburban Outreach - Mcf/Day	0.0	0	0.000%	Ln 25
Suburban Wholesale BUDGET - \$	11,481,900	287,693,100	3.991%	Ln 12
CTA Summary by Major Category				
CTA Commodity		5.815%	2,216,700	
CTA Max Day		2.893%	4,205,000	
CTA Peak Hour		3.469%	<u>4,881,600</u>	
CTA Total Demand		3.177%	<u>9,086,600</u>	
TOTAL CTA SHARE		3.487%	11,303,300	

EXHIBIT E

GCDC Reciprocal Backup Water Rates (Incremental Fixed Charges and Commodity)

EXHIBIT C

BASELINE AND ALL RECEIPTS TRUST AGREEMENT

**among
the City of Flint,
the Great Lakes Water Authority,
the Karegnondi Water Authority,
the Genesee County Drain Commissioner, and
U.S. Bank National Association, as Trustee**

This Baseline and All Receipts Trust Agreement (this “Agreement”) is made as of November __, 2017 (the “Effective Date”) by and among the City of Flint, a Michigan municipality, the address of which is 1101 S Saginaw Street, Flint, Michigan 48502 (the “City”), the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended, the address of which is 735 Randolph, Detroit, Michigan 48226 (“GLWA”), the Karegnondi Water Authority, a Michigan municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended, the address of which is 4610 Beecher Road, Flint, Michigan 48532 (“KWA”), the Genesee County Drain Commissioner, as the designated County Agency for the County of Genesee, Michigan, pursuant to the provisions of Act 342, Public Acts of Michigan, 1939, as amended, the address of which is 4610 Beecher Road, Flint, Michigan 48532 (“GCDC”) and U.S. Bank National Association, as Trustee, a national banking association, the address of which is 535 Griswold Street, Suite 550, Detroit, Michigan 48226 (the “Trustee”). The City, GLWA, KWA, GCDC and the Trustee may be referred to individually as “Party” or collectively as the “Parties.”

R E C I T A L S

WHEREAS, the City and GLWA are entering into the Water Service Contract as of the date of this Agreement;

WHEREAS, under the terms of the Water Service Contract, the City is contractually obligated to make certain payments to GLWA;

WHEREAS, GLWA and GCDC are entering into the Reciprocal Backup Water Service Contract as of the date of this Agreement;

WHEREAS, under the terms of the Reciprocal Backup Water Service Contract, the GCDC Pass-Through Charges are billed from GCDC to GLWA, and those monthly service charges are assessed on a direct pass through basis from GLWA to the City pursuant to Water Service Contract;

WHEREAS, the City and KWA have previously entered into the KWA Financing Contract;

WHEREAS, under the terms of the KWA Financing Contract, the City is contractually obligated to make certain payments to KWA;

WHEREAS, the City and KWA have previously entered into the Raw Water Supply Contract;

WHEREAS, under the terms of the Raw Water Supply Contract, the City is contractually obligated to make certain payments to KWA; and

WHEREAS, the Parties are entering into this Agreement to provide for the orderly payment of amounts due to (i) GLWA under the Water Service Contract, (ii) KWA under the KWA Financing Contract, and (iii) GCDC under the Reciprocal Backup Water Service Contract.

NOW, THEREFORE, the Parties hereto, for valuable consideration the receipt of which is hereby acknowledged, agree as follows:

ARTICLE I

DEFINITIONS

Section 1.1 Definitions. In this Agreement, the following words and terms shall, unless the context otherwise requires, have the following meanings:

“Aggregate Monthly Amount Due” means, as of any Monthly Due Date, the total of (i) the amount then due to GLWA under the Water Service Contract, which includes the GCDC Pass-Through Charge, as such amounts are identified by GLWA and GCDC in written notice to the Trustee and other Parties in accordance with Section 2.2, and (ii) the amount then due to KWA for KWA Designated Debt Service.

“Agreement” has the meaning set forth in the introductory paragraph of this Agreement.

“All Receipts Trust Fund” means the trust fund created by the Trustee pursuant to Section 4.1 of this Agreement.

“Applicable Monthly Statement Date” has the meaning set forth in Section 2.1.

“Baseline Trust Fund” means the trust fund created by the Trustee pursuant to Section 3.1 of this Agreement.

“Business Day” means any day other than (i) a Saturday, Sunday or legal holiday on which banking institutions in Detroit, Michigan or the designated corporate trust office of the Trustee is located are authorized by law to close, or (ii) a day on which the New York Stock Exchange or the Federal Reserve Bank is closed.

“City” has the meaning set forth in the introductory paragraph of this Agreement.

“Conversion Date” means the date on which the Trustee mails the Notice of Second Failure to Deposit in the Baseline Trust Agreement together with Notice of Conversion to All Receipts Trust Agreement, pursuant to Section 3.5.

“Effective Date” has the meaning set forth in the introductory paragraph of this Agreement.

“First Instance of Failure to Deposit” has the meaning set forth in Section 3.4 hereof.

“GCDC” has the meaning set forth in the introductory paragraph of this Agreement.

“GLWA” has the meaning set forth in the introductory paragraph of this Agreement.

“GCDC Pass-Through Charge” means the monthly service charge that is billed from GCDC to GLWA under the terms of the Reciprocal Backup Water Service Contract, and the monthly service charge is assessed on a direct pass through basis from GLWA to the City pursuant to Water Service Contract.

“KWA” has the meaning set forth in the introductory paragraph of this Agreement.

“KWA Bonds” means, collectively, the Series 2014 Bonds, the Series 2016 Bonds and any bonds hereafter issued by KWA pursuant to the KWA Financing Contract (including any future supplement or amendment thereto) to refund, directly or indirectly through a series of refundings, all or any portion of the outstanding Series 2014 Bonds or Series 2016 Bonds.

“KWA Designated Debt Service” means the sum of (1) the City’s share of the debt service on the KWA Bonds required to be paid by the City under the KWA Financing Contract, which amount (a) is required to be paid by the City to KWA on a monthly basis pursuant to the Attachment entitled “Cost Calculation Methodology per Unit for KWA Debt Service – All Payments are Estimated” to the First Addendum dated March 6, 2014 to the Raw Water Supply Contract, and (b) is subject to adjustment as described in Section 2.07 of the Raw Water Supply Contract and the Attachment entitled “Cost Calculation Methodology per Unit for KWA Debt Service – All Payments are Estimated” to the First Addendum dated March 6, 2014 to the Raw Water Supply Contract, (2) the City’s share of the annual transfer agent fees with respect to the KWA Bonds, and (3) in the event the failure of the City to pay its share of debt service on the KWA Bonds as required by the KWA Financing Contract results in a draw on any debt service reserve fund for the KWA Bonds, and the City is obligated to replenish such debt service reserve fund pursuant to the terms of Exhibit B of the KWA Financing Contract, then any such payments required to be paid by the City to KWA to replenish such debt service reserve fund. For the avoidance of doubt, the City’s share of the debt service on the KWA Bonds required to be paid by the City pursuant to the KWA Financing Contract as described in clause (1) of this definition includes the City’s share of the debt service on the “Intake Bonds” as provided in the Raw Water Supply Contract, which are the \$35,000,000 original principal amount Water Supply System Revenue Bonds (Limited Tax General Obligation), Series 2013, issued by the County of Genesee and dated October 3, 2013.

“KWA Financing Contract” means the Karegnondi Water Authority Financing Contract among KWA, the City and the County of Genesee, dated as of August 1, 2013, as the same may be supplemented or amended from time to time.

“Monthly Due Date” means the 30th day of each month immediately following the month in which the Applicable Monthly Statement Date occurs except for the month of February, in which case the Monthly Due Date is the last day of the month of February. For example, the Applicable Monthly Statement Date for water supplied in January would be February 20 and the Monthly Due Date for such payment would be March 30.

“Party” and “Parties” have the meanings set forth in the introductory paragraph of this Agreement.

“Raw Water Supply Contract” means the Raw Water Supply Contract between the City and KWA, dated as of June 28, 2013, as amended by the First Addendum thereto dated March 6, 2014, and as amended by the Second Addendum thereto dated as of the date of this Agreement.

“Reciprocal Backup Water Service Contract” means the Reciprocal Backup Water Service Contract between GLWA and GCDC, dated the date of this Agreement, pursuant to which certain backup water services are provided.

“Series 2014 Bonds” means the \$220,500,000 original principal amount Water Supply System Bonds (Karegnondi Water Pipeline), Series 2014A, issued by KWA pursuant to the KWA Financing Contract.

“Series 2016 Bonds” means the \$74,370,000 original principal amount Water Supply System Bonds (Karegnondi Water Pipeline), Series 2016, issued by KWA pursuant to the KWA Financing Contract.

“Trustee” has the meaning set forth in the introductory paragraph of this Agreement.

“Underlying Contracts” means, collectively, the Water Service Contract, the KWA Financing Contract, the Raw Water Supply Contract and the Reciprocal Backup Water Service Contract.

“Water Service Contract” means the Water Service Contract between the City and GLWA, dated the date of this Agreement, pursuant to which GLWA supplies potable water to the City.

ARTICLE II

PAYMENT TERMS ON THE UNDERLYING CONTRACTS

Section 2.1 Payments Due under the Underlying Contracts. The City's obligations under the Underlying Contracts include the obligations to make payments as follows:

(a) The monthly payments under the Water Service Contract vary from month to month based on, among other factors, the amount of water supplied by GLWA to the City and the GCDC Pass-Through Charge. GLWA agrees to provide a monthly statement to the City by no later than the 20th day of the calendar month following the applicable month in which the water was supplied (each such date, the "Applicable Monthly Statement Date") and the City agrees to pay such amount prior to the respective Monthly Due Date, subject to Section 12.02 of the Water Service Contract. Each such monthly statement shall provide for a credit equal to (i) the payment, if any, actually made by the Trustee to GCDC for the GCDC Pass-Through Charge reflected on such monthly statement, and (ii) the payment, if any, actually made by the Trustee to KWA for debt service on the KWA Bonds on the Monthly Due Date, as reflected on Schedule 1.

(b) The monthly payments for the KWA Designated Debt Service are fixed amounts based on the City's share of the debt service on the KWA Bonds. Set forth on Schedule 1 are the monthly installments the City has agreed to pay for the KWA Designated Debt Service, and the respective Monthly Due Dates for such payments. Within thirty (30) days following the issuance by KWA of any series of KWA Bonds for the purpose of refunding any then outstanding KWA Bonds, KWA shall deliver to the Parties a revised Schedule 1 reflecting the monthly installments the City is obligated to pay for KWA Designated Debt Service, (after taking into account the refunding), whereupon Schedule 1 shall be deemed to be amended in accordance therewith. Additionally, in the event that the failure of the City to pay its share of debt service on the KWA Bonds as required by the KWA Financing Contract results in a draw on any debt service reserve fund for the KWA Bonds, and the City is obligated to replenish such debt service reserve fund pursuant to the terms of Exhibit B of the KWA Financing Contract, then KWA shall deliver to the Parties an amendment to Schedule 1 that shall set forth any additional payments required to be made by the City to KWA to replenish such debt service reserve fund, whereupon Schedule 1 shall be deemed to be amended in accordance therewith.

(c) The GCDC Pass-Through Charges vary from month to month based on, among other factors, the volume of water provided by GCDC to the City. GCDC agrees to provide a monthly statement to the City and GLWA of the GCDC Pass-Through Charge by no later than the 15th day of the calendar month following the applicable month in which the water was supplied.

Section 2.2 Notification to Trustee and other Parties of Monthly Amounts Due. GLWA agrees to provide written notice to the Trustee, KWA and GCDC of the monthly amount due under the Water Service Contract, as set forth on the invoice provided to the City on the Applicable Monthly Statement Date, at the same time that notice of such is provided to the City. GCDC agrees to provide written notice to the Trustee and KWA of the GCDC Pass-Through Charge at the same time that notice of such is provided to the City and GLWA.

ARTICLE III

BASELINE TRUST AGREEMENT

Section 3.1 Establishment of Baseline Trust Fund. The Trustee shall establish on its books the Baseline Trust Fund. Such trust fund shall be held by the Trustee for the benefit of the City, GLWA, KWA and GCDC. All payments made to the Trustee pursuant to Section 3.2 shall be deposited in the Baseline Trust Fund.

Section 3.2 Payment by the City to the Trustee of Aggregate Monthly Amounts Due. The City shall pay to the Trustee, three Business Days prior to each Monthly Due Date, an amount equal to the Aggregate Monthly Amount Due. The amounts required to be paid to the Trustee pursuant to this section shall be transmitted via wire transfer to the Trustee pursuant to the wire transfer instructions set forth in Part A of Schedule 2.

Section 3.3 Payment by the Trustee to GLWA, KWA AND GCDC. The Trustee shall use the amounts deposited pursuant to Section 3.2 in the Baseline Trust Fund to pay GLWA, KWA and GCDC on the Monthly Due Date the monthly amounts due to GLWA and KWA in accordance with Section 2.1 and to pay to GCDC the applicable GCDC Pass-Through Charge. Payments shall be made pursuant to the wire transfer instructions set forth in Parts B, C and D of Schedule 2. In the event that the amount deposited pursuant to Section 3.2 is less than the Aggregate Monthly Amount Due, the Trustee shall use the amount on deposit in the Baseline Trust Fund to pay GLWA, KWA and GCDC on a pro-rata basis based on the total amounts due to GLWA, KWA and GCDC on that Monthly Due Date. In the event that the amount deposited pursuant to Section 3.2 is more than the sum of the Aggregate Monthly Amount Due, the Trustee shall refund the excess to the City.

Section 3.4 First Instance of the Failure of the City to Deposit with the Trustee the Aggregate Monthly Amount Due. If the City has not deposited with the Trustee the Aggregate Monthly Amount Due by 10:00 a.m., Eastern Time, on the respective Monthly Due Date, the Trustee shall, immediately upon the first instance of such failure (the "First Instance of Failure to Deposit"), send to all of the Parties a Notice of First Failure to Deposit in the Baseline Trust Agreement, the form of which is set forth in Schedule 3.

Section 3.5 Second Instance of the Failure of the City to Deposit with the Trustee the Aggregate Monthly Amount Due. If during the term of this Agreement, the City (i) fails to cure the First Instance of Failure to Deposit within sixty (60) days of the First Instance of Failure to Deposit, or (ii) fails on a second occasion to deposit with the Trustee the Aggregate Monthly Amount Due by 10:00 a.m., Eastern Time, on the respective Monthly Due Date, then the Trustee shall send to all of the Parties a Notice of Second Failure to Deposit in the Baseline Trust

Agreement together with Notice of Conversion to All Receipts Trust Agreement, the form of which is set forth in Schedule 4.

Section 3.6 Monthly Statement. At all times prior to the Conversion Date, the Trustee shall provide all Parties, within five Business Days of the end of each calendar month, a statement showing all deposits to and payments from the Baseline Trust Fund.

ARTICLE IV

ALL RECEIPTS TRUST AGREEMENT

Section 4.1 Establishment of All Receipts Trust Fund. Following the Conversion Date, the Trustee shall establish on its books the All Receipts Trust Fund. Such trust fund shall be held by the Trustee for the benefit of the City, GLWA, KWA and GCDC. All payments made to the Trustee pursuant to Section 4.2 shall be deposited in the All Receipts Trust Fund.

Section 4.2 Deposits to the All Receipts Trust Fund. On the date of this Agreement, the City shall establish and keep in existence a new deposit account with one of its primary banking institutions entitled "Flint All Receipts Receiving Account" and such banking institution, the City and the Trustee shall enter into an Account Control Agreement acceptable to the Parties granting the Trustee control over such deposit account and specifying the manner in which the Trustee may access funds under such account.

Within 60 days following the Conversion Date, the City shall provide for all receipts from all of its sewer and water customers to be paid directly to the Trustee and upon receipt by the Trustee such funds shall be deposited in the All Receipts Trust Fund. Additionally, any receipts received by the City from its sewer and water customers during the 60 days following the Conversion Date that are not paid directly to the Trustee shall be deposited by the City into the Flint All Receipts Receiving Account and then paid by the City to the Trustee for deposit in the All Receipts Trust Fund, on a weekly basis, and such weekly transfer shall be made on the Thursday of each week, except that if any given Thursday falls on a day that is not a Business Day, then on the first Business Day thereafter.

If after such 60 day period, notwithstanding the above, the City receives any such payments from its sewer and water customers, the City shall deposit such payments into the Flint All Receipts Receiving Account and thereafter shall be paid by the City to the Trustee for deposit in the All Receipts Trust Fund, on a weekly basis, and such weekly transfer shall be made on the Thursday of each week, except that if any given Thursday falls on a day that is not a Business Day, then on the first Business Day thereafter.

At least five (5) business days prior to each Monthly Due Date following the Conversion Date, the City shall provide a statement to the Trustee, GLWA, KWA and GCDC of the amount of money in the All Receipts Trust Fund received from payments on invoices (including the allocable share of any penalties or fines paid with respect to such invoices) from the City's sanitary sewer system enterprise fund. Within twenty (20) calendar days following the Conversion Date, the Parties shall agree on a methodology for how the Trustee shall notify the City of receipts into the All Receipts Trust Fund and how the City shall determine the amount of

such receipts allocable to its sanitary sewer system enterprise fund, provided that such allocation shall be based on the same methodology that that the City uses as of the Effective Date to allocate receipts between its sanitary sewer system enterprise fund and its water system enterprise fund.

Section 4.3 Payment by the Trustee from the All Receipts Trust Fund. On each Monthly Due Date, the Trustee shall use the amounts deposited pursuant to Section 4.2 in the All Receipts Trust Fund to make the following payments, in the following order:

- (a) The amount of money in the All Receipts Trust Fund received from payments on invoices (including the allocable share of any penalties or fines paid with respect to such invoices) from the City's sanitary sewer system shall be transferred to the City, for deposit in the City's sanitary sewer system enterprise fund or as otherwise directed in writing by the City;
- (b) Next, remaining amounts in the All Receipts Trust Fund shall be used to pay GLWA, KWA and GCDC the monthly amounts due to GLWA, KWA and GCDC on that Monthly Due Date in accordance with Section 2.1;
- (c) Any remaining amounts after the transfers set forth in (a) and (b) above shall be transferred to or at the direction of the City, for deposit in the City's water system enterprise fund or as otherwise directed in writing by the City;
- (d) In the event that after the transfer required by (a) above, there are not sufficient funds to pay the amounts due in (b) above, then all available funds after the transfer in (a) shall be used to pay GLWA, KWA and GCDC on a pro-rata basis based on the total amounts due to GLWA, KWA and GCDC on that Monthly Due Date, including any amounts due as a result of insufficient payments on prior Monthly Due Dates.

Section 4.4 Monthly Statement. At all times following the Conversion Date, the Trustee shall provide all Parties, within five Business Days of the end of each calendar month, a statement showing all deposits to and payments from the All Receipts Trust Fund.

Section 4.5 Reestablishment of Baseline Trust Agreement. On the six year anniversary date of the Conversion Date, the City, GLWA, KWA and GCDC may, by mutual written consent, which consent is subject to the sole discretion of each such Party, provide for the reestablishment of the Baseline Trust Fund to replace the All Receipts Trust Fund. Any such written consent shall be in a written agreement that sets forth the mechanics for the reestablishment of the Baseline Trust Fund.

ARTICLE V

PROVISIONS REGARDING THE TRUSTEE

Section 5.1 Acceptance of Trusts. The Trustee hereby accepts and agrees to execute the trusts hereby created, but only upon the additional terms set forth in this Article V, to all of which the City, GLWA and KWA agree.

Section 5.2 No Responsibility for Recitals. The Trustee does not assume, and shall not have, any responsibility or obligation for the correctness of the recitals, statements or representations made in this Agreement.

Section 5.3 Limitations on Liability. The Trustee undertakes to perform only such duties as are expressly set forth herein and no duties shall be implied. The Trustee has no fiduciary or discretionary duties of any kind. The Trustee's permissive rights shall not be construed as duties. The Trustee shall have no liability under and no duty to inquire as to the provisions of any document other than this Agreement, including without limitation any other agreement between any or all of the parties hereto or any other persons even though reference thereto may be made herein and whether or not a copy of such document has been provided to the Trustee.

The Trustee may execute any of the powers hereof and perform the duties required of it hereunder by or through attorneys, agents, receivers or employees, and shall be entitled to advice of counsel concerning all matters of trust and its duties hereunder and shall incur no liability whatsoever for actions taken in good faith and in accordance with the advice of such counsel. The Trustee shall not be answerable for the exercise of any discretion or power under this Agreement or for anything whatsoever in connection with the trust created hereby, except only for its own gross negligence, fraud or willful misconduct. In no event shall the Trustee be liable for incidental, indirect, special, consequential or punitive damages or penalties of any kind (including, but not limited to lost profits), even if the Trustee has been advised of the likelihood of such damages or penalty and regardless of the form of action.

The Trustee shall not be liable for any error of judgment made in good faith by any of its directors, officers, employees or agents, unless it shall be established that the Trustee engaged in gross negligence, fraud or willful misconduct in ascertaining the pertinent facts.

The Trustee shall be protected in acting upon opinions of counsel and upon any notice, request, consent, certificate, order, affidavit, letter, or other paper or document (including electronic transmissions) believed to be genuine and correct and to have been signed or sent by an authorized representative of such person or persons.

All moneys received by the Trustee, until used or applied or invested as herein provided, shall be held as special trust funds for the purposes specified in this Agreement. Such moneys need not be segregated from other funds except to the extent required by law or herein provided, and the Trustee shall not otherwise be under any liability for interest on any moneys received hereunder except such as may be agreed upon.

The Trustee shall not be obligated to take any legal action in connection with this Agreement or any other matter or to appear in, prosecute or defend any such legal action. No provision of this Agreement shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder, or in the exercise of any of its rights or powers.

Section 5.4 Compensation, Expenses, Advances and Indemnification. The Trustee shall be entitled to such compensation for services as shall be agreed upon by the Parties hereto and, absent such agreement, to reasonable compensation for its services rendered hereunder, including expenses, charges, disbursements, extraordinary time and services (not limited by any provision of law in regard to the compensation of the trustee of an express trust) and to reimbursement promptly for its actual out-of-pocket expenses (including fees and expenses of counsel, accountants, consultants and other experts, agent fees and expenses and Trustee's costs of enforcement of this Section 5.4) reasonably incurred in connection with the Trustee's services or any claim asserted against the Trustee by any Party hereto or any other person or entity in connection with this Agreement, except to the extent determined by a court of competent jurisdiction to have been directly caused by the Trustee's gross negligence, fraud or willful misconduct. In no event will the Trustee look to the moneys in the Baseline Trust Fund or the All Receipts Trust Fund for compensation for its services or expenses.

Section 5.5 Good Faith Reliance. The Trustee shall be protected and shall incur no liability in acting or proceeding in good faith upon any resolution, notice (including telephonic notice), email, or facsimile transmission, request, consent, waiver, certificate, statement, affidavit, voucher, requisition or other paper or document which it shall in good faith believe to be genuine and to have been passed or signed by the proper board, body or person or to have been prepared and furnished pursuant to any of the provisions of this Agreement or upon the written opinion of any attorney, engineer, accountant or other expert believed by the Trustee, to be qualified in relation to the subject matter, and the Trustee shall be under no duty to make any investigation or inquiry as to any statements contained or matters referred to in any such instrument, but may accept and rely upon the same as conclusive evidence of the truth and accuracy of such statements.

Section 5.6 Resignation and Removal of Trustee. The Trustee may resign and be discharged of the trusts created by this Agreement by executing an instrument in writing resigning such trust and specifying the date when such resignation shall take effect, and filing the same with the Parties hereto not less than 45 calendar days before the date specified in such instrument when such resignation shall take effect. Such resignation shall take effect on the day specified in such instrument and notice, unless previously a successor Trustee shall have been appointed by the Parties, in which event such resignation shall take effect immediately upon the appointment of such successor Trustee. Notwithstanding the above, such resignation shall not be effective until a successor Trustee has assumed the Trustee's duties hereunder. The Trustee may be removed with the prior written consent of GLWA, KWA, GCDC and the City upon 30 calendar days' prior written notice, provided that at the effective time of removal a successor Trustee has been appointed by such Parties and the successor Trustee has assumed the Trustee's duties hereunder.

Section 5.7 Successor Trustee. Any successor Trustee shall be a corporation or association organized and doing business under the laws of the United States or the State of Michigan, authorized under such laws to exercise corporate trust powers, having a combined capital and surplus of at least \$50,000,000 and subject to the supervision or examination by federal or state authority. Any successor Trustee shall execute, acknowledge and deliver to the Parties and the Trustee an instrument accepting such appointment hereunder, and the Trustee

shall immediately execute and deliver an instrument transferring to such successor Trustee, subject to the terms of this Agreement, all the rights, powers and trusts of the Trustee hereunder.

Section 5.8 Successor by Merger or Consolidation. Any corporation into which any Trustee hereunder may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger or consolidation to which any Trustee hereunder shall be a party or any corporation succeeding to the corporate trust business of the Trustee, shall be the successor Trustee under this Agreement, without the execution or filing of any paper or any further act on the part of the parties hereto, anything in this Agreement to the contrary notwithstanding.

Section 5.9 Force Majeure. In no event shall the Trustee be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services; it being understood that the Trustee shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

Section 5.10 Permitted Investments. Moneys in the Baseline Trust Fund and the All Receipts Trust Fund shall be invested by the Trustee in the following investment fund maintained by the Trustee: First American Funds Government Obligation Fund. In the event such fund is not offered by the Trustee in the future, then such moneys shall be invested as may be jointly directed in writing by the City, GLWA, KWA and GCDC.

The other Parties recognize and agree that the Trustee will not provide supervision, recommendations or advice relating to either the investment of funds or the purchase or disposition of any investment and the Trustee shall not have any liability for any loss in an investment made pursuant to the terms of this Agreement. The Trustee has no responsibility whatsoever to determine the market or other value of any investment and makes no representation or warranty as to the accuracy of any such valuations. To the extent applicable regulations grant rights to receive brokerage confirmations for certain security transactions, the City, GLWA, KWA and GCDC waive receipt of such confirmations.

The Trustee may elect, but shall not be obligated, to credit the Baseline Trust Fund and/or the All Receipts Trust Fund with funds representing income or principal payments due on, or sales proceeds due in respect of, assets in the Baseline Trust Fund and/or the All Receipts Trust Fund, or to credit to the Baseline Trust Fund and/or the All Receipts Trust Fund assets intended to be purchased with such funds, in each case before actually receiving the requisite funds from the payment source, or to otherwise advance funds for Baseline Trust Fund and/or All Receipts Trust Fund transactions. The City, GLWA, KWA and GCDC acknowledge that the trust's legal obligation to pay the purchase price of any assets arises immediately at the time of the purchase. Notwithstanding anything else in this Agreement, (i) any such crediting of funds or assets shall be provisional in nature, and the Trustee shall be authorized to reverse or offset any such transactions or advances of funds in the event that it does not receive good funds with respect

thereto, and (ii) nothing in this Agreement shall constitute a waiver of any of the Trustee's rights as a securities intermediary under Uniform Commercial Code §9-206.

ARTICLE VI

GENERAL TERMS

Section 6.1 Term of the Agreement. This Agreement will be in effect as of the Effective Date and shall continue in effect until no amounts are due pursuant to the Underlying Contracts. Notwithstanding the foregoing, the parties agree that at such time that no further amounts are due under the KWA Financing Contract and the Raw Water Supply Contract for debt service related to the KWA Bonds, then the City, GLWA, KWA and GCDC may, by mutual written consent, which consent is subject to the sole discretion of each such Party, terminate this Agreement.

Section 6.2 Potential Payments from the State Treasurer to KWA on Behalf of the City. Any payments by the State Treasurer to KWA on behalf of the City pursuant to Section 10 of the KWA Financing Contract shall be applied to past due KWA Designated Debt Service payments and the City shall notify the Trustee, GLWA, KWA and GCDC that such payments have been applied to such past due KWA Designated Debt Service payments.

Section 6.3 Notices. Any notice to be given in connection with any of the terms or provisions of this Agreement shall be in writing and be given in person, by delivery service, by facsimile transmission, or by mail, and shall become effective (a) on delivery if given in person, (b) on the date of delivery if sent by delivery service, (c) on the date of delivery if sent by facsimile transmission or other similar unsecured electronic methods, or (d) five Business Days after being deposited in the mail, with proper postage for first class registered or certified mail, prepaid.

Until notified in writing by the appropriate Party of a change to a different address, notices shall be addressed as follows:

- (i) if to the City:

Mayor
City of Flint
1101 S. Saginaw Street
Flint, Michigan 48502

Attention: City Attorney

- (ii) if to the GLWA:

Great Lakes Water Authority
735 Randolph Street, Suite 1901
Detroit, Michigan 48226

Attention: General Counsel

(iii) if to the KWA:

Karegnondi Water Authority
G-4610 Beecher Road
Flint, Michigan 48532

Attention: Chief Executive Officer

(iv) if to the GCDC:

Genesee County Drain Commissioner
Division of Water and Waste Services
G-4610 Beecher Road
Flint, Michigan 48532

Attention: Drain Commissioner

(v) if to the Trustee:

U.S. Bank National Association
535 Griswold Street, Suite 550
Detroit, Michigan 48226

Attention: Global Corporate Trust Service

Section 6.4 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Michigan.

Section 6.5 Amendments. This Agreement may be amended or revised only by a written agreement signed by all of the Parties hereto.

Section 6.6 Counterparts. This Agreement may be executed in one or more counterparts, all of which shall be deemed to be one and the same document. When all Parties hereto have executed at least one counterpart, this Agreement shall be binding on all the Parties hereto.

Section 6.7 Binding Effect; Assignment. This Agreement shall be binding upon the Parties to this Agreement and upon their respective successors. No Party to this Agreement may assign this Agreement without the prior written consent of the other Parties to this Agreement.

Section 6.8 Entire Agreement. This Agreement, including the schedule and exhibits hereto (which are incorporated herein by reference), embodies the entire Agreement and understanding between the Parties as to the matters addressed in this Agreement.

Section 6.9 Continuing Effectiveness of Underlying Contracts. The City and each of the other Parties hereto acknowledge and agree that nothing contained in this Agreement constitutes or is intended to constitute a modification, amendment or waiver of any of the Underlying Contracts, or of any term or provision of any of the Underlying Contracts, each of

which shall remain in full force and effect in accordance with the terms thereof and shall be enforceable by the applicable Parties thereto in accordance with the terms thereof.

Section 6.10 Parties in Interest. Nothing in this Agreement expressed or implied is intended or shall be construed to confer upon, or to give any person or entity, other than the Parties, any right, remedy or claim under or by reason of this Agreement or any covenant, condition or stipulation hereof, and all covenants, stipulations, promises and agreements in this Agreement shall be for the sole and exclusive benefit of the Parties.

Section 6.11 Representations and Warranties. The City, GLWA, KWA and GCDC each respectively make the following representations and warranties to the Trustee:

(a) It has full power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and this Agreement has been duly approved by all necessary action and constitutes its valid and binding agreement enforceable in accordance with its terms.

(b) Each of the applicable persons designated on Schedule 5 attached hereto has been duly appointed to act as its authorized representative hereunder and individually has full power and authority on its behalf to execute and deliver any instruction or direction, to amend, modify or waive any provision of this Agreement and to take any and all other actions as its authorized representative under this Agreement and no change in designation of such authorized representatives shall be effective until written notice of such change is delivered to each other Party to this Agreement pursuant to Section 6.3 and the Trustee has had reasonable time to act upon it.

Section 6.12 Security Measures. In the event instructions, including funds transfer instructions, address change or change in contact information are given to the Trustee (other than in writing at the time of execution of this Agreement), whether in writing, by facsimile or otherwise, the Trustee is authorized but shall not be required to seek confirmation of such instructions by telephone call-back to the applicable person or persons designated on Schedule 5 hereto, and the Trustee may rely upon the confirmation of anyone purporting to be the person or persons so designated. The persons and telephone numbers for call-backs may be changed only in writing actually received and acknowledged by the Trustee and shall be effective only after the Trustee has a reasonable opportunity to act on such changes. The Parties agree that the Trustee may at its option record any telephone calls made pursuant to this Section. The Trustee in any funds transfer may rely solely upon any account numbers or similar identifying numbers provided by the beneficiary to identify (a) the beneficiary, (b) the beneficiary's bank, or (c) an intermediary bank, even when its use may result in a person other than the beneficiary being paid, or the transfer of funds to a bank other than the beneficiary's bank or an intermediary bank so designated. The Parties acknowledge that these optional security procedures are commercially reasonable.

Section 6.13 Suspension of Performance; Disbursement into Court. If, at any time, (a) a dispute exists with respect to any obligation of the Trustee hereunder, (b) the Trustee is unable to determine, to the Trustee's sole satisfaction, the Trustee's proper actions with respect to its obligations hereunder, or (c) the other Parties have not, within 30 days of receipt of a notice

of resignation, appointed a successor the Trustee to act hereunder, then the Trustee may, in its sole discretion, take either or both of the following actions:

(i) Suspend the performance of any of its obligations (including without limitation any disbursement obligations) under this Agreement until such dispute or uncertainty shall be resolved to the sole satisfaction of the Trustee or until a successor the Trustee shall have been appointed.

(ii) Petition (by means of an interpleader action or any other appropriate method) any court of competent jurisdiction, in any venue convenient to the Trustee, for instructions with respect to such dispute or uncertainty and, to the extent required or permitted by law, pay into such court, for holding and disposition in accordance with the instructions of such court, all funds held hereunder, after deduction and payment to the Trustee of all fees and expenses (including court costs and attorneys' fees) payable to, incurred by, or expected to be incurred by the Trustee in connection with the performance of its duties and the exercise of its rights hereunder.

The Trustee shall have no liability to the other Parties for suspension of performance or disbursement into court, specifically including any liability or claimed liability that may arise due to any delay in any other action required or requested of the Trustee.

[Remainder of page intentionally left blank]

* * * * *

Accordingly, the City, GLWA, KWA and the Trustee by and through their duly authorized officers and representatives, have executed this Agreement.

City of Flint:

By: _____
Karen Weaver
Mayor

By: _____
Sylvester Jones, Jr.
City Administrator

Attest:

By: _____
Inez Brown
City Clerk

Approved by
Flint City Council on:

Date

Approved as to Form by
Flint City Attorney on:

Signature Date

Great Lakes Water Authority:

By: _____

Sue F. McCormick

Its: Chief Executive Officer

Approved by
GLWA Board of Directors on:

Date

Approved as to Form by
GLWA General Counsel on:

Signature Date

Karegnondi Water Authority:

By: _____

Its: _____

Approved by
KWA Board of Directors on:

Date

Approved as to Form by
KWA General Counsel on:

Signature Date

GCDC:

By: _____

Its: _____

Approved as to Form by
GCDC General Counsel on:

Signature Date

U.S. Bank National Association, as Trustee:

By: _____

Its: _____

Schedule 1

Monthly Amounts Due under KWA Financing Contract
and respective Monthly Due Date

The KWA Designated Debt Service monthly payments shall be made on each Monthly Due Date. Pursuant to the Trust Agreement, the Monthly Due Date is the 30th day of each month, except for the month of February, in which case the Monthly Due Date is the last day of the month of February.

The column entitled "Flint Portion" under the heading "Total Payments due from GCDC and City of Flint" on the attached spreadsheet sets forth the KWA Designated Debt Service monthly payments due from Flint to KWA. The "Payment Billing Period" on such spreadsheet is October through September of the following year. Accordingly the October monthly payment shall be due on the October 30 Monthly Due Date, and likewise each monthly payment thereafter shall be due on the 30th day of the month, with the September monthly payment being due on the September 30 Monthly Due Date.

Schedule 2

Wire Instructions for Payments

Part A: Wire Instructions to the Trustee
[To Be Added]

Part B: Wire Instructions to GLWA
US Bank ABA #: 042000013
Account #: 130121405893
Attn: GLWA WATER

Part C: Wire Instructions to KWA
[To Be Added]

Part D: Wire Instructions to GCDC
[To Be Added]

Part E: Wire Instructions to the City
[To Be Added]

Any Party can change its wire instructions set forth above by following the Notice provisions in Article VI of this Agreement.

Schedule 3

Form of
Notice of First Failure to Deposit in the Baseline Trust Agreement

Notice of First Failure to Deposit in the Baseline Trust Agreement

This Notice of First Failure to Deposit in the Baseline Trust Agreement (the "Notice") is dated _____, 20__, and is provided by U.S. Bank National Association, as Trustee to the Parties identified in Section 3 below.

R E C I T A L S

WHEREAS, the City of Flint, a Michigan municipality (the "City"), the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended ("GLWA"), the Karegnondi Water Authority, a Michigan municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended ("KWA"), the Genesee County Drain Commissioner, as the designated County Agency for the County of Genesee, Michigan, pursuant to the provisions of Act 342, Public Acts of Michigan, 1939, as amended ("GCDC") and U.S. Bank National Association, as Trustee, (the "Trustee") entered into the Baseline and All Receipt Trust Agreement dated as of _____, 2017 (the "Trust Agreement");

WHEREAS, Section 3.4 of the Trust Agreement provides as follows:

If the City has not deposited with the Trustee the Aggregate Monthly Amount Due by 10:00 a.m., Eastern Time, on the respective Monthly Due Date, the Trustee shall, immediately upon the first instance of such failure (the "First Instance of Failure to Deposit"), send to all of the Parties a Notice of First Failure to Deposit in the Baseline Trust Agreement, the form of which is set forth in Schedule 3;

WHEREAS, all capitalized terms used in this Notice and not otherwise defined shall have the meanings as assigned to such terms in the Trust Agreement;

NOW, THEREFORE, the Trustee provides the following Notice:

1. Failure of the City to Deposit the Aggregate Amount Due. As of 10:00 a.m., Eastern Time, on _____, 20__, the City had not deposited with the Trustee the Aggregate Monthly Amount Due on such date.

2. Notice of First Failure to Deposit in the Baseline Trust Agreement. As a result of the failure to timely deposit the Aggregate Monthly Amount Due, as referenced in Paragraph No. 1 above, by the time and date reference in Paragraph No. 1 above, the Trustee is hereby providing this Notice to the Parties.

3. Addresses for Notice Purposes. On the date of this Notice, the Trustee has deposited in the U.S. Mail, postage prepaid, signed copies of this Notice and addressed to each Party at the following addresses:

(i) The City:

Mayor
City of Flint
1101 S. Saginaw Street
Flint, Michigan 48502
Attention: City Attorney

(ii) GLWA:

Great Lakes Water Authority
735 Randolph Street, Suite 1901
Detroit, Michigan 48226
Attention: General Counsel

(iii) KWA:

Karegnondi Water Authority
G-4610 Beecher Road
Flint, Michigan 48532
Attention: Chief Executive Officer

(iv) GCDC:

Genesee County Drain Commissioner
Division of Water and Waste Services
G-4610 Beecher Road
Flint, Michigan 48532
Attention: Drain Commissioner

4. Duly Authorized Signature. This Notice has been signed by a duly authorized officer of the Trustee for and on behalf of the Trustee.

U.S. Bank National Association

By: _____

Its: _____

Schedule 4

Form of
Notice of Second Failure to Deposit in the Baseline Trust Agreement
together with Notice of Conversion to All Receipts Trust Agreement

**Notice of Second Failure to Deposit in the Baseline Trust Agreement
together with Notice of Conversion to All Receipts Trust Agreement**

This Notice of Second Failure to Deposit in the Baseline Trust Agreement together with Notice of Conversion to All Receipts Trust Agreement (the “Notice”) is dated _____, 20____, and is provided by U.S. Bank National Association, as Trustee to the Parties identified in Section 3 below.

R E C I T A L S

WHEREAS, the City of Flint, a Michigan municipality (the “City”), the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended (“GLWA”), the Karegnondi Water Authority, a Michigan municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended (“KWA”), the Genesee County Drain Commissioner, as the designated County Agency for the County of Genesee, Michigan, pursuant to the provisions of Act 342, Public Acts of Michigan, 1939, as amended (“GCDC”) and U.S. Bank National Association, as Trustee, (the “Trustee”) entered into the Baseline and All Receipt Trust Agreement dated as of _____, 2017 (the “Trust Agreement”);

WHEREAS, Section 3.4 of the Trust Agreement provides as follows:

If the City has not deposited with the Trustee the Aggregate Monthly Amount Due by 10:00 a.m., Eastern Time, on the respective Monthly Due Date, the Trustee shall, immediately upon the first instance of such failure (the “First Instance of Failure to Deposit”), send to all of the Parties a Notice of First Failure to Deposit in the Baseline Trust Agreement, the form of which is set forth in Schedule 3;

WHEREAS, on _____, 20____, the Trustee sent to the Parties the Notice of First Failure to Deposit in the Baseline Trust Agreement;

WHEREAS, Section 3.5 of the Trust Agreement provides as follows:

If during the term of this Agreement, the City (i) fails to cure the First Instance of Failure to Deposit within sixty (60) days of the First Instance of Failure to Deposit, or (ii) fails on a second occasion to deposit with the Trustee the Aggregate Monthly Amount Due by 10:00 a.m., Eastern Time, on the respective Monthly Due Date, then the Trustee shall send to all of the Parties a Notice of Second Failure to Deposit in the Baseline Trust Agreement together with Notice of Conversion to All Receipts Trust Agreement, the form of which is set forth in Schedule 4.

WHEREAS, all capitalized terms used in this Notice and not otherwise defined shall have the meanings as assigned to such terms in the Trust Agreement;

NOW, THEREFORE, the Trustee provides the following Notice:

1. Failure of the City to Deposit the Aggregate Amount Due. As of 10:00 a.m., Eastern Time, on _____ 30, 20__, the City had not deposited with the Trustee the Aggregate Monthly Amount Due on such date. [Alternative: As of _____, 20__, the City has failed to cure the First Instance of Failure to Deposit within sixty (60) days of the First Instance of Failure to Deposit.]

2. Notice of Second Failure to Deposit in the Baseline Trust Agreement. As a result of the failure to timely deposit the Aggregate Monthly Amount Due, as referenced in Paragraph No. 1 above, by the time and date reference in Paragraph No. 1 above, the Trustee is hereby providing this Notice to the Parties.

3. Conversion Date. Pursuant to the Trust Agreement, the Conversion Date is the date of this Notice, which is _____, 20__.

4. Establishment of All Receipts Trust Fund. As of the date of this Notice, and in accordance with Section 4.1 of the Trust Agreement, the Trustee has established on its books the All Receipts Trust Fund.

5. Compliance with Article IV of the Trust Agreement. The terms of Article IV of the Trust Agreement are operational as of the Conversion Date, and the City is directed to follow the procedures set forth in Section 4.2 of the Trust Agreement and the Trustee shall make payments as directed in Section 4.3 of the Trust Agreement.

6. Addresses for Notice Purposes. On the date of this Notice, the Trustee has deposited in the U.S. Mail, postage prepaid, signed copies of this Notice and addressed to each Party at the following addresses:

(i) The City:

Mayor
City of Flint
1101 S. Saginaw Street
Flint, Michigan 48502
Attention: City Attorney

(ii) GLWA:

Great Lakes Water Authority
735 Randolph Street, Suite 1901
Detroit, Michigan 48226
Attention: General Counsel

(iii) KWA:

Karegnondi Water Authority
G-4610 Beecher Road
Flint, Michigan 48532
Attention: Chief Executive Officer

(iv) GCDC:

Genesee County Drain Commissioner
Division of Water and Waste Services
G-4610 Beecher Road
Flint, Michigan 48532
Attention: Drain Commissioner

4. Duly Authorized Signature. This Notice has been signed by a duly authorized officer of the Trustee for and on behalf of the Trustee.

U.S. Bank National Association

By: _____

Its: _____

Schedule 5

Authorized Representatives of the Parties

Each of the following person(s) is a City Representative authorized to execute documents and direct the Trustee as to all matters, including fund transfers, address changes and contact information changes, on the City's behalf (only one signature required):

_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.

(Note: if only one person is identified above, provide the following information)

The following person not listed above is authorized for call-back confirmations:

_____ Name	_____ Telephone Number
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Each of the following person(s) is a GLWA Representative authorized to execute documents and direct the Trustee as to all matters, including fund transfers, address changes and contact information changes, on GLWA's behalf (only one signature required):

_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.

(Note: if only one person is identified above, provide the following information)

The following person not listed above is authorized for call-back confirmations

_____ Name	_____ Telephone Number
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Each of the following person(s) is a KWA Representative authorized to execute documents and direct the Trustee as to all matters, including fund transfers, address changes and contact information changes, on KWA's behalf (only one signature required):

_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.

(Note: if only one person is identified above, provide the following information)
The following person not listed above is authorized for call-back confirmations:

_____ Name	_____ Telephone Number
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Each of the following person(s) is a GCDC Representative authorized to execute documents and direct the Trustee as to all matters, including fund transfers, address changes and contact information changes, on GCDC's behalf (only one signature required):

_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.
_____ Name	_____ Specimen signature	_____ Telephone No.

(Note: if only one person is identified above, provide the following information)
The following person not listed above is authorized for call-back confirmations

_____ Name	_____ Telephone Number
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EXHIBIT D

THREE PARTY AGREEMENT

This Three Party Agreement ("Agreement") between Karegnondi Water Authority, a municipal authority and public body corporate organized pursuant the provisions of Act 233, Public Acts of Michigan, 1955, as amended, whose address is 4610 Beecher Road, Flint, Michigan 48532, Great Lakes Water Authority, a municipal authority and public body corporate organized pursuant to Act 233, Public Acts of Michigan, 1955, as amended, whose address is 735 Randolph Street, Detroit, Michigan 48226, and the City of Flint, a Michigan municipal corporation, whose address is 1101 South Saginaw Street, Flint, Michigan 48502.

RECITALS

WHEREAS, in 1964, Detroit and Flint entered into an agreement, as amended, whereby Detroit provided Flint with treated water ("1964 Agreement"). The 1964 Agreement allowed Flint to resell Detroit water to other communities in Genesee County;

WHEREAS, in 2010, Flint along with the Counties of Genesee, Lapeer, and Sanilac and the City of Lapeer, formed KWA to, among other things, supply raw water to its Members;

WHEREAS, Flint entered into a Raw Water Supply Contract with KWA. In the Raw Water Supply Contract Flint purchased and agreed to finance the construction cost of 18 MGD of capacity in the KWA System. Flint's rights included the right to up to 18 MGD of raw water capacity, delivery of that raw water and its use;

WHEREAS, on August 1, 2013, Flint, executed a Financing Contract with KWA and Genesee County in which Flint pledged its full faith and credit to pay for its pro-rata share of the estimated cost of the construction of the KWA System; the construction cost was not to exceed Three Hundred Million Dollars (\$300,000,000). Flint's rights included the right to up to 18 MGD of raw water capacity, delivery of that raw water and its use that are conditioned upon Flint's performance under the Financing Contract;

WHEREAS, in April of 2014, pursuant to the Financing Contract, KWA issued Series 2014 Bonds to construct the KWA System ("2014 Bonds");

WHEREAS, on April 30, 2014, Flint ceased purchasing water from Detroit;

WHEREAS, in April of 2014, Flint began operation of the Flint water treatment plant to treat water from the Flint River while the KWA System was being constructed;

WHEREAS, in 2014 and 2015, Flint, MDEQ and the Environmental Protection Agency discovered that the water being provided to Flint residents originating from the Flint River contained levels of lead which threatened their health and safety;

WHEREAS, in October of 2015, Detroit contracted with Flint to again provide Flint with treated water and on January 1, 2016, GLWA assumed Detroit's obligation to provide Flint water;

WHEREAS, in June of 2016, pursuant to the Financing Contract, KWA issued Series 2016 Bonds to complete the construction of the KWA System;

WHEREAS, in April of 2017, the Parties along with GCDC and the State executed a Statement of Principles, which provides in part that GLWA will provide Flint with treated water under the terms of the Flint Contract;

WHEREAS, the Parties agree that Flint remains responsible to pay its portion of the Construction Debt;

WHEREAS, Flint desires to transfer to GLWA and GLWA desires to accept the transfer of an irrevocable grant of an exclusive license of 18 MGD raw water capacity, delivery of that raw water and its use as more fully described in Article 25 of the of the Flint Contract and the License;

WHEREAS, At such time as the Construction Debt is paid in full and is no longer outstanding Flint also desires to transfer to GLWA and GLWA desires to accept the transfer of Flint's remaining interest in 17.46 MGD of Flint's capacity; and

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the Parties agree as follows, to wit:

ARTICLE I **DEFINITIONS**

The following words and expressions, or pronouns used in their stead, shall be construed as follows:

"Agreement" shall mean each of the various provisions and parts of this document, including all attached Exhibits and any amendments thereto, as may be executed and approved by the Parties hereto.

"Agreement Term" shall have the meaning ascribed in Article II herein.

"Annual Requirement" shall have the same meaning as this term is defined in the Raw Water Supply Contract.

"Capacity Fee" shall have the same meaning as this term is defined in the Raw Water Supply Contract.

"Construction Debt" shall mean the debt associated with the construction of the KWA System as set forth in the Financing Contract and Section 2.07 of the Raw Water Supply Contract, including, but not limited to the 2014 Bonds, 2016 Bonds, and any future refunding of the 2014 Bonds and the 2016 Bonds or any refundings thereof (exclusive of new money components).

"Detroit" shall mean the City of Detroit, a Michigan municipal corporation, located in Wayne County.

"Debt Fund" shall have the same meaning as this term is defined in the Raw Water Supply Contract.

"Effective Date" shall mean the effective date of this Agreement which shall be the Effective Date of the Master Agreement to which this Agreement is attached as Exhibit D.

"Financing Contract" shall mean the Karegnondi Water Authority Financing Contract dated August 1, 2013, between KWA, Flint, and the County of Genesee (as the same maybe amended or supplemented) in which Flint pledged its full faith and credit to pay for its pro-rata share of the estimated cost of the construction of the KWA System; the construction cost was not to exceed Three Hundred Million Dollars (\$300,000,000).

"Flint" shall mean the City of Flint, a Michigan municipal corporation, located in Genesee County.

"Flint Contract" shall mean the Water Service Contract between GLWA and Flint.

"GCDC" shall mean the Genesee County Drain Commissioner, as Michigan county agency, organized pursuant to Act 342, Public Acts of Michigan, 1939, as amended, including its successors in interest.

"GLWA" shall mean the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended, governed by its Board of Directors and its day-to-day operations conducted by its Chief Executive Officer, including its successors in interest.

"KWA" shall mean the Karegnondi Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended, governed by its Board of Directors and its day-to-day operations conducted by its Chief Executive Officer, including its successors in interest.

"KWA Refunding Bonds" means any bonds issued by KWA pursuant to the KWA Financing Contract (including any future supplement or amendment thereto) to refund, directly or indirectly through a series of refundings, all or any portion of the KWA System Bonds.

"KWA System" shall have the same meaning as the term "System" as defined in the Raw Water Supply Contract.

"KWA System Bonds" means, collectively, the Series 2014 Bonds and the Series 2016 Bonds.

"KWA System Improvement Bonds" shall have the same meaning as the term "System Improvement Bonds" as defined in the Raw Water Supply Contract.

"License" shall mean the Irrevocable Assignment of Essential Water Mains and Raw Water Rights by Flint to GLWA that was effective on _____, 2017.

"Master Agreement" shall mean the Master Agreement dated _____, 2017, between and among Flint, MDEQ, GCDC, GLWA, and the KWA.

"Members" shall have the same meaning as this term is defined in the Raw Water Supply Contract.

"MGD" shall mean One (1) Million Gallons Per Day, U.S. Standard Liquid Measure.

"MDEQ" shall mean the Michigan Department of Environmental Quality.

"New KWA Bonds" means any bonds issued after the Effective Date (as defined in Section 2.01) by KWA for which Flint has agreed or agrees, by contract or otherwise, to pay all or a portion of the debt service on such bonds. For the avoidance of doubt, "New KWA Bonds" does not include the KWA System Bonds or the KWA Refunding Bonds.

"Party" shall mean KWA, GLWA, or Flint individually.

"Parties" shall mean KWA, GLWA, and Flint collectively.

"Point or Points of Delivery" shall mean the point or points in Michigan designated by a Party where raw water from the KWA System will be delivered.

"Raw Water Main" shall have the same meaning as this term is defined in the defined in Article 4 of the Flint Contract.

"Raw Water Supply Contract" means the Raw Water Supply Contract between the KWA and Flint dated June 28, 2013, and effective on October 1, 2013 that was amended by the First Addendum effective March 6, 2014, the Second Addendum dated _____, 2017, and all future amendments thereto.

"Reciprocal Backup Agreement" shall mean the Reciprocal Backup Agreement between GLWA and GCDC.

"Security Deposit Account" shall have the same meaning as the term is defined in Article 12 of the Flint Contract.

"Series 2014 Bonds" means the \$220,500,000 original principal amount Water Supply System Bonds (Karegnondi Water Pipeline), Series 2014A, issued by KWA pursuant to the Financing Contract.

"Series 2016 Bonds" means the \$74,370,000 original principal amount Water Supply System Bonds (Karegnondi Water Pipeline), Series 2016, issued by KWA pursuant to the Financing Contract.

"State" shall mean the State of Michigan.

"Trust Agreement" shall mean the Baseline and All Receipts Trust Agreement among Flint, GLWA, KWA, GCDC, and [Trustee], as Trustee effective _____, 2017.

"Volume for Exempt Purposes" shall have the same meaning as this term is defined in the Raw Water Supply Contract.

"Water Transmission Fee" shall have the same meaning as this term is defined in the Raw Water Supply Contract.

ARTICLE II

AGREEMENT TERM

The term of this Agreement shall be from the Effective Date and shall remain in effect until the Construction Debt is paid in full and no longer outstanding.

ARTICLE III

RECEIPT OF RAW WATER

This Article III shall not apply to any raw water received and the use of that raw water by the GLWA pursuant to the Reciprocal Backup Agreement.

KWA acknowledges that Flint has transferred a portion of its right to delivery and use of raw water to GLWA during the Agreement Term. GLWA and Flint each agree to pay KWA for the raw water each may use that is received from the Raw Water Main at the then current rates established by the KWA Board pursuant to the Raw Water Supply Contract.

Neither GLWA nor Flint shall transmit any raw water purchased from KWA outside of the corporate limits of Flint without the prior written consent of KWA. Neither GLWA nor Flint shall transmit raw water purchased from KWA beyond the watershed as set forth in the Permit.

ARTICLE IV

APPROVAL OF TRANSFER OF REMAINING RIGHTS TO CAPACITY WHEN DEBT PAID

Pursuant to the Flint Contract and the License, Flint has provided GLWA with certain rights of raw water. The Flint Contract and the License further provide that Flint's rights licensed to GLWA and the remaining rights transfer after the Construction Debt is paid in full and no longer outstanding, and GLWA has purchased such remaining rights in accordance with the Flint Contract. KWA approves this transfer.

When Flint's remaining rights have transferred to GLWA, GLWA shall provide notice to KWA at the time established by Section 25.03 of the Flint Contract. KWA shall set the price per MGD, for purpose of Exhibit D of the Raw Water Supply Contract, at its then current price, on the date it receives this notice.

As between GLWA and Flint, consideration is deemed paid pursuant to the credits granted under Section 12.05 of the Flint Contract.

Upon the expiration of the Agreement Term, in order for GLWA to continue to receive raw water from KWA, GLWA shall enter into a Water Purchase Contract with KWA.

ARTICLE V

RAW WATER SUPPLY CONTRACT AND KWA INDEBTEDNESS

Section 5.01. Flint's Obligation to Support Refunding of Bonds. Flint acknowledges its continuing obligation to support the issuance of the KWA Refunding Bonds. Flint's continuing obligation includes, without limitation, participation and assistance in the issuance of the KWA Refunding Bonds, including: preparation of appropriate disclosure regarding Flint, its financial condition and operations as may be requested by KWA, the bond underwriter or as otherwise required by applicable federal securities laws; the signing of all documents requested by the bond underwriter and KWA; and, when requested by them, using reasonable efforts to provide them with all information and documents within Flint's control necessary to effectuate the purposes of the bond transaction. Flint's continuing obligation also includes taking all actions within its control necessary to maintain the exclusion of the interest on the KWA System Bonds and KWA Refunding Bonds from adjusted gross income for federal income purposes under the Internal Revenue Code of 1986, as amended; and providing and complying with its continuing disclosure obligations related to the KWA System Bonds and the KWA Refunding Bonds.

Section 5.02. Flint's Obligation to Pay. In accordance with Article II of the Raw Water Supply Contract, the bonds described on **Exhibit A** attached hereto have been issued by KWA and are and will continue to be payable from and secured by the Capacity Fee payments (to the extent previously payable from and secured by such fees), the Financing Contract payments and the payments to KWA under the Trust Agreement. For the avoidance of doubt, KWA and GLWA acknowledge and agree that the Financing Contract, and Flint's obligations thereunder, (a) remain in full force and effect, and (b) payments related thereto shall be payable thereunder and pursuant to the Trust Agreement.

Section 5.03. Issuance of KWA Refunding Bonds. In addition to the provisions of Section 2.05 of the Raw Water Supply Contract entitling KWA to issue KWA Refunding Bonds, the provisions of Article 26 of the Flint Contract impact the issuance of KWA Refunding Bonds by affecting the rights between the Flint and GLWA with respect thereto. KWA has no obligation to inquire as to or verify compliance by Flint with the Flint Contract, including, but not limited, Article 26. For the avoidance of doubt, GLWA (a) is not financially obligated, directly or indirectly, under the Financing Contract, the Raw Water Supply Contract, or

otherwise, for payment of KWA System Bonds or KWA Refunding Bonds or other obligations of Flint thereunder, and (b) is not a material obligated person with respect to such bonds, and has no obligation under federal securities laws or otherwise related to offering or disclosure documents for such bonds.

Section 5.04. Issuance of KWA System Improvement Bonds. In addition to the provisions of Section 2.05 of the Raw Water Supply Contract entitling KWA to issue one or more series or issues of KWA System Improvement Bonds, the provisions of Article 26 of the Flint Contract impact the issuance of KWA System Improvement Bonds by affecting the rights between Flint and GLWA with respect thereto. KWA has no obligation to inquire as to or verify compliance by Flint with the Flint Contract, including, but not limited, Article 26. For the avoidance of doubt, GLWA (a) is not financially obligated, directly or indirectly, under the Financing Contract, the Raw Water Supply Contract, or otherwise, for payment of KWA System Bonds or KWA Refunding Bonds or other obligations of Flint thereunder, and (b) is not a material obligated person with respect to such bonds, and has no obligation under federal securities laws or otherwise related to offering or disclosure documents for such bonds.

Section 5.05. Payments of Capacity Fee and applicable Debt Fund fee. In accordance with Article III of the Raw Water Supply Contract, as of the Effective Date, Flint is obligated to continue to pay its Capacity Fee and any applicable Debt Fund fee to KWA, to the extent that Flint's obligations for its share of the debt service on the bonds described on **Exhibit A** is not paid with payments to KWA from the Trust Agreement or otherwise. Additionally, Flint will also pay operating and maintenance fees to GCDC, which are paid as the GCDC pass-through charges under the Reciprocal Backup Agreement, the Flint Contract and the Trust Agreement. Notwithstanding any other provisions of the Raw Water Supply Contract as originally drafted, in light of the transactions contemplated by the Master Agreement, KWA (a) does not currently anticipate charging Flint or GLWA an Annual Requirement fee, a Water Transmission Fee (other than with respect to the 0.54 MGD), a fee for Volume for Exempt Purposes or any other fee authorized by the Raw Water Supply Contract, and (b) shall not impose any such fee on Flint without prior written notice to GLWA;

Section 5.06. Point or Points of Delivery. In addition to the provisions of Article IV of the Raw Water Supply Contract, with respect to any raw water to be purchased by GLWA pursuant to its rights received under the License, the obligations of KWA to deliver raw water would be to a Point or Points of Delivery set forth on Exhibit B of the Flint Contract, attached hereto, or such other Point or Points of Delivery established by agreement.

Section 5.07. GLWA not a Successor to Flint. KWA agrees, for the benefit of GLWA, to comply with its obligations to Flint under the Raw Water Supply Contract. For the avoidance of doubt, GLWA shall not constitute a successor to Flint under the Raw Water Supply Contract or the Financing Agreement, but shall have such obligations as set forth herein and in the documents and agreements executed by it pursuant to the Master Agreement.

Section 5.08. Remaining KWA System Costs. KWA represents that the remaining costs to complete the KWA System are not expected to exceed \$4,000,000.00, which is expected to be financed as part of the refinancing of the Series 2016 Bonds.

ARTICLE VI SECURITY DEPOSIT ACCOUNT

Section 6.01 Establishment of Security Deposit Account. Flint has established a Security Deposit Account with GLWA pursuant to the Flint Contract. GLWA is the sole owner of the Security Deposit Account and, except as set forth in this Agreement, GLWA shall have the sole and exclusive rights in and to the Security Deposit Account in accordance with the terms of the Flint Contract.

Section 6.02 KWA Rights to Pro-Rata Application of Security Deposit Account Balance. In the event of an ongoing failure of Flint to pay its obligations to GLWA under the Flint Contract and to KWA under the Financing Contract and the Raw Water Supply Contract, all pursuant to the Trust Agreement, then following:

- (i) the Conversion Date (as defined in the Trust Agreement);
- (ii) the application of the entire portion of any available debt service reserve fund monies available for payment of the bonds as listed on **Exhibit A**, which portion was funded by or is allocable to Flint, to Flint's obligations under the Financing Contract as the same become due in accordance with the terms of the applicable KWA bond indentures and/or resolutions, all as evidenced by written certification by the applicable paying agent, financial institution, and/or other third party acceptable to the Parties; and
- (iii) commencement by KWA (itself or by and through its applicable bond trustee(s)) and pursuit of its available remedies for collection from Flint under the terms of the applicable KWA bond indentures and/or resolutions, including commencement of legal action in the appropriate forum, all as evidenced by written certification of the KWA and a copy of the filing(s);

GLWA and KWA agree that any then-remaining balance in the Security Deposit Account shall be split pro-rata between GLWA and KWA for application to Flint's respective financial obligations then due and payable to GLWA under the Flint Contract and to KWA under the Financing Agreement.

ARTICLE VII ACKNOWLEDGEMENT OF ADDENDUM TO RAW WATER SUPPLY CONTRACT

Flint and KWA shall at the time of execution of this Agreement, execute the SECOND ADDENDUM TO RAW WATER SUPPLY CONTRACT BETWEEN THE KAREGNONDI WATER AUTHORITY AND THE CITY OF FLINT DATED JUNE 28, 2013, AND EFFECTIVE ON OCTOBER 1, 2013 attached hereto as **Exhibit B**.

ARTICLE VIII

DEFAULT AND REMEDIES

Section 8.01. Monetary Default. All amounts owed to KWA by GLWA or Flint shall, if not paid when due, bear interest at the maximum rate allowed by applicable law from the due date until paid in full. In any collection action for a monetary default, the non-prevailing party shall pay all of the prevailing party's expenses, including, but not limited to, awards of reasonable attorney fees and costs, court costs, and all other costs incurred by the prevailing party in such action.

Section 8.02. Non-Monetary Default. If a Party is alleged to be in non-monetary default under this Agreement, the non-defaulting Party shall send written notice to the alleged defaulting Party specifying in detail the nature of the alleged default. The alleged defaulting Party shall have five (5) days to cure the alleged default, provided that if the nature of the alleged default is such that more than five (5) days are required to cure the alleged default, then the alleged defaulting Party shall not be in default if it begins to cure within five (5) days and thereafter diligently pursues the cure to completion. The non-defaulting Party shall be entitled to all of its remedies as allowed by applicable law. In any legal action resulting from a non-monetary default, the non-prevailing party shall pay all of the prevailing party's expenses, including, but not limited to, awards of reasonable attorney fees and costs, court costs, and all other costs incurred by the prevailing party in such action.

ARTICLE IX

GENERAL PROVISIONS

Section 9.01. Force Majeure. If by reason of Force Majeure occurrence any Party shall be rendered unable wholly or in part to carry out its obligations under this Agreement, other than the obligation of the GLWA or Flint to make the payments as required under this Agreement, then if such Party shall give notice and detail of such Force Majeure occurrence in writing to each other Party within a reasonable time after the onset of the Force Majeure occurrence, the obligation of the Party giving such notice, so far as it is affected by such Force Majeure occurrence, shall be suspended during the continuance of the inability then claimed, but for no longer period, and any such Party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term "Force Majeure" as used herein shall mean acts of God, strikes, lockouts or other industrial disturbances, acts of public enemy, orders of any kind of the Government of the United States or the State, or any civil or military authority, insurrection, riots, epidemics, landslides, lightning, earthquake, fires, hurricanes, storms, floods, washouts, arrests, restraint of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipelines or canals, partial or entire failure of treated water supply, or on account of any other causes not reasonably within the control of the Party claiming such inability.

Section 9.02. Severability. In case any one or more of the sections, subsections, provisions, clauses or words of this Agreement or the application of such sections, subsections, provisions, clauses or words to any situation or circumstance shall be, or shall be held to be, for any reason, invalid or unconstitutional, under the laws or constitutions of the State or the United States of America, or in contravention of any such laws or constitutions, such invalidity,

unconstitutionality or contravention shall not affect any other sections, subsections, provisions, clauses or words of this Agreement or the application of such sections, subsections, provisions, clauses or words to any other situation or circumstance, and it is intended that this Agreement shall be severable and shall be construed and applied as if any such invalid or unconstitutional section, subsection, provision, clause or word had not been included herein, and the rights and obligations of the Parties shall be construed and remain in force accordingly.

Section 9.03. Governing Law. The rights and remedies set forth in this Agreement are not exclusive and are in addition to any of the rights or remedies provided by law or equity. This Agreement and all actions arising under it shall be governed by, subject to, and construed according to the laws of the State.

Section 9.04. Benefits to Inure. The rights and benefits under this Agreement shall inure to the benefit of and be binding upon the respective parties hereto, their agents, successors and assigns.

Section 9.05. Waiver. No Party shall be deemed to have waived any of its rights under this Agreement unless such waiver is in writing and signed by the other Parties. No delay or omission on the part of a Party in exercising any right shall operate as a waiver of such right or any other right. A waiver on any one occasion shall not be construed as a waiver of any right on any future occasion.

Section 9.06. Assignability. This Agreement may not be assigned by any Party without the prior written consent of all Parties.

Section 9.07. Construction. This Agreement has been prepared and negotiations have occurred in connection with said preparation pursuant to the joint efforts of the Parties. This Agreement therefore shall not be construed against any Party to this Agreement.

Section 9.08. Modification. This Agreement may not be modified without the consent of all Parties. A Party must give no less than 45 days' written notice to all Parties. Modifications to this Agreement may not be done without the agreement of all Parties. Consent to a modification by any Party shall not be unreasonably withheld.

Section 9.09. No Third Party Beneficiaries. In case of a conflict between this Section 7.07 and the Master Agreement, the Master Agreement shall control. Nothing in this clause shall be read to create a third party beneficiary right or to allow enforcement of third party beneficiary rights by an individual or entity that is not a Party, successor to a Party to this Agreement. Nothing in this clause shall be read to allow enforcement of third party beneficiary rights if such enforcement would abridge, impair, or destroy the rights which the promisee of a promise made for the benefit of another person or would otherwise have as a result of such promise.

Section 9.10. Counterparts. This Agreement may be executed in several counterparts each of which shall be deemed one and the same Agreement. It shall be binding upon and inure to the benefit of the Parties.

Section 9.11. Headings and Captions. The headings and captions used in this Agreement are for the convenience of reference only and in no way define, limit or describe the scope of intent of any provision of this Agreement.

Section 9.12. Addresses and Notice. Unless otherwise provided herein, any notice, communication, request, reply or advice (herein severally and collectively, for convenience, called "Notice") herein provided or permitted to be given, made or accepted by any Party to any other Party, shall be in writing and shall be given or be served by depositing the same in the United States mail postpaid and registered and certified and addressed to the Party to be notified, with return receipt requested. Notice deposited in the mail in the manner described above shall be conclusively deemed to be effective, unless otherwise stated herein, from and after the expiration of three (3) days after it is so deposited. For the purposes of notice, the addresses of the Parties shall, until changed as hereinafter provided, be as follows:

If to GLWA, to:

Great Lakes Water Authority
Attn: Chief Executive Officer
735 Randolph Street, Suite 1900
Detroit, Michigan 48226

If to Flint, to:

City of Flint
Attn: Mayor
1101 South Saginaw Street
Flint, Michigan 48502

If to KWA, to:

Karegnondi Water Authority
Attn: Chief Executive Officer
G-4610 Beecher Road
Flint, Michigan 48532

Each Party shall have the right from time to time and at any time to change their respective addresses and each shall have the right to specify as its address any other address by at least fifteen (15) days written notice to each other Party.

Section 9.13. Exhibits. All Exhibits attached to this Agreement are incorporated into this Agreement by reference as though fully set forth herein.

Section 9.14. Survival. The terms of the purchase price calculation as set forth in Article IV above shall survive the expiration or termination of this Agreement.

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IN WITNESS WHEREOF, the Parties acting under the authority of their respective governing bodies have caused this Agreement to be duly executed as of the Effective Date.

GLWA:

By: _____
Sue McCormick, Chief Executive Officer Date _____

KWA:

By: _____
John F. O'Brien, Deputy Chief Executive Officer Date _____

Flint:

By: _____
Karen Weaver, Mayor Date _____

ATTEST:

By: _____
Inez Brown, City Clerk
City of Flint Date _____

Exhibit A

Flint's obligations for its share of the debt service on the bonds

Total Payments due from GCDC and City of Flint									
Payment Period	Billing Period	Total Annual	GCDC Portion 70%	Portion 100.0%	Flint Portion 30%				
Oct. 2013	Oct. 2013	\$2,539,422.64	\$2,539,422.64	To Be Paid					
Oct. 2014	Oct. 2014	\$1,546,837.50	\$1,546,837.50	2019					
Oct. 2015	Oct. 2015	\$2,571,387.50	\$2,571,387.50	thru 2021	Recur				
Sept. 2016	Sept. 2016	Monthly	Monthly	\$1,035,987.50	\$445,881.88				
Oct. 2016	Oct. 2016	\$1,719,075.00	\$1,719,075.00	\$1,719,075.00	\$532,902.50				
Sept. 2017	Sept. 2017	Monthly	Monthly	\$1,396,727.50	\$527,883.13				
Oct. 2017	Oct. 2017	\$2,913,325.00	\$2,913,325.00	\$1,604,007.48	\$674,397.63				
Sept. 2018	Sept. 2018	Monthly	Monthly	\$1,396,581.48	\$674,397.63				
Oct. 2018	Oct. 2018	\$2,919,287.50	\$2,919,287.50	\$1,396,581.48	\$674,397.63				
Sept. 2019	Sept. 2019	Monthly	Monthly	\$1,396,572.71	\$674,397.63				
Oct. 2019	Oct. 2019	\$2,919,287.50	\$2,919,287.50	\$1,396,572.71	\$674,397.63				
Sept. 2020	Sept. 2020	Monthly	Monthly	\$1,396,339.38	\$674,397.63				
Oct. 2020	Oct. 2020	\$2,919,287.50	\$2,919,287.50	\$1,396,339.38	\$674,397.63				
Sept. 2021	Sept. 2021	Monthly	Monthly	\$1,396,001.98	\$674,397.63				
Oct. 2021	Oct. 2021	\$2,919,287.50	\$2,919,287.50	\$1,396,001.98	\$674,397.63				
Sept. 2022	Sept. 2022	Monthly	Monthly	\$1,396,178.96	\$674,397.63				
Oct. 2022	Oct. 2022	\$2,919,287.50	\$2,919,287.50	\$1,396,178.96	\$674,397.63				
Sept. 2023	Sept. 2023	Monthly	Monthly	\$1,396,689.38	\$674,397.63				
Oct. 2023	Oct. 2023	\$2,919,287.50	\$2,919,287.50	\$1,396,689.38	\$674,397.63				
Sept. 2024	Sept. 2024	Monthly	Monthly	\$1,396,572.71	\$674,397.63				
Oct. 2024	Oct. 2024	\$2,919,287.50	\$2,919,287.50	\$1,396,572.71	\$674,397.63				
Sept. 2025	Sept. 2025	Monthly	Monthly	\$1,396,388.13	\$674,397.63				
Oct. 2025	Oct. 2025	\$2,919,287.50	\$2,919,287.50	\$1,396,388.13	\$674,397.63				
Sept. 2026	Sept. 2026	Monthly	Monthly	\$1,396,455.31	\$674,397.63				
Oct. 2026	Oct. 2026	\$2,919,287.50	\$2,919,287.50	\$1,396,455.31	\$674,397.63				
Sept. 2027	Sept. 2027	Monthly	Monthly	\$1,396,560.31	\$674,397.63				
Oct. 2027	Oct. 2027	\$2,919,287.50	\$2,919,287.50	\$1,396,560.31	\$674,397.63				
Sept. 2028	Sept. 2028	Monthly	Monthly	\$1,396,453.25	\$674,397.63				
Oct. 2028	Oct. 2028	\$2,919,287.50	\$2,919,287.50	\$1,396,453.25	\$674,397.63				
Sept. 2029	Sept. 2029	Monthly	Monthly	\$1,396,796.25	\$674,397.63				
Oct. 2029	Oct. 2029	\$2,919,287.50	\$2,919,287.50	\$1,396,796.25	\$674,397.63				
Sept. 2030	Sept. 2030	Monthly	Monthly	\$1,396,840.00	\$674,397.63				
Oct. 2030	Oct. 2030	\$2,919,287.50	\$2,919,287.50	\$1,396,840.00	\$674,397.63				
Sept. 2031	Sept. 2031	Monthly	Monthly	\$1,396,932.50	\$674,397.63				
Oct. 2031	Oct. 2031	\$2,919,287.50	\$2,919,287.50	\$1,396,932.50	\$674,397.63				
Sept. 2032	Sept. 2032	Monthly	Monthly	\$1,396,738.75	\$674,397.63				
Oct. 2032	Oct. 2032	\$2,919,287.50	\$2,919,287.50	\$1,396,738.75	\$674,397.63				
Sept. 2033	Sept. 2033	Monthly	Monthly	\$1,396,430.00	\$674,397.63				
Oct. 2033	Oct. 2033	\$2,919,287.50	\$2,919,287.50	\$1,396,430.00	\$674,397.63				
Sept. 2034	Sept. 2034	Monthly	Monthly	\$1,396,736.25	\$674,397.63				
Oct. 2034	Oct. 2034	\$2,919,287.50	\$2,919,287.50	\$1,396,736.25	\$674,397.63				
Sept. 2035	Sept. 2035	Monthly	Monthly	\$1,396,923.13	\$674,397.63				
Oct. 2035	Oct. 2035	\$2,919,287.50	\$2,919,287.50	\$1,396,923.13	\$674,397.63				
Sept. 2036	Sept. 2036	Monthly	Monthly	\$1,396,256.88	\$674,397.63				
Oct. 2036	Oct. 2036	\$2,919,287.50	\$2,919,287.50	\$1,396,256.88	\$674,397.63				
Sept. 2037	Sept. 2037	Monthly	Monthly	\$1,396,534.38	\$674,397.63				
Oct. 2037	Oct. 2037	\$2,919,287.50	\$2,919,287.50	\$1,396,534.38	\$674,397.63				
Sept. 2038	Sept. 2038	Monthly	Monthly	\$1,396,651.25	\$674,397.63				
Oct. 2038	Oct. 2038	\$2,919,287.50	\$2,919,287.50	\$1,396,651.25	\$674,397.63				
Sept. 2039	Sept. 2039	Monthly	Monthly	\$1,396,155.14	\$674,397.63				
Oct. 2039	Oct. 2039	\$2,919,287.50	\$2,919,287.50	\$1,396,155.14	\$674,397.63				
Sept. 2040	Sept. 2040	Monthly	Monthly	\$1,396,612.50	\$674,397.63				
Oct. 2040	Oct. 2040	\$2,919,287.50	\$2,919,287.50	\$1,396,612.50	\$674,397.63				
Sept. 2041	Sept. 2041	Monthly	Monthly	\$1,396,958.33	\$674,397.63				
Oct. 2041	Oct. 2041	\$2,919,287.50	\$2,919,287.50	\$1,396,958.33	\$674,397.63				
Sept. 2042	Sept. 2042	Monthly	Monthly	\$1,396,935.42	\$674,397.63				
Oct. 2042	Oct. 2042	\$2,919,287.50	\$2,919,287.50	\$1,396,935.42	\$674,397.63				
Sept. 2043	Sept. 2043	Monthly	Monthly	\$1,396,358.33	\$674,397.63				
Oct. 2043	Oct. 2043	\$2,919,287.50	\$2,919,287.50	\$1,396,358.33	\$674,397.63				
Sept. 2044	Sept. 2044	Monthly	Monthly	\$1,396,797.50	\$674,397.63				
Oct. 2044	Oct. 2044	\$2,919,287.50	\$2,919,287.50	\$1,396,797.50	\$674,397.63				
Sept. 2045	Sept. 2045	Monthly	Monthly	\$1,396,887.74	\$674,397.63				
Oct. 2045	Oct. 2045	\$2,919,287.50	\$2,919,287.50	\$1,396,887.74	\$674,397.63				
Sept. 2046	Sept. 2046	Monthly	Monthly	\$1,396,612.50	\$674,397.63				
Oct. 2046	Oct. 2046	\$2,919,287.50	\$2,919,287.50	\$1,396,612.50	\$674,397.63				
Sept. 2047	Sept. 2047	Monthly	Monthly	\$1,396,932.50	\$674,397.63				
Oct. 2047	Oct. 2047	\$2,919,287.50	\$2,919,287.50	\$1,396,932.50	\$674,397.63				
Sept. 2048	Sept. 2048	Monthly	Monthly	\$1,396,738.75	\$674,397.63				
Oct. 2048	Oct. 2048	\$2,919,287.50	\$2,919,287.50	\$1,396,738.75	\$674,397.63				
Sept. 2049	Sept. 2049	Monthly	Monthly	\$1,396,430.00	\$674,397.63				
Oct. 2049	Oct. 2049	\$2,919,287.50	\$2,919,287.50	\$1,396,430.00	\$674,397.63				
Sept. 2050	Sept. 2050	Monthly	Monthly	\$1,396,736.25	\$674,397.63				
Oct. 2050	Oct. 2050	\$2,919,287.50	\$2,919,287.50	\$1,396,736.25	\$674,397.63				
Sept. 2051	Sept. 2051	Monthly	Monthly	\$1,396,923.13	\$674,397.63				
Oct. 2051	Oct. 2051	\$2,919,287.50	\$2,919,287.50	\$1,396,923.13	\$674,397.63				
Sept. 2052	Sept. 2052	Monthly	Monthly	\$1,396,256.88	\$674,397.63				
Oct. 2052	Oct. 2052	\$2,919,287.50	\$2,919,287.50	\$1,396,256.88	\$674,397.63				
Sept. 2053	Sept. 2053	Monthly	Monthly	\$1,396,534.38	\$674,397.63				
Oct. 2053	Oct. 2053	\$2,919,287.50	\$2,919,287.50	\$1,396,534.38	\$674,397.63				
Sept. 2054	Sept. 2054	Monthly	Monthly	\$1,396,651.25	\$674,397.63				
Oct. 2054	Oct. 2054	\$2,919,287.50	\$2,919,287.50	\$1,396,651.25	\$674,397.63				
Sept. 2055	Sept. 2055	Monthly	Monthly	\$1,396,155.14	\$674,397.63				
Oct. 2055	Oct. 2055	\$2,919,287.50	\$2,919,287.50	\$1,396,155.14	\$674,397.63				
Sept. 2056	Sept. 2056	Monthly	Monthly	\$1,396,612.50	\$674,397.63				
Oct. 2056	Oct. 2056	\$2,919,287.50	\$2,919,287.50	\$1,396,612.50	\$674,397.63				
Sept. 2057	Sept. 2057	Monthly	Monthly	\$1,396,958.33	\$674,397.63				
Oct. 2057	Oct. 2057	\$2,919,287.50	\$2,919,287.50	\$1,396,958.33	\$674,397.63				
Sept. 2058	Sept. 2058	Monthly	Monthly	\$1,396,935.42	\$674,397.63				
Oct. 2058	Oct. 2058	\$2,919,287.50	\$2,919,287.50	\$1,396,935.42	\$674,397.63				
Sept. 2059	Sept. 2059	Monthly	Monthly	\$1,396,358.33	\$674,397.63				
Oct. 2059	Oct. 2059	\$2,919,287.50	\$2,919,287.50	\$1,396,358.33	\$674,397.63				
Sept. 2060	Sept. 2060	Monthly	Monthly	\$1,396,797.50	\$674,397.63				
Oct. 2060	Oct. 2060	\$2,919,287.50	\$2,919,287.50	\$1,396,797.50	\$674,397.63				
Sept. 2061	Sept. 2061	Monthly	Monthly	\$1,396,887.74	\$674,397.63				
Oct. 2061	Oct. 2061	\$2,919,287.50	\$2,919,287.50	\$1,396,887.74	\$674,397.63				
Sept. 2062	Sept. 2062	Monthly	Monthly	\$1,396,612.50	\$674,397.63				
Oct. 2062	Oct. 2062	\$2,919,287.50	\$2,919,287.50	\$1,396,612.50	\$674,397.63				
Sept. 2063	Sept. 2063	Monthly	Monthly	\$1,396,932.50	\$674,397.63				
Oct. 2063	Oct. 2063	\$2,919,287.50	\$2,919,287.50	\$1,396,932.50	\$674,397.63				
Sept. 2064	Sept. 2064	Monthly	Monthly	\$1,396,738.75	\$674,397.63				
Oct. 2064	Oct. 2064	\$2,919,287.50	\$2,919,287.50	\$1,396,738.75	\$674,397.63				
Sept. 2065	Sept. 2065	Monthly	Monthly	\$1,396,430.00	\$674,397.63				
Oct. 2065	Oct. 2065	\$2,919,287.50	\$2,919,287.50	\$1,396,430.00	\$674,397.63				
Sept. 2066	Sept. 2066	Monthly	Monthly	\$1,396,736.25	\$674,397.63				
Oct. 2066	Oct. 2066	\$2,919,287.50	\$2,919,287.50	\$1,396,736.25	\$674,397.63				
Sept. 2067	Sept. 2067	Monthly	Monthly	\$1,396,923.13	\$674,397.63				
Oct. 2067	Oct. 2067	\$2,919,287.50	\$2,919,287.50	\$1,396,923.13	\$674,397.63				
Sept. 2068	Sept. 2068	Monthly	Monthly	\$1,396,256.88	\$674,397.63				
Oct. 2068	Oct. 2068	\$2,919,287.50	\$2,919,287.50	\$1,396,256.88	\$674,397.63				
Sept. 2069	Sept. 2069	Monthly	Monthly	\$1,396,534.38	\$674,397.63				
Oct. 2069	Oct. 2069	\$2,919,287.50	\$2,919,287.50	\$1,396,534.38	\$674,397.63				
Sept. 2070	Sept. 2070	Monthly	Monthly	\$1,396,651.25	\$674,397.63				
Oct. 2070	Oct. 2070	\$2,919,287.50	\$2,919,287.50	\$1,396,651.25	\$674,397.63				
Sept. 2071	Sept. 2071	Monthly	Monthly	\$1,396,155.14	\$674,397.63				
Oct. 2071	Oct. 2071	\$2,919,287.50	\$2,919,287.50	\$1,396,155.14	\$674,397.63				
Sept. 2072	Sept. 2072	Monthly	Monthly	\$1,396,612.50	\$674,397.63				
Oct. 2072	Oct. 2072	\$2,919,287.50	\$2,919,287.50	\$1,396,612.50	\$674,397.63				
Sept. 2073	Sept. 2073	Monthly	Monthly	\$1,396,958.33	\$674,397.63				
Oct. 2073	Oct. 2073	\$2,919,287.50	\$2,919,287.50	\$1,396,958.33	\$674,397.63				
Sept. 2074	Sept. 2074	Monthly	Monthly	\$1,396,935.42	\$674,397.63				
Oct. 2074	Oct. 2074	\$2,919,287.50	\$2,919,287.50	\$1,396,935.42	\$674,397.63				
Sept. 2075	Sept. 2075	Monthly	Monthly	\$1,396,358.33	\$674,397.63				
Oct. 2075	Oct. 2075	\$2,919,287.50	\$2,919,287.50	\$1,396,358.33	\$674,397.63				
Sept. 2076	Sept. 2076	Monthly	Monthly	\$1,396,797.50	\$674,397.63				
Oct. 2076	Oct. 2076	\$2,919,287.50	\$2,919,287.50	\$1,396,797.50	\$674,397.63				
Sept. 2077	Sept. 2077	Monthly	Monthly	\$1,396,887.74	\$674,397.63				
Oct. 2077	Oct. 2077	\$2,919,287.50	\$2,919,287.50	\$1,396,887.74	\$674,397.63				
Sept. 2078	Sept. 2078	Monthly	Monthly	\$1,396,612.50	\$674,397.63				
Oct. 2078	Oct. 2078	\$2,919,287.50	\$2,919,287.50	\$1,396,612.50	\$674,397.63				
Sept. 2079	Sept. 2079	Monthly	Monthly	\$1,396,932.50	\$674,397.63				
Oct. 2079	Oct. 2079	\$2,919,287.50	\$2,919,287.50	\$1,396,932.50	\$674,397.63				
Sept. 2080	Sept. 2080	Monthly	Monthly	\$1,396,738.75	\$674,397.63				
Oct. 2080	Oct. 2080	\$2,919,287.50	\$2,919,287.50	\$1,396,738.75	\$674,397.63				
Sept. 2081	Sept. 2081	Monthly	Monthly	\$1,396,430.00	\$674,397.63				
Oct. 2081	Oct. 2081	\$2,919,287.50	\$2,919,287.50	\$1,396,430.00	\$674,397.63				
Sept. 2082	Sept. 2082	Monthly	Monthly	\$1,396,736.25	\$674,397.63				
Oct. 2082	Oct. 2082	\$2,919,287.50	\$2,919,287.50	\$1,396,736.25	\$674,397.63				
Sept. 2083	Sept. 2083	Monthly	Monthly	\$1,396,923.13	\$674,397.63				
Oct. 2083	Oct. 2083	\$2,919,287.50	\$2,919,287.50	\$1,396,923.13	\$674,397.63				
Sept. 2084	Sept. 2084	Monthly	Monthly	\$1,396,256.88	\$674,397.63				
Oct. 2084	Oct. 2084	\$2,919,287.50	\$2,919,287.50	\$1,396,256.88	\$674,397.63				
Sept. 2085	Sept. 2085	Monthly	Monthly	\$1,396,534.38	\$674,397.63				
Oct. 2085	Oct. 2085	\$2,919,287.50	\$2,919,287.50	\$1,396,534.38	\$674,397.63				
Sept. 2086	Sept. 2086	Monthly	Monthly	\$1,396,651.25	\$674,397.63				
Oct. 2086	Oct. 2086	\$2,919,287.50	\$2,919,287.50	\$1,396,651.25	\$674,397.63				
Sept. 2087	Sept. 2087	Monthly	Monthly	\$1,396,155.14	\$674,397.63				
Oct. 2087	Oct. 2087	\$2,919,287.50	\$2,919,287.50	\$1,396,155.14	\$674,397.63				
Sept. 2088	Sept. 2088	Monthly	Monthly	\$1,396,612.50	\$674,397.63				
Oct. 2088	Oct. 2088	\$2,919,287.50	\$2						

GDC Make Bond \$35,000,000 Series 2013 (ITC 5.04%)					
Payment Amount	Total Annual Payments	GDC Portion 2016	GDC Portion 2017	Flint Portion 2016	Flint Portion 2017
\$1,532,618.75	\$2,529,422.64	\$2,529,422.64			To Be Paid In Years 2018 thru 2041
\$435,518.75	\$2,529,422.64	\$2,529,422.64			
\$1,670,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,680,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,690,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,700,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,710,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,720,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,730,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,740,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,750,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,760,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,770,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,780,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,790,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,800,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,810,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,820,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,830,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,840,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,850,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,860,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,870,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,880,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,890,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,900,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,910,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,920,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,930,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,940,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,950,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,960,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,970,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,980,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,990,931.75	\$2,529,422.64	\$2,529,422.64			
\$434,681.75	\$2,529,422.64	\$2,529,422.64			
\$1,000,000.00	\$2,529,422.64	\$2,529,422.64			
\$2,464,500.00	\$2,529,422.64	\$2,529,422.64			
\$63,184,253.92	\$63,184,253.92	\$63,184,253.92	\$44,228,977.74	\$18,955,276.18	\$18,955,276.18
Calculation Check: \$63,184,253.92 = \$44,228,977.74 + \$18,955,276.18 = \$70.0%					

Period	Total Payroll	Annual Payroll	Portion TIC	Portion GDC	Portion Flt
1/1/2018	\$5,150,500.00	\$5,150,500.00	\$3,603,390.00	\$1,545,110.00	
1/1/2019	\$5,149,750.00	\$5,149,750.00	\$3,604,825.00	\$1,544,925.00	
1/1/2020	\$5,150,750.00	\$5,150,750.00	\$3,605,525.00	\$1,545,225.00	
1/1/2021	\$5,148,250.00	\$5,148,250.00	\$3,603,775.00	\$1,544,475.00	
1/1/2022	\$5,147,250.00	\$5,147,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2023	\$5,147,500.00	\$5,147,500.00	\$3,603,290.00	\$1,544,210.00	
1/1/2024	\$5,148,750.00	\$5,148,750.00	\$3,604,125.00	\$1,544,625.00	
1/1/2025	\$5,150,750.00	\$5,150,750.00	\$3,605,525.00	\$1,546,225.00	
1/1/2026	\$5,148,750.00	\$5,148,750.00	\$3,603,775.00	\$1,544,975.00	
1/1/2027	\$5,146,750.00	\$5,146,750.00	\$3,603,390.00	\$1,543,360.00	
1/1/2028	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2029	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2030	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2031	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2032	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2033	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2034	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2035	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2036	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2037	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2038	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2039	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2040	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2041	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2042	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2043	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2044	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2045	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2046	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2047	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2048	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2049	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2050	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2051	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2052	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2053	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2054	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2055	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2056	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2057	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2058	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2059	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2060	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2061	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2062	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2063	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2064	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2065	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2066	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2067	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2068	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2069	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2070	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2071	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2072	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2073	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2074	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2075	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2076	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2077	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2078	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2079	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2080	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2081	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2082	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2083	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2084	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2085	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2086	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2087	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2088	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2089	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2090	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2091	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2092	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2093	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2094	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2095	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2096	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2097	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2098	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2099	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2100	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2101	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2102	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2103	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2104	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2105	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2106	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2107	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2108	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2109	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2110	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2111	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2112	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2113	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2114	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2115	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2116	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2117	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2118	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2119	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2120	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2121	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2122	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2123	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2124	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2125	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2126	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2127	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2128	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2129	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2130	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2131	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2132	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2133	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2134	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2135	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2136	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2137	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2138	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2139	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2140	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2141	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2142	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2143	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2144	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2145	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2146	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2147	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2148	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2149	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2150	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2151	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2152	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2153	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2154	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2155	\$5,148,250.00	\$5,148,250.00	\$3,603,075.00	\$1,544,175.00	
1/1/2156	\$5,148,250.00	\$5,14			

[illegible]

Exhibit B

Second Addendum to Raw Water Supply Contract between the Karegnondi Water Authority and the City of Flint dated June 28, 2013, and effective on October 1, 2013

**SECOND ADDENDUM TO
RAW WATER SUPPLY CONTRACT BETWEEN THE KAREGNONDI WATER
AUTHORITY AND THE CITY OF FLINT EFFECTIVE ON OCTOBER 1, 2013, AS
AMENDED BY THE FIRST ADDENDUM EFFECTIVE MARCH 6, 2014**

THIS SECOND ADDENDUM ("Addendum") to the RAW WATER SUPPLY CONTRACT BETWEEN THE KAREGNONDI WATER AUTHORITY AND THE CITY OF FLINT EFFECTIVE ON OCTOBER 1, 2013, as amended by the FIRST ADDENDUM, EFFECTIVE MARCH 6, 2014 (hereafter the "Agreement") is executed and delivered as of the Effective Date of the Master Agreement to which this Addendum is attached as Exhibit G, by and between the Karegnondi Water Authority, a Michigan Public Authority created pursuant to Act 233 of the Michigan Public Acts of 1955, as amended (hereinafter "KWA"), whose address is G-4610 Beecher Road, Flint, Michigan 48532 and the City of Flint, a municipal corporation, of the State of Michigan (hereinafter "Flint"), whose address is 1101 South Saginaw Street, Flint, Michigan 48502. KWA and Flint are sometimes hereafter each referred to as a "Party" and collectively as the "Parties."

WITNESSETH:

WHEREAS, the Parties entered into a Raw Water Supply Contract, dated the 28th day of June, 2013, and effective on October 1, 2013;

WHEREAS, the Parties entered into a First Addendum to Raw Water Supply Contract, effective on March 6, 2014;

WHEREAS, the Parties have agreed to enter into this Addendum for the purpose of modifying ARTICLE II, Section 2.05; ARTICLE V, Section 5.07; and ARTICLE VII, Section 7.15 of the Agreement.

NOW THEREFORE, it is hereby agreed by the Parties as follows:

1. Amendment to the ARTICLE II, Section 2.05 of the Agreement. ARTICLE II, Section 2.05 of the Agreement is hereby deleted in its entirety and replaced with the following:

"Section 2.05. Repair and Replacement of Components-Government Required Enhancements. It is anticipated that repair and replacement of components of the System and enhancements required by government regulations will be in incremental, finite projects and that each such project will be financed by the Authority through operating revenues, the issuance of one or more series or issues of System Improvement Bonds, or any other lawful sources. Also, on its own initiative or at the request of the Buyer, the Authority may refund any Bonds that were issued to construct, equip, operate, maintain and otherwise improve the System and any System facilities. The Authority agrees that such improvements for

the System will be made in accordance with generally accepted engineering practices. It is anticipated that such improvements will be financed by the Authority through operating revenues, the issuance of one or more series or issues of System Improvement Bonds, or any other lawful sources, payable from and secured by the payments made under this Contract and/or any other lawful sources."

2. **Amendment to the ARTICLE V, Section 5.07 of the Agreement.** ARTICLE V, Section 5.07 of the Agreement is hereby deleted in its entirety and replaced with the following:

"Section 5.07 Prompt Payment/Disputed Bills. The Buyer hereby agrees that unless otherwise specified it will make payments required by this Contract to the Authority on or before the 30th day of each month immediately following the month in which the applicable monthly statement date occurs except for the month of February, in which case the monthly due day is the last date of the month of February. For example, if the applicable monthly statement date for water supplied in January is February 20 then the due date for such payment would be March 30. If the Buyer, at any time, disputes the amount to be paid by it to the Authority, the Buyer shall nevertheless promptly make such payment or payments; but, if it is determined by agreement or court decision that such disputed payments should have been less, or more, the Authority shall promptly revise and reallocate the charges in such manner that the Buyer will recover its overpayment or the Authority will recover the amount due it. All amounts due and owing to the Authority by Buyer, or due and owing to the Buyer by the Authority, shall, if not paid when due, bear interest per annum at the maximum rate allowed by law from the date when due until paid."

3. **Amendment to ARTICLE VII, Section 7.15 of the Agreement.** ARTICLE VII, Section 7.15 of the Agreement is hereby deleted in its entirety.

4. **Notices.** Any notice, demand, or communication required, permitted or desired to be given under this Addendum shall be deemed effectively given pursuant to ARTICLE VII, Section 7.24 the Agreement.

5. **Headings.** The headings of the sections set forth in this Addendum are inserted for the convenience of reference only and shall be disregarded when construing or interpreting any of the provisions of this Addendum.

6. **Complete Agreement.** This Addendum, the Agreement and any additional or supplementary documents incorporated by specific reference contain all of the terms and conditions agreed upon by the Parties and no other agreements, oral or otherwise, regarding the subject matter of this Addendum or any part thereof shall have any validity or bind either of the Parties.

7. **Severability.** If any provision of this Addendum is held to be unenforceable for any reason, the unenforceability thereof shall not affect the remainder of this Addendum which shall remain in full force and effect and enforceable in accordance with its terms.

8. **Waiver.** No waiver of any of the obligations contained herein shall be effective for any purpose unless the same shall be in writing signed by the Chairperson of the Incorporating Board of the Karegnondi Water Authority and by Mayor or Emergency Manager, or both upon the Flint City Council or Emergency Manager's approval, whichever is applicable.

9. **Construction.** This Addendum has been prepared and negotiations have occurred in connection with said preparation pursuant to the joint efforts of the Parties. This Addendum therefore shall not be construed against either Party.

10. **Amendment.** This Addendum may not be amended or modified except for by written agreement signed by both Parties.

11. **Certification of Authority to Sign Addendum.** The persons signing on behalf of each of the Parties certify by their signatures that they are authorized to sign the Addendum on behalf of such Party and that this Addendum has been authorized by such Party.

12. **Remainder of Agreement.** Except as modified by this Addendum, the terms of the Agreement shall remain in full force and effect.

[THIS SPACE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Parties hereto have caused this Addendum to be executed and delivered by their respective duly authorized representatives as of the Effective Date of the Master Agreement to which this Addendum is attached as Exhibit G.

KAREGNONDI WATER AUTHORITY

By: _____
John F. O'Brien, Deputy Chief Executive Officer

ATTEST:

CITY OF FLINT

By: _____
Karen Weaver, Mayor

ATTEST:

Inez Brown, Clerk of the City of Flint

EXHIBIT E



DEQ Tracking Code/Project Number 900040 PIPE
Division/Office Administration
Amendment Request No. 01

AMENDMENT TO THE POTTER ROAD TRANSMISSION MAIN PROJECT GRANT
CONTRACT
BETWEEN
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AND
GENESEE COUNTY DRAIN COMMISSIONER

This Amendment modifies the grant contract between the Michigan Department of Environmental Quality (hereafter "State"), and Genesee County (hereafter "Grantee"), signed by the State on June 22, 2017 for the Potter Road Transmission Main Project. This Amendment does not take effect until signed by both parties.

The revisions to the grant contract are limited to those specified below. All other provisions of the contract remain in effect.

PROJECT SCOPE (WORK PLAN)

There is no change to the project scope.

CONTRACT PERIOD (END DATE)

There is no change to the contract period.

COMPENSATION (BUDGET)

The State and the Grantee agree to the budget modifications as described below & included in the attached budget amendment form.

Contractual Services: Increase \$3,300,000

Beginning Total Contract Amount: \$4,200,000

Increase: \$3,300,000

New Total Contract Amount: \$7,500,000

IV. AUTHORIZED SIGNATURES

The individuals signing below certify by their signatures that they are authorized to sign this Contract on behalf of their agencies and that the parties will fulfill the terms of this Contract, including any attached appendices, as set forth herein.

FOR THE GRANTEE:

Signature
Jeff Wright, Drain Commissioner

Name/Title

7.21.17

Date

FOR THE STATE:

Signature
Amy Epkey, Deputy Director

8/15/17

Date



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

BUDGET REVISION

Grantee Organization Name: Genesee County
Project Name: Potter Road Transmission Main Project
Tracking Code Number: 900040 PIPE Period Cover: Date Submitted:

BUDGET CATEGORIES	GRANT			MATCH			TOTAL
	Approved Budget	Proposed Change	Revised Project Grant Funds	Approved Local Match	Proposed Change	Revised Local Match Funds	
STAFFING AND FRINGE							
Staffing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fringe	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CONTRACTUAL SERVICES							
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rickman Construction *	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$4,200,000.00	\$3,300,000.00	\$7,500,000.00	\$ -	\$ -	\$ -	\$7,500,000.00
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$4,200,000.00	\$3,300,000.00	\$7,500,000.00	\$ -	\$ -	\$ -	\$7,500,000.00
SUPPLIES & MATERIALS (Require)							
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
EQUIPMENT							
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TRAVEL							
MILEAGE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LODGING	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
MEALS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OTHER (tolls, parking, etc.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PROJECT							
Subtotal	\$ 4,200,000	\$ 3,300,000	\$ 7,500,000	\$ -	\$ -	\$ -	\$ 7,500,000
INDIRECT RATE							
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GRANT AND MATCH BUDGET							
TOTAL	\$4,200,000.00	\$3,300,000.00	\$7,500,000.00	\$ -	\$ -	\$ -	\$7,500,000.00
Project Percentage Split			100.00%				



**POTTER ROAD TRANSMISSION MAIN PROJECT
BETWEEN THE
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AND GENESEE COUNTY DRAIN COMMISSIONER**

This Grant Agreement ("Agreement") is made between the Michigan Department of Environmental Quality, (DEQ), ("State"), and Genesee County ("Grantee").

The purpose of this Agreement is to provide funding in exchange for work to be performed for the project named below. The State is authorized to provide grant assistance pursuant to Public Act 268 of 2016, Article XXI, Part 2, Section 503 and Public Act 3 of 2016, Part 1, Section 401. This Agreement is subject to the terms and conditions specified herein.

Project Name: Potter Road Transmission Main Project
Amount of grant: \$4,200,000 *
* To be amended as additional funds become available
Start Date 05/23/17

Project #: 900040 PIPE
% of grant state 100 / % of grant federal 0
PROJECT TOTAL: \$7,500,000 *
End Date: 12/31/17

GRANTEE CONTACT:

John O'Brien
Name/Title
Genesee County Drain Commissioner
Organization
4610 Beecher Road
Address
Flint, Michigan 48532
Address
810-732-7870
Telephone number

Fax number
jfbrien@gcdcwvs.com
E-mail address
81-0919189
Federal ID number

STATE'S CONTACT:

Sylvia Renteria, Assistant Budget Officer
Name/Title
Administration Division
Division/Bureau/Office
P.O. Box 30473
Address
Lansing, Michigan 48909
Address
517-284-5006
Telephone number

Fax number
renterias@michigan.gov
E-mail address

Grantee DUNS number

The individuals signing below certify by their signatures that they are authorized to sign this Agreement on behalf of their agencies and that the parties will fulfill the terms of this Agreement, including any attached appendices, as set forth herein.

FOR THE GRANTEE:

[Signature]
Signature
Jeff Wright, Drain Commissioner
Name/Title

6-14-2017
Date

FOR THE STATE:

[Signature]
Signature
Amy Epkey, Deputy Director
Name/Title

6-22-17
Date

I. PROJECT SCOPE

This Agreement and its appendices constitute the entire Agreement between the State and the Grantee and may be modified only by written agreement between the State and the Grantee.

(A) The scope of this project is limited to the activities specified in Appendix A and such activities as are authorized by the State under this Agreement. Any change in project scope requires prior written approval in accordance with Section III, Changes, in this Agreement.

(B) By acceptance of this Agreement, the Grantee commits to complete the project identified in Appendix A within the time period allowed for in this Agreement and in accordance with the terms and conditions of this Agreement.

II. AGREEMENT PERIOD

Upon signature by the State, the Agreement shall be effective from the Start Date until the End Date on page 1. The State shall have no responsibility to provide funding to the Grantee for project work performed except between the Start Date and the End Date specified on page 1. Expenditures made by the Grantee prior to the Start Date or after the End Date of this Agreement are not eligible for payment under this Agreement.

III. CHANGES

Any changes to this Agreement, other than budget line item revisions less than 10 percent of the budget line item, shall be requested by the Grantee or the State in writing and implemented only upon approval in writing by the State. The State reserves the right to deny requests for changes to the Agreement or to the appendices. No changes can be implemented without approval by the State.

Due to constraints imposed by the financial mechanisms governing the funding of this project, it is anticipated for the Agreement to be amended to provide additional funding as it becomes available.

IV. GRANTEE DELIVERABLES AND REPORTING REQUIREMENTS

The Grantee shall submit deliverables and follow reporting requirements specified in Appendix A of this Agreement.

(A) The Grantee must complete and submit monthly reports according to a form and format prescribed by the State and must include supporting documentation of eligible project expenses. Reports are due 15 days after the end of each month except for the September transactions report, which, due to year-end closing, must be submitted seven calendar days earlier. If the Grantee is unable to submit a report in early October for the month ending September 30, an estimate of expenditures through September 30 must be submitted to allow the State to complete its accounting for that fiscal year.

The forms provided by the State shall be submitted to the State's contact at the address on page 1. All required supporting documentation (invoices, proof of payment, etc.) for expenses must be included with the report.

(B) The Grantee shall provide a final project report in a format prescribed by the State. The Grantee must provide a draft final report 45 days prior to the end date of the agreement. The Grantee shall submit the final status report, including all supporting documentation for expenses, along with the final project report and any other outstanding products within 30 days from the End Date of the Agreement.

V. GRANTEE RESPONSIBILITIES

(A) The Grantee agrees to abide by all applicable local, state, and federal laws, rules, ordinances, and regulations in the performance of this grant.

(B) All local, state, and federal permits, if required, are the responsibility of the Grantee. Award of this grant is not a guarantee of permit approval by the State.

(C) The Grantee shall be solely responsible to pay all applicable taxes and fees, if any, that arise from the Grantee's receipt or execution of this grant.

(D) The Grantee is responsible for the professional quality, technical accuracy, timely completion, and coordination of all designs, drawings, specifications, reports, and other services submitted to the State under this Agreement. The Grantee shall, without additional compensation, correct or revise any errors, omissions, or other deficiencies in drawings, designs, specifications, reports, or other services.

(E) The State's approval of drawings, designs, specifications, reports, and incidental work or materials furnished hereunder shall not in any way relieve the Grantee of responsibility for the technical adequacy of the work. The State's review, approval, acceptance, or payment for any of the services shall not be construed as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

(F) The Grantee acknowledges that it is a crime to knowingly and willingly file false information with the State for the purpose of obtaining this Agreement or any payment under the Agreement, and that any such filing may subject the Grantee, its agents, and/or employees to criminal and civil prosecution and/or termination of the grant.

VI. USE OF MATERIAL

Unless otherwise specified in this Agreement, the Grantee may release information or material developed under this Agreement, provided it is acknowledged that the State funded all or a portion of its development.

The State, and federal awarding agency, if applicable, retains a royalty-free, nonexclusive and irrevocable right to reproduce, publish, and use in whole or in part, and authorize others to do so, any copyrightable material or research data submitted under this grant whether or not the material is copyrighted by the Grantee or another person. The Grantee will only submit materials that the State can use in accordance with this paragraph.

VII. ASSIGNABILITY

The Grantee shall not assign this Agreement or assign or delegate any of its duties or obligations under this Agreement to any other party without the prior written consent of the State. The State does not assume responsibility regarding the contractual relationships between the Grantee and any subcontractor.

VIII. SUBCONTRACTS

The State reserves the right to deny the use of any consultant, contractor, associate, or other personnel to perform any portion of the project. The Grantee is solely responsible for all contractual activities performed under this Agreement. Further, the State will consider the Grantee to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the anticipated Grant. All subcontractors used by the Grantee in performing the project shall be subject to the provisions of this Agreement and shall be qualified to perform the duties required.

IX. NON-DISCRIMINATION

The Grantee shall comply with the Elliott Larsen Civil Rights Act, 1976 PA 453, as amended, MCL 37.2101 *et seq.*, the Persons with Disabilities Civil Rights Act, 1976 PA 220, as amended, MCL 37.1101 *et seq.*, and all other federal, state, and local fair employment practices and equal opportunity laws and covenants that it shall not discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to his or her hire, tenure, terms, conditions, or privileges of employment, or any matter directly or indirectly related to employment, because of his or her race, religion, color, national origin, age, sex, height, weight, marital status, or physical or mental disability that is unrelated to the individual's ability to perform the duties of a particular job or position. The Grantee agrees to include in every subcontract entered into for the performance of this Agreement this covenant not to discriminate in employment. A breach of this covenant is a material breach of this Agreement.

X. UNFAIR LABOR PRACTICES

The Grantee shall comply with the Employers Engaging in Unfair Labor Practices Act, 1980 PA 278, as amended, MCL 423.321 *et seq.*

XI. LIABILITY

(A) The Grantee, not the State, is responsible for all liabilities as a result of claims, judgments, or costs arising out of activities to be carried out by the Grantee under this Agreement, if the liability is caused by the Grantee, or any employee, agent, or subcontractor of the Grantee acting within the scope of their employment or agency.

(B) Nothing in this Agreement should be construed as a waiver of any governmental immunity by the Grantee, the State, its agencies, or their employees as provided by statute or court decisions.

XII. CONFLICT OF INTEREST

No government employee, or member of the legislative, judicial, or executive branches, or member of the Grantee's Board of Directors, its employees, partner agencies, or their families shall benefit financially from any part of this Agreement.

XIII. ANTI-LOBBYING

The Grantee shall not use any of the grant funds awarded in this Agreement for the purpose of lobbying as defined in the State of Michigan's lobbying statute, MCL 4.415(2). "Lobbying" means communicating directly with an official of the executive branch of state government or an official in the legislative branch of state government for the purpose of influencing legislative or administrative action." The Grantee shall not use any of the grant funds awarded in this Agreement for the purpose of litigation against the State. Further, the Grantee shall require that language of this assurance be included in the award documents of all subawards at all tiers.

XIV. DEBARMENT AND SUSPENSION

By signing this Agreement, the Grantee certifies that it has checked the federal debarment/suspension list at www.SAM.gov to verify that its agents, and its subcontractors:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or the state.
- (2) Have not within a three-year period preceding this Agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state, or

local) transaction or contract under a public transaction, as defined in 45 CFR 1185; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

- (3) Are not presently indicted or otherwise criminally or civilly charged by a government entity (federal, state, or local) with commission of any of the offenses enumerated in subsection (2).
- (4) Have not within a three-year period preceding this Agreement had one or more public transactions (federal, state, or local) terminated for cause or default.
- (5) Will comply with all applicable requirements of all other state or federal laws, executive orders, regulations, and policies governing this program.

XV. AUDIT AND ACCESS TO RECORDS

The State reserves the right to conduct a programmatic and financial audit of the project, and the State may withhold payment until the audit is satisfactorily completed. The Grantee will be required to maintain all pertinent records and evidence pertaining to this Agreement, including grant and any required matching funds, in accordance with generally accepted accounting principles and other procedures specified by the State. The State or any of its duly authorized representatives must have access, upon reasonable notice, to such books, records, documents, and other evidence for the purpose of inspection, audit, and copying. The Grantee will provide proper facilities for such access and inspection. All records must be maintained for a minimum of five years after the final payment has been issued to the Grantee by the State.

XVI. INSURANCE

(A) The Grantee must maintain insurance or self-insurance that will protect it from claims that may arise from the Grantee's actions under this Agreement.

(B) The Grantee must comply with applicable workers' compensation laws while engaging in activities authorized under this Agreement.

XVII. OTHER SOURCES OF FUNDING

The Grantee guarantees that any claims for reimbursement made to the State under this Agreement must not be financed by any source other than the State under the terms of this Agreement. If funding is received through any other source, the Grantee agrees to delete from Grantee's billings, or to immediately refund to the State, the total amount representing such duplication of funding.

XVIII. COMPENSATION

(A) A breakdown of costs allowed under this Agreement is identified in Appendix A. The State will pay the Grantee a total amount not to exceed the amount on page 1 of this Agreement, in accordance with Appendix A. All other costs necessary to complete the project are the sole responsibility of the Grantee.

(B) Expenses incurred by the Grantee prior to the Start Date or after the End Date of this Agreement are not allowed under the Agreement.

(C) The State will approve payment requests after approval of reports and related documentation as required under this Agreement.

(D) The State reserves the right to request additional information necessary to substantiate payment requests.

(E) Payments under this Agreement may be processed by Electronic Funds Transfer (EFT). The Grantee may register to receive payments by EFT at the Contract & Payment Express Web Site (<http://www.cpexpress.state.mi.us>).

XIX. CLOSEOUT

(A) A determination of project completion, which may include a site inspection and an audit, shall be made by the State after the Grantee has satisfactorily completed the activities, and provided products and deliverables described in Appendix A.

(B) Upon issuance of final payment from the State, the Grantee releases the State of all claims against the State arising under this Agreement. Unless otherwise provided in this Agreement or by State law, final payment under this Agreement shall not constitute a waiver of the State's claims against the Grantee.

XX. CANCELLATION

This Agreement may be canceled by the State, upon 30 days written notice, due to Executive Order, budgetary reduction, other lack of funding, upon request by the Grantee, or upon mutual agreement by the State and Grantee. The State may honor requests for just and equitable compensation to the Grantee for all satisfactory and eligible work completed under this Agreement up until 30 days after written notice, upon which time all outstanding reports and documents are due to the State and the State will no longer be liable to pay the grantee for any further charges to the grant.

XXI. TERMINATION

(A) This Agreement may be terminated by the State as follows.

(1) Upon 30 days written notice to the Grantee:

- a. If the Grantee fails to comply with the terms and conditions of the Agreement, or with the requirements of the authorizing legislation cited on page 1, or the rules promulgated thereunder, or other applicable law or rules.
- b. If the Grantee knowingly and willingly presents false information to the State for the purpose of obtaining this Agreement or any payment under this Agreement.
- c. If the State finds that the Grantee, or any of the Grantee's agents or representatives, offered or gave gratuities, favors, or gifts of monetary value to any official, employee, or agent of the State in an attempt to secure a subcontract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Agreement.
- d. If the Grantee or any subcontractor, manufacturer, or supplier of the Grantee appears in the register of persons engaging in unfair labor practices that is compiled by the Michigan Department of Licensing and Regulatory Affairs or its successor.
- e. During the 30-day written notice period, the State shall withhold payment for any findings under subparagraphs a through d, above and the Grantee will immediately cease charging to the grant and stop earning match for the project (if applicable).

(2) Immediately and without further liability to the State if the Grantee, or any agent of the Grantee, or any agent of any subcontract is:

- a. Convicted of a criminal offense incident to the application for or performance of a State,

- public, or private contract or subcontract;
- b. Convicted of a criminal offense, including but not limited to any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or attempting to influence a public employee to breach the ethical conduct standards for State of Michigan employees;
- c. Convicted under State or federal antitrust statutes; or
- d. Convicted of any other criminal offense that, in the sole discretion of the State, reflects on the Grantee's business integrity.
- e. Added to the federal or state Suspension and Debarment list.

(B) If a grant is terminated, the State reserves the right to require the Grantee to repay all or a portion of funds received under this Agreement.

XXII. IRAN SANCTIONS ACT

By signing this Agreement the Grantee is certifying that it is not an Iran linked business, and that its contractors are not Iran linked businesses, as defined in MCL 129.312.

XXIII. PREVAILING WAGE

This agreement and any subcontracts is subject to the Michigan Prevailing Wage Act, MCL 408.552, which requires that wage and fringe benefits rates to be paid for construction labor on certain state financed construction projects shall not be less than the wage and fringe benefit rates prevailing in the locality in which the work is to be performed.

Appendix A

Potter Road Transmission Main Project Project Description

This grant agreement is for the installation of approximately 38,675 feet of 42-inch drinking water transmission main by the Genesee County Drain Commissioner (GCDC) in an easement and along Potter Road in accordance with Permit No. W171024 issued by the Michigan Department of Environmental Quality on April 5, 2017. This water transmission main will run parallel to the existing 72-inch transmission main that currently supplies treated water from the Great Lakes Water Authority (GLWA) to GCDC customers as well as the City of Flint (City). This will allow the GCDC to supply treated water from its new water treatment plant to its customers after October 2017 while the City continues to receive treated water from GLWA.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMIT APPLICATION FOR WATER SUPPLY SYSTEMS
(CONSTRUCTION - ALTERATION - ADDITION OR IMPROVEMENT) AS DESCRIBED HEREIN
Required under the Authority of 1976 PA 399, as amended

This application becomes an Act 399 Permit only when signed and issued by authorized Michigan Department of Environmental Quality (DEQ) Staff. See instructions below for completion of this application.

1. Municipality or Organization, Address and WSSN that will own or control the water facilities to be constructed. This permit is to be issued to: Genesee County Water System 4610 Beecher Road Flint, MI 48532 WSSN: 02615		Permit Stamp Area (DEQ use only) MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY PERMIT NO. 171024 APR 05 '17 EXAMINED AND APPROVED FOR COMPLIANCE WITH ACT 399, P.A. 1976	
2. Owner's Contact Person (provide name for questions): Contact: Matt Raysin, P.E. Title: Assistant Director of Engineering Phone: 810.732.7870		4. Project Location (City, Village, Township): City of Burton, Davison Township, Richfield Township	
3. Project Name (Provide phase number if project is segmented): Potter Road Southeast Loop Extension, Contract S-5006		5. County (location of project): Genesee	

ISSUED UNDER THE AUTHORITY OF THE DIRECTOR OF THE DEPARTMENT OF ENVIRONMENTAL QUALITY

cc:

Issued by: Robert Jordan

Reviewed by: Robert Jordan

☐ If this box is marked see attached special conditions.

Instructions: Complete items 1 through 5 above and 6 through 21 on the following pages of this application. Print or type all information except for signatures. Mail completed application, plans and specifications, and any attachments to the DEQ District Office having jurisdiction in the area of the proposed construction.

Please Note:

- This PERMIT only authorizes the construction, alteration, addition or improvement of the water system described herein and is issued solely under the authority of 1976 PA 399, as amended.
- The issuance of this PERMIT does not authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other DEQ permits, or approvals from other units of government as may be required by law.
- This PERMIT expires two (2) years after the date of issuance in accordance with R 325.11306, 1976 PA 399, administrative rules, unless construction has been initiated prior to expiration.
- Noncompliance with the conditions of this permit and the requirements of the Act constitutes a violation of the Act.
- Applicant must give notice to public utilities in accordance with 1974 PA 53, (MISS DIG), being Section 460.701 to 460.718 of the Michigan Compiled Laws, and comply with each of the requirements of that Act.
- All earth changing activities must be conducted in accordance with the requirements of the Soil Erosion and Sedimentation Control Act, Part 91, 1994 PA 451, as amended.
- All construction activity impacting wetlands must be conducted in accordance with the Wetland Protection Act, Part 303, 1994 PA 451, as amended.
- Intentionally providing false information in this application constitutes fraud which is punishable by fine and/or imprisonment.
- Where applicable for water withdrawals, the issuance of this permit indicates compliance with the requirements of Part 327 of Act 451, Great Lakes Preservation Act.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit Application for Water Systems (Continued)

6. Facilities Description – In the space below provide a detailed description of the proposed project. Applications without adequate facilities descriptions will be returned. SEE EXAMPLES BELOW. Use additional sheets if needed.

5,660 feet of 42-inch water main in easement through For-Mar Nature Preserve from Genesee Road to Potter Road.

33,015 feet of 42-inch water main in Potter Road west from Henderson Road.

Areas with less than 10' horizontal separation:

STA 37+80 - STA 38+50: 70' - 8" sanitary sewer
 STA 40+82 - STA 53+22: 1,240' - 8" and 12" storm sewer
 STA 55+10 - STA 62+15: 705' - 8" sanitary sewer
 STA 81+75 - STA 93+10: 1,135' - 12" and 18" storm sewer
 STA 130+25 - STA 133+20: 285' - 18" x 30" elliptical culvert
 STA 134+79 - STA 137+58: 279' - 24" storm sewer
 STA 160+15 - STA 183+18: 3,330' - 36" and 42" storm sewer

EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES

Water Mains	500 feet of 8-inch water main in First Street from Main Street north to State Street. OR 250 feet of 12-inch water main in Clark Road from an existing 8-inch main in Third Avenue north to a hydrant.
Booster Stations	A booster station located at the southwest corner of Third Avenue and Main Street, and equipped with two, 15 Hp pumps each rated 150 gpm @ 200 feet TDH. Station includes backup power and all other equipment as required for proper operation.
Elevated Storage Tank	A 300,000 gallon elevated storage tank located in City Park. The proposed tank shall be spherical, all welded construction and supported on a single pedestal. The tank shall be 150 feet in height, 40 feet in diameter with a normal operating range of 130 – 145 feet. The interior coating system shall be ANSI/NSF Standard 61 approved or equivalent. The tank will be equipped with a cathodic protection system, and includes a tank level control system with telemetry.
Chemical Feed	A positive displacement chemical feed pump, rated at 24 gpd @ 110 psi to apply a chlorine solution for Well No. 1. Chlorine is 12.5% NaOCl, ANSI/NSF Standard 60 approved and will be applied at a rate of 1.0 mgd of actual chlorine.
Water Supply Well	Well No. 3, a 200 foot deep well with 170 feet of 8-inch casing and 30 feet of 8-inch, 10 slot screen. The well will be equipped with a 20 Hp submersible pump and motor rated 200 gpm @ 225 feet TDH, set at 160 feet below land surface.
Treatment Facilities	A 5 million gpd water treatment plant located at the north end of Second Avenue. The facility will include 6 low service pumps, 2 rapid mix basins, 4 flocculation/sedimentation basins, 8 dual media filters, 3 million gallon water storage reservoir and 8 high service pumps. Also included are chemical feed pumps and related appurtenances for the addition of alum, fluoride, phosphate and chlorine.

MINNESOTA DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit Application for Water Systems (Continued)

General Project Information - Complete all boxes below.	
7. Design engineer's name, engineering firm, address, phone number, and email address: Steven J. Nagy, P.E. Fleis & Vandenbrink 9475 Holly Road, Suite 201 Grand Blanc, MI 48439	8. Indicate who will provide project construction inspection: ☒ Organization listed in Box 1. ☐ Engineering firm listed in Box 7. ☐ Other - name, address, and phone number listed below.
9. Is a basis of design attached? ☐ YES ☒ NO If no, briefly explain why a basis of design is not needed. Project is a replacement of an existing connector main	
10. Are sealed and signed engineering plans attached? ☒ YES ☐ NO If no, briefly explain why engineering plans are not needed.	
11. Are sealed and signed construction specifications attached? ☒ YES ☐ NO If specifications are not attached, they need to be on file at DEQ.	
12. Were Recommended Standards for Water Works, Suggested Practice for Water Works, AWWA guidelines, and the requirements of Act 389 and its administrative rules followed? ☐ YES ☒ NO If no, explain which deviations were made and why. 10-foot horizontal separation could not be maintained at the locations identified in Box 6 due to the presence of existing utilities. Horizontal separation will be maximized in the field to the extent possible.	
13. Are all coatings, chemical additives and construction materials ANSI/NSF or other adequate 3rd party approved? ☒ YES ☐ NO If no, describe what coatings, additives or materials did not meet the applicable standard and why.	
14. Are all water system facilities being installed in the public right-of-way or a dedicated utility easement? (For projects not located in the public right-of-way, utility easements must be shown on the plans.) ☒ YES ☐ NO If no, explain how access will be obtained.	
15. Is the project construction activity within a wetland (as defined by Section 324.30301(d)) of Part 303, 1994 PA 451? ☒ YES ☐ NO If yes, a wetland permit must be obtained.	
16. Is the project construction activity within a 100-year floodplain (as defined by R 323.1311(e)) of Part 31, 1994 PA 451, administrative rules? ☒ YES ☐ NO If yes, a flood plain permit must be obtained.	
17. Is the project construction activity within 500 feet of a lake, reservoir, or stream? ☒ YES ☐ NO If yes, a Soil and Erosion Control Permit must be obtained or indicate if the owner listed in box 2 of this application is an Authorized Public Agency (Section 10 of Part 91, 1994 PA 451) ☒ Owner is APA.	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit Application for Water Systems (Continued)

18. Will the proposed construction activity be part of a project involving the disturbance of five (5) or more acres of land?
☒ YES ☐ NO
 If yes, is this activity regulated by the National Pollutant Discharge Elimination System storm water regulations?
☒ YES: NPDES Authorization to discharge storm water from construction activities must be obtained.
☐ NO: Describe why activity is not regulated:
 Please call 517-241-8993 with questions regarding the applicability of the storm water regulations.

19. Is the project in or adjacent to a site of suspected or known soil or groundwater contamination?
☐ YES ☒ NO
 If yes, attach a copy of a plan acceptable to the DEQ for handling contaminated soils and/or groundwater disturbed during construction. Contact the local DEQ district office for listings of Michigan sites of environmental contamination.

20. IF YOU ARE A CUSTOMER/WHOLESALE/BULK PURCHASER, COMPLETE THE FOLLOWING

1) Name and WSN of source water supply system (seller) _____

2) Does the water service contract require water producer/seller to review and approve customer/wholesale/bulk purchaser water system construction plans?
☐ YES ☐ NO

If yes to #2, the producer/seller approval letter must be attached when submitted to DEQ.

21. **Owner's Certification** The owner of the proposed facilities or the owner's authorized representative shall complete the owner's certification. It is anticipated that the owner will either be a governmental agency (city, village, township, county, etc.) or a private owner (individual, company, association, etc.) of a Type I public water supply.

OWNER'S CERTIFICATION

I, Math Rayson (name), acting as the Assistant Director of Eng (title/position) for GCDL-WWS (entity owning proposed facilities) certify that this project has been reviewed and approved as detailed by the Plans and Specifications submitted under this application, and is in compliance with the requirements of 1976 PA 399, as amended, and its administrative rules.

[Signature] Signature* 4-3-17 Date 810-730-7870 Phone

*Original signature only, no photocopies will be accepted.



	GRANT AMOUNT	LOCAL MATCH AMOUNT	TOTAL
Staffing	\$ -	\$ -	\$ -
Fringe	\$ -	\$ -	\$ -
STAFFING AND FRINGE BENEFITS Subtotal	\$ -	\$ -	\$ -

SUPPLIES & MATERIALS (itemize)	QUANTITY	COST							
	\$	-	\$	-	\$	-	\$	-	\$
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TRAVEL				
MILEAGE	MILES	RATE		
			\$ -	\$ - \$ -
LODGING	NIGHTS	RATE		
			\$ -	\$ - \$ -
MEALS	QUANTITY	RATE		
			\$ -	\$ - \$ -
OTHER (tolls, parking, etc.)	QUANTITY	RATE		
		\$ -	\$ -	\$ - \$ -
		\$ -	\$ -	\$ - \$ -
		\$ -	\$ -	\$ - \$ -
		\$ -	\$ -	\$ - \$ -
Subtotal			\$ -	\$ - \$ -

INDIRECT RATE			RATE		
	Subtotal		0%	\$ -	\$ -

GRANT AND MATCH BUDGET				
	TOTAL	\$ 7,500,000	\$ -	\$ 7,500,000
	Project Percentage Split	100.00%		

[illegible]

SOURCE OF ORGANIZATION AND MATCH:

EXHIBIT F

CONTRACT FOR DEED

This Contract for Deed executed and delivered as of the Effective Date of the Master Agreement to which this Contract for Deed is attached as Exhibit ____ by and between the County of Genesee, acting by and through the Genesee County Drain Commissioner, as County Agency, pursuant to PA 342 of 1939, as amended ("GCDC") and the City of Flint, a Home Rule City ("Flint" or "City").

WHEREAS, a 72" pipeline beginning near the intersection of Baxter Road and Potter Road in Genesee County ("Baxter/Potter Meter Pit") and terminating approximately 1000 feet east of Pierson and Center Roads, provides water supply from GLWA to GCDC and Flint ("72-inch pipeline").

WHEREAS, in 2010, Flint and the City of Lapeer, together with Genesee, Lapeer, and Sanilac Counties formed the Karegnondi Water Authority ("KWA") to, among other things, deliver raw water to the member communities.

WHEREAS, on August 1, 2013, KWA, Genesee County, and Flint entered into a Financing Agreement ("KWA Financing Agreement") in which Genesee County and Flint each agreed to pledge its full faith and credit to support issuance of \$300 million in bonds to finance construction of the KWA Pipeline.

WHEREAS, in late 2013 Flint approached GCDC to purchase the 72" Pipeline from it, since Flint no longer had a use for that pipeline.

WHEREAS, on April 16, 2014, KWA issued \$220.5 million of the \$300 million of bonds authorized by the KWA Financing Agreement.

WHEREAS, on May 30, 2014, GCDC agreed, in a Water Transmission Acquisition Agreement, to purchase the 72" Pipeline from Flint for a purchase price of \$3,987,700.00. GCDC paid the purchase price to Flint.

WHEREAS, effective June 1, 2014, Flint agreed to provide GCDC with emergency backup water service ("Emergency Backup Agreement").

WHEREAS, in October 2015, the City of Detroit agreed to deliver potable water to Flint. The 72" Pipeline was required to accomplish that delivery.

WHEREAS, to allow Flint to receive the Detroit water, on October 14, 2015, GCDC granted Flint a license to transmit Detroit water through its 72" Pipeline at a cost of \$1 per month during the term of the license ("Water Transmission License").

WHEREAS, on June 10, 2016, KWA issued \$74.37 million in bonds authorized by the KWA Financing Agreement ("2016 KWA Bonds").

WHEREAS, KWA intends to refinance the 2016 KWA Bonds between October 2017 and March 2018. Genesee County is concerned that delays may occur which result in bigger costs.

WHEREAS, as a part of a series of agreements incorporated in a Master Agreement dated as of _____, 2017, between and among Flint, the Department of Environmental Quality of the State of Michigan ("DEQ"), GCDC, the Great Lakes Water Authority ("GLWA"), and the KWA to which this Contract is an exhibit and incorporated therein, GCDC has agreed to place a quit claim deed and bill of sale to the 72" pipeline in escrow to be released, upon the occurrence of the condition contained in this Contract. Flint and the GLWA have similarly agreed to respectively place in escrow an Irrevocable License and a Sublicense of the 72" pipeline in escrow to be released concurrently with the Deed and Bill of Sale.

NOW, THEREFORE, based upon the foregoing recitals and in consideration of the mutual covenants and agreements contained in this Agreement, the Parties agree as follows:

ARTICLE I. Execution and Delivery of Quit Claim Deed.

GCDC covenants and agrees to execute and deliver into escrow with an escrow agent acceptable to GCDC and Flint, a Quit Claim Deed and Bill of Sale to the 72" Pipeline to be released and delivered to Flint when the following condition has been met: KWA has completed its refinancing of the 2016 KWA Bonds.

A copy of that Quit Claim Deed and Bill of Sale are attached as Exhibit "A".

ARTICLE II. Cooperation of Parties in Financing.

Flint covenants and agrees to timely and fully cooperate with KWA in obtaining and completing the refinancing of the 2016 KWA bonds authorized in the August 1, 2013 KWA Financing Agreement, including, but not limited to, signing any document requested by the bond underwriter or KWA when asked to do so and by providing any information or document relevant to the refinancing (under Flint's control) to the bond underwriter, or KWA, when asked to do so. GCDC covenants and agrees to cooperate with Flint to aid Flint to the extent possible in performing its undertakings under this Contract and to provide Flint with a schedule for the refinancing, benchmarks for completing such refinancing and documentary requests as information becomes available to GCDC from the underwriter.

ARTICLE III. Backup Water Supply Agreement.

The parties covenant and agree that the Emergency Backup Water Supply Agreement entered into effective June 1, 2014, between Flint and GCDC, is null, void, and of no further effect and shall not provide the basis for a claim, prospective or retrospective, by either party against the other.

ARTICLE IV. Water Transmission License.

The parties covenant and agree that upon delivery of the documents described in Article II out of escrow, the Water Transmission License delivered October 14, 2015, by GCDC to Flint shall be null, void, and of no further effect, and shall not provide the basis for a claim, prospective or retrospective by either party against the other.

ARTICLE V. Adoption of Recitals.

All of the matters stated in the recitals to this Agreement are true and correct and are hereby incorporated into the body of this Agreement as though fully set forth herein in their entirety. In case of conflict or ambiguity between the recitals and other provisions of this Agreement, the other provisions of this Agreement shall control over the recitals.

[THIS SPACE WAS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Parties hereto, acting under appropriate authority, have caused the Agreement to be executed, in counterparts, each of which shall be an original.

WITNESSETH:

CITY OF FLINT

By: _____

Its: _____

WITNESSETH:

COUNTY OF GENESEE, acting by and through
the Genesee County Drain Commissioner, as
County Agency, pursuant to PA 342 of 1939

By: Jeff Wright

Its: Drain Commissioner

EXHIBIT A TO CONTRACT FOR DEED

QUIT CLAIM DEED

KNOW ALL MEN BY THESE PRESENTS that the County of Genesee, acting by and through the Genesee County Drain Commissioner, as County Agency pursuant to PA 342 of 1939, ("Grantor") whose address is G-4610 Beecher Road, Flint, Michigan 48532, quit claims to the City of Flint, a Michigan Home Rule City ("Flint"), whose address is 1101 South Saginaw Street, Flint, Michigan 48502, all of its right, title, and interest in and to the following-described property situated in Genesee County, Michigan:

A 72" water transmission pipeline and associated appurtenances (the "Property") beginning at station 6.00 (located in the proximity of Baxter Road and Potter Road) and extending westerly under public roadways and public and private property to station 474+03, at which a main line valve is located, as evidenced by the documents attached hereto and incorporated herein as Exhibit A together with a water meter vault located at station 5+77.7 to station 6.00 (as evidenced by the documents in attached Exhibit A).

The water transmission pipeline is being conveyed without warranties of any kind, including, but not limited to, any warranty of title to the Property, any implied warranties of merchantability and fitness for a specific or general purpose and those arising by statute or by law or from a course of dealing or usage of trade, and is conveyed "AS IS", "WHERE IS", AND "WITH ALL FAULTS" physical condition, with no warranties, express or implied, with respect to the physical condition of the water transmission pipeline or the water meter vault.

together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining thereto for the sum of \$100, subject to easements and restrictions of record, if any. This transfer is exempt from taxation pursuant to MCLA §207.505(a), MCLA §207.526(a), and MCLA §207.526(h)(i).

Dated this _____ day of _____, 2017.

County of Genesee, acting by and through the Genesee
County Drain Commissioner, as County Agency,
Pursuant to PA 342 of 1939

By: _____
Jeff Wright, Genesee County Drain Commissioner

STATE OF MICHIGAN)
) ss:
COUNTY OF GENESEE)

The foregoing instrument was acknowledged before me this _____ day of _____, 2017,
by the County of Genesee, acting by and through the Genesee County Drain Commissioner, as County
Agency, pursuant to PA 342 of 1939, Jeff Wright, Genesee County Drain Commissioner.

Notary Public, _____ County, Michigan
Acting in _____, County, Michigan
My commission expires: _____

County Treasurer's Certificate		City Treasurer's Certificate
When Record Return to	Send Subsequent Tax Bills	Drafted By:

BILL OF SALE

KNOW ALL PERSONS BY THESE PRESENTS that the County of Genesee, acting by and through the Genesee County Drain Commissioner, as County Agency (the "Grantor"), pursuant to PA 342 of 1939, whose address is G-4610 Beecher Road, Flint, Michigan 48532, sells and transfers to the City of Flint, a Michigan Home Rule City, whose address is 1101 South Saginaw Street, Flint, Michigan 48502 ("Flint"), all of its rights, title, and interest in the following described property situated in Genesee County, Michigan, described as:

A 72" water transmission pipeline and associated appurtenances (the "Property") beginning at station 6.00 (located in the proximity of Baxter Road and Potter Road) and extending westerly under public roadways and public and private property to station 474+03, at which a main line valve is located, as evidenced by the documents attached hereto and incorporated herein as Exhibit A together with a water meter vault located at station 5+77.7 to station 6.00 (as evidenced by the documents in attached Exhibit A).

The water transmission pipeline is being conveyed without warranties of any kind, including, but not limited to, any warranty of title to the Property, any implied warranties of merchantability and fitness for a specific or general purpose and those arising by statute or by law or from a course of dealing or usage of trade, and is conveyed "AS IS", "WHERE IS", AND "WITH ALL FAULTS" physical condition, with no warranties, express or implied, with respect to the physical condition of the water transmission pipeline or the water meter vault.

Dated this _____ day of _____, 2017.

County of Genesee, acting by and through the Genesee
County Drain Commissioner, as County Agency,
Pursuant to PA 342 of 1939

By: _____
Jeff Wright, Genesee County Drain Commissioner

STATE OF MICHIGAN)
) ss:
COUNTY OF GENESEE)

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by the County of Genesee, acting by and through the Genesee County Drain Commissioner, as County Agency, pursuant to PA 342 of 1939, Jeff Wright, Genesee County Drain Commissioner.

Notary Public, _____ County, Michigan
Acting in _____, County, Michigan
My commission expires: _____

LICENSE OF 72 INCH MAIN
BY
CITY OF FLINT
TO
GREAT LAKES WATER AUTHORITY

LICENSE OF 72 INCH MAIN

BY

CITY OF FLINT

TO

GREAT LAKES WATER AUTHORITY

This License of 72 Inch Main (the "**License**") is made as of November 1, 2017 (the "**Dated Date**") by the City of Flint, a Michigan municipal corporation (the "**City**") to Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended ("**GLWA**");

RECITALS:

WHEREAS, the City and the Karegnondi Water Authority ("**KWA**") entered into a Raw Water Supply Contract, dated June 28, 2013, as amended through date hereof, including by that certain Second Addendum dated the date hereof.

WHEREAS, the City, KWA, GLWA, the Michigan Department of Environmental Quality and GCDC (collectively, the "**Parties**") are entering into a Master Agreement governing a number of inter-related transactions among the Parties described therein (the "**Master Agreement**") all effective as of the effective date defined therein (the "**Effective Date**"), including execution of a Water Service Contract between the City and GLWA (as the same may be amended or supplemented, the "**Flint Contract**");

WHEREAS, as of the Effective Date, the City owns and controls the 72 Inch Main described in greater detail in Exhibit A, attached hereto and incorporated herein by reference, (the "**72 Inch Main**");

WHEREAS, pursuant to the transactions contemplated by the Master Agreement, and under the Flint Contract, the City is to provide GLWA with an exclusive license to the 72 Inch Main as described in greater detail therein;

ACCORDINGLY, for good and valuable consideration in accordance with the Master Agreement, the receipt and sufficiency of which are hereby acknowledged, the City hereby agrees as follows:

Section 1.01 License of 72 Inch Main. The City hereby grants to GLWA, at no additional charge, an exclusive license to use the 72 Inch Main to supply potable water. This license does not confer any rights to GCDC to tap new connections into 72 Inch Main to serve GLWA customers without the City's written approval, which shall not be unreasonably withheld. This license is granted for an initial term of thirty (30) years, subject to ten year renewals thereafter and shall, in any event, run concurrent with the terms of the Flint Contract.

Section 1.02 Savings Clause. If any provision of this License or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remainder of this License shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law. If any agreement or obligation contained in this License is held to be in violation of law, then such agreement or obligation shall be deemed to be the agreement or obligation of the City or GLWA, as the case may be, to the full extent permitted by law.

Section 1.03 Agreement of Parties. This License, the Irrevocable License of Essential Water Mains and Raw Water Rights (the “*Irrevocable License*”), and the Master Agreement contain the entire agreement between the parties thereto and all prior negotiations and agreements are merged into the agreement. Neither the City nor GLWA has made any representations except those expressly set forth in this License, the Irrevocable License, and the Master Agreement, and no rights or remedies are, or shall be, acquired by either party by implication or otherwise unless expressly set forth in this License, the Irrevocable License, and the Master Agreement.

Section 1.04 Remedies and Governing Law. The rights and remedies set forth in this License are not exclusive and are in addition to any of the rights or remedies provided by law or equity. This License and all actions arising under it shall be governed by, subject to, and construed according to the laws of the State of Michigan.

(Signature on Next Page)

IN WITNESS WHEREOF, this License is duly and irrevocably granted by the City to GLWA as of the Effective Date.

CITY OF FLINT

By: _____

Dr. Karen Weaver

Its: Mayor

STATE OF MICHIGAN)
) ss.
COUNTY OF GENESEE)

The foregoing instrument was acknowledged before me this ____ day of _____ 2017, by Dr. Karen Weaver, Mayor of the City of Flint.

Notary Public, State of Michigan

County, Michigan
Acting in the County of _____
My commission expires: _____

Exhibit A

Legal Description of 72 Inch Main

See Attached.

SUBLICENSE OF 72 INCH MAIN
BY
GREAT LAKES WATER AUTHORITY
TO
THE COUNTY OF GENESEE,
Acting by and through the
GENESEE COUNTY DRAIN COMMISSIONER,
as County Agency

SUBLICENSE OF 72 INCH MAIN
BY
GREAT LAKES WATER AUTHORITY
TO
THE COUNTY OF GENESEE,
Acting by and through the
GENESEE COUNTY DRAIN COMMISSIONER,
as County Agency

This Sublicense of 72 Inch Main (the “*Sublicense*”) is made as of November 1, 2017 (the “*Dated Date*”) by the Great Lakes Water Authority, a Michigan municipal authority and public body corporate organized pursuant to the provisions of Act 233, Public Acts of Michigan, 1955, as amended (“*GLWA*”) to the County of Genesee, acting by and through the Genesee County Drain Commissioner, as county agency (“*GCDC*”);

RECITALS:

WHEREAS, the City of Flint, Michigan (the “*City*”) and the Karegnondi Water Authority (“*KWA*”) entered into a Raw Water Supply Contract, dated June 28, 2013, as amended through date hereof, including by that certain Second Addendum dated the date hereof.

WHEREAS, the City, KWA, GLWA, the Michigan Department of Environmental Quality and GCDC (collectively, the “*Parties*”) are entering into a Master Agreement governing a number of inter-related transactions among the Parties described therein (the “*Master Agreement*”) all effective as of the effective date defined therein (the “*Effective Date*”), including execution of a Water Service Contract between the City and GLWA (as the same may be amended or supplemented, the “*Flint Contract*”);

WHEREAS, as of the Effective Date, the City owns and controls the 72 Inch Main described in greater detail in Exhibit A, attached hereto and incorporated herein by reference, (the “*72 Inch Main*”);

WHEREAS, pursuant to the transactions contemplated by the Master Agreement, and under the Flint Contract and a separate Irrevocable License of Essential Water Mains and Raw Water Rights (the “*License*”), the City is providing GLWA with an exclusive license to the 72 Inch Main as described in greater detail therein;

WHEREAS, as of the Effective Date, GLWA and GCDC are entering into a Reciprocal Backup Water Service Contract (the “*Reciprocal Backup Agreement*”), pursuant to which GLWA agrees to provide Water (as defined therein) to GCDC and GCDC agrees to provide Water to GLWA, all as described in greater detail therein;

WHEREAS, under Section 2.03 of the Reciprocal Backup Agreement, GLWA will be the sole supplier of short-term wholesale potable water supply services to GCDC until at least September 30, 2017, while GCDC's water treatment plant is being completed; and

WHEREAS, for the avoidance of doubt, GLWA and GCDC wish to provide GCDC with a sublicense of the 72 Inch Main, to the extent necessary for the GCDC to receive and use short-term wholesale potable water supply services under Section 2.03 of the Reciprocal Backup Agreement;

ACCORDINGLY, for good and valuable consideration in accordance with the Master Agreement, the receipt and sufficiency of which are hereby acknowledged, GLWA hereby agrees as follows:

Section 1.01 Sublicense of 72 Inch Main. GLWA hereby grants to GCDC, at no additional charge, a non-exclusive sublicense to use the 72 Inch Main to the extent necessary for the GCDC to receive and use short-term wholesale potable water supply services under Section 2.03 of the Reciprocal Backup Agreement. This license does not confer any rights to GCDC to tap new connections into 72 Inch Main to serve GCDC customers without GLWA's written approval. This sublicense is temporary, non-exclusive and non-transferrable, and shall automatically expire, without action of either GLWA or GCDC, on the date short-term potable water supply services are discontinued under and in accordance with the provisions of Section 2.03 of the Reciprocal Backup Agreement. For the avoidance of doubt, GLWA acknowledges that (a) EC-1 and EC-2, as identified on Exhibit A to the Flint Contract, will remain following termination of this sublicense, and (b) [five] direct GCDC taps on the 72 Inch Main will remain during the period of this sublicense, all to be used for the provision of services as contemplated by the Reciprocal Backup Agreement.

Section 1.02 Savings Clause. If any provision of this Sublicense or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remainder of this Sublicense shall not be affected and shall remain valid and enforceable to the fullest extent permitted by law. If any agreement or obligation contained in this Sublicense is held to be in violation of law, then such agreement or obligation shall be deemed to be the agreement or obligation of GLWA or GCDC, as the case may be, to the full extent permitted by law.

Section 1.03 Agreement of Parties. This Sublicense, the Reciprocal Backup Agreement, and the Master Agreement contain the entire agreement between the parties thereto and all prior negotiations and agreements are merged into the agreement. Neither GLWA nor GCDC has made any representations except those expressly set forth in this Sublicense, the Reciprocal Backup Agreement, and the Master Agreement, and no rights or remedies are, or shall be, acquired by either party by implication or otherwise unless expressly set forth in this Sublicense, the Reciprocal Backup Agreement, and the Master Agreement.

Section 1.04 Remedies and Governing Law. The rights and remedies set forth in this Sublicense are not exclusive and are in addition to any of the rights or remedies provided by law or equity. This Sublicense and all actions arising under it shall be governed by, subject to, and construed according to the laws of the State of Michigan.

IN WITNESS WHEREOF, this Sublicense is duly and irrevocably granted by GLWA to GCDC as of the Effective Date.

GREAT LAKES WATER AUTHORITY

By: _____
Sue F. McCormick
Its: Chief Executive Officer

Exhibit A

Legal Description of 72 Inch Main

See Attached.

ESCROW INSTRUCTIONS

November 1, 2017

Ann D. Fillingham
Dykema Gossett PLLC
201 Townsend Street, Suite 900
Lansing, Michigan 48933

RE: Master Agreement

Dear Ms. Fillingham:

You have received or should receive signature pages to the above-referenced Master Agreement and the exhibits thereto for deposit into Dykema's DykemaConnect electronic data room. These documents are being posted to the data room with the understanding that:

1. Until notified in writing by Dykema, each and every document (except Exhibit D to the Master Agreement) on the data room should be considered as being held "in escrow" and while held in escrow shall be considered to be not released and not binding or effective on any party.
2. Once released from escrow, all transactions at the closing will be deemed to have taken place simultaneously and no transaction is deemed to have been completed and no document is deemed delivered unless and until all transactions are completed and all documents are delivered.
3. The documents may be held in escrow until December 29, 2017, pending receipt of all signature pages. If all signature pages are not received by December 29, 2017, at 12:00 noon EST, then our signature pages are to be returned.

If you have any questions concerning the foregoing, please do not hesitate to contact me.

(Signatures on Next Page)

Agreed to by:

**Department of Environmental Quality
State of Michigan**

By: Heidi C. Grether
Its: Director

**Genesee County Drain Commissioner –
Division of Water & Waste Services**

By: Jeffrey Wright
Its: Drain Commissioner

Great Lakes Water Authority

By: Sue F. McCormick
Its: CEO

Karegnondi Water Authority

By: John F. O'Brien
Its: Deputy Chief Executive Officer

EXHIBIT G

**SECOND ADDENDUM TO
RAW WATER SUPPLY CONTRACT BETWEEN THE KAREGNONDI WATER
AUTHORITY AND THE CITY OF FLINT EFFECTIVE ON OCTOBER 1, 2013,
AS AMENDED BY THE FIRST ADDENDUM EFFECTIVE MARCH 6, 2014**

THIS SECOND ADDENDUM ("Addendum") to the RAW WATER SUPPLY CONTRACT BETWEEN THE KAREGNONDI WATER AUTHORITY AND THE CITY OF FLINT EFFECTIVE ON OCTOBER 1, 2013, as amended by the FIRST ADDENDUM, EFFECTIVE MARCH 6, 2014 (hereafter the "Agreement") is executed and delivered as of the Effective Date of the Master Agreement to which this Addendum is attached as Exhibit G, by and between the Karegnondi Water Authority, a Michigan Public Authority created pursuant to Act 233 of the Michigan Public Acts of 1955, as amended (hereinafter "KWA"), whose address is G-4610 Beecher Road, Flint, Michigan 48532 and the City of Flint, a municipal corporation, of the State of Michigan (hereinafter "Flint"), whose address is 1101 South Saginaw Street, Flint, Michigan 48502. KWA and Flint are sometimes hereafter each referred to as a "Party" and collectively as the "Parties."

WITNESSETH:

WHEREAS, the Parties entered into a Raw Water Supply Contract, dated the 28th day of June, 2013, and effective on October 1, 2013;

WHEREAS, the Parties entered into a First Addendum to Raw Water Supply Contract, effective on March 6, 2014;

WHEREAS, the Parties have agreed to enter into this Addendum for the purpose of modifying ARTICLE II, Section 2.05; ARTICLE V, Section 5.07; and ARTICLE VII, Section 7.15 of the Agreement.

NOW THEREFORE, it is hereby agreed by the Parties as follows:

1. Amendment to the ARTICLE II, Section 2.05 of the Agreement. ARTICLE II, Section 2.05 of the Agreement is hereby deleted in its entirety and replaced with the following:

"Section 2.05. Repair and Replacement of Components-Government Required Enhancements. It is anticipated that repair and replacement of components of the System and enhancements required by government regulations will be in incremental, finite projects and that each such project will be financed by the Authority through operating revenues, the issuance of one or more series or issues of System Improvement Bonds, or any other lawful sources. Also, on its own initiative or at the request of the Buyer, the Authority may refund any Bonds that

were issued to construct, equip, operate, maintain and otherwise improve the System and any System facilities. The Authority agrees that such improvements for the System will be made in accordance with generally accepted engineering practices. It is anticipated that such improvements will be financed by the Authority through operating revenues, the issuance of one or more series or issues of System Improvement Bonds, or any other lawful sources, payable from and secured by the payments made under this Contract and/or any other lawful sources."

2. Amendment to the ARTICLE V, Section 5.07 of the Agreement. ARTICLE V, Section 5.07 of the Agreement is hereby deleted in its entirety and replaced with the following:

"Section 5.07 Prompt Payment/Disputed Bills. The Buyer hereby agrees that unless otherwise specified it will make payments required by this Contract to the Authority on or before the 30th day of each month immediately following the month in which the applicable monthly statement date occurs except for the month of February, in which case the monthly due day is the last date of the month of February. For example, if the applicable monthly statement date for water supplied in January is February 20 then the due date for such payment would be March 30. If the Buyer, at any time, disputes the amount to be paid by it to the Authority, the Buyer shall nevertheless promptly make such payment or payments; but, if it is determined by agreement or court decision that such disputed payments should have been less, or more, the Authority shall promptly revise and reallocate the charges in such manner that the Buyer will recover its overpayment or the Authority will recover the amount due it. All amounts due and owing to the Authority by Buyer, or due and owing to the Buyer by the Authority, shall, if not paid when due, bear interest per annum at the maximum rate allowed by law from the date when due until paid."

3. Amendment to ARTICLE VII, Section 7.15 of the Agreement. ARTICLE VII, Section 7.15 of the Agreement is hereby deleted in its entirety.

4. Notices. Any notice, demand, or communication required, permitted or desired to be given under this Addendum shall be deemed effectively given pursuant to ARTICLE VII, Section 7.24 the Agreement.

5. Headings. The headings of the sections set forth in this Addendum are inserted for the convenience of reference only and shall be disregarded when construing or interpreting any of the provisions of this Addendum.

6. Complete Agreement. This Addendum, the Agreement and any additional or supplementary documents incorporated by specific reference contain all of the terms and conditions agreed upon by the Parties and no other agreements, oral or otherwise, regarding the subject matter of this Addendum or any part thereof shall have any validity or bind either of the Parties.

7. Severability. If any provision of this Addendum is held to be unenforceable for any reason, the unenforceability thereof shall not affect the remainder of this Addendum which shall remain in full force and effect and enforceable in accordance with its terms.

8. Waiver. No waiver of any of the obligations contained herein shall be effective for any purpose unless the same shall be in writing signed by the Chairperson of the Incorporating Board of the Karegnondi Water Authority and by Mayor or Emergency Manager, or both upon the Flint City Council or Emergency Manager's approval, whichever is applicable.

9. Construction. This Addendum has been prepared and negotiations have occurred in connection with said preparation pursuant to the joint efforts of the Parties. This Addendum therefore shall not be construed against either Party.

10. Amendment. This Addendum may not be amended or modified except for by written agreement signed by both Parties.

11. Certification of Authority to Sign Addendum. The persons signing on behalf of each of the Parties certify by their signatures that they are authorized to sign the Addendum on behalf of such Party and that this Addendum has been authorized by such Party.

12. Remainder of Agreement. Except as modified by this Addendum, the terms of the Agreement shall remain in full force and effect.

[THIS SPACE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Parties hereto have caused this Addendum to be executed and delivered by their respective duly authorized representatives as of the Effective Date of the Master Agreement to which this Addendum is attached as Exhibit G.

KAREGNONDI WATER AUTHORITY

By: _____
John F. O'Brien, Deputy Chief Executive Officer

ATTEST:

CITY OF FLINT

By: _____
Karen Weaver, Mayor

ATTEST:

Inez Brown, Clerk of the City of Flint

EXHIBIT H



STATE OF MICHIGAN
RICK SNYDER, GOVERNOR
EXECUTIVE OFFICE

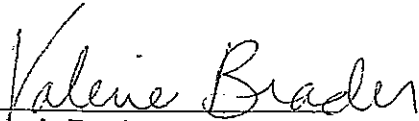
VALERIE BRADER
SPECIAL LEGAL COUNSEL

GEORGE W. ROMNEY BUILDING
111 SOUTH CAPITOL AVENUE
P.O. BOX 30013
LANSING, MICHIGAN 48909

PHONE: 517-241-5597
E-MAIL: brader25@michigan.gov
www.michigan.gov

November 16, 2017

In the event the Flint City Council approves the Great Lakes Water Authority (GLWA) contract, the Governor's office would seek and does expect to receive the resignation of the member of the GLWA board representing customers outside of the counties of Wayne, Oakland and Macomb. If one or more Flint resident(s) who met all qualifications of the GLWA Articles of Incorporation and Bylaws applied to fill that vacancy, the Governor would appoint a Flint resident to that seat.


Valerie Brader
Special Legal Counsel

**AMENDMENT NO. 2 TO WATER SERVICE CONTRACT
BETWEEN
GREAT LAKES WATER AUTHORITY
AND
CITY OF FLINT**

This Amendment No. 2 ("Amendment") is made between the Great Lakes Water Authority, a municipal authority and public body corporate ("GLWA"), and the City of Flint, a municipal corporation ("Member Partner"). GLWA and Member Partner are collectively referred to as the "Parties".

RECITALS

- A. GLWA leases, operates, and maintains the public water supply system owned by the City of Detroit ("System"); and
- B. On December 1, 2017, the Parties entered into a Water Service Contract ("Contract") reflecting the terms and conditions governing the delivery and purchase of potable water, as subsequently amended and assigned; and
- C. GLWA has determined that its charge methodology renders irrelevant the "minimum take or pay" terms of Section 5.06 of the Contract; and
- D. Article 15 of the Contract permits the Parties to amend the Contract by mutual agreement; and
- E. In consideration of the mutual undertakings of the Parties and for the benefit of the public, it is the mutual desire of the Parties to enter into this Amendment to amend the Contract as set forth in detail in the following sections.

ACCORDINGLY, THE PARTIES AGREE AS FOLLOWS:

- 1. Section 5.06 of the Contract is deleted in its entirety.
- 2. Exhibit A of the Contract is amended by deleting in its entirety the existing Exhibit A and substituting the attached Exhibit A in its place.
- 3. Exhibit B of the Contract is amended by deleting in its entirety the existing Exhibit B and substituting the attached Exhibit B in its place.
- 4. Except for the provisions of the Contract specifically contained in this Amendment, all other terms, conditions, and covenants contained in the Contract shall remain in full force and effect and as set forth in the Contract.
- 5. This Amendment to the Contract shall be effective and binding upon the Parties when it is signed and acknowledged by the duly authorized representatives of both Parties and is approved by Member Partner's governing body and the GLWA Board of Directors.

Accordingly, GLWA and Member Partner, by and through their duly authorized officers and representatives, have executed this Amendment.

City of Flint:

By: 
Sheldon Neeley
Mayor

APPROVED BY
FLINT CITY COUNCIL ON: January 9, 2023
Date

APPROVED AS TO FORM BY
FLINT CITY ATTORNEY ON: 
Signature/Date

Great Lakes Water Authority:

By: Suzanne R. Coffey
Suzanne R. Coffey, P.E.
Chief Executive Officer

Dated: 2/2/2023

APPROVED BY
GLWA BOARD OF DIRECTORS ON: January 25, 2023
Date

APPROVED AS TO FORM BY
GLWA GENERAL COUNSEL ON: Laurie Koester 2/2/2023
Signature/Date

EXHIBIT A

Customer's Water Distribution Points

This Exhibit contains the following information:

1. The corporate limits of Customer;
2. The agreed upon water Service Area of Customer which (a) may or may not be entirely within the corporate limits of Customer and (b) which may or may not include the entire area within the Customer's corporate limits;
3. The specific location of the Water Distribution Points, including any Board approved emergency connections;
4. The designation of appurtenances to be maintained by Customer and those to be maintained by the Board; and
5. A list of any closed meter locations.

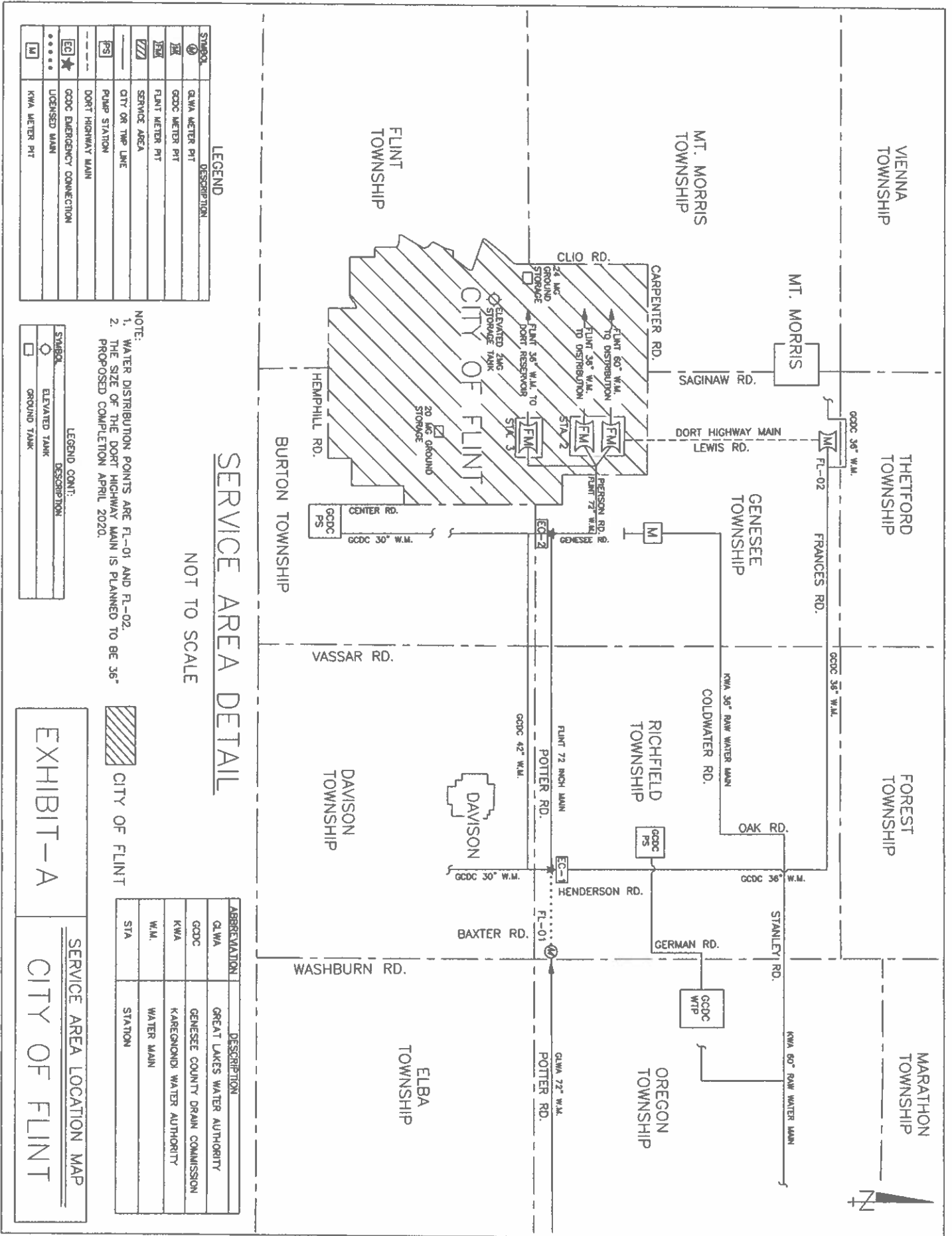


EXHIBIT A

City of Flint Emergency Connections:

None.

City of Flint Water Customers Outside Municipal Limits:

Addresses in Burton

1220 N CENTER RD 48509
1234 N CENTER RD 48509
3009 S DORT HWY 48529
3071 S DORT HWY 48529
3255 S DORT HWY 48529

Addresses in Flint Township

3148 AUGUSTA ST 48532
3149 AUGUSTA ST 48532
3176 W COURT ST 48532
3189 W COURT ST 48532
4028 W COURT ST 48532
4032 W COURT ST 48532
1526 MEIDA ST 48532
1530 MEIDA ST 48532
2100 NEDRA 48532
2226 NEDRA 48532
3200 ORR ST 48532
3155 WHITNEY AVE 48532

Addresses in Genessee Township

3022 N CENTER RD 48506
3030 N CENTER RD 48506
3062 N CENTER RD 48506
3070 N CENTER RD 48506
3094 N CENTER RD 48506
3112 N CENTER RD 48506

Addresses with Flint Zip Codes But Which are not Located within the Flint Corporate Limits

2336 S BALLENGER HWY 48503
3168 BRANCH RD 48506
3174 BRANCH RD 48506
3180 BRANCH RD 48506
3186 BRANCH RD 48506
3376 BRANCH RD 48506

3418 BRANCH RD 48506
3426 BRANCH RD 48506
3450 BRANCH RD 48506
3492 BRANCH RD 48506
4138 BRANCH RD 48506
2238 W BRISTOL RD PIT5 M#1 48553
2238 W BRISTOL RD PIT5 M#2 48553
3137 BROWN ST 48532
1447 E CARPENTER RD 48505
1459 E CARPENTER RD 48505
2069 E CARPENTER RD 48505
2040 W CARPENTER RD 48505
2138 W CARPENTER RD 48505
2296 W CARPENTER RD 48505
2432 W CARPENTER RD 48505
2474 W CARPENTER RD 48505
1216 N CENTER RD 48506
3014 N CENTER RD 48506
4101 CLIO RD 48504
4243 CLIO RD 48504
4255 CLIO RD 48504
1026 DECAMP 48507
1038 DECAMP 48507
1025 W DECAMP 48507
5008 N DORT HWY 48505
3292 FENTON RD 48507
3342 FENTON RD 48507
2495 FLUSHING RD 48504
2501 FLUSHING RD 48504
2509 FLUSHING RD 48504
3037 FLUSHING RD 48504
3214 FLUSHING RD 48504
3348 FLUSHING RD 48504
1047 W HEMPHILL RD 48507
1049 W HEMPHILL RD 48507
1059 W HEMPHILL RD 48507
3141 HERRICK ST 48504
3308 HULL AVE 48507
3314 HULL AVE 48507
3319 HULL AVE 48507
3320 HULL AVE 48507
3342 HULL AVE 48507
3348 HULL AVE 48507
3351 HULL AVE 48507
3008 MILLER RD SWR 1 48503
3008 MILLER RD SWR 2 48503

2036 NEDRA 48504
2052 NEDRA 48504
2070 NEDRA 48504
2076 NEDRA 48504
2080 NEDRA 48504
2126 NEDRA 48504
2254 NEDRA 48504
2605 W PIERSON RD 48504
3008 W PIERSON RD 48504
3024 W PIERSON RD 48504
3092 W PIERSON RD 48504
3106 W PIERSON RD 48504
3175 RICHFIELD RD 48506
3217 RICHFIELD RD 48506
3275 RICHFIELD RD 48506
1046 RONALD ST 48507
1050 RONALD ST 48507
1066 RONALD ST 48507
1069 RONALD ST 48507
3100 VAN SLYKE RD PIT#1 M#1 48507
3100 VAN SLYKE RD PIT#1 M#2 48507
3100 VAN SLYKE RD PIT#2 M#1 48507
3100 VAN SLYKE RD PIT#2 M#2 48507
3100 VAN SLYKE-PRVT SWR #6 48507
3100 VAN SLYKE-PRVT SWR #7 48507
3275 VAN SLYKE RD 48507
3293 VAN SLYKE RD 48507
3339 VAN SLYKE RD 48507
2200 WALTON AVE 48504

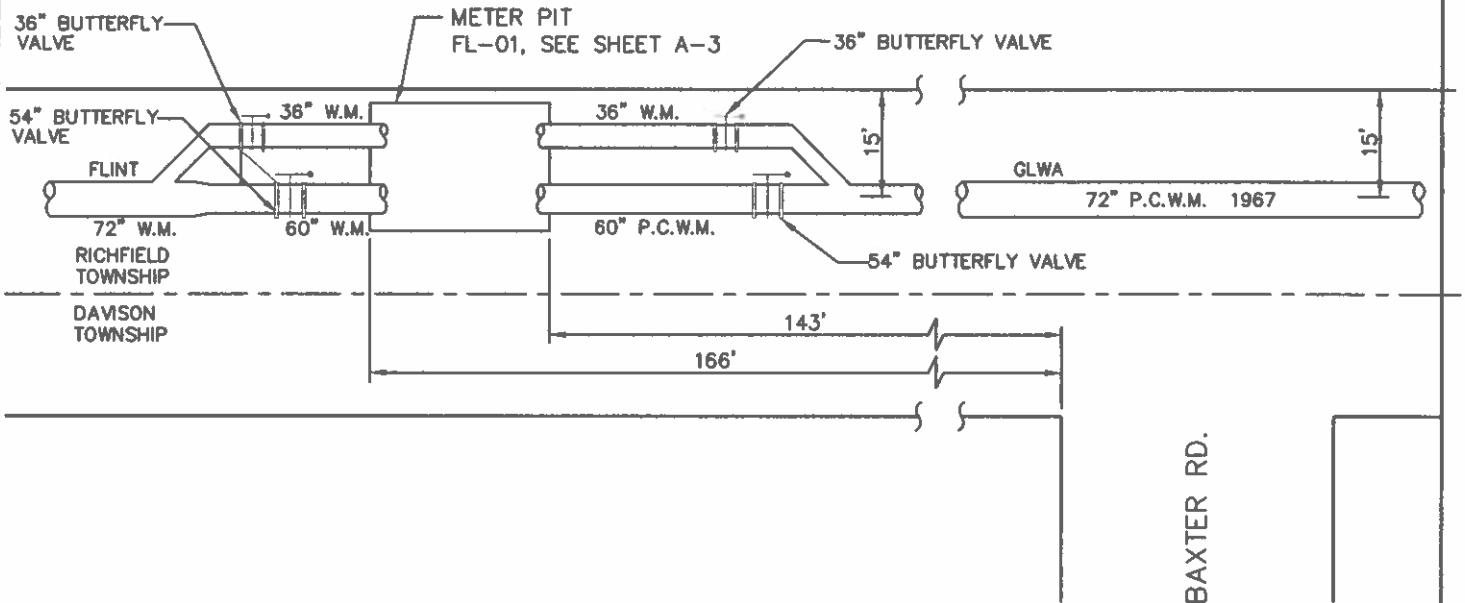
City of Flint Master Meters Not In Service:

None.

EXHIBIT-A FL-01 POTTER AND BAXTER CITY OF FLINT



POTTER RD. 66' ROW



SITE PLAN DETAIL
NOT TO SCALE

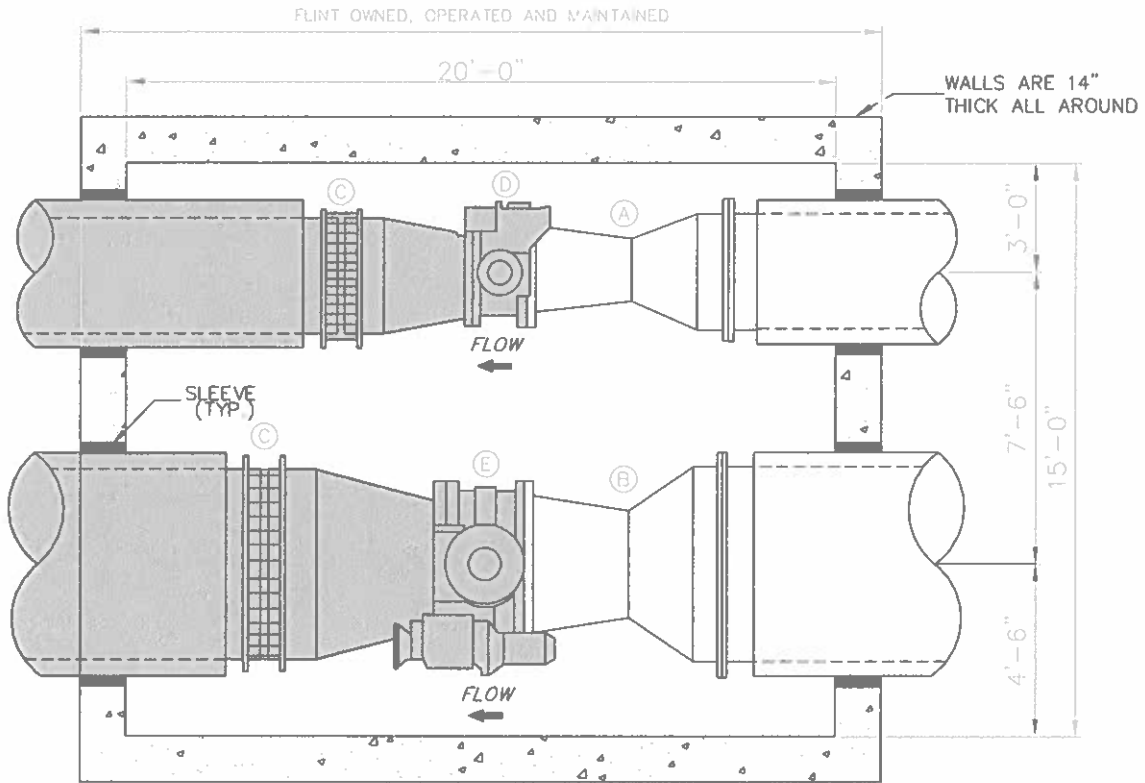
LEGEND

ABBREVIATION	DESCRIPTION
W.M.	WATER MAIN
P.C.W.M.	PRESTRESSED CONCRETE WATER MAIN
GLWA	GREAT LAKES WATER AUTHORITY
ROW	RIGHT-OF-WAY

LOCATIONS SUBJECT TO
VERIFICATION IN THE FIELD.

FL
01

EXHIBIT-A
FL-01
POTTER AND BAXTER
CITY OF FLINT



METER PIT DETAIL
NOT TO SCALE

GLWA OWNED, OPERATED AND MAINTAINED
FLINT OWNED, OPERATED AND MAINTAINED

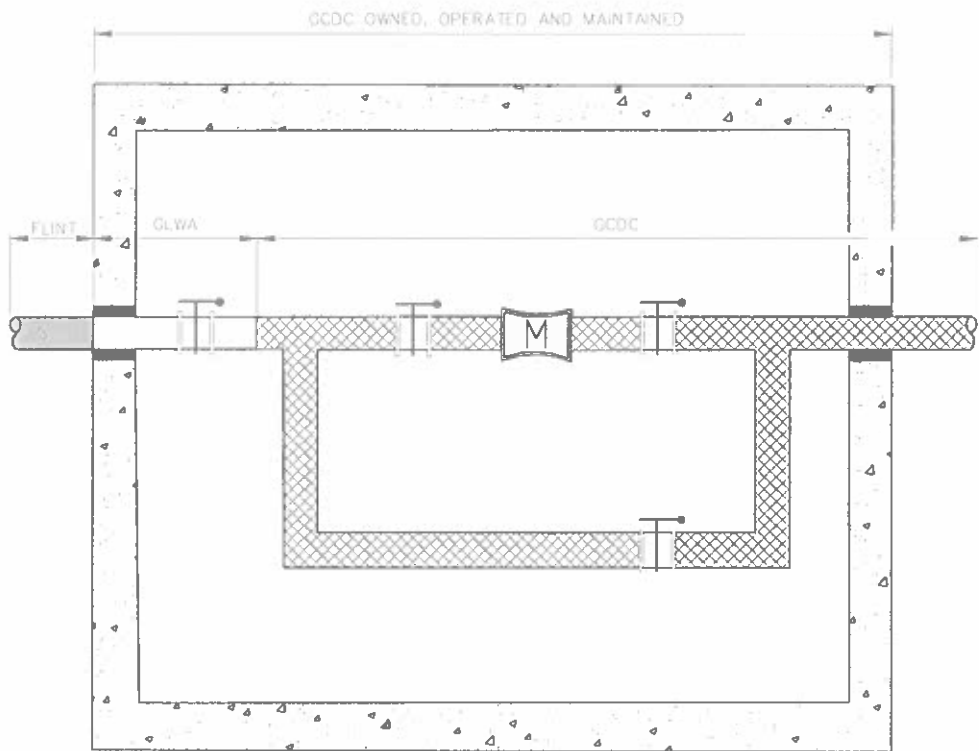
ADDRESS	12261 EAST POTTER ROAD, DAVISON, MI
FEED TO	CITY OF FLINT
FEED FROM	GLWA TRANS. MAIN
TYPE OF METER	TWO - PENN FLOW TUBES
SIZE OF METER	60" X 37.406" X 42" AND 36" X 22" X 30"
TUBE NUMBER	60")626141 36")626142
DATE METER SET	DECEMBER 14, 1967
METER PIT CONST. & SIZE	20"-0" X 15'-0" I.D. REINF. CONC
REMARKS	MANUAL SWITCHOVER

LEGEND			
TAG	QTY	DESCRIPTION	SIZE
A	1	PENN. FLOW TUBE	36" X 22" X 30"
B	1	PENN. FLOW TUBE	60" X 37.406" X 42"
C	2	COUPLING	--
D	1	MOTOR OPERATED BUTTERFLY VALVE	30"
E	1	MOTOR OPERATED BUTTERFLY VALVE	42"

TYPICAL PRESSURE LOSS THRU METER	
METER TYPE	P.S.I. LOSS
VENTURI	1 - 2
MAG	0
TURBINE	4 - 6

FL
01

EXHIBIT-A
FL-02



METER PIT DETAIL
NOT TO SCALE

GLWA OWNED AND OPERATED, TO BE MAINTAINED BY GCDC

 GCDC OWNED, OPERATED AND MAINTAINED

 FLINT OWNED, OPERATED AND MAINTAINED

FEED TO	CITY OF FLINT
FEED FROM	GLWA TRANS. MAIN



EXHIBIT B

Projected Annual Volume and Minimum Annual Volume (Table 1)
Pressure Range and Maximum Flow Rate (Table 2)
Flow Split Assumptions (Table 3)
Addresses for Notice (Table 4)

Table 1 and Table 2 set forth the agreed upon Projected Annual Volumes, Minimum Annual Volumes, Pressure Ranges and Maximum Flow Rates for the term of this Contract provided that figures in bold type face are immediately enforceable pursuant to the terms of Section 5.07 and italicized figures are contained for planning purposes only but will become effective absent the negotiated replacements anticipated in Section 5.07.

The approximate rate of flow by individual meter set forth in Table 3 is the assumption upon which the Pressure Range commitments established in Table 2 have been devised. Should Customer deviate from these assumptions at any meter(s), the Board may be unable to meet the stated Pressure Range commitments in this Contract or in the contract of another customer of the Board and Section 5.08 of this Contract may be invoked.

EXHIBIT B

Table 1
Projected Annual Volume and Minimum Annual Volume

Fiscal Year Ending June 30	Projected Annual Volume (Mcf)	Minimum Annual Volume (Mcf)
2018	590,600	295,300
2019	590,600	295,300
2020	590,600	295,300
2021	590,600	295,300
2022	590,600	295,300
2023	590,600	295,300
2024	500,000	250,000
2025	500,000	250,000
2026	500,000	250,000
2027	500,000	250,000
2028	500,000	250,000
2029	500,000	250,000
2030	500,000	250,000
2031	500,000	250,000
2032	500,000	250,000
2033	500,000	250,000
2034	500,000	250,000
2035	500,000	250,000
2036	500,000	250,000
2037	500,000	250,000
2038	500,000	250,000
2039	500,000	250,000
2040	500,000	250,000
2041	500,000	250,000
2042	500,000	250,000
2043	500,000	250,000
2044	500,000	250,000
2045	500,000	250,000
2046	500,000	250,000
2047	500,000	250,000

EXHIBIT B

Table 2
Pressure Range and Maximum Flow Rate

Calendar Year (Reopener Schedule in bold type)	Pressure Range (psi)		Pressure Range (psi)		Maximum Flow Rate (mgd)	
	Meter FL-01		Meter FL-02 (Feed from GCDC)			
	<u>Min</u>	<u>Max</u>	<u>Min</u>	<u>Max</u>	<u>Max Day</u>	<u>Peak Hour</u>
2017	40	60	NA	NA	15.0	15.0
2018	40	60	NA	NA	15.0	15.0
2019	40	60	NA	NA	14.5	14.5
2020	40	60	NA	NA	14.5	14.5
2021	40	60	NA	NA	14.5	14.5
2022	40	60	NA	NA	14.5	14.5
2023	40	60	NA	NA	14.0	14.5
2024	40	60	NA	NA	14.0	14.5
2025	40	60	NA	NA	14.0	14.5
2026	40	60	NA	NA	14.0	14.5
2027	40	60	NA	NA	14.0	14.5
2028	40	60	NA	NA	14.0	14.5
2029	40	60	NA	NA	14.0	14.5
2030	40	60	NA	NA	14.0	14.5
2031	40	60	NA	NA	14.0	14.5
2032	40	60	NA	NA	14.0	14.5
2033	40	60	NA	NA	14.0	14.5
2034	40	60	NA	NA	14.0	14.5
2035	40	60	NA	NA	14.0	14.5
2036	40	60	NA	NA	14.0	14.5
2037	40	60	NA	NA	14.0	14.5
2038	40	60	NA	NA	14.0	14.5
2039	40	60	NA	NA	14.0	14.5
2040	40	60	NA	NA	14.0	14.5
2041	40	60	NA	NA	14.0	14.5
2042	40	60	NA	NA	14.0	14.5
2043	40	60	NA	NA	14.0	14.5
2044	40	60	NA	NA	14.0	14.5
2045	40	60	NA	NA	14.0	14.5
2046	40	60	NA	NA	14.0	14.5

EXHIBIT B

Table 3
Flow Split Assumptions

Meter	Assumed Flow Split (2023-2026)
FL-01	95 %
FL-02	5 %

Table 4
Addresses for Notice

If to the Board: General Counsel Great Lakes Water Authority 735 Randolph, Suite 1901 Detroit, Michigan 48226	If to Customer: Mayor City of Flint 1101 S. Saginaw Street Flint, Michigan 48502 Attention: City Attorney
--	---



RESOLUTION NO.: 220539
PRESENTED: DEC 19 2022
ADOPTED: JAN - 9 2023

**RESOLUTION APPROVING AMENDED AGREEMENT
WITH GREAT LAKES WATER AUTHORITY**

On December 1, 2017, the Great Lakes Water Authority (GLWA) and the City of Flint ("City") executed into a Water Service Contract ("Contract") reflecting the terms and conditions governing the delivery and purchase of potable water; and

Article 15 of that Contract permits the Parties to amend the Contract by mutual agreement; and

In 2018, GLWA devised a Contract Alignment Process ("CAP") that results in all contracts being reopened on a four-year schedule to place its customers on the same periodic review schedule and reduce, as much as practicable, volatility in pricing, to which the City agreed; and

The Parties have discussed and agreed on various amendments to the Contract pursuant to the 2022 Contract opener.

IT IS RESOLVED that the City Council approves amending the agreement with the Great Lakes Water Authority to incorporate the agreed-upon amendments.

For the City

CLYDE D EDWARDS

CLYDE D EDWARDS (Dec 14, 2022 11:29 EST)

Clyde Edwards, City Administrator

For the City Council

[Signature]
JAN - 9 2023

APPROVED AS TO FORM:

[Signature]
William Kim (Dec 13, 2022 11:27 EST)

William Kim, City Attorney

APPROVED AS TO FINANCE:

Robert J.F. Widigan
Robert J.F. Widigan (Dec 13, 2022 14:50 EST)

Robert J.F. Widigan, Chief Financial Officer



Board of Directors
735 Randolph Street, Suite 1900
Detroit, Michigan 48226
(313) 224-4785

Great Lakes Water Authority Board of Directors

General Certification

The undersigned hereby certifies that (i) the Resolution **2023-012** regarding “**Proposed Amendment No. 2 to Water Service Contract with City of Flint**” attached hereto is a true and complete copy of the Resolution duly passed by the Great Lakes Water Authority Board of Directors at a meeting held on January 25, 2023 at which meeting a quorum was present and remained throughout, (ii) the original thereof is on file in the records of the Great Lakes Water Authority Board of Directors, (iii) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended); and (iv) Minutes of such meeting were kept and will be or have been made available as required thereby.

YES: Freman Hendrix, Brian Baker, Gary A. Brown, Jaye Quadrozzi and John J. Zech

NO: None

ABSTAIN: None

EXCUSED: Beverly Walker-Griffea

Dated: January 25, 2023

By: Rechanda L. Willis
Title: Executive Board Assistant

APPENDIX V

2023 CITY OF FLINT SANITARY SURVEY



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
BAY CITY DISTRICT OFFICE



PHILLIP D. ROOS
DIRECTOR

December 13, 2023

Clyde Edwards, Administrator
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502

WSSN: 2310
County: Genesee

Dear Clyde Edwards:

SUBJECT: Significant Deficiency Violation Notice (SDVN); City of Flint Water System
Sanitary Survey (Survey)

This letter confirms the Department of Environment, Great Lakes, and Energy's (EGLE's) staff meeting with you and with Mr. Scott Dungee, on November 6, 2023, to conduct a Survey of the city of Flint (Flint) water system and to present the final findings, discuss areas for improvement, and identify timelines for corrective action where appropriate. The purpose of a Survey is to evaluate the water supply system with respect to the requirements of the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399). It is also an opportunity to update EGLE's records, provide technical assistance, and identify potential risks that may adversely affect drinking water quality. Enclosed is a copy of the Sanitary Survey Report (Report) for your reference.

Since the last Survey, EGLE acknowledges that Flint has completed the following water facility improvements and operations:

1. Completed upgrades to the elevated storage tank.
2. Completed construction of a new chemical feed building.
3. Completed construction of a secondary supply line.
4. Updated the Emergency Response Plan (ERP).
5. Completed repairs to hatches, vents, and overflow structures at the Dort Reservoir.

The following table summarizes EGLE's final findings from the Survey of the water system:

Survey Element	Findings
Source	No Deficiencies/Recommendations
Treatment	Deficiencies Identified
Distribution System	Significant Deficiencies Identified
Finished Water Storage	Deficiencies Identified
Pumps	Deficiencies Identified
Monitoring & Reporting	No Deficiencies/Recommendations
Management & Operations	Significant Deficiencies Identified
Operator Compliance	No Deficiencies/recommendations

Security	Recommendations Made
Financial	Significant Deficiencies Identified
Other	Recommendations Made

Significant Deficiencies:

Significant deficiencies represent an immediate health risk to consumers of water and indicate non-compliance with one or more Act 399 requirements. Significant deficiencies are serious sanitary deficiencies identified in water systems which include, but are not limited to, defects in design, operation, maintenance, or a failure or malfunction of the sources; treatment, storage, or distribution systems that are determined to be causing, or have the potential to cause, contamination into the public water supply (PWS).

Significant deficiencies must be corrected within 120 days of the date of this letter, or a Corrective Action Plan, approved by EGLE, must be completed within 120 days of the date of this letter. Flint and EGLE previously entered into a Voluntary Agreement dated December 17, 2018, to address water system deficiencies and violations. Several corrective actions required by the 2018 Voluntary Agreement have been completed and the conditions surrounding other required corrective actions have changed; therefore, it is necessary to develop and execute a new Administrative Consent Agreement (ACA) to replace the Voluntary Agreement if the significant deficiencies cannot be corrected within 120 days. Failure to meet the 120-day deadline is a treatment technique violation.

During the Survey, two significant deficiencies were identified and are listed below. The significant deficiencies were also identified in earlier sanitary surveys and were included in the 2018 Voluntary Agreement between Flint and EGLE.

1. **R 325.11404: Local cross connection control programs.** Per Rule 1404(1), a type I public water supply shall develop a comprehensive control program for the elimination and prevention of all cross connections. When the plan is approved, the water supply shall implement the program for removal of all cross connections and prevention of all future cross connections.

An insufficient number of cross connection inspections is being conducted due to staffing vacancies and resource limitations, and there is no history of inspections at residential accounts. No information was available regarding local enforcement of the program for accounts with known, unprotected cross connections. To resolve this significant deficiency, a comprehensive cross connection control program must be developed and implemented.

2. **Insufficient technical, managerial, and financial (TMF) capacity.** Flint has not demonstrated sufficient TMF capacity to consistently operate the water system in compliance with Act 399. TMF capacity is demonstrated in several ways – maintaining adequate staffing and resources to complete critical and routine tasks, implementing appropriate policies and Standard Operating Procedures (SOPs), and implementing an appropriate financial structure for operations, maintenance, planning, and capital improvements. Several reports and documents have been prepared which identify areas of insufficient TMF capacity. The 2018 City of Flint Water Distribution System Optimization Plan prepared by Arcadis Group (Arcadis Report) identified critical SOPs and critical positions within the water system, many of which could not be immediately implemented due to resource limitations. Per R325.11606, Rule 1606, a general plan must include a capital improvement plan (CIP) that identifies water system needs for 5-year

and 20-year planning periods and a funding structure and rate methodology that provide sufficient resources to implement the asset management plan (AMP). A CIP and AMP were prepared, but significant funding gaps were projected to occur once external (state and federal) one-time funding sources are exhausted. Water rates necessary to eliminate the gap between revenues and expenses have been identified but have not been implemented due to affordability concerns for Flint residents. Over 60 percent of Flint's water mains have been in service for over 90 years and have exceeded their design life, and the projected available revenue is insufficient to replace them in a reasonable timeframe. Based on this information, it was determined Flint lacks sufficient Technical, Managerial, and Financial (TMF) capacity to consistently operate the water system in compliance with Act 399. To resolve this significant deficiency, the AMP and CIP must be updated, and a funding structure and rate methodology must be implemented that allows Flint to fill critical vacancies, fully implement the AMP, and achieve adequate TMF capacity.

Deficiencies:

Deficiencies indicate non-compliance with one or more Act 399 requirements, and include defects in a water system's infrastructure, design, operation, maintenance, or management that cause, or may cause, interruptions to the "multiple barrier" protection system and adversely affect the system's ability to produce safe and reliable drinking water in adequate quantities.

During the Survey, seven deficiencies were identified and are listed below.

1. **R 325.11112: Storage tanks generally, R325.11113: Gravity storage tanks.** Per Rule 1112, storage tanks shall have no unprotected openings. Per Rule 1113, gravity storage tanks shall be provided with a watertight and properly drained roof and an overflow line of sufficient size. Per Ten States' Standards, section 7.1.9, vents on ground level tanks shall be protected with 24-mesh, non-corrodible screen. Per section 7.1.8, access hatches must be fitted with a solid watertight cover. Per section 7.1.7, all water storage structures shall be provided with an overflow extending to an elevation between 12 and 24 inches above the ground surface and protected by 24-mesh screen or a rubber duckbill valve. Per Section 7.4.4, finished water storage facilities shall be designed to provide mixing. Per U.S. Environmental Protection Agency (USEPA) guidelines, storage tank drains must have a removable 24-mesh screen or plug. Deficiencies were identified at the following two treated water storage facilities:

- a. Cedar Street reservoir – the following deficiencies were identified during the survey and have been corrected by city of Flint personnel:

- i. A hatch cover was bent/cracked and was missing the required watertight gasket.
- ii. Gaps were observed around the 24-mesh screen on the north reservoir vents.
- iii. Areas of deteriorated concrete were observed which could present a pathway for contaminants to enter the reservoir.

The following deficiencies were observed and must be corrected by September 30, 2025:

- i. The flap gate protecting the reservoir overflow has a broken hinge, the splash pad at the overflow outlet is damaged, and the overflow does not appear to have a 24-mesh screen.
- ii. The drain outlet is hard-piped to a drainage structure and does not have a removable plug or 24-mesh screen.
- iii. Proper mixing is not being achieved in the south reservoir chamber due to a broken flap gate.
- iv. There is significant growth of trees and brush around the reservoir which can create a security risk and increase the potential for structural damage due to root intrusion at joints or cracks.

It is noted that an Act 399 construction permit has been issued for rehabilitation of the Cedar Street reservoir, and it is expected that the rehabilitation project will address all deficiencies.

- b. Dort reservoir – the drain does not have a removable 24-mesh screen or plug. The drain outlet terminates below grade, and it is not feasible to raise the outlet due to elevation restrictions. To resolve this deficiency, a removable screen or plug must be installed on the drain outlet and a Standard Operating Procedure (SOP) must be developed by June 30, 2024, to ensure the drain outlet chamber will drain freely and will not be surcharged.

- 2. **R 325.11011: Pumping facility; capacity.** Per Rule 1011, a pumping facility shall have sufficient capacity to meet the service area demands with the largest unit removed from service. Deficiencies were identified at the following three pumping facilities:

- a. Dort pumping station (Pump Station #4) – new pumps were recently installed but they have developed excessive vibration and cannot reliably be used without modifications. To resolve this deficiency, the vibration issues must be corrected, and the station must demonstrate reliable performance by March 31, 2024.
- b. Cedar Street booster station – the pumps have exceeded their design life, are oversized and inefficient, and may not be capable of meeting demands as their condition deteriorates. Booster station controls are obsolete and should be upgraded but are currently functional. To resolve this deficiency, the booster station must be upgraded by September 30, 2025. It is noted that improvements to the Cedar Street booster station cannot begin until the Dort pumping station vibration issues are corrected.
- c. Torrey Road booster station – the pumps cannot be operated at 100 percent of capacity due to overheating concerns with the variable frequency drive (VFD) units. The control system does not transmit information related to several critical features – system pressure, run/fail status of pumps, and position of check valves. The exterior isolation valves are in poor condition, with excessive leakage and the potential for building damage, pipe freeze-ups, and the entry of contaminants to the water supply. To resolve this deficiency, mitigate the potential for pipe freeze-ups by December 31, 2023, evaluate upgrades to or replacement of the station by December 31, 2024, and complete upgrades or replacement by December 31, 2025.

- 3. **R 325.11502: Monthly operation reports of public water supplies employing treatment.** Per Rule 1502, monthly operation reports must include information on chemical application. Per Ten States' Standards, Section 5.5.2.d, provisions shall be made for measuring the quantities of chemicals used. The chlorine feed system at the Cedar Street reservoir is not equipped with a means to measure chemical usage. Chemical usage is estimated from feed pump settings. To resolve this deficiency, a means to measure chemical usage must be installed by September 30, 2025. It is noted that an Act 399 construction permit has been issued for rehabilitation of the Cedar Street reservoir, and it is expected that the rehabilitation project will address this deficiency.

- 4. **R325.11108: Distribution system valves.** Per Rule 1108, sufficient valves shall be provided on distribution systems to minimize interruptions in service and minimize safety hazards during construction or repairs. The SOP for routine operation and maintenance of valves has not been implemented due to resource and staffing limitations. To resolve this deficiency, begin partial implementation of the SOP for routine valve operation and maintenance by December 31, 2024, by identifying critical distribution system valves, confirming their location and accessibility, and repairing or replacing them as appropriate. It is understood that full implementation of the SOP for all system valves may not be possible until sufficient TMF capacity is achieved.

5. **R325.11506: Recordkeeping.** Per Rule 1506, water systems must maintain various records related to Act 399 compliance for designated periods of time. During the survey, it was stated that Flint does not have operational or monitoring records from 2014 to 2016 because they were removed from the water plant during legal proceedings by the State of Michigan. To resolve this deficiency, provide documentation to EGLE that Flint has obtained the original or copies of the records by June 30, 2024.
6. **Bulk chemical storage.** Per Ten States' Standards, Section 5.5.10, for bulk storage tanks, acids and other hazardous chemical storage tanks shall be vented to the outside atmosphere. The bulk storage for sodium hypochlorite, sodium hydroxide, and phosphoric acid is vented to the interior of the chemical feed building. To resolve this deficiency, modify the bulk storage tank vents to provide outdoor venting by December 31, 2024.
7. **R325.11204 Required capacity of waterworks systems; applicability.** Per Rule 1204, a public water supply shall provide sufficient capacity in the waterworks system to meet the approved finished water supply requirements. The capacity may be the available capacity obtained under contract and capable of delivery from another approved public water supply. Flint's water service agreement with the Great Lakes Water Authority (GLWA) specifies a maximum daily contractual allotment of 14.0 million gallons per day (MGD) and a peak hour allotment of 14.5 MGD. Maximum daily demand has been decreasing in recent years, but the reported 2023 maximum day usage is 14.8 MGD. Flint is taking steps to reduce lost water and has a significant amount of storage to equalize flows above the maximum day and peak hour values, so a physical shortage of water is not anticipated, but it is necessary to have a formal understanding with GLWA regarding how they intend to treat delivery rates greater than specified in the water service agreement. To resolve this deficiency, consult with GLWA and provide documentation to EGLE by June 30, 2024, how daily water purchases in excess of the contract limitation will be handled. If exceedances of the contract will not be allowed by GLWA, update your reliability study by December 31, 2024, to ensure that available supply exceeds projected 5-year and 20-year demands.

Required Actions:

The required actions listed below are not deficiencies but must be completed by the dates indicated to avoid a future deficiency or significant deficiency designation.

1. Update your Revised Total Coliform Rule sampling plan by December 31, 2023. The population served by the water system has changed since the last sampling plan was prepared. The new population served is 81,252 (Census 2020), and the required number of monthly routine bacteriological samples is 80. The revised plan should not reduce the number of sampling sites but may reduce the sampling frequency. The revised plan must be submitted to EGLE for review and approval prior to changing your sampling program.
2. Update the following components of the general plan by June 30, 2024 – inventory of water main by age, size, and pipe material.

Recommendations:

Recommendations are suggestions the public water supply should consider, to enhance its operations and services, and to avoid future deficiencies.

During the Survey, the following recommendations were identified and are listed below.

1. Conduct a power reliability audit for your drinking water facilities.
2. Provide security enhancements as appropriate. For example, there is evidence of graffiti at the Cedar Street reservoir and booster pumping station.

EGLE's investigation is considered complete. This significant deficiency begins as of the date of the date of this letter and will continue until Flint completes corrective actions. Flint must complete corrective action within 120 days of the date of this letter or be in compliance with a Corrective Action Plan and schedule approved by this office. Please contact this office within 30 days of the date of this letter to discuss appropriate corrective action. You must also notify EGLE, in writing, within 30 days of correcting the significant deficiency.

If you have any factual information that you would like EGLE to consider regarding the significant deficiencies identified in this SDVN, please provide it in a written response to this office by January 31, 2024.

Please note that any Significant Deficiency (SD) that remains unresolved at the time the annual Consumer Confidence Report (CCR) is distributed, the water supplier is required to provide a Special Notice in its CCR. The water supplier must inform your customers on the details regarding the unresolved SD including the date the SD was identified by EGLE; the EGLE approved plan and schedule for correction along with the current progress toward this approved plan. This Special Notice requirement shall be included in all future CCRs until the SD has been resolved.

If you have any questions, please feel free to contact me at the phone number listed below, or by email at londonr@michigan.gov.

Sincerely,

Robert London, PE, Surface Water Specialist
Engineering Section
Drinking Water and Environmental Health
989-450-7834

Enclosure:

cc/enc: Mr. Robert Jones, F&V Operations
Mr. Scott Dungee, City of Flint
Ms. Caitie O'Neill, City of Flint
Mr. Paul Simpson, City of Flint
cc: Mr. Mike Bolf, EGLE
Ms. Maureen Nelson, EGLE
Mr. George Krisztian, EGLE
Mr. Ryan VanDerWoude, EGLE
Genesee County Health Department

Sanitary Survey of Community Water Supply - Review Summary

Water Supply: City of Flint

County: Genesee

Evaluator: London, Roeser

WSSN: 02310

District: 92

Date: 11/6/2023

Category	Comment	N/A	NotEv	NoD/R	Rec	Def	SigDef
Source				X			
Construction & Maintenance				X			
Standby Power				X			
Isolation		X					
Source Water Protection		X					
Capacity				X			
Treatment						X	
Disinfection	Cedar St. feed system, venting of bulk tanks					X	
Fluoride		X					
Phosphate Addition	Venting of bulk tanks					X	
Softening		X					
Iron/Manganese Removal		X					
Arsenic Removal		X					
Pretreatment		X					
Filtration (gravity or membranes)		X					
C*T		X					
Other - pH Adjustment	Venting of bulk tanks					X	
Distribution System							X
Interconnections w/ Other WS		X					
Hydrants & Valves	Valve SOP not implemented due to resource limitations					X	
Service Lines & Metering	Lead service line removal is ongoing			X			
General Plan	Updated inventory of water main is needed				X		
Cross Connections	Limited activity, lack of staffing, no residential efforts						X
Construction & Maintenance	Significant old and break-prone mains					X	
Capacity				X			
Finished Water Storage						X	
Construction & Maintenance	Cedar St. several components, Dort drain					X	
Controls	Old and in need of replacement, but currently functional				X		
Capacity				X			
Pumps (All Pumping Facilities)						X	
Construction & Maintenance	Cedar St. old but functional, Dort vibration issues					X	
Controls	Torrey Road - insufficient remote monitoring				X		
Capacity				X			
Monitoring & Reporting				X			
Bacteriological Monitoring				X			
Chemical Monitoring				X			
MOR or Annual Pumpage Report				X			
Consumer Confidence Report				X			
Analytical Capabilities				X			
System Management & Operations							X
Owner Responsibility				X			
Capacity Development	Continues to lack TMF capacity						X
Reliability Study	Max day demand dropping but exceeds GLWA contract					X	
Operations Oversight	Missing records from 2014-2016					X	
Permits				X			
Operator Compliance				X			
Operator Certification				X			
Technical Knowledge & Training				X			
Security					X		
Emergency Response Plan				X			
Site Security (Fences, Alarms...)	Additional security at Cedar St. reservoir				X		
Financial							X
Rates							X
Budget & Capital Imp. Plan	Updated CIP is needed				X		
Other - Asset Management Plan	Updated AMP is needed				X		

N/A - Not Applicable

Rec - Recommendations Made

NotEv - Not Evaluated

Def - Deficiencies Identified

NoD/R - No Deficiencies/Recommendations Made

SigDef - Significant Deficiencies Identified

2023 Sanitary Survey Response Check list

Dear Mr. London,

This correspondence is in response to the Water System Sanitary Survey, WSSN: 2310 received on December 13, 2023. The Survey identified several significant deficiencies and deficiencies associated with the Flint water system. Additionally, recommendations are made regarding several elements of the water system. As required in your Violation Notice, the City requests the Michigan Department of Environment, Great Lakes, and Energy consider the following information when assessing the various survey elements. Please understand the city is aware of all deadlines disclosed in the Sanitary Survey, we are working diligently to correct all noted deficiencies, and Significant deficiencies before the deadlines and we will notify EGLE after a violation have been resolved.

Significant Deficiencies: During the Survey, two significant deficiencies were identified and are listed below. The significant deficiency was also identified in earlier sanitary surveys and were included in the 2018 Voluntary Agreement between Flint and EGLE.

During the Survey, the following significant deficiency was identified:

1. **R325.11404: Local cross connection control programs.** Per Rule 1404(1), a type I public water supply shall develop a comprehensive control program for the elimination and prevention of all cross connections. When the plan is approved, the water supply shall implement the program for removal of all cross connections and prevention of all future cross connections. An insufficient number of cross connection inspections is being conducted due to staffing vacancies and resource limitations, and there is no history of inspections at residential accounts. No information was available regarding local enforcement of the program for accounts with known, unprotected cross connections. To resolve this significant deficiency, a comprehensive cross connection control program must be developed and implemented.

City's Response

Currently the City of Flint is undergoing a recruitment process for the Cross Connection Inspector but has not been able to fill this position, the CoF is aware of the 120-day deadline for significant deficiencies being resolved and is working vigorously to fill this position. EPA and EGLE has worked together to revise and develop a 53-page Cross Connection Inspection Plan for the CoF to meet compliance once we hire an Inspector and get approval from the state on the new Cross Connection Plan. In the meantime, EGLE will require the WTP Supervisor to fill out a monthly report on the status of the Cross connection program.

2. **Insufficient technical, managerial, and financial (TMF) capacity.** Flint has not demonstrated sufficient TMF capacity to consistently operate the water system in compliance with Act 399. TMF capacity is demonstrated in several ways – maintaining adequate staffing and resources to complete critical and routine tasks, implementing appropriate policies and Standard Operating Procedures (SOPs), and implementing an appropriate financial structure for operations, maintenance, planning, and capital improvements. Several reports and documents have been prepared which identify areas of insufficient TMF capacity. The 2018 City of Flint Water

Distribution System Optimization Plan prepared by Arcadis Group (Arcadis Report) identified critical SOPs and critical positions within the water system, many of which could not be immediately implemented due to resource limitations. Per R325.11606, Rule 1606, a general plan must include a capital improvement plan (CIP) that identifies water system needs for 5-year and 20-year planning periods and a funding structure and rate methodology that provide sufficient resources to implement the asset management plan (AMP). A CIP and AMP were prepared, but significant funding gaps were projected to occur once external (state and federal) one-time funding sources are exhausted. Water rates necessary to eliminate the gap between revenues and expenses have been identified but have not been implemented due to affordability concerns for Flint residents. Over 60 percent of Flint's water mains have been in service for over 90 years and have exceeded their design life, and the projected available revenue is insufficient to replace them in a reasonable timeframe. Based on this information, it was determined Flint lacks sufficient Technical, Managerial, and Financial (TMF) capacity to consistently operate the water system in compliance with Act 399. To resolve this significant deficiency, the AMP and CIP must be updated, and a funding structure and rate methodology must be implemented that allows Flint to fill critical vacancies, fully implement the AMP, and achieve adequate TMF capacity.

City's Response

The Voluntary Agreement requires periodic updates to the City's approved TMF plan requires the projected funding gap to be eliminated by a new date TBD by the new projected EGLE ACO (pending review), and the city must either submit and receive approval for an alternative TMF capacity plan, or meet the current deadline of TBD, even if rate increases are necessary to do so. The city has received the 2023 Sanitary Survey on December 13, 2023 and the new proposed EGLE ACO on December 15, 2023.

The new EGLE Proposed Consent order (pending review) ACO-399-xx-20xx, next schedule a meeting with EGLE to set up a new Voluntary Agreement all within the 120-day deadline started in the new Projected (pending review) ACO in conjunction with the 2023 Sanitary Survey.

Deficiencies:

Deficiencies indicate non-compliance with one or more Act 399 requirements, and include defects in a water system's infrastructure, design, operation, maintenance, or management that cause, or may cause, interruptions to the "multiple barrier" protection system and adversely affect the system's ability to produce safe and reliable drinking water in adequate quantities. During the Survey, seven deficiencies were identified and are listed below.

1. **R 325.1112: Storage tanks generally, R325.11113:** Gravity storage tanks. Per Rule 1112, storage tanks shall have no unprotected openings. Per Rule 1113, gravity storage tanks shall be provided with a watertight and properly drained roof and an overflow line of sufficient size. Per Ten State's Standards, section 7.1.9, vents on ground level tanks shall be protected with 24-mesh, non-corrodible screen. Per section 7.1.8, access hatches must be fitted with a solid watertight cover. Per section 7.1.7, all water storage structures shall be provided with an overflow extending to an elevation between 12 and 24 inches above the ground surface and protected by

24-mesh screen or a rubber duckbill valve. Per Section 7.4.4, finished water storage facilities shall be designed to provide mixing. Per U.S. Environmental Protection Agency (USEPA) guidelines, storage tanks drains must have a removable 24-mesh screen or plug. Deficiencies were identified at the following two treated water storage facilities:

a. Cedar Street reservoir

- i. A hatch cover was bent/cracked and was missing the required watertight gasket.
City's response
WTP Maintenance staff straightened the bent hatch cover and added sheet metal to the cracked metal corners followed up with caulking any gaps between the patch metal and the old frame. Once that was done maintenance cut new gaskets to seal the hatches and we sent pictures to EGLE to show our work, task was completed on November 20, 2023.
- ii. Gaps were observed around the 24-mesh screen on the north reservoir vents.
City's response
WTP staff cut all excess 24-mesh screen that was causing gaps in between the screen and the vent followed up with caulking any gaps between the screens and the old style vents. After the repairs were done we sent pictures to EGLE to show our work, task was completed on November 19, 2023.
- iii. Areas of deteriorated concrete were observed which could present a pathway for contaminants to enter the reservoir.
City's response
WTP maintenance staff caulked all deteriorating concrete to fill the holes or any pathway for contamination. After the repairs were done we sent pictures to EGLE to show our work.
Note: A restoration project is slated to start in 2024 to fully restore the Cedar Street reservoir and Pump station, at this time all violations will be addressed and resolved, task was completed on November 20, 2023.

The following deficiencies were observed and must be corrected by September 30, 2025:

- i. The Flap gate protecting the reservoir overflow has a broken hinge, the splash pad at the overflow outlet is damaged, and the overflow does not appear to have a 24-mesh screen.
City's response
The broken flap gate will be replaced during the 2024 Cedar St. Reservoir restoration project; approximate date the well will be taken out of service will be March of 2024.

- ii. The drain outlet is hard-piped to a drainage structure and does not have a removable plug or 24-mesh screen.

City's response

This will be re-designed to have a 24-inch air gap and will be fitted with a 24-mesh screen during the 2024 restoration of Cedar St. Reservoir restoration project, approximate date the well will be taken out of service is March of 2024.

- iii. Proper mixing is not being achieved in the south reservoir chamber due to a broken flap gate.

City's response

The broken flap gates that control flow through the reservoir while filing will be replaced during the Cedar Street restoration project to start in March 2024.

- iv. There is a significant growth of trees and brush around the reservoir which can create a security risk and increases the potential for structural damage due to root intrusion at joints or cracks.

City's response

once the 2024 restoration of Cedar St. Reservoir project starts all trees and shrubs will be removed and an annual contract to maintain the foliage will be added to the WTP budget starting in 2024, approximate time the well will be taken out of service is March 2024.

It is noted that Act 399 construction permit has been issued for rehabilitation of the Cedar Street reservoir, and it is expected that the rehabilitation project will address all deficiencies.

- b. **Dort reservoir**—the drain does not have a removable 24-mesh screen or plug. The drain outlet terminates below grade, and it is not feasible to raise the outlet due to elevation restrictions. To resolve this deficiency, a removable screen or plug must be installed on the drain outlet and a Standard Operating Procedure (SOP) must be developed by June 30, 2024, to ensure the drain outlet chamber will drain freely and will not be surcharged.

City's response

The city has just received the confined space training for all WTP staff on December 6, 2023 which is required to address these types of problems, this spring the staff will install a removable plug inside the drain and a new SOP will be developed to insure the drain does not back up by installing a float inside the drain vault alarming the operation Center through the SCADA system if the drain backs up also there will be a red flashing strobe outside the Dort Control Station 5 entrance to visually notify staff. All of this work

will be done by the deadline of June 30, 2024, After the repairs are done we will send pictures to EGLE to show our work.

2. **R325.11011: Pumping Facility; capacity.** Per Rule 1011, a pumping facility shall have sufficient capacity to meet the service area demands with the largest unit removed from service.

Deficiencies were identified at the following three pumping facilities:

- a. Dort pumping station (Pump Station#4) –new pumps were recently installed but they have developed excessive vibration and cannot reliably be used without modifications. To resolve this deficiency, the vibration issues must be corrected, and the station must demonstrate reliable performance by March 31, 2024.

City's response

The city has put the contractor on notice on December 27, 2023 that this vibration issue followed up with reassurance of reliability by March 31, 2024 in which the city was cited on the most recent sanitary survey. On December 26, 2023 DLZ has issued a letter of resolution to resolve the vibration issue with 3 options that the city has to pick from. Friday January 5th, 2024 the city will sit down with DLZ & S&G to decide the best option to resolve this problem.

- b. Cedar Street booster station—the pumps have exceeded their life, are oversized and inefficient, and may not be capable of meeting demands as their condition deteriorates. Booster station controls are obsolete and should be upgraded but are currently functional. To resolve this deficiency, the booster station must be upgraded by September 30, 2025. It is noted that improvements to the Cedar Street booster station cannot begin until the Dort pumping station vibration issues are corrected.

City's response

The city is aware of all deadline set by the sanitary survey and has issued a letter to the contractor making them aware of the new deadlines. Tentatively the work at P.S.4 will be done by 2-2-24 and after 3 weeks to verify reliability we will be able to give the ok for Cedar Street to be taken out of service for complete restoration.

- c. Torrey Road booster station—the pumps cannot be operated at 100 percent of capacity due to overheating concerns with the variable frequency drive (VFD) units. The control system does not transmit information related to critical features – system pressure, run/fail status of pumps, and position of check valves. The exterior isolation valves are in poor condition, with excessive leakage and the potential for building damage, pipe freeze-ups, and the entry of contaminants to the water supply. To resolve this deficiency, mitigate the potential for a pipe freeze-ups by December 31, 2023, evaluate upgrades to or replacement of the station by December 31, 2024, and complete upgrades or replacement by December 31, 2025.

City's response

An RFP Survey for Torrey Road Booster Station has been created with the approval of EGLE/CoF Eng./WTP Department head to reassure all survey details are in the document. January I will submit this RFP to the purchasing to proceed with advertising this RFP out to contractors. The Water Service center is working on fixing the inlet Isolation valve packing, I will update EGLE as soon as the repairs are made. January 4, 2024 the WSC will perform a valve shut down on the Torrey Rd Booster station to verify that it can be isolated during the packing repair.

3. **R 325.11502: Monthly operation reports of public water supplies employing treatment.**

Per Rule 1502, monthly operation reports must include information on chemical applications. Per Ten States' Standards, Section 5.5.2.d, provisions shall be made for measuring the quantities of chemicals used. The chlorine feed system at the Cedar Street reservoir is not equipped with a means to measure chemical usage. Chemical usage is estimated from feed pump settings. To resolve this deficiency, means to measure chemical usage must be installed by September 30, 2025. It is noted that an Act 399 construction permit has been issued for rehabilitation of the Cedar Street reservoir, and it is expected that the rehabilitation project will address this deficiency.

The City's Response

The deficiency will be addressed during the future restoration project at Cedar Street reservoir project expected to start February 2024.

4. **R325.11108: Distribution system valves.**

Per Rule 1108, sufficient valves shall be provided on distribution to minimize interruptions in service and minimize safety hazards during construction or repairs. The SOP for routine operation and maintenance of valves has not been implemented due to resources and staffing limitations. To resolve this deficient, begin partial implementation of the SOP for routine valve operation and maintenance by December 31, 2024, by identifying critical distribution system valves, confirming their location and accessibility, and repairing or replacing them as appropriate. It is understood that full implementation of the SOP for all system valves may not be possible until sufficient TMF capacity is achieved.

The City's response (WSC)

The city will take steps to comply with partial implementation of the SOP's and will comply with the deadline of December 31, 2024 complete critical valve inventory list.

5. **R325.11506: Recordkeeping.**

Per Rule 1506, water systems must maintain various records related to act 399 compliance for designated periods of time. During the Survey, it was stated that Flint does not have operational or monitoring records from 2014 to 2016 because they were removed from the water plant during legal proceedings by the State of Michigan. To

resolve this deficiency, provide documentation to EGLE that Flint has obtained the Original or copies of the records by June 30, 2024.

The City's response

The City of Flint Legal Department has sent a formal FOIA request to the State of Michigan for the return or copies of all records confiscated during the water crises investigation. The CoF is aware of the deadlines and is following the process to retrieve the records by the deadline cited in this survey.

6. **Bulk Chemical Storage.**

Per Ten States, Standards, Section 5.5.10, for bulk storage tanks, acids and other hazardous chemical storage tanks shall be vented to the outside atmosphere. The bulk storage for sodium hypochlorite, sodium hydroxide, and phosphoric acid is vented to the interior of the chemical feed building. To resolve this deficiency, modify the bulk storage tank vents to provide outdoor venting by December 31, 2024.

The City's response

The CoF has already developed an RFP to correct the bulk venting issue by changing the vent piping on two chemical bulk tanks, and two chemical feed day tanks located in the chemical feed building to be vented outside, not inside like they are currently. This project will be advertised in January and a contractor will be chosen to fix this problem by late spring.

7. **R325.11204 Required capacity of waterworks systems; applicability.**

Per Rule 1204, a public water supply shall provide sufficient capacity in the waterworks system to meet the approved finished water supply requirements. The capacity may be the available capacity obtained under contract and capable of delivery from another approved public water supply. Flint's water service agreement with the Great Lakes Water Authority (GLWA) specifies a maximum daily contractual allotment of 14.0 million gallons per day (MGD) and a peak hour allotment of 14.5 MGD. Maximum daily demand has been decreasing in recent years, but the reported 2023 maximum day usage is 14.8 MGD. Flint is taking steps to reduce lost water and has a significant amount of storage to equalize flows above the maximum day and peak hour values, so a physical shortage of water is not anticipated, but it is necessary to have a formal understanding with GLWA regarding with GLWA regarding how they intend to treat delivery rates greater than specified in the water service agreement. To resolve this deficiency, consult with GLWA and provide documentation to EGLE by June 30, 2024, how daily water purchases in excess of the contract limitations will be handled. If exceedances of the contract will not be allowed by GLWA, update your reliability study by December 31, 2024, to ensure that available supply exceeds projected 5-year and 20-year demands.

The City's response

The City of Flint has a long term contract that explains how exceedances will be handled in the event we go over the maximum daily usage or the maximum peak hour and several other contract compliance perimeters that we must follow. This process is

explained in the Master Agreement contract, Water Service Contract Between GLWA and the CoF page 11 through 17 Article 5 starting with 5.01 to 6.07 Work Groups. As I read through this contract GLWA will allow exceedances only on emergency basis and the wholesale customer must respond asap with justification on why we exceeded, how long was the violation, how much excess water did we use during that time, and how will we resolve this from accruing again or must there be a new contract opener to evaluate new operational compliance, after there'll analysis billing will be adjusted as required. The normal process to evaluate the system billing methodology is every four years but since we are still having major renovations with altering our potable water storage during the construction GLWA has asked for use to hold off until all storage and pumping facilities are completed before we undergo the last review of the CoF commodities billing fee. Exceedances will be allowed only on emergency basis followed up with a full review with GLWA.

Required Actions:

The required actions listed below are not deficiencies but must be completed by the dates indicated to avoid a future deficiency or significant deficiency designation.

1. Update your Revised Total Coliform Rule sampling plan by December 31, 2023. The population served by the water system has changed since the last sampling plan was prepared. The new population served is 81,252 (Census 2020), and the required number of monthly routine bacteriological samples is 80. The revised plan should not reduce the number of sampling sites but may reduce the sampling frequency. The revised plan must be submitted to EGLE for review and approval prior to changing your sampling program.

The City's Response

The City of Flint has updated the Revised Coliform sample site plan and submitted to EGLE for review on 12/26/23 through the MiEHDWIS system. The CoF updated the sample site plan by revising a couple of addresses followed up with replacing 3 bad remote sample site boxes. Starting in January we will work with EGLE to slowly reduce the frequency site visits from 100 to 80, during our Monday meetings with our District Managers we will discuss a plan to achieve this with the least amount of problems.

2. Update the following components of the general plan by June 30, 2024—inventory of water main by age, size, and pipe material.

City's response

The city of Flint will take steps to comply with this request by updating the inventory of water main by age, size, and pipe material by the deadline set June 30, 2024.

Recommendations:

Recommendations are suggestions the public water supply should consider, to enhance its operations and services, and to avoid future deficiencies.

During the Survey, the following recommendations were identified and are listed below.

1. Conduct a power reliability audit for your water facilities.

The City's Response

The CoF has started the process of collecting information on all electrical upgrades including compiling data on what is still in use to evaluate several issues dealing with Electrical Power feeds and distribution throughout the entire WTP. The WTP has incorporated this in our 2024 fiscal year budget to pay for the first step in this process.

2. Provide security enhancements as appropriate. For example, there is evidence of graffiti at the Cedar Street reservoir and booster pumping station.

The City's Response

The CoF has incorporated all security upgrades in the Cedar Street reservoir restoration project. This will include the listed items below:

- a. New Roof hatches with all new hatch alarms sensors
- b. New hatch alarm underground wiring
- c. All new perimeter LED lighting
- d. All brush and trees will be removed around the Pump Station building and fence line.
- e. All new wrought iron fence around property line.

APPENDIX VI

VOLUNTARY AGREEMENT BETWEEN CITY OF FLINT AND MDEQ20

VOLUNTARY AGREEMENT BETWEEN THE CITY OF FLINT AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

I. PREAMBLE

This agreement replaces the order the Department of Environmental Quality (DEQ) issued to the City of Flint (City) on October 22, 2018 under the Michigan Safe Drinking Water Act (Order). Upon execution of this agreement, the Order shall be deemed terminated and shall have no legal effect, it not having become “final” in accordance with the law.

The parties agree to work collaboratively to ensure that the City’s water system achieves the goal of long-term self-reliance: a goal shared by both parties. To achieve that shared goal, the parties agree to the following:

II. TERMS

- A. No later than January 31, 2019, the City will formally adopt the cross-connection control program that the DEQ approved on December 11, 2018. (Attachment A.)
- B. The City will implement the timeline for the approval of outstanding Standard Operating Procedures that the DEQ approved on December 11, 2019. (Attachment B.)
- C. The City provided DEQ with a July 25, 2018, Technical, Management, and Financial Capacity proposal in which the City explains its plan to achieve its technical, managerial, and financial (TMF) capacity by fiscal year (FY) 2023 (Attachment C). The City acknowledges that the revenue generated by the

City's Water Department is not enough to support the operating costs of the City's water system long-term but does not believe it would be politically or financially possible to increase customer rates until several years from now. So the City's TMF proposal describes the steps the City plans to take leading up to FY 2023 to achieve TMF capacity without raising customer rates.

Beginning every six (6) months from the date of approval of the TMF plan by the MDEQ, until the City achieves TMF capacity, the City agrees to provide a signed statement to the DEQ that describes the City's progress towards completing its plan to achieve TMF capacity by FY 2023 (Progress Report). The Progress Report will also include an evaluation showing that the City can achieve TMF capacity by FY 2023 without increasing customer rates.

- D. The City will use its best efforts to implement the timeline for filling vacant positions identified in the updated organizational chart the City provided the DEQ on December 12, 2018 no later than February 5, 2019. (Attachment D.)
- E. The City confirms that it has authorized the contractor who serves as the Operator in Charge of its water plant to direct city employees in the plant not employed by that contractor to make any changes to plant operations required by the contractor, subject to the ultimate authority of the City Director of Public Works.
- F. The City agrees to complete the design of chemical feed system improvements by March 31, 2019 and submit them for DEQ review and approval. The City

agrees to complete construction of the chemical feed system improvements by December 31, 2019.

- G. The City agrees that by March 31, 2019, it will complete a preliminary inspection of the Cedar Street Reservoir using a remotely operated vehicle (which does not require taking the reservoir out of service) or, preferably, by using a method that allows the City to inspect one chamber of the reservoir at a time without taking the reservoir completely out of service. The City will then submit to the DEQ the inspection report and plan for completing any necessary improvements of the Cedar Street Reservoir identified by the preliminary inspection. The City agrees to also complete a full inspection of the Cedar Street Reservoir within 45 days of the date the Dort Reservoir is brought into service. The City agrees to submit to the DEQ an inspection report and plan for completing any necessary improvements of the Cedar Street Reservoir identified by both inspections after the Dort Reservoir is brought into service.
- H. The City agrees that by January 31, 2019, it will execute a contract for emergency services at the Cedar Street Reservoir that will guarantee the provision of a generator that is compatible with the reservoir's electrical system. The City agrees to maintain the contract until the date it successfully implements its redundancy plan involving the Dort Reservoir and Genesee County.

- I. The City agrees that by July 1, 2019, it will complete the design of upgrades to the Cedar Street Reservoir pumps and submit the design to the DEQ for review and approval. The City also agrees to complete the upgrades to the Cedar Street Reservoir by March 31, 2020.
- J. The City agrees to submit a plan by January 31, 2019 explaining how it will provide both the services currently provided by John Young once his contract is no longer funded, and the services previously provided by Nick Pizzi now that his contract is no longer funded.
- K. Attachments B, C, and D and their respective deadlines are incorporated into this agreement.

III. SUBMISSIONS

- A. The City will send all submissions required by this agreement to the DWMAD Director at DEQ, DWMAD, P.O. Box 30817, Lansing, Michigan 48909-8311 or by email, as appropriate. With each submission, the City will include a cover letter that identifies the specific paragraph of this agreement to which it pertains. If appropriate, the cover letter may be email correspondence, and may refer to more than one paragraph.
- B. If the DEQ disapproves of a submission, it will notify the City, in writing, specifying its reasons for such disapproval. Within 30 days of the date of the DEQ's written disapproval, the City will deliver a revised submission that addresses the issues identified in the DEQ's notice of disapproval. If the

City's revised submission is still not acceptable to the DEQ, the DEQ will notify the City of this disapproval.

- C. In the event the DEQ approves of the City's submission subject to specific modifications, it will notify the City, in writing, specifying the modifications required to be made to the submission prior to its implementation and the specific reasons for such modifications. The DEQ may require the City to submit, prior to implementation and within 30 days of the date of DEQ's written approval subject to specific modifications, a revised submission that addresses such modifications. If the City's revised submission is still not acceptable to the DEQ, the DEQ will notify the City of this disapproval.
- D. Upon DEQ approval, or approval with modifications, of a submission, such submission shall be incorporated by reference into this agreement and shall be enforceable in accordance with the provisions of this agreement.
- E. The failure by the City to submit an approvable submission within the applicable time periods specified above constitutes a violation of this agreement and may subject the City to the enforcement provisions of this agreement.
- F. Any delays caused by the City's failure to submit an approvable submission when due shall in no way affect or alter the City's responsibility to comply with any other deadline(s) specified in this agreement.

- G. No informal comments by the DEQ regarding any submission made by the City will be construed as relieving the City of its obligation to obtain written approval when required to do so by this agreement.

IV. EXTENSIONS

- A. The City and the DEQ agree that the DEQ may grant the City a reasonable extension of the deadlines specified in this agreement. The City will submit extension requests to the DEQ in writing no later than ten (10) business days prior to the pertinent deadline. The City's extension request shall describe the circumstances the City believes will prevent the City from meeting the deadline(s); describe the measures the City has taken and/or intends to take to carry out the responsibility imposed on City under this Agreement for which a deadline extension is requested; and state the length of the extension requested and the specific date on which the obligation will be met.
- B. The DEQ will respond in writing to extension requests. No change or modification to this agreement is valid unless in writing from the DEQ and, if applicable, signed by both parties. In considering extension requests, the DEQ shall take into account the purpose of this agreement as set forth in the Preamble.
- C. Extension requests and responses may be delivered by email.

V. REPORTING OF VIOLATIONS

- A. The City will report any violations of the terms in Section II of this agreement no later than the close of five (5) business days following detection of such violation(s) and will send a written report to the DEQ within ten (10) business days following detection of such violation(s). The written report will include a detailed description of the violation(s), as well as a description of any actions proposed or taken to correct the violation(s). The City will report any anticipated violation(s) of this agreement to the DEQ in advance of the relevant deadlines whenever possible.

VI. RETENTION OF RECORDS

- A. Upon request by an authorized representative of the DEQ, the City will make available to the DEQ all records, plans, logs, and other documents required to be maintained under this agreement, the Safe Drinking Water Act, or its rules. All such documents will be retained by the City for at least a period of three (3) years from the date of generation of the record unless a longer period of record retention is required by law.

VII. RIGHT OF ENTRY

- A. The City will allow any authorized representative or contractor of the DEQ, upon presentation of proper credentials, to enter upon the premises of those City facilities related to water storage, distribution and treatment at all reasonable times for the purpose of monitoring compliance with the

provisions of this agreement. This paragraph in no way limits the authority of the DEQ to conduct tests and inspections pursuant to the Safe Drinking Water Act or any other applicable law.

VIII. ENFORCEMENT

- A. The City agrees that if it does not meet the deadlines identified in Section II without obtaining an extension under Section IV, that the DEQ is empowered to assess and to require the City to pay monetary penalties. If notwithstanding the provisions of section III regarding City submissions and DEQ responses, and if all requested extensions have been exhausted or denied, the DEQ determines it will assess monetary penalties, the City acknowledges the following penalties will apply until the day the deadline is met: \$200 per violation per day for one to seven days of violation; \$300 per violation per day for eight to 14 days of violation; and \$500 per violation per day for each day of violation thereafter. In no event shall any fines or penalties exceed those authorized by law.
- B. All assessments of penalties issued by the DEQ under this agreement must be delivered to the City in writing, which shall specifically identify by reference to sections of this agreement and reference to the City's submission (or lack thereof if the failure to make a submission is the basis for the penalty) the violation for which such penalty is being assessed. Penalty assessments may be delivered via email.

- C. The City agrees to pay all funds due pursuant to this agreement by check made payable to the State of Michigan and delivered to the Accounting Services Division, Cashier's Office for the DEQ, P.O. Box 30657, Lansing, Michigan 48909-8157. To ensure proper credit, all payments made pursuant to this agreement must include the Payment Identification No. RMD90037.
- D. The City agrees not to contest the legality of any penalties assessed pursuant to this section but reserves the right to dispute the factual basis upon which a demand by the DEQ for penalties is made.
- E. In addition to the penalties described in this section, the DEQ reserves the right to pursue appropriate action, including injunctive relief, to enforce the provisions of this agreement. The DEQ is precluded from seeking both a penalty under this agreement and a statutory fine for the same violation.
- F. This agreement does not affect the City's responsibility to comply with any other applicable local, state, or federal laws or regulations.

IX. TERMINATION

- A. This agreement will remain in effect until terminated by the DEQ. If the City believes it has fully satisfied the obligations it has agreed to, it will submit a written certification to the DEQ that its obligations are satisfied, including the payment of any applicable penalties, if any. The certification will include: the date of compliance with each provision of the terms in Section II, and the date applicable penalties were paid under Section VIII; a statement that all required information has been reported to the DEQ; and

confirmation that all records required to be maintained pursuant to this agreement are being maintained.

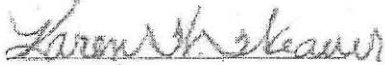
- B. The DEQ may request additional relevant information after receiving the City's certification and request but before terminating the agreement. The DEQ will not unreasonably decline to terminate the agreement.

SIGNATORIES

The undersigned CERTIFY they are fully authorized by the party they represent to enter into this agreement and to EXECUTE and LEGALLY BIND that party to it.

CITY OF FLINT

DEPARTMENT OF ENVIRONMENTAL QUALITY


By: Dr. Karen W. Weaver, Mayor

Date: Dec 17, 2018 w/permission


By: Eric Oswald, Director
Drinking Water and Municipal Assistance
Division

17-DEC-18
Date

APPROVED AS TO FORM:


By: Nathan A. Gambill (P75506)
Assistant Attorney General
Environment, Natural Resources, and
Agriculture Division
Department of Attorney General
P.O. Box 30755
Lansing, Michigan 48909

Date

Dec 17, 2018

ATTACHMENT A



DEPARTMENT OF PUBLIC WORKS

Dr. Karen Weaver
Mayor

Robert Bincsik
Director

November 14, 2018

Under part 14 of the Michigan Safe Drinking Water Act, PA 399, "A water utility shall develop and maintain a comprehensive control program for the elimination and prevention of all cross connections. A cross connection is a connection or arrangement of piping or appurtenances through which backflow of non-potable water could flow into the public drinking water supply."

The Cross Connection Control Program for the City Of Flint consists of the following:

The program, first started in 1974 and given authority under City of Flint ordinance Chapter 46 Division 4 and with reference to the Michigan Department of Environmental Quality Cross Connection Rules Manual, tracks and requires annual testing of all testable backflow prevention devices in use on plumbing systems in residential, commercial and industrial applications throughout the City. These tests come due twice a year in either January or July, depending on when the device was installed/repaired. Test reminders are mailed out at least 30 days prior to each due date. Customers that are found to be in violation of this ordinance are given 10 business days to comply, or could face termination of water service and/or fines until the hazard has been eliminated. Further, all commercial/industrial/institutional plumbing systems are examined periodically to ensure compliance with all applicable codes and rules.

Accounts that are considered to be medium and high hazard risks of backflow are to be inspected once per year. Systems deemed low hazard are to be inspected once in every three-year period. While the exact number of inspections vary almost daily due to businesses opening/closing or being remodeled, the current number of occupied low hazard accounts is 1,920. The current number of active medium/high hazard accounts in the system is 351.

As of now, the program maintains one inspector and, when budget allows, a part time clerical position. Presently, the inspector does all of the inspection and clerical duties. Inspection durations can vary from a few minutes to several days, depending on the complexity of the system. Enforcement assistance is also available from the Building Inspection department and code enforcement on a continuing basis.

Attached, is an excerpt taken from the MI DEQ Cross Connection Rules Manual that further explains what types of risks our water system may face.

Glenn Thomas

Plumbing/Mechanical/Cross Control Inspector
City of Flint
810-787-6537 Ext. 3516
gthomas@cityofflint.com



CITY OF FLINT, MICHIGAN

Dr. Karen W. Weaver
Mayor

Under part 14 of the Michigan Safe Drinking Water Act, PA 399 last amended in 1976, A water utility shall develop and maintain a comprehensive control program for the elimination and prevention of all cross connections. A cross connection is a connection or arrangement of piping or appurtenances through which backflow of nonpotable water could flow into the public drinking water supply.

The Cross Connection Control program for The City of Flint consists of the following.

The program, first started in 1974 and given authority under City Of Flint Ordinance Chapter 46 tracks and requires annual testing of all testable backflow prevention devices used on plumbing systems in residential, commercial, and industrial applications throughout the city. These tests come due twice a year in either July or January depending on when the device was first put into service. We mail out test reminder letters at least 30 days prior to each due date. Customers that are in violation of this ordinance are given ten business days to comply and then face shut off of water service and/or fines until the hazard has been eliminated.

Testable devices considered as medium and high hazard risk are to be inspected once a year. Systems deemed to be low hazard are inspected once in each three year period. While the exact number of inspections vary almost daily due to some businesses closing and others being started or remodeled, the current number of low hazard accounts is at 2071, and 1266 medium/high hazard devices. The program maintains one inspector and when budget allows a part time clerical position. Currently the inspector does all inspection and clerical duties. Inspection times vary from a few minutes to several days depending on the complexity of the system.

The Cross Connection Control inspector also assists City water and sewer operations as needed, works with laboratory operators, and helps to resolve customer complaints. He also inspects and consults on construction blueprints and permits as necessary to protect the integrity of our potable water system. He enforces the City Of Flint ordinance, The Michigan adopted Plumbing Code, Mechanical Code, NFPA, and the Cross Connection Rules from the Michigan Department of Environmental Quality as they pertain to maintaining the safety of our drinking water.

Attached is an excerpt taken from the Cross Connection Rules Manual that further explains what type of risks our water system may face.

Glenn Thomas

9-6-18

Cross Connection Control Inspector
City of Flint



DEPARTMENT OF PUBLIC WORKS

Dr. Karen Weaver
Mayor

Robert Bincsik
Director

Ordinance Proposal
Cross Connection Control Program
City of Flint

Cross Connection Control Program for City of Flint

- I. In accordance with the requirements set forth by the MI DEQ, City of Flint has officially adopted the state of Michigan cross connection rules to protect the Flint public water supply system. **Cross Connection** is defined as, "a connection or arrangement of piping or appurtenances through which a backflow could occur". **Backflow** is, "water of questionable quality, waste, or other contaminants entering a public water supply system due to a reversal of flow". The revised Cross Connection Control program will take effect upon approval of Flint City Council and DEQ approval.
- II. The authority to carry out and enforce a local cross connection control program will be in accordance with city ordinance No. 46.
- III. The Director of Public Utilities and/or his designated agent shall be responsible for making cross connection inspections, and reinspections to check for the presence of cross connections within the municipal water system. Individuals responsible for carrying out these inspections shall have obtained necessary training to current industry best practice.
- IV. **Schedule for Inspections**
 1. All known/suspected high, medium, low hazard establishments, including all industrial, commercial and municipal buildings will be inspected upon discovery.
 2. All other building and water system connections, including residential accounts shall be inspected in a logical sequence as time permits.
- V. **Schedule for Reinspection**
 1. Reinspection of high and medium hazard accounts shall be conducted annually.

2. Reinspection of all low hazard accounts shall be performed once in every three-year period.

VI. The methods to protect against backflow as outlined in the Cross Connection Rules Manual and the current MI Plumbing Code shall be incorporated into the City of Flint cross connection control program.

- VII. Time allotted for correction or elimination of any cross connection.**
- 1. Cross connections which pose an imminent and extreme hazard shall be disconnected immediately and so maintained until necessary protective devices or modifications are made.**
 - 2. Other cross connections which do not pose an extreme hazard to the water supply system shall be corrected as soon as possible.**
- VIII. All testable backflow prevention assemblies shall be tested at the time of installation or relocation and after any repair. In addition, all testable devices shall be tested annually. These tests shall be performed by an individual certified to test/repair such devices in accordance with applicable plumbing codes. The results of such tests shall be submitted to the Utilities director or his agent no later than 30 days past the due date. The due date shall be January 1 or July 1, depending on the installation date of the device. Further, the test result shall be affixed to the device in an indelible and legible manor. Any testable device that is found to not be in compliance with any provisions of this ordinance may be liable for a fine not to exceed \$500 per device per day, and/or disconnection of water service.**
- IX. The City of Flint shall maintain sufficient and accurate records of the cross connection control program and report annually to the DEQ on a form provided by the department.**

ORDINANCE NO. _____

An Ordinance to amend the Flint City Code of Ordinances by adopting Article II Division 4 Backflow Prevention; Chapter 46, Utilities; Section 46-34, Adoption- Cross Connection Policy and Manual.

IT IS HEREBY ORDAINED BY THE PEOPLE OF THE CITY OF FLINT:

Sec. 34. That Section 46-34 of the Code of the City of Flint shall be amended as follows.

§46-34 CROSS-CONNECTIONS — RESPONSIBILITIES AND MANUAL.

THE CITY ADOPTS BY REFERENCE THE WATER SUPPLY CROSS CONNECTION RULES OF THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY BEING R 325.11401 TO R 325.11407 OF THE MICHIGAN ADMINISTRATIVE CODE. It shall be the duty of the DEPARTMENT OF PUBLIC WORKS DIRECTOR or his or her designee to cause inspections to be made of all properties served by the public water supply where cross-connections are deemed possible. The frequency of inspections and reinspection shall be based on potential health hazards involved and shall be established by the DEPARTMENT OF PUBLIC WORKS DIRECTOR or his or her designee and approved by the Michigan Department of Environmental Quality. THE DEPARTMENT OF PUBLIC WORKS DIRECTOR SHALL ESTABLISH A CROSS CONNECTION CONTROL PROGRAM POLICY PURSUANT TO THE MICHIGAN SAFE DRINKING WATER ACT AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY CROSS CONNECTION RULES MANUAL AND MAY BE AMENDED BY THE DEPARTMENT OF PUBLIC WORKS DIRECTOR FROM TIME TO TIME BY THE DEPARTMENT OF PUBLIC WORKS DIRECTOR OR HIS OR HER DESIGNEE AS REQUIRED BY LAW. The DEPARTMENT OF PUBLIC WORKS DIRECTOR or his or her designee shall have the right to enter, at any reasonable time, any property served by connection to the public water system of the City for the purpose of inspecting the piping system or systems thereof for cross-connections. On request, the owner, lessee or occupants of any property so served shall furnish to the inspection agency any pertinent information regarding the piping system or systems on the property. The refusal of such information or refusal of access, when requested, shall

be deemed prima facie evidence of the presence of cross-connections. The DEPARTMENT OF PUBLIC WORKS DIRECTOR or his or her designee is authorized and directed to discontinue water service after reasonable notice to any property wherein any cross-connection or other violation of this section exists, and to take other precautionary measures deemed necessary to eliminate any danger of contamination of the City's potable water supply system. A person or business that fails to conform with any of the requirements thereof shall be assessed a fine not to exceed \$500.00 per day per device. Water service to such property shall not be restored until the illegal water connection or cross-connection has been eliminated. Potable water supply made available on the properties served by the public water supply shall be protected from possible contamination as specified by this section and by the State of Michigan Plumbing Code and §§ 46-43.1 through 46-43.7. Any water outlet which is not supplied by potable water system must be labeled in a conspicuous manner as "water unsafe for drinking." (Ord. 3630, passed 12-13-2004; Ord. 3712, passed 5-12-2008)

Sec. 34. This ordinance shall become effective this ____ day of _____ 2018.

Adopted this ____ day of _____ A.D., 2018.

Karen W. Weaver, Mayor

Inez M. Brown, City Clerk

APPROVED AS TO FORM:

Angela Wheeler, City Attorney

S:\AWO\Cross Connection\Revised Division 4
Backflow Prevention Chapter 46-accepted
revisions.docx

(b) The following shall be considered sufficient evidence of the presence of organisms of the colon bacillus group within 24 hours of incubation at 37°C:

(1) The appearance of red, acid forming colonies of bacteria on Endo's medium plates; and

(2) The formation of gas in fermentation tubes containing lactose peptone broth.

(c) The culture medium used for these tests shall be prepared in accordance with standard methods of water analysis of the American Public Health Association, as set forth in the last revision of *Standard Methods of Water Analysis*.

(Ord. 9, passed 8-21-1917)

§ 46-30 INTERFERENCE WITH DEPARTMENT OF PUBLIC HEALTH.

It shall be unlawful for any person to interfere with the Department of Public Health or its duly authorized representatives in the inspection of water supply of any premises in the City, or to prevent such inspection, or to prevent the abatement of a nuisance created by an unwholesome and contaminated water supply.

(Ord. 9, passed 8-21-1917)

DIVISION 3. FLUORIDATION OF WATER SUPPLY

§ 46-31 FLUORIDATION REQUIRED.

The Water Division of the Department of Public Works and Utilities, in cooperation with the Department of Public Health, is hereby authorized and directed to institute fluoridation of the water supply of the City, in the approximate amount of one part fluoride to every million parts of water, and to do all things necessary to carry out the directive set forth in this section.

(Ord. 1815, passed 1-11-1965)

§ 46-32 SAME — COMPLIANCE DEPARTMENT OF PUBLIC HEALTH RULES.

The control and testing of water before and after fluoridation, the method of determining the fluoride content of the water and tests for the purity of the fluoride chemical shall, in all respects, comply with the rules and standards promulgated by the Department of Public Health.

(Ord. 1815, passed 1-11-1965)

§ 46-33 SAME — PURCHASE OF WATER FROM CITY OF DETROIT; UNFLUORIDATED WATER.

In the event the City purchases its water supply from the City of Detroit, the City shall purchase fluoridated water. In the event the City purchases its water supply from the City of Detroit, the Department of Public Health shall certify that the safeguards, as provided for in this article, have been provided for by the City of Detroit, and, if not, the City shall purchase unfluoridated water and shall provide the fluorides to be added to the water supply as provided for in this article.

(Ord. 1815, passed 1-11-1965)

DIVISION 4. BACKFLOW PREVENTION

§ 46-34 CROSS-CONNECTIONS — RESPONSIBILITIES.

It shall be the duty of the Utilities Director or his or her designee to cause inspections to be made of all properties served by the public water supply where cross-connections are deemed possible. The frequency of inspections and reinspection shall be based on potential health hazards involved and shall be established by the Utilities Director or his or her designee and approved by the Michigan Department of Environmental Quality. The Utilities Director or his or her designee shall have the right to enter, at any

reasonable time, any property served by connection to the public water system of the City for the purpose of inspecting the piping system or systems thereof for cross-connections. On request, the owner, lessee or occupants of any property so served shall furnish to the inspection agency any pertinent information regarding the piping system or systems on the property. The refusal of such information or refusal of access, when requested, shall be deemed prima facie evidence of the presence of cross-connections. The Utilities Director or his or her designee is authorized and directed to discontinue water service after reasonable notice to any property wherein any cross-connection or other violation of this section exists, and to take other precautionary measures deemed necessary to eliminate any danger of contamination of the City's potable water supply system. A person or business that fails to conform with any of the requirements thereof shall be assessed a fine not to exceed \$500.00 per day per device. Water service to such property shall not be restored until the illegal water connection or cross-connection has been eliminated. Potable water supply made available on the properties served by the public water supply shall be protected from possible contamination as specified by this section and by the State of Michigan Plumbing Code and §§ 46-43.1 through 46-43.7. Any water outlet which is not supplied by potable water system must be labeled in a conspicuous manner as "water unsafe for drinking."

(Ord. 3630, passed 12-13-2004; Ord. 3712, passed 5-12-2008)

§ 46-35 REQUIRED TESTING OF BACKFLOW PREVENTION DEVICES.

All backflow prevention devices having external means of testing for proper operation shall be tested and the testing of these devices shall be accomplished by a State licensed journey person or master plumber who is certified in cross-connection control. A copy of the completed test results shall be filed, within 30 days after the anniversary date of the original installation. All testable devices shall be tested at the time of installation, after repair and every 12 months

thereafter, or as often as the Utilities Director or his or her designee deems necessary to ensure the public safety, and submit a report to the Cross-Connection Control Department. All testable devices which have potable water supply, shall be tested every year. The reports shall be received by the Cross-Connection Control Department by January 1 or July 1 of each year as determined by the Cross-Connection Trades Supervisor. A plastic envelope shall be permanently attached to each testable device with a chain. The envelope will contain a card to keep test results of the device, the signature and State license number of the certified person performing the test. This card shall be updated after each test.

(Ord. 3630, passed 12-13-2004; Ord. 3712, passed 5-12-2008)

§ 46-36 CONNECTION TO BOILERS.

The potable water supply to all boilers other than one- and two-family dwellings shall be protected by an approved air gap or a reduced pressure principle backflow preventer. When boilers in one- and two-family dwellings have chemicals introduced into the system, the potable water connection shall be protected by an approved air or a reduced pressure principle backflow preventer. The potable water connection to the boilers in one- and two-family dwellings without chemical additives shall be protected by a double check-valve assembly with an intermediate atmospheric vent.

(Ord. 3630, passed 12-13-2004)

§ 46-37 PIPING IDENTIFICATION.

When a secondary water supply system is exposed to the public water system, all secondary water piping shall be identified by distinguishing color or tags and so maintained that each pipe may be traced readily in its entirety. All process water piping shall also be color coded or tagged. If piping is installed so that it is impossible to trace in its entirety, it shall be necessary to protect the public water supply at the

service connection in a manner acceptable to the Superintendent of the Department of Water and Sewer.

(Ord. 3630, passed 12-13-2004)

§ 46-38 POTABLE WATER CONNECTION TO COMMERCIAL APPLIANCES AND SINKS THAT REQUIRE AN AIR GAP ON THE WASTE DISCHARGE.

When potable water is supplied to one-, two- and three-compartment kitchen pot, pan and food preparation sinks, the waste shall discharge into a 12 x 12 x 8 inch floor or equal sink with a removable strainer. There shall be a minimum air gap of one inch from the end of the waste pipe to the top of the rim of the floor sink (see Table P-1505.1 1.1 of the State of Michigan Plumbing Code). Ice machines may discharge into a 6 x 6 x 4 floor sink or equal.

(Ord. 3630, passed 12-13-2004)

§ 46-39 NOTICE OF ACCIDENTAL BACKFLOW INCIDENT; PENALTY.

In the case of an accidental backflow incident, it is the responsibility of the user to immediately notify the Superintendent of the Department of Water and the Trades Supervisor of the Building and Safety Inspections Division of the incident. The notification shall include the location of the incident, the type of contamination, and any and all corrective actions including, but not limited to, containment. The City may terminate the water service to prevent contamination if in the determination of the Superintendent of the Department of Water that this action needs to be taken to protect the public water supply. Failure to comply with this section shall be deemed a misdemeanor and may be subject to a fine not to exceed \$500.00 and/or 90 days in jail for each day that a violation remains in effect.

(Ord. 3630, passed 12-13-2004)

§ 46-40 WRITTEN NOTICE.

Within five days following a cross-connection incident, the user shall submit to the Building and Safety Inspections Cross-Connection Trades Supervisor a detailed written report describing the cause of the incident, and the measures that will be taken by the Supervisor to prevent future occurrences. Notification shall not relieve the user of any expense, loss, damage or other liability as a result of damage to persons or property; nor shall the notification relieve the user of any fines, civil penalties or other liability which may be imposed by this article or any other applicable law or ordinances.

(Ord. 3630, passed 12-13-2004)

§§ 46-41 – 46-47 RESERVED.

ARTICLE III. RATES AND CHARGES

DIVISION 1. WATER

§ 46-48 WATER SERVICE PLACED IN NAME OF PROPERTY OWNER OF RECORD; EXCEPTION.

(a) Effective June 1, 1986 or as soon thereafter as practicable, water service shall only be placed in the name of the property owner of record. Duplicate bills may also be sent to the service address if requested in writing by the property owner.

(b) However, in the case of industrial, commercial or residential rental property registered with the City pursuant to Ordinance 3271, or its subsequent amendments, where a legally executed lease contains a provision that the tenant, not the property owner of record, shall be liable for the payment of water or sewage system bills, and the tenant's birthdate, social security number and his or her driver's license or Michigan I.D. number, upon



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER AND MUNICIPAL ASSISTANCE DIVISION

2017 WATER SUPPLY CROSS CONNECTION REPORT

Issued under authority of 1976 PA 399, as amended, MCL 325.1001 et seq., and its administrative rules.
Failure to submit this form is a violation of the Act and may subject the water supply to enforcement actions.

Return the completed form by March 31, 2018 to the appropriate Department of Environmental Quality (DEQ) district office to comply with administrative Rule R 325.11405 that states "a water utility shall report annually to the department on the status of the cross connection control program on a form provided by the department." For district office addresses, visit www.michigan.gov/deq and click on Locations.

WSSN: 2310

A. Name of water system: City Of Flint County: Genesee

B. Year that the current written cross connection control program was approved by DEQ: 1974

C. Total number of industrial, commercial, institutional, residential, and governmental accounts that must be routinely reinspected for cross connections: 1815

Of this number,

- How many are High Hazard accounts: 305 Frequency of Reinspection: Once per: year

- How many are Low Hazard accounts: 1510 Frequency of Reinspection: Once per: 3 years

D. Number of accounts from line "C" that received an initial inspection in 2017: 0

E. Total number of reinspections required and completed in 2017 based on degree of hazard:

- High hazard reinspections required: 305 High hazard reinspections completed: 20

- Low hazard reinspections required: 503 Low hazard reinspections completed: 35

F. Number of accounts where a cross connection(s) was found to exist during inspections or reinspections in 2017: 20

G. Number of accounts from line "F" where corrective actions have been completed: 20

H. Total number of accounts from line "C" which are now in compliance with the local cross connection control program; $H = C - (F - G)$: 1815

I. Total number of backflow prevention devices in system requiring testing: 987

J. Number of backflow prevention devices tested in 2017: 283

Outline briefly any changes or significant findings since last reporting. Use additional sheets if necessary.

Narrative Description of Program:

Added personnel should allow our CCC program to improve in 2018.

Name: Glenn Thomas

Title: Cross Connection Control Inspector Date: 05/09/2018

ATTACHMENT B

Date Submitted: November 18, 2018

Administrative Order Paragraph 3.4 Response

	Compliance	
	<u>Now</u>	<u>Future</u>
<u>Water Treatment Plant Standard Operating Procedures</u>		
Phosphoric Acid Addition at Control Station #2	X	
Sodium Hydroxide Addition at Control Station #2	X	
Sodium Hypochlorite Addition at Control Station #2	X	
Sodium Hypochlorite Addition at Distribution Storage Facilities	X	
Sodium Hypochlorite Testing	X	
Hydrant Inspection, Testing and Maintenance	X	
Valve Inspection, Exercising and Maintenance		2021 ¹
Backflow Preventer Testing and Repair	X	
Meter Installation, Inspection and Testing		2020 ²
Customer Complaint Tracking		2021 ³
Control Charting of Water Quality Parameters	X	
Conventional Flushing for Water Turnover		2021 ⁴
Unidirectional Flushing		2021 ⁵

¹ Pursuant to the City of Flint Water Department TMF Capacity Plan (See Attachment), Arcadis recommended the hiring of three Water Distribution Valve and Hydrant Crew. The City will have the funding available for these positions to implement this SOP in 2021.

² The Meter Installation project will be completed by the end of 2019. Therefore the City will be able to implement this SOP in 2020.

³ Pursuant to the City of Flint Water Department TMF Capacity Plan, Arcadis recommended the hiring of four Customer Service and Call Center Staff. The City will have the funding available for these positions to implement this SOP in 2021.

⁴ Pursuant to the City of Flint Water Department TMF Capacity Plan, Arcadis recommended the hiring of two Flushing Team staff. The City will have the funding available for these positions to implement this SOP in 2021.

⁵ Pursuant to the City of Flint Water Department TMF Capacity Plan, Arcadis recommended the hiring of two Flushing Team staff. The City will have the funding available for these positions to implement this SOP in 2021.

Maintaining Distribution System Chlorine Residual	X	
Water Age Management		2020 ⁶
Emergency Repair of Water Mains	X	
Distribution Storage and Pumping Station Operation and Maintenance		2020 ⁷

⁶ The improvements to Dort and Cedar Water Storage Facilities will be completed in 2020. Therefore the City will be able to implement this SOP in 2020.

⁷ Based on the receipt of WIIN funding for the Dort and Cedar Street pumping stations, the City will have the funding to implement this SOP in 2020.

City of Flint Water Department
Technical, Management and Financial Capacity

The City of Flint (COF) has identified its long-term water source and has initiated the implementation of selected projects necessary to enhance the reliability and quality of its water system. However, the enduring sustainability of its system can only be achieved if the COF has the proper technical, managerial and financial (TMF) capacity to properly operate the system. This requirement is recognized in USEPA's First Amendment to Flint's Emergency Administrative Order (Paragraph 60.b.iii) and Michigan DEQ's August, 2017 Water System Sanitary Survey.

To help define the TMF capacity requirements of the COF water system, Arcadis of Michigan LLC (Arcadis) recently completed a report entitled "Water Distribution System Optimization Plan". This analysis developed a 20-year Capital Improvement Program (CIP), an Asset Management Program, staffing requirements, performance metrics and Standard Operating Procedures (SOPs) for the COF Water Department.

The revenue generated by the COF Water Department is not sufficient to support the current operating costs of the system. This discrepancy results for several reasons – low collection rates, declining population, inaccurate meters, loss of industrial/commercial customers, and water theft. To achieve "Cost of Service" rates under current conditions, annual rate increases of 20%, 16% and 10% would be required over the next three (3) years. If collection rates were return to a level closer to industry standards (95%), three 10% rate adjustments would still be required to achieve sufficient revenue. While alternative rate design were investigated to minimizes residential customer rate impact, such as inclining block rates, none of these alternative rate designs were deemed to be politically or financially feasible.

The political and financial environment in Flint is not amenable to implementing a customer rate increase over the next several years. Therefore, revenue enhancements must be achieved through improving collections and reducing the physical and commercial water losses associated with non-revenue water. A projected five-year forecast for Water Department revenue has been developed based on the following assumptions:

- Increase Water Department revenue by adjusting the water/wastewater revenue allocation from 45%/55% to 50%/50%.
- Increased sales to General Motors (\$0.4M/year)
- Improve collection rates from approximately 70% to 80% in 2019, 90% in 2020 and 95% in 2021.
- One-half of current non-revenue water (25% of purchased water) results from commercial losses (meters and theft). These losses are converted to additional revenue by the meter replacement program and an aggressive water theft prevention program
- No customer rate increases

Based on these assumptions, the Water Department revenue would be:

	FY2019	FY2020	FY2021	FY2022	FY2023
Base revenue with improved collections	\$31M	\$35.4M	\$40M	\$42M	\$42M
Improved metering and eliminate water theft			\$5M	\$10M	\$20M
Total revenue	\$31M	\$35.4M	\$45M	\$52M	\$62M

It is assumed that the revenue benefits from the metering/theft programs would not be realized until after all meters are installed by the end of 2019. However, some theft issues could be resolved concurrent with meter replacement.

Future operating costs will be primarily impacted by staffing levels. Arcadis has recommended that the following positions be added to provide the appropriate TMF capacity.

- Laboratory Technician
- Cross Connection Program Manager
- Water Distribution Valve and Hydrant Crew (3)
- Customer Service/ Call Center Staff (4)
- Enterprise Asset Manager
- GIS Specialist/ Hydraulic Modeler
- Construction Inspectors
- Leak Detection Team
- Flushing Team (2)

The first six listed positions are considered “high priority”. The current COF Water Department budget does include the laboratory and cross connection positions because they are directly related to water quality issues. The remaining positions have not been included in the five year plan due to budget constraints and the challenge of attracting qualified personnel. The total annual costs of these positions would be approximately \$1M.

The City of Flint and its regulatory agencies are focused on assuring that adequate resources are provided to comply with all SDWA requirements, including providing optimal corrosion control and water quality monitoring. Since the City’s future water source will be finished water from GLWA, operation of a treatment plant will not be required. However, chemical feed facilities will be constructed at the current treatment plant site to provide adequate disinfection and optimal corrosion control. The size of the current Water Department operating staff is sufficient to operate the chemical feed facilities and perform water quality sampling. However, until this staff is properly licensed and trained, operation of the chemical feed facilities and sampling will be outsourced. F&V Operations and Resource Management have been contracted by the City to perform these tasks.

The currently forecasted operating costs for the COF Water Department are presented below.

	2018	2019	2020	2021	2022
Projected Operating Costs	\$34.5M	\$36M	\$37M	\$38M	\$38.3M

Given the lack of investment in the Flint water system for several decades, the future capital expenditure requirements are significant. Over the next two years, approximately \$80M of WIIN grant funds have been designated for the COF to complete numerous capital projects that enhance the water system reliability, revenue and water quality management. However, significant additional investment is required to support small main replacement, a cross connection control program, a customer service center, valve and hydrant replacement, SCADA and security upgrades and a water loss program for the COF water system. Arcadis has identified over \$300M of capital expenditure requirements over the next 20 years with the majority of these projects being small main replacement. Unfortunately, the COF will be challenged to find the funding for these projects.

The table below helps define when funds may be available to hiring additional staff and invest in the system if the revenue enhancement programs are successful.

	FY2019	FY2020	FY2021	FY2022	FY2023
Revenue	\$31M	\$35.4M	\$45M	\$52M	\$62M
Operating Costs	\$34.5M	\$36M	\$37M	\$38M	\$38.3M
Water Fund Balance*	\$8.5M	\$7.9M	\$9M	\$9M	\$9M
Funds available for staffing and/or capex			\$6.9M	\$14M	\$23.7M

*Beginning Water Fund balance = \$12M; Water Fund balance should be approximately 25% of O&M costs

Therefore, given the above discussion, the COF proposes the following plan to achieve its TMF capacity requirement:

1. Fill all COF Water Department staffing vacancies at the earliest possible date, including the laboratory technician and cross connection program manager positions. Until all vacancies are filled, outsource critical responsibilities not covered by existing staff. For regulatory acceptance, this will require committing to specific dates for hiring each position and executing contracts for outsourcing.
2. Initiate and complete the meter replacement program by the end of 2019 to enhance system revenue with more accurate and reliable meters. In conjunction with the meter replacement program, inspect the premise of all active and inactive customer accounts to identify and resolve water theft issues. Continue with an aggressive water theft

prevention program. Additionally, in conjunction with the meter replacement program, collect data to assist with the prioritization of cross connection activities.

3. Adhere to water bill collection policies to return collection rates to industry standards by 2021 (greater than 95%)
4. Efficiently and effectively complete a majority of the WIIN funded construction projects in 2018 and 2019. Given the size of this program and Flint's history of limited capital projects within its distribution system, it would be difficult to perform any additional City-funded capital projects during this time period.
5. Closely monitor projected vs. actual revenues and identify and correct any variances.
6. Assuming projected system revenues are achieved through the meter, collections and water theft programs and revenues are further enhanced by community development activities, begin implementing the staffing and capital program recommended in the Arcadis report in FY2021.

ATTACHMENT C

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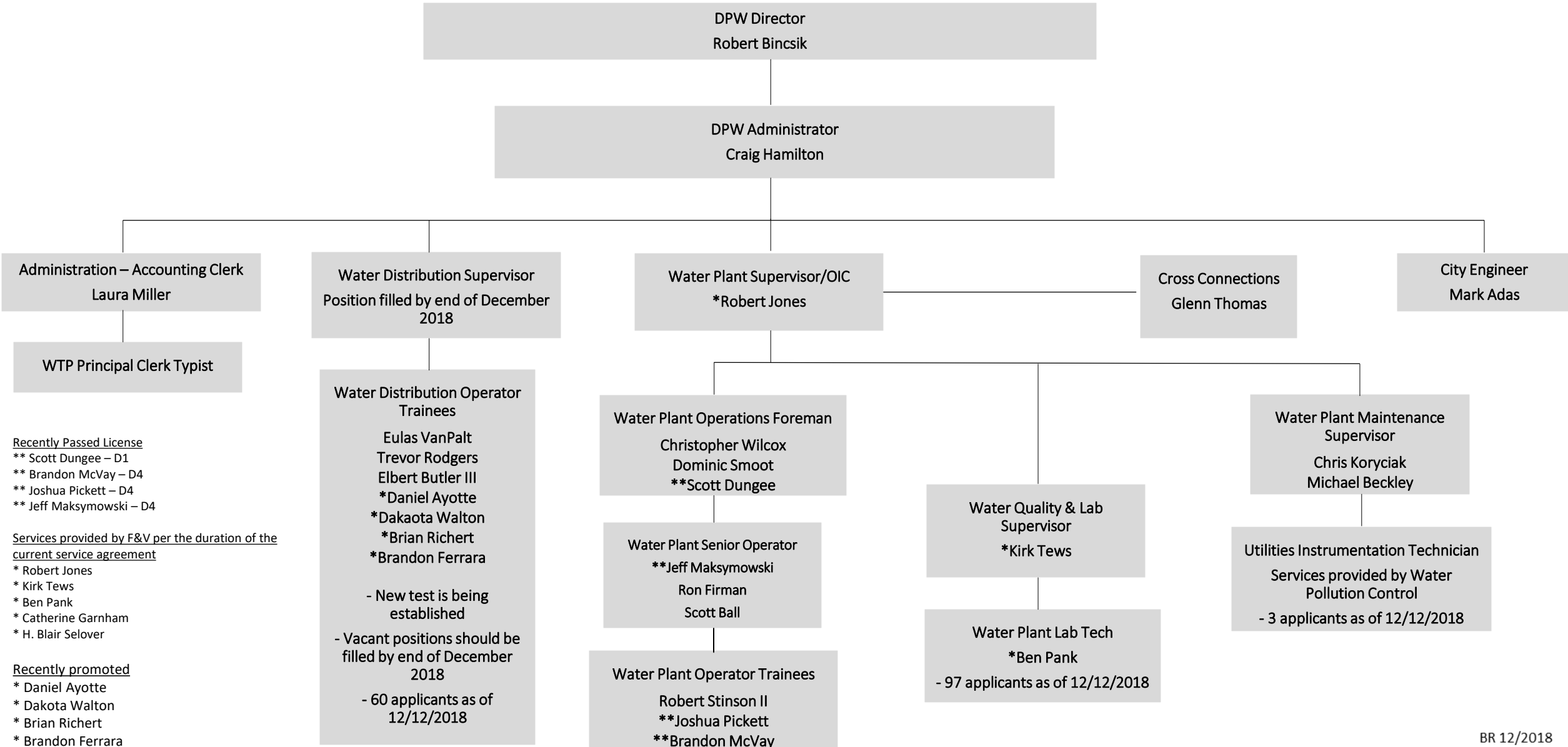
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ATTACHMENT D

Organizational Chart

Utilities Water Division



Recently Passed License

- ** Scott Dungee – D1
- ** Brandon McVay – D4
- ** Joshua Pickett – D4
- ** Jeff Maksymowski – D4

Services provided by F&V per the duration of the current service agreement

- * Robert Jones
- * Kirk Tews
- * Ben Pank
- * Catherine Garnham
- * H. Blair Selover

Recently promoted

- * Daniel Ayotte
- * Dakota Walton
- * Brian Richert
- * Brandon Ferrara

APPENDIX VII

20-YEAR CAPITAL IMPROVEMENT PLAN – ARCADIS

APPENDIX L

20-YEAR CAPITAL IMPROVEMENT PLAN



No.	Project Number / Item	Source / Category	Description	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
Administrative and Support													
1	AM-1-2A/B ¹	Asset Management	EAM System Implementation Assistance & Maintenance and Support		\$ 500,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
2	XC-1-1A	Cross Connection	Develop a Residential Cross-Connection Control Program		\$ 360,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000	\$ 295,000
3	XC-1-1B ¹	Cross Connection	Update Commercial Cross Connection Control Program		\$ 77,500	\$ 77,500							
4	XC-2-1A / 1B	Cross Connection	Purchase Cross-Connection Control Software		\$ 6,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
5	CC-1-1A	Customer Complaints	Establish a Call Center	\$ 250,000	\$ 250,000								
6	RR-1-1C	Pipe R&R	Outside Review of Design Standards								\$ 25,000		
7	SE-2-1A/1B	Security & Emergency	Update the existing ERP to meet FEMA standards		\$ 60,000				\$ 3,000				
8	SE-2-1C / 2-2	Security & Emergency	Regular Exercise and Review of ERP / Communications			\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
9	SE-3-1A	Security & Emergency	Cyber security for SCADA/instruments outside WTP			\$ 36,000							
10	SE-3-1B/1C	Security & Emergency	Conduct a cyber security gap assessment		\$ 40,000		\$ 20,000		\$ 20,000		\$ 20,000		\$ 20,000
11	SE-3-2A/2B	Security & Emergency	Vulnerability Assessment		\$ 45,000					\$ 45,000			
12	SE-3-3A/3B	Security & Emergency	Funding Assessment		\$ 10,000					\$ 10,000			
13	VH-6-1A	Valves & Hydrants	Develop a Planned/Preventative Maintenance Plan		\$ 30,000								
14	VH-6-2A	Valves & Hydrants	Develop Valve & Hydrant Manual Library			\$ 10,000							
15	VH-7-1A	Valves & Hydrants	V&H Program Hardware and Software Upgrades				\$ 135,000						
16	WL-1-1A / 1B	Water Loss	Develop and Review Water Loss Control Plan		\$ 300,000	\$ 300,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000
17	WQ-1-1	Water Quality	Laboratory Equipment Upgrades		\$ 100,000								
Water Distribution													
18	CIP-9/ OM-1-1A / 1B/ OM-1-2	CIP, Online Monitoring	Implement Distribution System Online WQ Monitoring Stations	\$ 123,000	\$ 490,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000
19	FL-1-1A/1B	Flushing	UDF Equipment										
20	FL-1-3	Flushing	Optimize Flushing Loops					\$ 20,000					
21	HM-2-1 ²	Hydraulic Modeling	Conduct WQ Model Calibration					\$ 15,000					
22	HM-3-1A / 1B	Hydraulic Modeling	Hydraulic Modeling Software				\$ 30,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
23	HM-3-2	Hydraulic Modeling	Hydraulic Model Training				\$ 25,000						
24	HM-3-3	Hydraulic Modeling	Develop and implement model maintenance plan					\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
25	IT-1-0 ²	IT	SCADA Upgrades	\$ 100,000									
26	PR-1-2 ²	Pressure Management	Comprehensive Surge Analysis	\$ 150,000									
27	PR-1-3A ²	Pressure Management	Portable Pressure Data Loggers	\$ 2,000									
28	PS-1-3B	Pump Stations	Contractor: Pump Station Annual Inspections				\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
29	SF-2-3B	Storage Facilities	Contractor: Storage Facility Comprehensive Inspection							\$ 125,000			
30	SE-1-1A	Security & Emergency	Site Control and Intrusion Detection				\$ 203,000						
31	SE-1-2A	Security & Emergency	Fencing at Cedar Street Reservoir				\$ 15,000						
32	VH-7-1B	Valves & Hydrants	Hardware and Software Upgrades					\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000
Rehabilitation and Replacement													
33	RR-2-1/VH-4-1	Pipe R&R	Update Pipe Assets in GIS/Valve-Hydrant Model Review		\$ 150,000								
34	CIP-1	CIP	FAST START – LSLR	\$ 50,000,000	\$ 37,000,000	\$ 12,000,000							
35	CIP-2	CIP	GCDC Back-Up Supply	\$ 1,833,000	\$ 7,331,000								
36	CIP-3	CIP	Northwest Transmission Main	\$ 2,459,000	\$ 9,838,000								
37	CIP-4 / WL-2-1, 2-2	CIP, Water Loss	Meter Replacement – AMR/AMI	\$ 3,692,000	\$ 14,768,000								
38	CIP-5	CIP	Small Main Replacement (WIIN funded)	\$ 11,506,000	\$ 46,024,000								
39	CIP-6 / RR-2-3, 2-4 / VH-6-2B	CIP, Pipe R&R, Valve & Hydrant	Small Main Replacement (City funded)		\$ 1,000,000	\$ 7,000,000	\$ 8,000,000	\$ 9,000,000	\$ 10,000,000	\$ 11,000,000	\$ 12,000,000	\$ 13,000,000	\$ 14,000,000
40	CIP-7 / PS-1-2	CIP, Pump Stations	Dort Pumping Station/Cedar St. Pump Replacement	\$ 2,025,000	\$ 8,100,000								
41	CIP-8/VH-5-1	CIP	Water Facility Consolidation						\$ 200,000	\$ 2,800,000			
42	CIP-10	CIP	Dam Maintenance	\$ 625,000	\$ 250,000								
43	CIP-11	CIP	72-inch Line Maintenance	\$ 250,000	\$ 250,000								
44	CIP-12 / PS-1-1, 1-2 / SF-1-1 / WA-2-1	Facilities, Water Age	Storage and Pump Station Improvements		\$ 515,000	\$ 2,500,000							
45	CIP-13	CIP	Atherton Road Main	\$ 2,000,000	\$ 5,000,000								
46	CIP-14 ¹	CIP	Chemical Building Construction	\$ 1,167,000	\$ 2,233,000								
47	CIP-15 ¹ / WL-4-1B	CIP	Leak Detection / Annual Meter and Leak Detection		\$ 250,000		\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000
48	AMP-1	Asset Management	Miscellaneous Vertical Asset R&R	\$ 270,000	\$ 1,116,000	\$ 432,000	\$ 125,000	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
49	VH-1-1	Valves & Hydrants	Wachs Valve Assessment			\$ 350,000							
50	VH-6-1B	Valves & Hydrants	Valve & Hydrant Replacement	\$ 912,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000	\$ 1,571,000
51	OT-1-1A	Other	Vehicle Replacement	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
			TOTAL	\$ 77,864,000	\$ 138,164,500	\$ 25,349,500	\$ 10,935,000	\$ 11,725,000	\$ 13,113,000	\$ 16,870,000	\$ 14,935,000	\$ 15,890,000	\$ 16,910,000
			Total Grant Funding	\$ 74,805,000	\$ 130,784,000	\$ 12,000,000							
			Additional Cash / Non-Grant Funding	\$ 3,059,000	\$ 7,380,500	\$ 13,349,500	\$ 10,935,000	\$ 11,725,000	\$ 13,113,000	\$ 16,870,000	\$ 14,935,000	\$ 15,890,000	\$ 16,910,000

¹Project added during the development of the final Optimization Plan

²Assumes AECOM will complete during program management

Note: This table includes only outside capital expenditures and does not include annual operations or internal staffing costs.

Shaded items indicate grants as the primary funding source

No.	Project Number / Item	Source / Category	Description	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	TOTAL
Administrative and Support														
1	AM-1-2A/B ¹	Asset Management	EAM System Implementation Assistance & Maintenance and Support	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 950,000
2	XC-1-1A	Cross Connection	Develop a Residential Cross-Connection Control Program	\$ 295,000	\$ 295,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 3,710,000
3	XC-1-1B ¹	Cross Connection	Update Commercial Cross Connection Control Program											\$ 155,000
4	XC-2-1A / 1B	Cross Connection	Purchase Cross-Connection Control Software	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 24,000
5	CC-1-1A	Customer Complaints	Establish a Call Center											\$ 500,000
6	RR-1-1C	Pipe R&R	Outside Review of Design Standards			\$ 25,000					\$ 25,000			\$ 75,000
7	SE-2-1A/1B	Security & Emergency	Update the existing ERP to meet FEMA standards	\$ 3,000					\$ 3,000					\$ 69,000
8	SE-2-1C / 2-2	Security & Emergency	Regular Exercise and Review of ERP / Communications	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 270,000
9	SE-3-1A	Security & Emergency	Cyber security for SCADA/instruments outside WTP			\$ 36,000								\$ 72,000
10	SE-3-1B/1C	Security & Emergency	Conduct a cyber security gap assessment		\$ 20,000		\$ 20,000		\$ 20,000		\$ 20,000		\$ 20,000	\$ 220,000
11	SE-3-2A/2B	Security & Emergency	Vulnerability Assessment		\$ 45,000					\$ 45,000				\$ 180,000
12	SE-3-3A/3B	Security & Emergency	Funding Assessment		\$ 10,000					\$ 10,000				\$ 40,000
13	VH-6-1A	Valves & Hydrants	Develop a Planned/Preventative Maintenance Plan											\$ 30,000
14	VH-6-2A	Valves & Hydrants	Develop Valve & Hydrant Manual Library											\$ 10,000
15	VH-7-1A	Valves & Hydrants	V&H Program Hardware and Software Upgrades											\$ 135,000
16	WL-1-1A / 1B	Water Loss	Develop and Review Water Loss Control Plan	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 67,000	\$ 1,739,000
17	WQ-1-1	Water Quality	Laboratory Equipment Upgrades											\$ 100,000
Water Distribution														
18	CIP-9/ OM-1-1A / 1B/ OM-1-2	CIP, Online Monitoring	Implement Distribution System Online WQ Monitoring Stations	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 19,000	\$ 955,000
19	FL-1-1A/1B	Flushing	UDF Equipment	\$ 10,000										\$ 10,000
20	FL-1-3	Flushing	Optimize Flushing Loops											\$ 20,000
21	HM-2-1 ²	Hydraulic Modeling	Conduct WQ Model Calibration											\$ 15,000
22	HM-3-1A / 1B	Hydraulic Modeling	Hydraulic Modeling Software	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 190,000
23	HM-3-2	Hydraulic Modeling	Hydraulic Model Training											\$ 25,000
24	HM-3-3	Hydraulic Modeling	Develop and implement model maintenance plan	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 160,000
25	IT-1-0 ²	IT	SCADA Upgrades											\$ 100,000
26	PR-1-2 ²	Pressure Management	Comprehensive Surge Analysis											\$ 150,000
27	PR-1-3A ²	Pressure Management	Portable Pressure Data Loggers											\$ 2,000
28	PS-1-3B	Pump Stations	Contractor: Pump Station Annual Inspections	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 765,000
29	SF-2-3B	Storage Facilities	Contractor: Storage Facility Comprehensive Inspection		\$ 125,000					\$ 125,000				\$ 375,000
30	SE-1-1A	Security & Emergency	Site Control and Intrusion Detection			\$ 203,000								\$ 406,000
31	SE-1-2A	Security & Emergency	Fencing at Cedar Street Reservoir											\$ 15,000
32	VH-7-1B	Valves & Hydrants	Hardware and Software Upgrades	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 1,120,000
Rehabilitation and Replacement														
33	RR-2-1/VH-4-1	Pipe R&R	Update Pipe Assets in GIS/Valve-Hydrant Model Review											\$ 150,000
34	CIP-1	CIP	FAST START – LSLR											\$ 99,000,000
35	CIP-2	CIP	GCDC Back-Up Supply											\$ 9,164,000
36	CIP-3	CIP	Northwest Transmission Main											\$ 12,297,000
37	CIP-4 / WL-2-1, 2-2	CIP, Water Loss	Meter Replacement – AMR/AMI											\$ 18,460,000
38	CIP-5	CIP	Small Main Replacement (WIIN funded)											\$ 57,530,000
39	CIP-6 / RR-2-3, 2-4 / VH-6-2B	CIP, Pipe R&R, Valve & Hydrant	Small Main Replacement (City funded)	\$ 15,000,000	\$ 16,000,000	\$ 17,000,000	\$ 18,000,000	\$ 19,000,000	\$ 20,000,000	\$ 21,000,000	\$ 22,000,000	\$ 23,000,000	\$ 24,000,000	\$ 280,000,000
40	CIP-7 / PS-1-2	CIP, Pump Stations	Dort Pumping Station/Cedar St. Pump Replacement											\$ 10,125,000
41	CIP-8/VH-5-1	CIP	Water Facility Consolidation											\$ 3,000,000
42	CIP-10	CIP	Dam Maintenance											\$ 875,000
43	CIP-11	CIP	72-inch Line Maintenance											\$ 500,000
44	CIP-12 / PS-1-1, 1-2 / SF-1-1 / WA-2-1	Facilities, Water Age	Storage and Pump Station Improvements											\$ 3,015,000
45	CIP-13	CIP	Atherton Road Main											\$ 7,000,000
46	CIP-14 ¹	CIP	Chemical Building Construction											\$ 3,400,000
47	CIP-15 ¹ / WL-4-1B	CIP	Leak Detection / Annual Meter and Leak Detection	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 62,000	\$ 1,304,000
48	AMP-1	Asset Management	Miscellaneous Vertical Asset R&R	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 4,943,000
49	VH-1-1	Valves & Hydrants	Wachs Valve Assessment											\$ 350,000
50	VH-6-1B	Valves & Hydrants	Valve & Hydrant Replacement	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 912,000	\$ 24,171,000
51	OT-1-1A	Other	Vehicle Replacement	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 10,000,000
			TOTAL	\$ 17,244,000	\$ 18,431,000	\$ 19,250,000	\$ 20,006,000	\$ 20,986,000	\$ 22,009,000	\$ 23,166,000	\$ 24,031,000	\$ 24,986,000	\$ 26,006,000	\$ 557,871,000
			Total Grant Funding											\$ 217,589,000
			Additional Cash / Non-Grant Funding	\$ 17,244,000	\$ 18,431,000	\$ 19,250,000	\$ 20,006,000	\$ 20,986,000	\$ 22,009,000	\$ 23,166,000	\$ 24,031,000	\$ 24,986,000	\$ 26,006,000	\$ 340,282,000

¹Project added during the development of the final Optimization Plan

²Assumes AECOM will complete during program management

Note: This table includes only outside capital expenditures and does not include annual operations or internal staffing costs.

Shaded items indicate grants as the primary funding source

LEGEND

Optimization Category	Code
Asset Management	AM
Cross-Connection Control	XC
Customer Complaint Tracking	CC
Disinfection Residual and DBP Monitoring	CL
Flushing	FL
Hydraulic Modeling	HM
Information Technology	IT
Internal Corrosion Control	IC
Main Breaks	MB
Online Monitoring	OM
Pipeline Rehabilitation and Replacement	RR
Pressure Management	PR
Pump Station Design, Operation and Maintenance	PS
Security and Emergency Management	SE
Storage Facility Design, Operation and Maintenance	SF
Valves & Hydrants Testing, Maintenance, and Replacement	VH
Water Age Management	WA
Water Loss Control	WL
Water Quality Sampling	WQ
Other	OT

NOTES:

1. Costs were estimated for both one-time, initial and recurring activities, and included major equipment and materials, software fees, utility labor, professional engineering services, installation/construction, and contingency, where appropriate.
2. All costs were developed based on 2017 dollars and are consistent with an Association for Advancement of Cost Engineering (AACE) Class 5 Estimate, which is considered a concept screening estimate and are typically -50% to +100% accurate.

APPENDIX VIII CONTAMINATED SITES

List of Contaminated Sites Near Flint DWSRF Project Areas

Project Site	Source	Facility/Site ID	Contaminant Address	Zip
Northwest Transmission Main	Part 201	25000518	824 West Pasadena	48504
Northwest Transmission Main	Part 201	25000323	613 Flint Park Blvd	48505
Northwest Transmission Main	Part 201	25001063	Consumers Drive & James P Cole Boulevard	48505
Northwest Transmission Main	Part 201	25000013	4302 James P. Cole Boulevard	48505
Northwest Transmission Main	Part 201	25000029	5022 North Dort Highway	48505
Northwest Transmission Main	Part 211 – Active	50005208	824 West Pasadena	48504
Northwest Transmission Main	Part 211 – Closed	00000999	4804 N Saginaw St	48505
Northwest Transmission Main	Part 213 – Open	10000322	2502 Dupont St	48504
Northwest Transmission Main	Part 213 – Closed	00017304	1670 Dupont St	48504
Northwest Transmission Main	Part 213 – Open	10000321	4411 Martin Luther King Ave	48505
Northwest Transmission Main	Part 213 – Open	50000517	4601 M L King Ave	48505
Northwest Transmission Main	Part 213 – Open	00017324	4701 Thetford Rd	48505

APPENDIX IX
TOTAL, SALVAGE, REPLACEMENT COSTS
PRESENT WORTH ANALYSIS
MASTER FEE SCHEDULE, JUNE 2021

FY26 Flint DWSRF Project Plan
Cost Estimate for 20-Year DWSRF Loan Project

Torrey Road Booster Station Cost Estimate									Weighted Useful Life Analysis	
Item No.	Item Description	Quantity	Unit	Unit Cost	Total Cost	Useful Life	Salvage Cost	Replacement Cost	Cost of Asset	Total Cost x Useful Life
1	SESC	1	LS	\$ 1,400.00	\$ 1,400.00		\$ -	\$ -	\$ -	\$ -
2	Driveway	1	LS	\$ 14,000.00	\$ 14,000.00		\$ -	\$ -	\$ -	\$ -
3	Groundwater Dewater	1	LS	\$ 14,000.00	\$ 14,000.00		\$ -	\$ -	\$ -	\$ -
4	Fence Removal	1	LS	\$ 4,200.00	\$ 4,200.00		\$ -	\$ -	\$ -	\$ -
5	8' Chain Link Fence	1	LS	\$ 28,000.00	\$ 28,000.00	20	\$ -	\$ 28,000.00	\$ 28,000.00	\$ 560,000.00
6	12' Wide Chain Link Gate and Lock	1	EA	\$ 7,000.00	\$ 7,000.00	20	\$ -	\$ 7,000.00	\$ 7,000.00	\$ 140,000.00
7	Sidewalk	1	LS	\$ 2,800.00	\$ 2,800.00	30	\$ 933.33	\$ -	\$ 2,800.00	\$ 84,000.00
8	Restoration	1	LS	\$ 2,800.00	\$ 2,800.00		\$ -	\$ -	\$ -	\$ -
9	Replace Grating Frames	90	LF	\$ 210.00	\$ 18,900.00		\$ -	\$ -	\$ -	\$ -
10	Crane Stops	2	EA	\$ 840.00	\$ 1,680.00		\$ -	\$ -	\$ -	\$ -
11	Remove and Replace Equipment Pads	2	EA	\$ 2,100.00	\$ 4,200.00	30	\$ 1,400.00	\$ -	\$ 4,200.00	\$ 126,000.00
12	Foundations	136	ELF	\$ 560.00	\$ 76,160.00	40	\$ 38,080.00	\$ -	\$ 76,160.00	\$ 3,046,400.00
13	Walls	2200	SFF	\$ 126.00	\$ 277,200.00	40	\$ 138,600.00	\$ -	\$ 277,200.00	\$ 11,088,000.00
14	Roof Structure	1150	SF	\$ 42.00	\$ 48,300.00	40	\$ 24,150.00	\$ -	\$ 48,300.00	\$ 1,932,000.00
15	Roofing	1150	SF	\$ 49.00	\$ 56,350.00	40	\$ 28,175.00	\$ -	\$ 56,350.00	\$ 2,254,000.00
16	Doors	1	LS	\$ 42,000.00	\$ 42,000.00	40	\$ 21,000.00	\$ -	\$ 42,000.00	\$ 1,680,000.00
17	Finishes and Miscellaneous Costs	1	LS	\$ 21,000.00	\$ 21,000.00		\$ -	\$ -	\$ -	\$ -
18	Demolition	1	LS	\$ 70,000.00	\$ 70,000.00		\$ -	\$ -	\$ -	\$ -
19	Booster Pumps	2	EA	\$ 210,000.00	\$ 420,000.00	15	\$ -	\$ -	\$ 420,000.00	\$ 6,300,000.00
20	Removing 8" Piping	1	EA	\$ 14,000.00	\$ 14,000.00		\$ -	\$ -	\$ -	\$ -
21	Piping Modifications	1	EA	\$ 70,000.00	\$ 70,000.00	20	\$ -	\$ 70,000.00	\$ -	\$ -
22	12" Check Valve	2	EA	\$ 16,800.00	\$ 33,600.00	15	\$ -	\$ -	\$ 33,600.00	\$ 504,000.00
23	16" Check Valve	2	EA	\$ 28,000.00	\$ 56,000.00	15	\$ -	\$ -	\$ 56,000.00	\$ 840,000.00
24	8" Check Valve	1	EA	\$ 8,400.00	\$ 8,400.00	15	\$ -	\$ -	\$ 8,400.00	\$ 126,000.00
25	4" Check Valve	1	EA	\$ 7,000.00	\$ 7,000.00	15	\$ -	\$ -	\$ 7,000.00	\$ 105,000.00
26	18" Check Valve	1	EA	\$ 35,000.00	\$ 35,000.00	15	\$ -	\$ -	\$ 35,000.00	\$ 525,000.00
27	6" Pressure Reducing Valve	2	EA	\$ 16,800.00	\$ 33,600.00	15	\$ -	\$ -	\$ 33,600.00	\$ 504,000.00
28	Valve Manhole	7	EA	\$ 8,400.00	\$ 58,800.00	40	\$ 29,400.00	\$ -	\$ 58,800.00	\$ 2,352,000.00
29	Pipe Installations	7	EA	\$ 14,000.00	\$ 98,000.00	20	\$ -	\$ 98,000.00	\$ 98,000.00	\$ 1,960,000.00
30	Exhaust Fan w/ Motorized Damper	2	EA	\$ 10,962.00	\$ 21,924.00	20	\$ -	\$ 21,924.00	\$ 21,924.00	\$ 438,480.00
31	Intake Louver w/ Motorized Damper	1	EA	\$ 7,112.00	\$ 7,112.00	20	\$ -	\$ 7,112.00	\$ 7,112.00	\$ 142,240.00
32	Controls	1	LS	\$ 2,800.00	\$ 2,800.00	20	\$ -	\$ 2,800.00	\$ 2,800.00	\$ 56,000.00
33	Miscellaneous Costs	1	LS	\$ 3,500.00	\$ 3,500.00		\$ -	\$ -	\$ -	\$ -
34	Demolition	1	LS	\$ 7,000.00	\$ 7,000.00		\$ -	\$ -	\$ -	\$ -
35	600A Fused Disconnect NEMA 3R	1	EA	\$ 8,456.00	\$ 8,456.00	20	\$ -	\$ 8,456.00	\$ 8,456.00	\$ 169,120.00
36	25 kVA 480 - 120/240 Transformer	1	EA	\$ 8,050.00	\$ 8,050.00	20	\$ -	\$ 8,050.00	\$ 8,050.00	\$ 161,000.00
37	400 amp fused disconnects	2	EA	\$ 7,523.60	\$ 15,047.20	20	\$ -	\$ 15,047.20	\$ 15,047.20	\$ 300,944.00
38	150 hp VFD	2	EA	\$ 70,000.00	\$ 140,000.00	20	\$ -	\$ 140,000.00	\$ 140,000.00	\$ 2,800,000.00
39	Generator Receptacle	1	EA	\$ 3,710.00	\$ 3,710.00	20	\$ -	\$ 3,710.00	\$ 3,710.00	\$ 74,200.00
40	Exterior Building Lights	3	EA	\$ 616.00	\$ 1,848.00	15	\$ -	\$ -	\$ 1,848.00	\$ 27,720.00
41	2" RMC	75	LF	\$ 88.20	\$ 6,615.00	40	\$ 3,307.50	\$ -	\$ 6,615.00	\$ 264,600.00
42	3/4" RMC	150	LF	\$ 37.80	\$ 5,670.00	40	\$ 2,835.00	\$ -	\$ 5,670.00	\$ 226,800.00
43	#3/0 AWG	3	CLF	\$ 1,376.20	\$ 4,128.60	40	\$ 2,064.30	\$ -	\$ 4,128.60	\$ 165,144.00
44	#10 AWG	12	CLF	\$ 168.00	\$ 2,016.00	40	\$ 1,008.00	\$ -	\$ 2,016.00	\$ 80,640.00
45	600 kcmil	2	CLF	\$ 4,256.00	\$ 8,512.00	40	\$ 4,256.00	\$ -	\$ 8,512.00	\$ 340,480.00
46	Demolition (2 Elect, 40 hours each)	80	HR	\$ 175.00	\$ 14,000.00		\$ -	\$ -	\$ -	\$ -
47	Control Panel Upgrades	1	LOT	\$ 16,800.00	\$ 16,800.00	20	\$ -	\$ 16,800.00	\$ 16,800.00	\$ 336,000.00
48	Programming Upgrades	1	LOT	\$ 10,500.00	\$ 10,500.00	20	\$ -	\$ 10,500.00	\$ 10,500.00	\$ 210,000.00
49	General Conditions	10	%		\$ 200,000.00					
			Construction Subtotal		\$ 2,012,078.80					
	Contingency	9	%		\$ 187,921.20					
				Construction Total	\$ 2,200,000.00		\$ 295,209.13	\$ 437,399.20	Weighted Useful life (years)	26

Design	8	%		\$	161,000.00
Construction Administration	10	%		\$	201,000.00
Soil Borings	1	LS		\$	30,000.00
Project Plan	1	LS			Sunk Cost
Legal/Financial Service	1	LS		\$	32,000.00
Bond Counsel	1	LS		\$	35,000.00
			Project Total	\$	2,659,000.00

FY26 Flint DWSRF Project Plan
 Cost Estimate for 20-Year DWSRF Loan Project

Northwest Transmission Cost Estimate					Weighted Useful Life Analysis					
Item No.	Item Description	Quantity	Unit	Unit Cost	Total Cost	Useful Life	Salvage Cost	Replacement Cost	Cost of Asset	Total Cost x Useful Life
1	Railroad Coordination	1	LS	\$ 40,000.00	\$ 40,000.00	n/a	\$ -	\$ -	\$ -	\$ -
2	Construction Observation Day	250	Wday	\$ 1,000.00	\$ 250,000.00	n/a	\$ -	\$ -	\$ -	\$ -
3	Maintaining Traffic	1	LS	\$ 360,000.00	\$ 360,000.00	n/a	\$ -	\$ -	\$ -	\$ -
4	Cleanup and Restoration	1	LS	\$ 120,000.00	\$ 120,000.00	n/a	\$ -	\$ -	\$ -	\$ -
5	Audio-Video Construction Area Survey	1	LS	\$ 24,000.00	\$ 24,000.00	n/a	\$ -	\$ -	\$ -	\$ -
6	Pavt, Rem	32204	SYD	\$ 15.00	\$ 483,060.00	n/a	\$ -	\$ -	\$ -	\$ -
7	Sidewalk, Rem	6809	SYD	\$ 12.00	\$ 81,708.00	n/a	\$ -	\$ -	\$ -	\$ -
8	Non Haz Contaminated Material Handling and Disposal	2000	CYD	\$ 50.00	\$ 100,000.00	n/a	\$ -	\$ -	\$ -	\$ -
9	Stump, Rem, 6 inch to 18 inch	8	EA	\$ 200.00	\$ 1,600.00	n/a	\$ -	\$ -	\$ -	\$ -
10	Stump, Rem 19 inch to 36 inch	7	EA	\$ 250.00	\$ 1,750.00	n/a	\$ -	\$ -	\$ -	\$ -
11	Stump, Rem, 37 inch or Larger	1	EA	\$ 400.00	\$ 400.00	n/a	\$ -	\$ -	\$ -	\$ -
12	Tree, Rem 6 inch to 18 inch	43	EA	\$ 600.00	\$ 25,800.00	n/a	\$ -	\$ -	\$ -	\$ -
13	Tree, Rem, 19 inch to 36 inch	17	EA	\$ 1,100.00	\$ 18,700.00	n/a	\$ -	\$ -	\$ -	\$ -
14	Tree, Rem, 37 inch or Larger	1	EA	\$ 2,000.00	\$ 2,000.00	n/a	\$ -	\$ -	\$ -	\$ -
15	Misc Pipe Repr	50	EA	\$ 1,250.00	\$ 62,500.00	20	\$ -	\$ 62,500.00	\$ 62,500.00	\$ 1,250,000.00
16	Dewatering	1	LS	\$ 240,000.00	\$ 240,000.00	n/a	\$ -	\$ -	\$ -	\$ -
17	Roadway Earthwork	1	LS	\$ 480,000.00	\$ 480,000.00	n/a	\$ -	\$ -	\$ -	\$ -
18	Trench Undercut and Backfill	2000	CYD	\$ 40.00	\$ 80,000.00	n/a	\$ -	\$ -	\$ -	\$ -
19	Soil Erosion and Sedimentation Control	1	LS	\$ 180,000.00	\$ 180,000.00	n/a	\$ -	\$ -	\$ -	\$ -
20	Aggregate Base, 8 inch	26853	SYD	\$ 20.00	\$ 537,060.00	20	\$ -	\$ 537,060.00	\$ 537,060.00	\$ 10,741,200.00
21	Aggregate Base, 12 inch	4330	SYD	\$ 25.00	\$ 108,250.00	20	\$ -	\$ 108,250.00	\$ 108,250.00	\$ 2,165,000.00
22	HMA, 13A	12999	TON	\$ 110.00	\$ 1,429,890.00	20	\$ -	\$ 1,429,890.00	\$ 1,429,890.00	\$ 28,597,800.00
23	HMA, 36A	21666	TON	\$ 110.00	\$ 2,383,260.00	20	\$ -	\$ 2,383,260.00	\$ 2,383,260.00	\$ 47,665,200.00
24	Pavt Repr, HMA, Residential	6740	SYD	\$ 65.00	\$ 438,100.00	20	\$ -	\$ 438,100.00	\$ 438,100.00	\$ 8,762,000.00
25	Pavt Repr, HMA, Commercial	4496	SYD	\$ 95.00	\$ 427,120.00	20	\$ -	\$ 427,120.00	\$ 427,120.00	\$ 8,542,400.00
26	Curb and Gutter, Conc, Det F4	10331	FT	\$ 25.00	\$ 258,275.00	20	\$ -	\$ 258,275.00	\$ 258,275.00	\$ 5,165,500.00
27	Curb Ramp Opening, Conc	217	FT	\$ 30.00	\$ 6,510.00	20	\$ -	\$ 6,510.00	\$ 6,510.00	\$ 130,200.00
28	Curb and Gutter, Conc, Replacement	5972	FT	\$ 55.00	\$ 328,460.00	20	\$ -	\$ 328,460.00	\$ 328,460.00	\$ 6,569,200.00
29	Detectable Warning Surface	880	FT	\$ 85.00	\$ 74,800.00	20	\$ -	\$ 74,800.00	\$ 74,800.00	\$ 1,496,000.00
30	Sidewalk Ramp, Conc, 7 inch	8327	SFT	\$ 10.00	\$ 83,270.00	20	\$ -	\$ 83,270.00	\$ 83,270.00	\$ 1,665,400.00
31	Sidewalk, Conc, 4 inch	51074	SFT	\$ 7.00	\$ 357,518.00	20	\$ -	\$ 357,518.00	\$ 357,518.00	\$ 7,150,360.00
32	Sidewalk, Conc, 6 inch	4978	SFT	\$ 8.00	\$ 39,824.00	20	\$ -	\$ 39,824.00	\$ 39,824.00	\$ 796,480.00
33	Driveway, Nonreinf, Conc, 6 inch	2479	SYD	\$ 70.00	\$ 173,530.00	20	\$ -	\$ 173,530.00	\$ 173,530.00	\$ 3,470,600.00
34	Driveway, Nonreinf, Conc, 8 inch	526	SYD	\$ 80.00	\$ 42,080.00	20	\$ -	\$ 42,080.00	\$ 42,080.00	\$ 841,600.00
35	Pavement Markings	1	LS	\$ 6,000.00	\$ 6,000.00	10	\$ -	\$ 6,000.00	\$ 6,000.00	\$ 60,000.00
36	Turf Establishment	1	LS	\$ 105,000.00	\$ 105,000.00	20	\$ -	\$ 105,000.00	\$ 105,000.00	\$ 2,100,000.00
37	Structure Cover, Adj, Case 1	54	EA	\$ 750.00	\$ 40,500.00	40	\$ 20,250.00	\$ -	\$ 40,500.00	\$ 1,620,000.00
38	Structure Cover, Adj, Case 2	38	EA	\$ 600.00	\$ 22,800.00	40	\$ 11,400.00	\$ -	\$ 22,800.00	\$ 912,000.00
39	Structure, Adj, Add Depth	91	FT	\$ 300.00	\$ 27,300.00	40	\$ 13,650.00	\$ -	\$ 27,300.00	\$ 1,092,000.00
40	Structure Cover, Special	149	EA	\$ 750.00	\$ 111,750.00	40	\$ 55,875.00	\$ -	\$ 111,750.00	\$ 4,470,000.00
41	Hydrant, Rem	28	EA	\$ 800.00	\$ 22,400.00	40	\$ 11,200.00	\$ -	\$ 22,400.00	\$ 896,000.00
42	Fire Hydrant	66	EA	\$ 6,500.00	\$ 429,000.00	40	\$ 214,500.00	\$ -	\$ 429,000.00	\$ 17,160,000.00
43	Gate Well, Rem	16	EA	\$ 1,500.00	\$ 24,000.00	40	\$ 12,000.00	\$ -	\$ 24,000.00	\$ 960,000.00
44	Gate Valve and Box, 6 inch	51	EA	\$ 2,000.00	\$ 102,000.00	40	\$ 51,000.00	\$ -	\$ 102,000.00	\$ 4,080,000.00
45	Gate Valve and box, 8 inch	11	EA	\$ 2,500.00	\$ 27,500.00	40	\$ 13,750.00	\$ -	\$ 27,500.00	\$ 1,100,000.00
46	Gate Valve and Well, 12 inch	9	EA	\$ 7,500.00	\$ 67,500.00	40	\$ 33,750.00	\$ -	\$ 67,500.00	\$ 2,700,000.00
47	Gate Valve and Well, 16 inch	19	EA	\$ 22,000.00	\$ 418,000.00	40	\$ 209,000.00	\$ -	\$ 418,000.00	\$ 16,720,000.00
48	Water Main, Rem	6671	FT	\$ 50.00	\$ 333,550.00	40	\$ 166,775.00	\$ -	\$ 333,550.00	\$ 13,342,000.00
49	Water Main, 6 inch, Tr Det G	7097	FT	\$ 100.00	\$ 709,700.00	40	\$ 354,850.00	\$ -	\$ 709,700.00	\$ 28,388,000.00
50	Water Main, 8 inch, Tr Det G	322	FT	\$ 120.00	\$ 38,640.00	40	\$ 19,320.00	\$ -	\$ 38,640.00	\$ 1,545,600.00
51	Water Main 12 inch, Tr Det F	23	FT	\$ 120.00	\$ 2,760.00	40	\$ 1,380.00	\$ -	\$ 2,760.00	\$ 110,400.00
52	Water Main 12 inch, Tr Det G	229	FT	\$ 140.00	\$ 32,060.00	40	\$ 16,030.00	\$ -	\$ 32,060.00	\$ 1,282,400.00
53	Water Main, 16 inch, Tr Det F	586	FT	\$ 170.00	\$ 99,620.00	40	\$ 49,810.00	\$ -	\$ 99,620.00	\$ 3,984,800.00
54	Water Main, 16 inch, Tr Det G	16021	FT	\$ 200.00	\$ 3,204,200.00	40	\$ 1,602,100.00	\$ -	\$ 3,204,200.00	\$ 128,168,000.00
55	Water Main, 24 inch, Tr Det F	1218	FT	\$ 250.00	\$ 304,500.00	40	\$ 152,250.00	\$ -	\$ 304,500.00	\$ 12,180,000.00
56	Water Main, 24 inch, Tr Det G	1777	FT	\$ 300.00	\$ 533,100.00	40	\$ 266,550.00	\$ -	\$ 533,100.00	\$ 21,324,000.00
57	Water Main, 24 inch, Bored and Jacked	808	FT	\$ 1,300.00	\$ 1,050,400.00	40	\$ 525,200.00	\$ -	\$ 1,050,400.00	\$ 42,016,000.00
58	Water Main, 18 inch, Tr Det G	86	FT	\$ 210.00	\$ 18,060.00	40	\$ 9,030.00	\$ -	\$ 18,060.00	\$ 722,400.00
59	Water Serv, Type K Copper, 1 inch, Tr Det G	1124	FT	\$ 50.00	\$ 56,200.00	15	\$ -	\$ 56,200.00	\$ 56,200.00	\$ 843,000.00
60	Curb Stop and Box, 1 inch	19	EA	\$ 600.00	\$ 11,400.00	15	\$ -	\$ 11,400.00	\$ 11,400.00	\$ 171,000.00
61	Corporation and Tap, 1 inch	92	EA	\$ 700.00	\$ 64,400.00	15	\$ -	\$ 64,400.00	\$ 64,400.00	\$ 966,000.00
62	Water Serv, Conflict	101	EA	\$ 1,000.00	\$ 101,000.00	n/a	\$ -	\$ -	\$ -	\$ -
63	Connect to Existing Water Main	111	EA	\$ 8,000.00	\$ 888,000.00	20	\$ -	\$ 888,000.00	\$ 888,000.00	\$ 17,760,000.00
64	Testing and Disinfection	1	LS	\$ 120,000.00	\$ 120,000.00	n/a	\$ -	\$ -	\$ -	\$ -
65	Water Main, Abandon	23355	FT	\$ 23.00	\$ 537,165.00	n/a	\$ -	\$ -	\$ -	\$ -
66	Water Main, DI, 24 inch, Tr Det F, Nitrile Gaskets	1731	FT	\$ 300.00	\$ 519,300.00	n/a	\$ -	\$ -	\$ -	\$ -
67	Butterfly Valve and Well, 24 inch	13	EA	\$ 35,000.00	\$ 455,000.00	15	\$ -	\$ 455,000.00	\$ 455,000.00	\$ 6,825,000.00
68	Butterfly Valve and Well, 18 inch	3	EA	\$ 17,500.00	\$ 52,500.00	15	\$ -	\$ 52,500.00	\$ 52,500.00	\$ 787,500.00
69	Dr Structure, Rem	59	EA	\$ 800.00	\$ 47,200.00	n/a	\$ -	\$ -	\$ -	\$ -
70	Storm Sewer, Rem, Less than 24 inch	674	FT	\$ 45.00	\$ 30,330.00	n/a	\$ -	\$ -	\$ -	\$ -
71	Storm Sewer, Cl A, 12 inch, Tr Det B	611	FT	\$ 90.00	\$ 54,990.00	40	\$ 27,495.00	\$ -	\$ 54,990.00	\$ 2,199,600.00
72	Storm Sewer Tap, 12 inch	32	EA	\$ 800.00	\$ 25,600.00	40	\$ 12,800.00	\$ -	\$ 25,600.00	\$ 1,024,000.00
73	Dr Structure, 24 inch dia	28	EA	\$ 2,000.00	\$ 56,000.00	40	\$ 28,000.00	\$ -	\$ 56,000.00	\$ 2,240,000.00
74	Dr Structure, 48 inch dia	27	EA	\$ 3,500.00	\$ 94,500.00	40	\$ 47,250.00	\$ -	\$ 94,500.00	\$ 3,780,000.00
75	Dr Structure, 60 inch dia	6	EA	\$ 5,000.00	\$ 30,000.00	40	\$ 15,000.00	\$ -	\$ 30,000.00	\$ 1,200,000.00
				Subtotal	\$ 20,113,390.00					
	Contingency	15%			\$ 3,017,010.00					
				Total	\$ 23,130,400.00		\$ 3,940,215.00	\$ 8,388,947.00	Weighted Useful life (years)	29

Design	1	LS	\$ 100,000.00
Construction Administration	15	%	\$ 3,400,000.00
Soil Borings	1	LS	\$ 100,000.00
Legal/Financial Service	1	LS	\$ 32,000.00
Bond Counsel	1	LS	\$ 35,000.00
Project Total			\$ 26,797,400.00

Project Cost Summary

Total Construction Cost	\$ 25,330,400.00
Total Design Fees	\$ 261,000.00
Total Construction Administration	\$ 3,601,000.00
Total Soil Borings Cost	\$ 130,000.00
Total Project Plan	Sunk Cost
Total Legal/Financial Service	\$ 64,000.00
Total Bond Counsel	\$ 70,000.00
Total Project Cost	\$ 29,456,400.00

Total Project Cost	\$ 29,456,400.00
Total Salvage Value	\$ 4,235,424.13
Total Replacement Cost	\$ 8,826,346.20
Total O&M Costs	\$ 330,000.00

Estimated O&M Costs	
FY25 Budgeted Supplies and Operating Expense Per FY2025 Budget	\$ 33,000,000.00
Estimate 1% of Expense will go to O&M for Torrey Road and NW Transmission Main	\$ 330,000.00

Present Worth Analysis

20-year Planning Period

Interest (i)

2.2%

Planning Period, Years (n)

20

Replacement Period, Years (n)

15

Present Worth, Capital Cost

Capital Cost

\$ 29,456,400.00

+ 1.022

$$PW_{\text{Capital Cost}} = \frac{\text{Capital Cost}}{1 + i}$$

= \$ 28,822,309.20

Present Worth, Salvage Value

Salvage Value

\$ 4,235,424.13

+ 1.022

$$PW_{\text{Salvage Value}} = \frac{\text{Salvage Value}}{1 + i} \times \frac{P}{F}, 20 \text{ year @ } i$$

= \$ 4,144,250.62

x 0.64711592 P/F 20 yr @ i

= \$ 2,681,810.55

Present Worth of Future Value

$$\frac{P}{F}, 20 \text{ year @ } i = \frac{1}{(1 + i)^n}$$

Replacement Cost

\$ 8,826,346.20

+ 1.022

= \$ 8,636,346.58

x 0.721500378 P/F 15 yr @ i

= \$ 6,231,127.32

Present Worth of an Annual Amount

$$\frac{P}{A}, 20 \text{ year @ } i = \frac{(1 + i)^n - 1}{i(1 + i)^n}$$

O&M

\$ 330,000.00 per year

x 16.04018547 P/A 20 year @ 2.5%

= \$ 5,293,261.20

Capital Recovery Factor

$$\text{Capital Recovery Factor (CRF)} = \frac{i(1 + i)^n}{(1 + i)^n - 1}$$

Present Worth = Capital – Salvage + Replacement + O&M Costs

Present Worth = \$ 37,664,887.17

Principal and Interest Amount

P&I, 20 year @ i = CRF × Capital Cost

Estimated Principal and Interest Payments

CRF: 0.062343419

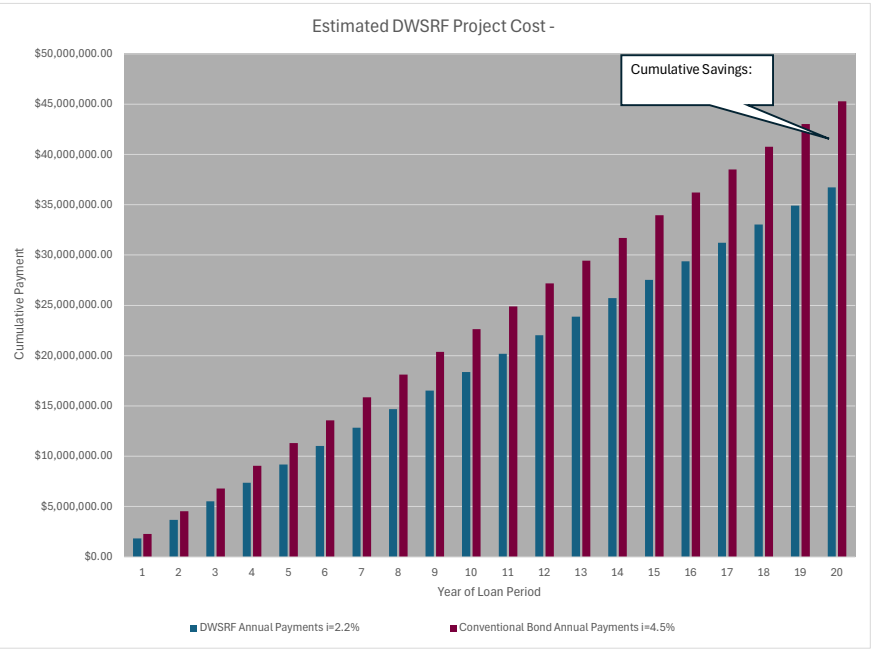
Total Project Budget \$ 29,456,400.00

P&I \$ 1,836,412.68

CRF, Conventional Bond, i=4.50% 0.076876144

P&I, i=4.50% \$ 2,264,494.46

Year	i = 0%	i = 2.2%	i = 4.5%
0	0	0	0
1	\$ 1,472,820.00	\$ 1,836,412.68	\$ 2,264,494.46
2	\$ 2,945,640.00	\$ 3,672,825.36	\$ 4,528,988.92
3	\$ 4,418,460.00	\$ 5,509,238.04	\$ 6,793,483.37
4	\$ 5,891,280.00	\$ 7,345,650.72	\$ 9,057,977.83
5	\$ 7,364,100.00	\$ 9,182,063.40	\$ 11,322,472.29
6	\$ 8,836,920.00	\$ 11,018,476.09	\$ 13,586,966.75
7	\$ 10,309,740.00	\$ 12,854,888.77	\$ 15,851,461.20
8	\$ 11,782,560.00	\$ 14,691,301.45	\$ 18,115,955.66
9	\$ 13,255,380.00	\$ 16,527,714.13	\$ 20,380,450.12
10	\$ 14,728,200.00	\$ 18,364,126.81	\$ 22,644,944.58
11	\$ 16,201,020.00	\$ 20,200,539.49	\$ 24,909,439.03
12	\$ 17,673,840.00	\$ 22,036,952.17	\$ 27,173,933.49
13	\$ 19,146,660.00	\$ 23,873,364.85	\$ 29,438,427.95
14	\$ 20,619,480.00	\$ 25,709,777.53	\$ 31,702,922.41
15	\$ 22,092,300.00	\$ 27,546,190.21	\$ 33,967,416.87
16	\$ 23,565,120.00	\$ 29,382,602.90	\$ 36,231,911.32
17	\$ 25,037,940.00	\$ 31,219,015.58	\$ 38,496,405.78
18	\$ 26,510,760.00	\$ 33,055,428.26	\$ 40,760,900.24
19	\$ 27,983,580.00	\$ 34,891,840.94	\$ 43,025,394.70
20	\$ 29,456,400.00	\$ 36,728,253.62	\$ 45,289,889.15
		Difference after 20 years	\$ 8,561,635.53
		Annual Difference	\$ 428,081.78



User Cost Impacts

City's Water Net Revenue FY24 \$ 16,177,227.50

Proposed Annual DWSRF Loan Payments \$ 1,836,412.68

Required Revenue to Pay for DWSRF Loans \$ 18,013,640.18

% Increase to Rates Required for Annual Payments 11%

Existing Water Rates	Existing Fees		With 11% Increase
Metered Water - per 100 Cubic Feet (748 gallons)			
City - 0 to 35 CCF	\$ 6.19	per CCF	\$ 6.89
City - 35 to 2000 CCF	\$ 5.94	per CCF	\$ 6.61
City - Over 200 CCF	\$ 4.76	per CCF	\$ 5.30
NonCity - 0 to 35 CCF	\$ 9.29	per CCF	\$ 10.34
NonCity - 35 to 2000 CCF	\$ 8.94	per CCF	\$ 9.95
NonCity - Over 2000 CCF	\$ 7.14	per CCF	\$ 7.95
Water "Readiness to Serve" Service Charges			
Residential City - Meter Size 5/8" x 3/4"	\$ 28.69		\$ 31.95
Residential City - Meter Size 1"	\$ 58.15		\$ 64.75
Residential City - Meter Size 1 1/2"	\$ 58.15		\$ 64.75
Residential City - Meter size 2"	\$ 58.15		\$ 64.75
Residential NonCity - Meter size 5/8" x 3/4"	\$ 34.17		\$ 38.05
Residential NonCity - Meter Size 3/4"	\$ 65.95		\$ 73.44
Residential NonCity - Meter Size 1"	\$ 87.08		\$ 96.97
Residential NonCity - Meter Size 1 1/2"	\$ 85.02		\$ 94.67
Residential NonCity - Meter Size 2"	\$ 85.02		\$ 94.67
Commercial-Indust. City - Meter Size 5/8" x 3/4"	\$ 55.79		\$ 62.12
Commercial-Indust. City - Meter Size 3/4"	\$ 69.37		\$ 77.24
Commercial-Indust. City - Meter Size 1"	\$ 78.48		\$ 87.39
Commercial-Indust. City - Meter Size 1 1/2"	\$ 112.60		\$ 125.38
Commercial-Indust. City - Meter Size 2"	\$ 157.40		\$ 175.27
Commercial-Indust. City - Meter Size 3"	\$ 310.83		\$ 346.11
Commercial-Indust. City - Meter Size 4"	\$ 547.05		\$ 609.15
Commercial-Indust. City - Meter Size 6"	\$ 1,075.75		\$ 1,197.87
Commercial-Indust. City - Meter Size 8"	\$ 1,560.05		\$ 1,737.14
Commercial-Indust. City - Meter Size 10"	\$ 2,153.48		\$ 2,397.94
Commercial-Indust. City - Meter Size 12"	\$ 3,605.31		\$ 4,014.58
Commercial-Indust. City - Meter Size 16"	\$ 3,242.25		\$ 3,610.30
Commercial-Indust. City - Meter Size 20"	\$ 3,501.98		\$ 3,899.52
Comm-Indust. NonCity - Meter Size 5/8" x 3/4"	\$ 83.74		\$ 93.25
Comm-Indust. NonCity - Meter Size 3/4"	\$ 95.84		\$ 106.72
Comm-Indust. NonCity - Meter Size 1"	\$ 117.74		\$ 131.11
Comm-Indust. NonCity - Meter Size 1 1/2"	\$ 169.06		\$ 188.25
Comm-Indust. NonCity - Meter Size 2"	\$ 236.26		\$ 263.08
Comm-Indust. NonCity - Meter Size 3"	\$ 468.65		\$ 521.85
Comm-Indust. NonCity - Meter Size 4"	\$ 820.71		\$ 913.88
Comm-Indust. NonCity - Meter Size 6"	\$ 1,613.34		\$ 1,796.48
Comm-Indust. NonCity - Meter Size 8"	\$ 2,340.24		\$ 2,605.90
Comm-Indust. NonCity - Meter Size 10"	\$ 3,247.30		\$ 3,615.93
Comm-Indust. NonCity - Meter Size 12"	\$ 3,907.77		\$ 4,351.37
Comm-Indust. NonCity - Meter Size 16"	\$ 4,863.28		\$ 5,415.35
Comm-Indust. NonCity - Meter Size 20"	\$ 5,709.67		\$ 6,357.82

APPENDIX X

PUBLIC HEARING DOCUMENTS