

DEPARTMENT: Engineering / Stormwater		STATE PROGRAM: Business Type	PROJECT TITLE: Bee Branch Creek Restoration Project (Phase 4 and Phase 7 of the Bee Branch Watershed Flood Mitigation Project)			PROGRAM: 8C DEPARTMENT: 55 FD/CIP NO: 720-1654 340-1654	TOTAL PROJECT COST \$ 87,875,039	
EXP PRIOR TO FY 16	ESTIMATED FY 16	PROJECT BUDGET	2016-17	2017-18	2018-19	2019-20	2020-21	BEYOND 2021
		<b>A. EXPENDITURE ITEMS</b>						
\$ 327,480	\$ 4,373,529	Design & Engineering				\$ 500,000		
\$ 1,859,899	\$ 3,939,820	Land and R.O.W.						
\$ 1,251,015	\$ 32,271,607	Construction	\$ 15,550,000			\$ 17,748,700		
\$ 3,955,811	\$ 3,522,323	Other						
\$ 2,389,630	\$ 185,225	Consultant Services						
\$ 9,783,835	\$ 44,292,504	TOTAL	\$ 15,550,000	\$ -	\$ -	\$ 18,248,700	\$ -	\$ -
		<b>B. PROJECT FINANCING</b>						
\$ 2,076,088	\$ 18,632,800	State Revolving Loan Fund	\$ 5,000,000			\$ 18,248,700		
	\$ 5,908,200	SRF Forgivable Loan	\$ 5,908,200					
	\$ 2,287,138	Federal/State Grants	\$ 2,100,000					
\$ 7,707,747	\$ 17,464,366	State Flood Mitigation	\$ 2,541,800					
\$ 9,783,835	\$ 44,292,504	TOTAL	\$ 15,550,000	\$ -	\$ -	\$ 18,248,700	\$ -	\$ -

#### PROJECT DESCRIPTION

The project involves constructing a stormwater management facility from the 16th Street Detention Basin to the intersection of 24th and Washington Street. The Lower Bee Branch Creek Restoration, the reach from the 16th Street Detention Basin through the former packing plant property to the railroad tracks just south of Garfield Avenue, is also considered Phase 4 of the Bee Branch Watershed Flood Mitigation Project. It includes the replacement of the buried underground storm sewer with a 2,500-foot long creek and flood plain area. In addition to "day-lighting" and restoring the Bee Branch creek, this phase includes the dredging of the 16th Street Detention Basin, relocation of utilities, and reworking the street system through the area to accommodate the new flood mitigation facility and the redevelopment of adjacent private property. It also involves the construction of two bridges, maintenance access to the creek, hike/bike trail, safety and security measures, vegetation, recreational components and overlook areas for better monitoring of the creek. The Upper Bee Branch Creek Restoration, the reach from where the Lower Bee Branch Creek Restoration terminates just south of Garfield Avenue north to 24th Street is also considered Phase 7 of the Bee Branch Watershed Flood Mitigation Project. It includes the removal of a buried storm sewer and replacing it with a 2,300-foot long creek and flood plain area. It includes the construction of vehicular bridges, multi-use maintenance access bike/hike trails, utility relocation, landscaping, overlooks (for better monitoring of the creek), safety and security measures, parking, and education and recreational components. It also includes the installation of six (6), eight-foot (8') diameter culverts under the railroad tracks between the Lower Bee Branch and Garfield Avenue. The improvements will be constructed under multiple contracts. The Lower Bee Branch Creek Restoration has been functional since 2011. The Upper Bee Branch Grading, Utilities, & Streets contract and the Upper Bee Branch Structures contract were awarded in the spring of 2015. The and the Upper Bee Branch Hike/Bike Trail will be awarded later in 2015 in time for early 2016 construction. The Upper Bee Branch Railroad Crossing construction is budgeted for FY2020. Additional smaller contracts will be let in 2015 and 2016 as needed to complete other elements of the project, improvements such as the Lower Bee Branch Overlook at the 16th Street Detention Basin and the shorter hike/bike trail connection between Garfield Avenue and 16th Street. The Bee Branch Creek flood mitigation facility is scheduled to be functional by the end of 2016 and fully complete by the end of 2017. The project requires the total or partial acquisition of more than 100 properties. The City has acquired 111 properties to

DEPARTMENT: Engineering / Stormwater		STATE PROGRAM: Business Type	PROJECT TITLE: 22nd Street Storm Sewer Improvements (Phase 8 of Bee Branch Watershed Flood Mitigation Project)			PROGRAM: 8C DEPARTMENT: 55 FD/CIP NO: 720-	TOTAL PROJECT COST \$ 3,900,000	
EXP PRIOR TO FY 16	ESTIMATED FY 16	PROJECT BUDGET	2016-17	2017-18	2018-19	2019-20	2020-21	BEYOND 2021
		<b>A. EXPENDITURE ITEMS</b>						
		Design & Engineering		\$ 300,000				
		Construction		\$ 3,600,000				
\$ -	\$ -	TOTAL	\$ -	\$ 3,900,000	\$ -	\$ -	\$ -	\$ -
		<b>B. PROJECT FINANCING</b>						
		State Flood Mitigation		\$ 3,900,000				
\$ -	\$ -	TOTAL	\$ -	\$ 3,900,000	\$ -	\$ -	\$ -	\$ -

#### PROJECT DESCRIPTION

This project provides for the construction of a large diameter storm sewer along 22nd Street from Elm Street to the west across Central Avenue. Due to the size of the storm sewer to be installed, the project requires the complete reconstruction of the street, traffic control, and public utilities along the entire stretch.

#### JUSTIFICATION

Stormwater can form what resembles a river running down 22nd Street from Central Avenue to Elm Street. A hydraulic capacity analysis of the Kaufmann Avenue (22nd Street) storm sewer revealed that the existing storm sewer is insufficient to convey more than a 2-year rain event. Construction of the Bee Branch Creek Restoration Project just downstream will alleviate this condition somewhat. But in order to alleviate the flooding conditions, it is necessary to increase the size of the storm sewer between Central Avenue and Elm Street.

#### RELATIONSHIP TO OTHER PROJECTS

This project is Phase 8 of the Bee Branch Watershed Flood Mitigation Project. The project implements the Comprehensive Plan's Infrastructure Goal Three: To provide, maintain, and improve a safe and functional storm sewer system, objective 3.1) Support maintaining the integrity of the storm sewer system and Environmental Quality Goal Five: To assure appropriate control, collection, disposal, and per capita reduction of stormwater, wastewater, solid wastes, and household hazardous wastes, objective 5.4) Promote a sanitary environment through the implementation of best management practices in the collection and disposal of stormwater and wastewater.

#### RELATIONSHIP TO SUSTAINABILITY PRINCIPLES

This project implements the Sustainable Principle of Clean Water.

DEPARTMENT: Engineering / Stormwater		STATE PROGRAM: Business Type	PROJECT TITLE: 17th Street Storm Sewer Improvements (Phase 12 of Bee Branch Watershed Flood Mitigation Project)			PROGRAM: 8C DEPARTMENT: 55 FD/CIP NO: 720-	TOTAL PROJECT COST \$ 6,280,000	
EXP PRIOR TO FY 16	ESTIMATED FY 16	PROJECT BUDGET	2016-17	2017-18	2018-19	2019-20	2020-21	BEYOND 2021
		<b>A. EXPENDITURE ITEMS</b>						
		Design & Engineering				\$ 505,000	\$ 175,000	\$ 150,000
		Construction				\$ 3,000,000	\$ 2,600,000	\$ 2,251,000
\$ -	\$ -	TOTAL	\$ -	\$ -	\$ -	\$ 3,505,000	\$ 2,775,000	\$ 2,401,000
		<b>B. PROJECT FINANCING</b>						
		State Flood Mitigation				\$ 3,505,000	\$ 2,775,000	\$ 2,401,000
\$ -	\$ -	TOTAL	\$ -	\$ -	\$ -	\$ 3,505,000	\$ 2,775,000	\$ 2,401,000

#### PROJECT DESCRIPTION

This project provides for the construction of a large diameter storm sewer along 17th Street from the Lower Bee Branch Creek to W. Locust Street. Due to the size of the storm sewer to be installed, the project requires the complete reconstruction of the street, traffic control, and public utilities along the entire stretch.

#### JUSTIFICATION

The Drainage Basin Master Plan identified multiple locations between W. Locust Street and the Bee Branch Creek Restoration where the existing storm sewer capacity is not adequate to carry even the 10-year rainstorm. A problem area was identified at the base of Locust Street and 17th Street where the grade flattens along the street causing flooding in the area. In addition, stormwater will flow rapidly down 17th Street much like a running river. The expansion of the capacity of storm sewer inlets and pipes would significantly reduce flooding of streets and adjacent properties within the Locust Street Drainage Subarea.

#### RELATIONSHIP TO OTHER PROJECTS

This project is Phase 12 of the Bee Branch Watershed Flood Mitigation Project. The project implements the Comprehensive Plan's Infrastructure Goal Three: To provide, maintain, and improve a safe and functional storm sewer system, objective 3.1) Support maintaining the integrity of the storm sewer system and Environmental Quality Goal Five: To assure appropriate control, collection, disposal, and per capita reduction of stormwater, wastewater, solid wastes, and household hazardous wastes, objective 5.4) Promote a sanitary environment through the implementation of best management practices in the collection and disposal of stormwater and wastewater.

#### RELATIONSHIP TO SUSTAINABILITY PRINCIPLES

This project implements the Sustainable Principle of Clean Water.