



**DATE:** May 14, 2019

**TO:** Mayor and City Council Members

**FROM:** Patricia Davis, M.S.C.E., P.E.  
City Engineer

**SUBJECT:** Discuss and consider a recommendation to the City Council by the Planning & Zoning regarding the FY 20 - FY 24 Capital Improvement Plan

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As required by the City Charter, the Planning and Zoning (P&Z) Commission annually reviews and submits a **5-year Capital Improvement Plan** to the City Council and City Manager at least 120 days before the beginning of the budget year that starts in October. Projects were prioritized by staff and programmed with a recommended year of construction as per charter requirements.

This document is respectfully submitted by staff to the Planning and Zoning Commission for consideration and approval.

Capital Improvement Projects are large projects that enhance or expand the infrastructure of the City. These projects typically take more than one year to develop and complete and are frequently paid for with bond proceeds and the utility fund.

The Capital Improvement Plan is a multi-year plan covering five years that forecasts spending for all anticipated capital projects. The plan addresses both repair and replacement of existing infrastructure as well as the development or acquisition of new facilities, property, improvements and capital equipment to accommodate future growth. As a planning tool, it enables the City to identify needed capital projects and coordinate facility financing, construction, operation and scheduling.

### **City Charter Requirement**

The City's Charter requires the Planning and Zoning (P&Z) Commission to submit a 5-year Capital Improvement Plan to the City Council and City Manager at least 120 days before the beginning of the budget year that starts in October. The plan must include a prioritized list of projects that are programmed with a recommended year of construction.

### **Project Funding**

Funding plays an integral role in how capital projects are prioritized. There are several different funding sources for capital improvement projects including but not limited to the following:

- Certificates of Obligation (CO) - a bond secured by property tax that does not require voter approval.
- General Obligation (GO) - a bond can be acquired only after the approval of the voters as the debt service is typically added to the tax rate for projects such as streets, municipal facilities, and park improvements.
- General Fund (GF) - the largest fund within the City, the GF accounts for most of the City's financial resources. General Fund revenues include property taxes, licenses and permits, local taxes, service charges, and other types of revenue. This fund usually includes most of the basic operating services, such as police, parks and recreation, streets, and general administration.
- Utility Fund (UF) – the UF funds projects from the sale of water and wastewater services, utility impact fees and the issuance of bonds.
- Developer-Funded – projects may be funded as part of a development or performance agreement and through capital impact fees for new development. Developer-funded projects may or may not be managed by City staff.
- Tax Increment Reinvestment Zone (TIRZ) –a municipality makes an area eligible for tax increment financing by designating reinvestment zone, also called a tax increment reinvestment zone (TIRZ) or a tax increment financing (TIF) zone.
- Community Development Block Grant (CDBG) – provides annual grants on a formula basis to entitled cities and counties to develop viable urban communities by providing decent housing and suitable living environment, and by expanding economic opportunities, principally for low-and moderate – income persons
- Capital Area Metropolitan Organization (CAMPO) - the Metropolitan Planning Organization (MPO) for Bastrop, Burnet, Caldwell, Hays, Travis, and Williamson Counties. MPOs are federally required throughout the country in areas with a population of 50,000 or more and are required to produce a 20+ year transportation plan, called a Regional Transportation Plan (RTP), and a four-year planning document called the Transportation Improvement Program (TIP)
- Clean Water State Revolving Fund (CWSRF) – a program that is authorized by the Clean Water Act as a federal-state partnership that provides communities a permanent, independent source of low-cost financing for a wide range of water quality infrastructure projects for planning, acquisition, design, and construction of wastewater, reuse, and stormwater infrastructure.



- EDAP - The Economically Distressed Areas Program (EDAP) provides financial assistance for projects serving economically distressed areas where water or sewer services do not exist, or systems do not meet minimum state standards.
- Public Improvement District (PID) – an area established to provide specific types of improvements or maintenance within the area which are finance by assessment against the property owners within the area
- Private Public Partnership (P3) – a Public-private partnerships involve collaboration between a government agency and a private-sector company that can be used to finance, build, and operate projects, such as public transportation networks, parks, and convention centers.

Currently, the City uses CO and GO bonds to fund roadway, drainage, sidewalk and park projects. Smaller projects may even be funded out of the GF or UF if the project is a high priority to the citizens and City Council. Other funding sources for projects may also come from Federal Aid such as TxDOT. In November 2018, voters approved \$21.5 million in bonds for roadway improvements. Utility projects are typically funded by the Utility Fund, capital recovery fees (impact fees from new development) and Utility COs are funded through bonds.

City staff is currently in the process of completing master plans for transportation, water and wastewater. The plans are expected to be complete in late 2019.

**Staff Recommendation**

Staff recommends the development of a program for the listed roadway projects using GO bonds, COs, grant funding, economic development agreements and other funding sources. City staff have listed the roadway projects by priority based on anticipated development times for plans, utility adjustments and right of way acquisition.

**Transportation/Roadway/Streets Projects**

A safe and efficient arterial roadway system is essential to support economic development within the SH 130 corridor as well as other parts of the City. By providing the necessary connections to the City’s commercial and single-family developments, the City will continue to grow and flourish as accessibility and public infrastructure improves.

As this development occurs, public schools will also need to expand and construct new schools to serve community needs.

The FY 2020 –FY 2024 five-year Capital Improvement Plan will be presented to the City Council on May 14, 2019 and again at the June 11, 2019 City Council meeting. The five-year Capital Improvement Plan is included in the tables below.

**Table 1 – Funded Transportation Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/ Construct
Pfennig Lane Widening and Roadway Improvements	Construct a three-lane roadway section that includes a two-way central left turn lane, curb and gutter and curve modifications	GO	\$2.8M	2015/2019
Old Austin-Hutto Road	Reconstruct and widen Old Austin-Hutto Road to an urban three-lane section with curb and gutter, storm drain and eliminate low water crossing	GO	\$3.70M	2015/2019

**Table 1 – Funded Transportation Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Colorado Sand Drive	Construct the middle section of Colorado Sand Drive to a four-lane urban divided section with water and wastewater service improvements	Developer/GO	\$3.95M	2019/2020
Kelly Lane Phase 2	Reconstruct and widen Kelly Lane to an urban four-lane divided section from W. Falcon Pointe Drive to Moorlynch Avenue	GO/TIA	\$7.23M	2019/2020
E. Pflugerville Parkway Extension	Extend Pflugerville Pkwy east of Weiss Lane to create continuous arterial route along today's Jesse Bohls Drive  <b>*Negotiating ILA with Travis County, limits are subject to change</b>	GO	\$4.64M	2021/2022  <b>*Year of Construction pending CAMPO funding</b>
FM 685/Copper Mine Drive Overpass Improvements	Median reconstruction and lane use changes to unbalance bridge for dedicated dual left-turn lanes for northbound FM 685 traffic	GF/CO	\$413K	2019/2020
NB FM 685 and Kelly Lane Intersection Improvements	Northbound Left-turn and U-turn Lane Improvements at Northbound Frontage Road at Kelly Lane	GF/CO	\$827K	2019/2020
SB FM 685 and Kelly Lane Intersection Improvements	Southbound Left-turn and Right-turn Lane Improvements at Southbound Frontage Road at Kelly Lane	GF/CO	\$674K	2019/2020
Town Center Drive Improvements Preliminary Engineering	Preliminary engineering for various median and widening improvements from FM 685 to Limestone Commercial Drive including access management, signage and striping, and possible signalization	TIA	\$100K	2019/TBD
E. Pecan Street at Biltmore Avenue Intersection Improvements	Install traffic signal at E. Pecan Street and Biltmore Avenue intersection and install median improvements from Sun Light Near Way to SH130 Southbound Frontage Road for access control	TIA/CO/GF	\$615K	2019/2019
E. Pecan Street Turn Lane Improvements at FM 685	Eastbound and westbound Left-turn capacity improvements on E. Pecan Street including median extension and reconstruction east of FM 685 and lane marking adjustments west of FM 685	GF/CO	\$260K	2019/2020
Pecan Street at Heatherwilde Blvd Intersection Improvements	Install Left-turn lanes on northbound and southbound Heatherwilde Boulevard at Pecan Street	CO	\$363K	2019/2020



**Table 1 – Funded Transportation Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Rowe Lane at FM 685 Northbound Frontage Road	Install right-turn deceleration and acceleration lanes on SH 130 northbound frontage road created by widening frontage road to the inside for approximately 500' either side of Rowe Lane intersection	CO	\$281K	2019/2020
<b>Russell Street, Caldwell's Lane, Lincoln Avenue, Grant and Taylor</b>	<b>Infrastructure improvements (Roadway, lighting, sidewalks)</b>	<b>GF</b>	<b>\$3.91M</b>	<b>2020/2021</b>
Pfluger Farm Lane North	Extend an urban three-lane roadway north of Town Center Drive to SH 45	CO	\$625K	2020/TBD
Kelly Lane Phase 3 Design	Widen Kelly Lane to an urban four-lane divided section from Moorlyncn Ave to Weiss Lane	CO	\$820K	2019/TBD
Picadilly Drive Design	Reconstruct and widen Picadilly Drive to an urban four-lane section from Central Commerce to the city limits	CO	404K	2019/TBD
Central Commerce Drive Design	Reconstruct and widen Central Commerce Drive from Royston Lane to Picadilly Drive to an urban three-lane roadway	CO	\$413K	2019/TBD
Royston Lane Design	Reconstruct and widen Royston Lane to a three-lane roadway from Central Commerce Drive to Grand Avenue Parkway including a storm sewer improvements	CO	\$506K	2019/TBD
Melber Lane Design	Construct two lanes from Cameron Road through 1849 Park property	CO	\$360K	2019/TBD
Immanuel Road Design and ROW	Reconstruct and widen Immanuel Road to an urban three-lane section with storm sewer, pedestrian and landscaping improvements from E. Pecan Street to Pigeon Forge Road (bridge replacement not in project scope)	CO	\$855K	2021/TBD
Schultz Lane Design and ROW	Reconstruct and widen Schultz Lane from 300' north of Springbrook Road to City Limits to an urban four-lane roadway	CO	\$470K	2021/TBD
Wilke Ridge Lane Design and ROW	Reconstruct and widen Wilke Ridge Lane from W Pflugerville Parkway to N Heatherwilde Boulevard to a three-lane urban section	CO	\$400K	2021/TBD
	<b>Total</b>		<b>\$34.58M</b>	



**Table 2 – Funded Transportation Planning and Analysis**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Master Transportation Plan	With emphases on traffic analysis at FM685/Town Center Drive/SH 130/Kelly Lane and SH 130 from E. Pecan Street to Cameron Road	GF	\$350K	2019/2020
SH 45 Frontage Road	Toll and Revenue Study for frontage road gaps west of Heatherwilde Blvd.	CO	\$500K	2018/TBD
<b>Total Transportation Planning and Analysis</b>			<b>\$850K</b>	

**Table 3 – Unfunded Transportation Planning and Analysis**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
FM 685 at Kelly Lane Preliminary Engineering Study	Concept Schematic for future Kelly Ln Displaced Left-turns and/or Divergent Diamond Interchange	TIA	\$350K	FY 2019
FM 685 Study	Corridor Study through City Limits	TIA	\$350K	FY 2019
Rowe Lane Overpass Preliminary Engineering Study	Concept Schematic for future multi-lane overpass at SH 130	TIA	\$250K	FY 2020
Rowe Lane Study	Corridor Study from Heatherwilde Boulevard to Eastern City Limits	TIA	\$250K	FY 2020
East Pecan Street Study	Corridor Study from SH 130 to Fuchs Grove	TIA	\$250K	FY 2020
Cele Road Study	Corridor Study from Weiss Lane to Melber Lane	TIA	\$250K	FY 2021
Transportation Master Plan	With emphases on traffic analysis at FM685/Town Center Drive/SH 130/Kelly Lane and SH 130 from E. Pecan Street to Cameron Road	TIA	\$350K	FY2019
<b>Main Street Alignment Study and Preliminary Design Schematic</b>	<b>Railroad Avenue to FM 685 – Alignment Study and Preliminary Design Schematic including public involvement and environmental.</b>	<b>GF</b>	<b>\$200K</b>	<b>FY2020</b>
<b>Pecan Street Downtown Transportation Study</b>	<b>Traffic Study from 10<sup>th</sup> to FM 685 to include vehicular and pedestrian mobility and accessibility, north along Main Street and south along Hall Street.</b>	<b>GF/CO</b>	<b>\$225K</b>	<b>FY2020</b>
<b>Total Transportation Planning and Analysis</b>			<b>\$2.48M</b>	



**Table 4 – Unfunded Transportation Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Town Center Drive Improvements Construction	Various median and widening improvements from FM 685 to Limestone Commercial Drive including access management, signage and striping, and possible signalization	TIA/CO/GO	\$1M	2019/TBD
Pfluger Farm Lane North Construction	Extend an urban three-lane roadway north of Town Center Drive to SH 45; <b>reconstruct intersection at Town Center as roundabout in lieu of traffic signal.</b>  <b>*Cost participation agreement pending with Developer and City</b>	Developer/GO	<b>\$3.34M</b>	2020/2020
Kelly Lane Phase 3 Construction	Reconstruct and widen Kelly Lane to an urban four-lane divided section from Moorlynch Ave to Weiss Lane	GO/TIA	\$9.42M	2020/TBD
Picadilly Drive Construction	Reconstruct and widen Picadilly Drive to an urban four-lane section from Central Commerce to the city limits	CO/GO	\$2.86M	2019/TBD
Central Commerce Drive Construction	Reconstruct and widen Central Commerce Drive from Royston Lane to Picadilly Drive to an urban three-lane roadway	CO/GO	\$2.93M	2019/TBD
Royston Lane Construction	Reconstruct and widen Royston Lane to a three-lane roadway from Central Commerce Drive to Grand Avenue Parkway including a storm sewer improvements	CO/GO	\$3.59M	2019/TBD
Melber Lane Construction	Construct two lanes from Cameron Road through 1849 Park property	CO/ Developer/ GO	\$3.18M	2019/TBD
Immanuel Road Construction	Reconstruct and widen Immanuel Road to an urban three-lane section with storm sewer, pedestrian and landscaping improvements from E. Pecan Street to Pigeon Forge Road	CO/ TBD	\$3.61M	2021/TBD
Schultz Lane Construction	Reconstruct and widen Schultz Lane from 300' north of Springbrook Road to City Limits to an urban four-lane roadway	CO/	\$2.39M	2021/TBD
Wilke Ridge Lane Construction	Reconstruct and widen Wilke Ridge Lane from W Pflugerville Parkway to N Heatherwilde Boulevard to a three-lane urban section	CO/GO	\$2.13M	2022/TBD
Pecan Street Widening	Construct a four lane road with a median on East Pecan from Sun Light Near Way to FM 973	CAMPO/ Travis County/GO/ CO	\$30.25M	2021/2023
Kenney Fort Boulevard	Reconstruct and widen Meister Lane from New Meister to SH 45 to an urban four-lane roadway	Developer/GO	\$8.99M	2022/2023

**Table 4 – Unfunded Transportation Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Picadilly Drive	Reconstruct pavement and sidewalk on Picadilly Drive from the City Limits to Grand Avenue Parkway	GF/GO/CO	\$1.5M	2020/2021
East Pflugerville Parkway	Construct two new west-bound lanes on East Pflugerville Parkway from Becker Farm Road to Weiss Lane	CO/GO	\$5M	2022/2023
<b>East. Main St.</b>	<b>Design and Construct extension of Main St. from Railroad to FM 685</b>	<b>GF/GO/CO/ Developer</b>	<b>\$4.1M</b>	<b>2021/2022</b>
<b>Total</b>			<b>\$84.29M</b>	

**Table 5 – Unfunded Traffic Signal Improvements**

Project Name	Project Description	Potential Funding Source	Total Cost Estimate	Design/Construct
TxDOT Traffic Signal Take Over	City improvements to the existing system	TxDOT/ Federal Grants/GF	\$75K	2019/2021 *after 2020 Census
Traffic Signal Installation and Improvements	Install four traffic signals	TBD/TIA	\$1.0M	TBD
<b>Total Traffic Signal Improvements (Unfunded)</b>			<b>\$1.1M</b>	

The proposed transportation projects referenced in the proposed 5-YR CIP total approximately **\$123.27M**. It is important to note that there is currently no funding available or allocated toward the unfunded portions of the CIP totaling **\$84.29M**.



**Facility Projects**

The City of Pflugerville has experienced tremendous growth over the past decade, and that growth is anticipated to continue well beyond the next decade. The current needs of the growing community have surpassed the size of the City’s current aging facilities.

The City is currently working on a City Hall Needs Assessment which documents a deficit of approximately 20,000 sf of space based on current needs and staffing. The Assessment also projects the need for a 63,000 sf building with a future population of 160,000.

The Police Department also completed a Justice Center Expansion Facility Needs Assessment in 2017. The Needs Assessment documented the needs of the Department through 2035 and proposed several additions including a new Municipal Courts Building, new Communications and Training Center, CID expansion, Property and Evidence expansion, Long Term Holding expansion, HVAC Replacement, and additional parking areas. The total additional areas proposed equate to approximately 50,000 sf of added space and improvements.

**Table 6 – Facilities**

Project Name	Project Description	Potential Funding Source	Total Cost Estimate	Design/Construct
Downtown City Hall Land Acquisition, if necessary	Purchase land / preliminary design to accommodate City Hall Complex	TBD	\$1M	<b>2020</b>
Downtown City Hall Needs Assessment Implementation	<b>Design and Construct</b> a new 63,000 sf City Hall Complex	TBD	\$33M	<b>2020/2021</b>
Public Works Master Plan	Develop a Public Works Facility Master Plan	Utility Fund	\$50K	TBD
Parks Master Plan including operational facilities	Develop a Parks Facility Master Plan	TBD	\$100K	TBD
Justice Center Expansion	Expand existing justice center to a 50,000 sf facility	TBD	\$37M	TBD
	<b>Total Facilities</b>		<b>\$71.15M</b>	

## Water and Wastewater Utility Projects

Master planning is important to provide guidance and planning for future efforts. In 2013, the City Council adopted water and wastewater master plans prepared by Lockwood, Andrew and Newnam. These plans included 5-year and 10-year capital improvement projects to support the City's future growth. City staff have used the overall plan to provide a roadmap for programming of water and wastewater infrastructure in the proposed 2010-2024 capital improvement plan. An update to the Water Master Plan is currently underway and it is anticipated that City Council will adopt the updated plan in 2019.

### Efforts that Affect the Master Plan

The City previously entered into an agreement with the Manville Water Supply Corporation (MWSC) that released the MWSC's obligation to provide service to the old North Travis County MUD No. 5 (NTCMUD #5) and their ability to require impact fees within the NTCMUD #5 geographical boundary. This agreement also required the City to purchase 685,000 gallons of water per day from the MWSC at a designated location, for the remainder of the term of the agreement (expiring in September 2036) for the NTCMUD #5 District. Therefore, in order for the City to serve the customers directly within the NTCMUD #5, the City was required to construct water utility projects to service the former NTCMUD #5 area.

### Water

Currently, the City's water is supplied by surface and groundwater/well sources. Lake Pflugerville is the source of surface water, which is permitted through the Lower Colorado River Authority (LCRA); and the City is under contract to purchase and transport water from the LCRA to Lake Pflugerville.

The water treatment plant (WTP) has a rated capacity of 21.6 million gallons per day (MGD), and production currently totals an average of approximately 6.2 MGD. Two wells draw water directly from the Edwards Aquifer and can produce up to 2.1MGD.

In addition, there are three water service providers within the City limits (City, MWSC and Windermere/SW Water). Windermere/Southwest Water and MWSC have interconnections with the City's system.

The City is a wholesale customer of the MWSC and a wholesale provider to MWSC and Windermere Utility Corporation.

To plan for the City's future needs, water utility projects were classified into four categories in the master plan.

1. System Strength and Reliability
2. Storage
3. Distribution
4. Miscellaneous System Improvements



This table below denotes recommendation from City staff for water utility projects for the 5-year CIP and includes a proposed timeframe for design and construction.

Table 7 – Water Utility Projects				
Project Name	Project Description	Funding Source	Total Cost Estimate	Design/ Construct
<b>System Strength and Reliability</b>				
Pump Station at Water Treatment Plant	Build pump station at Water Treatment Plant to Support the 800' Pressure Plane	Utility Fund	\$2,652,250	2021/2022
River Intake Relocation	Relocate 150 feet of Intake Piping to a Deeper location in the Colorado River for Increased Intake Capacity	Utility Fund	\$1,443,610	2023/2024
	<b>Total</b>		<b>\$4,095,860</b>	
<b>Storage</b>				
Elevated Storage Tank for 800' Pressure Plane	Construct an Elevated Storage to serve customers in the 800' Pressure Plane	Utility Fund	\$5,304,500	2021/2022
	<b>Total</b>		<b>\$5,304,500</b>	
<b>Distribution</b>				
West SH 45 Water Extension and Interconnect	Bore 900 Linear Feet of 16" Water Line Under SH 45 to provide water service to properties north and east of SH 45 and SH 130	Utility Fund	\$899,602	2019/2020
South Weiss Transmission Main from Pleasanton Parkway to SH 130	Install a 24-inch transmission main along Weiss Lane from the Pleasanton Parkway to E. Pecan Street and a 16-inch main along Pecan to SH 130	Utility Fund	\$3,765,680	2019/2020
Oxford Transmission Main Extension	Install 16-inch transmission main extension bore from Dessau Road to Oxford Drive	Utility Fund	\$706,580	2021/2022
	<b>Total</b>		<b>\$5,371,862</b>	
<b>Miscellaneous System Improvements</b>				
Water Master Plan Update	Perform Strategic Planning Efforts to update the Water Master Plan	Utility Fund	\$200,000	2019
Manville Water Line (MUD 5 Agreement)	Reimbursement to Manville for installation of 12" Water Line per NTCMUD #5 agreement	Utility Fund	\$1,000,000	2019
Impact Fee and CIP Update	Perform Strategic Planning Efforts to Update the Impact Fees and CIP	Utility Fund	\$140,000	2019
Pecan Street/ Parkway Drive Interconnect	Bore a 12" interconnection under Pecan Street for connection to system acquired from Austin	Utility Fund	\$401,700	2020/2021

**Table 7 – Water Utility Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Porchester Castle Path /Stone Hill Pressure Plane Interconnection	Install two PRVs needed to interconnect the 950-ft & 888-ft pressure plane	Utility Fund	\$58,710	2021/2022
Wells Branch Loop	Install 16-inch main extension from 10th Street to Settlers Valley Drive	Utility Fund	\$489,250	2021/2022
Water Master Plan Update	Perform Strategic Planning Efforts to update the Water Master Plan	Utility Fund	\$230,000	2024
Impact Fee Update	Perform Strategic Planning Efforts to Update the Impact Fees and CIP	Utility Fund	\$165,000	2024
<b>Total</b>			<b>\$2,684,660</b>	
<b>Total Water</b>			<b>\$17,456,882</b>	

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## Wastewater

The City has experienced tremendous growth over the past decade, and that growth is anticipated to continue well beyond the next decade.

During the development of the Water Master Plan and impact fees in 2012-13, the City determined that an updated Wastewater Master Plan was also necessary to accurately depict the City's future wastewater infrastructure needs to satisfy the growth. The previous 2008 Wastewater Master Plan was developed considering three service areas: Cottonwood Creek, Wilbarger, and Central. The City treats its wastewater at the existing Central Wastewater Treatment Plant (WWTP) located in the Gilleland Creek natural drainage basin. The 2008 master plan capped the flow to the Central WWTP at 5.3 million gallons per day (MGD), based on full build-out flow analysis of the future service area for the Central WWTP, and recommended the construction of a new wastewater plant in the Wilbarger basin.

Lockwood, Andrew and Newnam (LAN) was contracted by the City to update the City's wastewater master plan and capital improvements plan in July 2012. The study included an analysis of the City's existing system and a determination of the City's future development and wastewater treatment needs. The master plan developed by LAN utilized the concept of diverting more flow to the existing WWTP in the Central Service area and increasing its capacity to further defer the expense of a new plant and associated interceptors. The master plan assumed that by completing the expansion of the Central WWTP to 6.9 million gallons per day (MGD) by fiscal year 2019, the construction of another regional wastewater treatment facility to serve the Wilbarger and the Cottonwood watershed basins could be deferred beyond the 5-year utility CIP.

After increasing the permitted capacity of the Central WWTP from 4.4 to 5.3 MGD in late 2016, it was determined that the facility could not achieve the final permit phase capacity of 5.85 MGD without making improvements. After completing the design planning for the West SH 130 Interceptor Phase I and II project, it was determined that the build-out capacity of the Central WWTP should be increased from 9 to 10 MGD and, because the plant had exceeded 75% of the permitted flow several times between 2013 to 2017, design of the expansion to 10 MGD should be started as soon as possible in order to ensure compliance with TCEQ requirements. In April of 2017, Freese and Nichols began the study phase of the 10 MGD expansion and, after completing the study, recommended the expansion be designed and constructed in three phases. The design of Phase I of the expansion project, which will upgrade the wet capacity of the plant to 7.25 MGD, was started in March of 2018 and construction is scheduled to start in summer 2019. Phase II of the project, scheduled to begin design in 2020 after construction of Phase I is complete, will complete the upgrade to 10 MGD. Phase III of the project, anticipated to be constructed in 2026, will complete the upgrade by increasing the plant's sludge processing capacity to 10 MGD.

The final design and construction of another regional wastewater treatment facility up to 25 MGD east of SH 130 and corresponding wastewater interceptor lines will be needed in the future but may be deferred until such time the City reaches 75% of the expanded 10 MGD capacity at the Central WWTP or other significant system components such as the Weiss Lane Lift Station and force main reach capacity.

The 2013 Wastewater Master Plan serves as a tool to be used by the City in ensuring that its wastewater system develops in a systematic and prioritized manner. An update to the wastewater master plan is currently underway and it is anticipated that City Council will adopt the updated plan in late 2019.

To plan for the City's future needs, the following core principles guide the development of projects:

- Capacity expansion
- Removal of lift stations from collection system, and
- Development-driven improvements



Please refer to the table below for the recommended wastewater utility projects and the proposed years of design and construction.

<b>Table 8 – Wastewater Utility Projects</b>				
Project Name	Project Description	Funding Source	Total Cost Estimate	Design/ Construct
<b>Capacity Expansion</b>				
Central WWTP Expansion Phase 1	Construct new components of 10 MGD plant	Utility Fund	\$48,216,360	2017/2019
New Sweden Package Treatment Plant	Install a 0.475 MGD package treatment plant	Utility Fund	\$13,674,280	TBD
Central WWTP Expansion Phase 2	Rehabilitate and convert existing portions of plant	Utility Fund	\$11,171,380	2020/2021
	<b>Total</b>		<b>\$73,062,020</b>	
<b>Lift Station Removal</b>				
Decommission Pfluger Lane (Pflugerville Parkway) Lift Station	Removal of existing lift station	Utility Fund	\$185,400	2020/2021
Decommission Highland Park Lift Station	Removal of existing lift station	Utility Fund	\$185,400	2020/2021
	<b>Total</b>		<b>\$370,800</b>	
<b>Development-Driven Improvements</b>				
Wastewater Master Plan Update	Perform Strategic Planning Efforts to update the Wastewater Master Plan	Utility Fund	\$180,000	2018/2019
SH 45/SH 130 Tunnels and Connector	Extend Service Area to the North of SH 45	Utility Fund	\$2,970,520	2019/2020
West SH 130 Interceptor Phase 1 & 2	Install wastewater interceptor from wastewater treatment plant to the northwest corner of Pflugerville Parkway and FM 685	Utility Fund	\$16,480,000	2019/2020
Impact Fee and CIP Update	Perform Strategic Planning Efforts to Update the Impact Fees and CIP	Utility Fund	\$1,000	2019/2019



**Table 8 – Wastewater Utility Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/ Construct
Carmel Force Main Extension	Extend 24" Force Main from Weiss Lane to SH 130 Interceptor	Utility Fund	\$1,957,000	2020/2021
Weiss Lane Lift Station Capacity Upgrade	Evaluate Lift Station and construct upgrades	Utility Fund	\$309,000	2019/2020
Sorento Interceptor Phase 2	Extend 33" Wastewater Main from Jesse Bohls to Weiss Lane	Utility Fund	\$3,749,200	2020/2021
Highland Park & Pfluger Lane Interceptor Upsize	Replace existing gravity interceptor with 36-inch capacity to convey wastewater to the SH 130 interceptor	Utility Fund	\$448,050	2020/2021
Highland Park & Pfluger Lane Interconnector Phase 2	Install a 24-inch gravity interceptor to convey wastewater from Highland Park lift station	Utility Fund	\$747,780	2020/2021
New Sweden/ Cottonwood Interceptor Phase 1	Construct a 27" gravity sewer main from New Sweden WWTP property to Melber Lane north of Cele Road	Utility Fund	\$5,665,000	2019/2021
Lakeside Wastewater Interceptor Phase 1	Install a 18" Collection and Transmission Line	Utility Fund	\$914,640	2020/2021
Lakeside Wastewater Interceptor Phase 2	Install a 18" Collection and Transmission Line	Utility Fund	\$616,970	2021/2022
Wastewater Master Plan Update	Perform Strategic Planning Efforts to update the Wastewater Master Plan	Utility Fund	\$215,000	2023
Impact Fee Update	Perform Strategic Planning Efforts to Update the Impact Fees and CIP	Utility Fund	\$165,000	2023
	<b>Total</b>		<b>\$34,419,160</b>	
	<b>Total Wastewater</b>		<b>\$107,851,980</b>	

The proposed water and wastewater utility projects referenced in the proposed 5-YR CIP total approximately \$07,851,980.00. It is important to note that the construction of the utility projects will require additional funding aside from Utility Fund Balance and impact fees. The City will need to issue CO bonds for the construction of these projects.

Reclaimed Water (Reuse)

In early 2015, the City completed a Reclaimed Water Master Plan. This Master Plan illustrates the improvements and phasing necessary to provide reclaimed water for portions of the City. Examples of large users are cooling towers, large scale irrigation and manufacturing. The source of the reclaimed water is the City’s wastewater treatment plant. Table 9 below illustrates the initial projects that would be implemented.

**Table 9 – Reclaimed Water Projects**

Project Name	Project Description	Total Cost Estimate	Design/Construct
Reclaimed Water Pumping and Storage	Construct pumps and storage for system and one million gallon storage	\$5,634,100	2020/2021
Segment 1 Distribution Line	Construct a 20” re-use main from WWTP to SH 130	\$2,325,740	2020/2021
Segment 2 Distribution Line	Construct a 16”/12” re-use main to East Cameron Road	\$2,312,350	2020/2021
<b>Total Reclaimed Water</b>		<b>\$10,272,190</b>	

