Exhibit A

ARTICLE II. - WATER AND WASTEWATER IMPACT FEES

DIVISION 1. - GENERALLY

Sec. 130-19. - Short title.

This article shall be known and cited as the McKinney Utility Impact Fees article.

Sec. 130-20. - Purpose.

This article is intended to ensure the provision of adequate public facilities to serve new development in the city by requiring each development to pay its share of the costs of such improvements necessitated by and attributable to such new development.

Sec. 130-21. - Authority.

This article is adopted pursuant to Texas Local Government Code ch. 395 and the City Charter. The provisions of this article shall not be construed to limit the power of the city to utilize other methods authorized under Texas law or pursuant to other city powers to accomplish the purposes set forth herein, either in substitution or in conjunction with this article. Guidelines may be developed by ordinance, resolution, or otherwise to implement and administer this article.

Sec. 130-22. - Definitions.

The following terms when used in any provision of this article shall have the meanings attributed to them in this section:

Assessment means the determination of the amount of the maximum impact fee per service unit which can be imposed on new development pursuant to this article. The amount of the impact fee per service unit is a measure of the impact on system facilities created by the new development.

Capital improvement means either a water facility or a wastewater facility with a life expectancy of three or more years, to be owned and operated by or on behalf of the city. Capital improvement applies to a newly constructed water or wastewater facility or to the expansion of an existing water or wastewater facility necessary to serve new development.

Capital improvements advisory committee means the city's planning and zoning commission. If no member of the planning and zoning commission is a representative of the real estate, development, or building industry, and not an employee or official of a political subdivision or governmental entity, the City Council shall appoint at least one such representative as an ad hoc voting member of the planning and zoning commission when it acts as the capital improvements advisory committee. In addition, the City Council shall also appoint at least one representative from the extraterritorial jurisdiction of the City as an ad hoc voting member of the planning and zoning commission when it acts as the capital improvements advisory committee.

City means the City of McKinney, Texas.

Credit means:

(1) When used in the context of determining the maximum assessable impact fee per service unit, an amount equal to:

   a. That portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or

   b. In the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan; or

(2) When used in the context of determining the offset for system facilities, the amount of the reduction of an impact fee designed to fairly reflect the value of any construction of, contributions to, or dedications of a system facility agreed to or required by the city as a condition of development approval, pursuant to rules herein established or pursuant to city council-approved administrative guidelines which value shall be credited against water and wastewater facilities impact fees otherwise due from the development and which credits are hereinafter referred to as an "offset" or "offsets" to avoid confusion.

Facilities expansion means either a water facility expansion or a wastewater facility expansion.

Final plat approval or *approval of a final plat* means the point at which the applicant has complied with all conditions of approval and the plat (minor plat or record plat) has been released for filing with the county.

Final plat recordation or *recordation of a final plat* means the point at which the applicant has complied with all conditions precedent to recording an approved final plat (minor plat or record plat) in the county, including the final completion of and acceptance by the city of any infrastructure or other improvements required by the Subdivision Ordinance or the Unified Development Code or any other ordinance and the plat is filed for record with the county clerk's office.

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Impact fee or *utility impact fee* means a charge or assessment imposed by the city, pursuant to this article, against new development in order to generate revenue for funding or recouping the costs of capital improvements or facilities expansions necessitated by and attributable to such new development. “Impact fees” or “utility impact fees” do not include pro rata payments for site-related facilities imposed under facility agreements in existence on the effective date of this article; front-footage charges for site-related facilities imposed pursuant to facility agreements; or on-site (including perimeter) or off-site water or wastewater improvements required by applicable subdivisions or utility ordinances or the Unified Development Code of the city. The term also does not include dedication of rights-of-way or easements or construction or dedication of water distribution, or wastewater collection or drainage facilities if the dedication or construction is required by the Subdivision Ordinance or the Unified Development Code and is necessitated by and attributable to the new development.

Impact fee capital improvements plan or *capital improvements plans for utility impact fees* means the adopted capital improvements plan, attached to Ord. No. 2020-12-___ as exhibit 2, as it may be amended from time to time, which identifies the capital improvements or facility expansions and associated costs for each service area that are necessitated by and which are attributable to new development within the service area, for a period not to exceed ten years, which capital improvements are to be financed in whole or in part through the imposition of utility impact fees pursuant to this article. "Impact fee capital improvements plan" may refer either to the plan for a particular service area or to the aggregation of capital improvements or facilities expansions and the associated costs programmed for all service areas for a particular category of capital improvements or facilities expansions.

Land use assumptions means and includes a description of the service areas and the projections of population and employment growth and associated changes in land uses, densities and intensities adopted by the city, as may be amended from time to time, in the service area over a ten-year period upon which the impact fee capital improvements plans are based. The land use assumptions are set out in the most recently updated land use assumptions for utility impact fees adopted by resolution of the city council, and attached to Res. No. 2019-09-114 (R) as Exhibit 1.

New development means a project involving the subdivision of land and/or the construction, reconstruction, redevelopment, conversion, structural alteration, relocation, or enlargement of any structure, or any use or extension of the use of land any of which has the effect of increasing the requirements for capital improvements or facility expansions, measured by an increase in the number of service units to be generated by such activity, and which requires either the approval and filing with the county of a plat pursuant to the city's Subdivision Ordinance or Unified Development Code, the issuance of a building permit, or connection to the city's water or wastewater system.

Offset or *offsets* means the amount of the reduction of an impact fee designed to fairly reflect the value of any construction of, contributions to, or dedications of a system facility agreed to or required by the city as a condition of development approval, pursuant to rules herein established or pursuant to council-approved administrative guidelines, which value shall be credited against utility impact fees otherwise due from the development.

Recoup means to reimburse the city for capital improvements which the city has previously installed or caused to be installed.

Service area means either a water benefit area or wastewater benefit area within the city's corporate boundaries and/or its extraterritorial jurisdiction in which impact fees for capital improvements or facilities expansions will be collected for new development occurring within such area and within which area the fees so collected will be expended for the types of improvements or expansions identified in the impact fee capital improvements plan.

Service unit means the applicable standard unit of measure that serves as the standardized measure of consumption, use or generation attributable to the new unit of development. The service unit for water and wastewater is a ¾-inch water meter which is the typical water meter used for a single-family detached living unit and is commonly referred to as the single-family living unit equivalent (SFLUE). The number of service units used for water and wastewater by a particular land use is determined by the water meter size and water meter type employed by such land use.

Service unit equivalent means the amount of capacity created by contribution of a capital improvement on behalf of a new development.

Single family residential lot means a lot platted to accommodate a single family or a duplex dwelling unit, as authorized under the city's zoning regulations.

Site-related facility means an improvement or facility that is constructed for the primary use or benefit of a new development and/or which is for the primary purpose of safe and adequate provision of water or wastewater facilities to serve the new development, and which is not included in the impact fees capital improvements plan and for which the developer or property owner is solely responsible under the Subdivision Ordinance or the Unified Development Code, and any other applicable regulations. For water and wastewater facilities, a site-related facility shall include those lines that are less than or equal to 12 inches in diameter. Site-related facilities also include water and wastewater lines between two or more developments where pro-rata reimbursement agreements are required to equitably allocate costs. Site-related facility cost means either the cost of a site-related facility or that portion of the cost of a system facility equivalent to the first 12 inches in diameter of the size of a water or wastewater main, and which has not been included in the costs used to compute the maximum impact fee per service unit.

System facility means a capital improvement or facility expansion which is designated in the impact fee capital improvements plan and which is not a site-related facility. System facility may include a capital improvement which is located off-site, within, or on and along the perimeter of the new development site.

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For water and wastewater facilities, a system facility shall include the oversized portion of those lines that are greater than 12 inches in diameter and which serve solely new development and which are on the impact fee capital improvements plan or the comprehensive water or wastewater improvements plan.

Wastewater facility means an improvement for providing wastewater service, including but not limited to, land or easements, treatment facilities, lift stations, collector mains or interceptor mains. "Wastewater facility" excludes wastewater facilities, lines, or mains which are constructed by developers, the costs of which are reimbursed through pro-rata or other development-related agreements paid by subsequent users of the facilities. Wastewater facilities exclude site-related facilities.

Wastewater facility expansion means the expansion of the capacity of any existing wastewater improvement for the purpose of serving new development, but does not include the repair, maintenance, modernization, or expansion of an existing wastewater facility to serve existing development.

Wastewater improvements plan identifies the wastewater facilities or wastewater expansion and their associated costs that are necessitated by and which are attributable to new development, for a period not to exceed ten years, which capital improvements are to be financed in whole or in part through the imposition of wastewater impact fees pursuant to this article. The wastewater improvements plan is a part or component of the "Impact Fee Capital Improvements Plan or Capital Improvements Plans for Utility Impact Fees" ("Utility Improvements Plan") adopted by resolution of the city council, and attached to Ord. No. 2020-12-___ as Exhibit 2.

Water facility means an improvement for providing water service, including, but not limited to, land or easements, water treatment facilities, water supply facilities, or water distribution lines. "Water facility" excludes site-related water facilities, lines, or mains which are constructed by developers, the costs of which are reimbursed through pro-rata or other development related agreements paid by subsequent users of the facilities. "Water facility" excludes site-related facilities.

Water facility expansion means the expansion of the capacity of any existing water facility for the purpose of serving new development, but does not include the repair, maintenance, modernization, or expansion of an existing water facility to serve existing development.

Water improvements plan identifies the water facilities or water expansions and their associated costs that are necessitated by and which are attributable to new development, for a period not to exceed ten years, which capital improvements are to be financed in whole or in part through the imposition of water impact fees pursuant to this article. The water improvements plan is a part or component of the "Impact Fee Capital Improvements Plan or Capital Improvements Plans for Utility Impact Fees" ("Utility Improvements Plan") adopted by resolution of the city council, and attached to Ord. No. 2020-12-___ as Exhibit 2.

Water meter means a device for measuring the flow of water to a development, whether for domestic or for irrigation purposes.

Water meter size ("meter size") combined with *water meter type* ("meter type") provide the expression of the magnitude of the water and wastewater demand created by each land use planned within a particular development based on the use of the ¾-inch water meter as the basic service unit. Other water meter sizes and types are compared to the ¾-inch water meter through a ratio of water flows. This same ratio is then used to determine the proportional impact fee amount for each meter size and meter type, where distinguished, as reflected on schedule 1 and schedule 2 attached to Ord. No. 2020-12-___ and incorporated herein by reference.

Sec. 130-23. - Applicability.

The provisions of this article concerning water and wastewater impact fees apply to all new development within the corporate boundaries of the city and within its extraterritorial jurisdiction. The provisions of this article apply uniformly within each service area.

Sec. 130-24. - Impact fee as condition of development approval.

No application for new development shall be approved within the city without assessment of an impact fee pursuant to this article, and no building permit shall be issued unless the applicant has paid the impact fee imposed by and calculated hereinunder.

Sec. 130-25. - Land use assumptions.

(a) The land use assumptions for utility impact fees for the city are attached to Ord. No. 2020-12-___ as exhibit 1 and are incorporated herein by reference.

(b) The land use assumptions for utility impact fees for the city shall be updated at least every five-years, utilizing the amendment procedure set forth in section 130-34.

(c) Amendments to the land use assumptions for utility impact fees shall incorporate projections of changes in land uses, densities, intensities and population therein over at least a ten-year period.

Sec. 130-26. - Impact fees per service unit.

(a) The maximum impact fee per service unit (pre-credit) and the maximum assessable impact fee per service unit (post-credit) for wastewater and water facilities shall be as set forth for each meter size and meter type where meter type is distinguished in:

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(1) Schedule 1, table A, if the date of final plat recording is prior to September 1, 2003 and replatting is not necessary;

(2) Schedule 1, table B, if the date of final plat recording is on or after September 1, 2003 through and including November 9, 2008 and replatting is not necessary;

(3) Schedule 1, table C, if the date of final plat recording is on or after November 10, 2008 through and including November 19, 2013 and replatting is not necessary;

(4) Schedule 1, table D, if the date of final plat recording or replat recording is on or after November 20, 2013 through and including November 30, 2020 and replatting is not necessary; or

(5) Schedule 1, table E, if the date of final plat recording or replat recording is on or after December 1, 2020.

Schedule 1, tables A through E (sometimes hereinafter referred to collectively as "schedule 1") are attached to Ord. No. 2020-12-___ and are hereby incorporated into and made a part of this article by reference. Schedule 1 may be amended from time to time by ordinance.

(b) The maximum impact fee per service unit (post-credit) set forth in schedule 1 that is assessed to new development, as may be amended from time to time, is declared to be the roughly proportionate measure of the impact(s) generated by a new unit of development on the city's Wastewater Facilities and Water Facilities systems. To the extent that the impact fee per service unit collected is less than the maximum assessable impact fee per service unit, such difference is hereby declared to be founded on policies unrelated to the measurement of the actual impacts of the development on the city's Wastewater Facilities and Water Facilities systems. The maximum assessable impact fee per service unit may be used in evaluating any claim by an applicant, developer, or property owner that the dedication, construction, or contribution of a capital improvement imposed as a condition of development approval pursuant to the city's regulations is not roughly proportionate to the impact(s) of the new development on the city's Wastewater Facilities and Water Facilities systems.

Sec. 130-27. - Assessment of impact fees.

(a) Assessment of the impact fee per service unit for any new development shall be made as follows:

(1) For a new development (i) for which a final plat was recorded prior to September 1, 2003 and for which no replatting is necessary pursuant to the city's subdivision regulations or Unified Development Code prior to development or (ii) for which no plat is necessary pursuant to the city's zoning ordinance or Unified Development Code because the property in question is a lot of record, assessment of impact fees shall occur at the time application is made for the building permit, and shall be the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 1, table A, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size for each proposed development unit as set forth in schedule 1, table A.

(2) For a new development for which recordation of the final plat occurred on or after September 1, 2003 through and including November 9, 2008 and for which no replatting is necessary assessment of impact fees shall occur at the time of final plat recordation and shall be the amount of the maximum assessable (post-credit) impact fee per service unit (post-credit) as set forth in schedule 1, table B, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size for each proposed development unit as set forth in schedule 1, table B.

(3) For a new development for which recordation of the final plat occurred on or after November 10, 2008 through and including November 19, 2013, and for which no replatting is necessary, assessment of impact fees shall occur at the time of final plat recordation and shall not exceed the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 1, table C, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 1, table C.

(4) For a new development for which recordation of the final plat or replat occurred on or after November 20, 2013 through and including November 30, 2020, assessment of impact fees shall occur at the time of final plat recordation and shall not exceed the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 1, table D, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 1, table D.

(5) For a new development for which recordation of the final plat or replat occurred on or after December 1, 2020, assessment of impact fees shall occur at the time of final plat recordation and shall not exceed the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 1, table E, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 1, table E.

(6) For land on which new development occurs or is proposed to occur without platting or replatting, assessment of impact fees shall occur at the time application is made for the building permit, and shall be the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 1, table E, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 1, table E.

(b) Following assessment of the impact fee pursuant to subsection (a), the amount of the impact fee assessed per service unit for that development cannot be increased, unless the owner proposes to change the approved development by the submission of a new application for final plat approval or replat approval or proposes to increase the meter size or meter type for any use within that development, in which case new assessment shall occur at the maximum assessable schedule 1 rate then in effect.

(c) In the event that a development is evaluated by city staff, which results in a decrease in the number of service units, the city will credit the overall development, based on the reduction in the number of service units.

(d) Following the vacating of any plat or submittal of any replat, a new assessment must be made in accordance with section 130-26.

(e) Approval of an amended plat pursuant to Texas Local Government Code § 212.016, and the Subdivision Ordinance or the Unified Development Code is not subject to reassessment for an impact fee provided that the use of the property remains the same and no increase in the meter size or meter type for any use within that development is sought.

Sec. 130-28. - Payment and collection of impact fees.

(a) For all new developments, impact fees shall be collected at the time of application for and in conjunction with the issuance of a building permit or at the time of application for utility connection, whichever event occurs first. The impact fees to be paid and collected for each meter size and meter type are listed in schedule 2 attached to Ord. No. 2020-12-___, which Schedule 2 is incorporated herein by reference, for each meter size and meter type for each proposed development unit. More particularly, the utility impact fees will be collected as follows:

(1) For a new development (i) for which a final plat was recorded prior to September 1, 2003 and for which no replatting is necessary pursuant to the city's subdivision regulations or Unified Development Code prior to development or (ii) for which no plat is necessary pursuant to the city's zoning ordinance or Unified Development Code because the property in question is a lot of record, assessment of impact fees shall occur at the time application is made for the building permit, and shall be the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 2, table A, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size for each proposed development unit as set forth in schedule 2, table A.

(2) For a new development for which recordation of the final plat occurred on or after September 1, 2003 through and including November 9, 2008 and for which no replatting is necessary assessment of impact fees shall occur at the time of final plat recordation and shall be the amount of the maximum assessable (post-credit) impact fee per service unit (post-credit) as set forth in schedule 2, table B, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size for each proposed development unit as set forth in schedule 2, table B.

(3) For a new development for which recordation of the final plat occurred on or after November 10, 2008 through and including November 19, 2013, and for which no replatting is necessary, assessment of impact fees shall occur at the time of final plat recordation and shall not exceed the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 2, table C, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 2, table C.

(4) For a new development for which recordation of the final plat or replat occurred on or after November 20, 2013 through and including November 30, 2020, assessment of impact fees shall occur at the time of final plat recordation and shall not exceed the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 2, table D, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 2, table D.

(5) For a new development for which recordation of the final plat or replat occurred on or after December 1, 2020, assessment of impact fees shall occur at the time of final plat recordation and shall not exceed the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 2, table E, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 2, table E.

(6) For land on which new development occurs or is proposed to occur without platting or replatting, assessment of impact fees shall occur at the time application is made for the building permit, and shall be the amount of the maximum assessable impact fee per service unit (post-credit) as set forth in schedule 2, table E, attached to Ord. No. 2020-12-___ and incorporated herein by reference, for each meter size and meter type for each proposed development unit as set forth in schedule 2, table E.

(b) The city reserves the right to enter into an agreement with a developer for a different time and manner of payment of impact fees, in which case the agreement shall determine the time and manner of payment.

(c) The city shall compute the impact fees for the new development in the following manner:

(1) Determine the number of each meter size and meter type in the new development and multiply by the corresponding proportionate amount of impact fees for each such meter size and meter type contained in the applicable platting date range table of schedule 2 then in effect.

(2) The amount of each impact fee shall be reduced by any allowable offsets for that category of capital improvements, in the manner provided in section 130-29.

(3) The total amount of the impact fees for the new development shall be calculated and attached to the development application or request for connection as a condition of approval.

(d) The amount of each impact fee (wastewater and water) for a new development shall not exceed an amount computed by multiplying the maximum assessable fee per service unit for each category of utility pursuant to section 130-26 by the number of service units generated by the development. According to the American Water Works Association the ratio of water flows for different sizes and types of water meters as follows:

Meter Size	Meter Type	Ratio to ¾" meter
¾"	Multi-jet (simple)	1.0
1"	Multi-jet (simple)	1.7
2"	Ultrasonic	8.3
3"	Ultrasonic	16.7
4"	Ultrasonic	33.3
6"	Ultrasonic	53.3
8"	Ultrasonic	93.3
10" to 12"	Ultrasonic	183.3

Accordingly, the number of service units for each meter size and meter type follows the same ratio and is used to determine the proportional water and wastewater impact fee for each meter size and meter type compared to a simple ¾-inch water meter.

(e) If the building permit for which an impact fee has been paid has expired, and a new application is thereafter filed, the impact fees shall be computed using the applicable platting date range table of schedule 2 then in effect, with credits for previous payment of fees being applied against the new fees due.

(f) For a new development which is unplatted at the time of application for a building permit or utility connection, or for a new development that received final plat approval prior to or on June 20, 1987, for water and wastewater facilities, and for which no replatting is necessary pursuant to the city's subdivision regulations prior to development, collection of impact fees shall occur at the time application is made for the building permit or utility connection whichever occurs first, and shall be the amount of the impact fee per service unit, as set forth in the applicable platting date range table of schedule 2 then in effect.

(g) Whenever the property owner proposes to increase the number of service units for a development or increase the meter size or meter type for any use within that development, the additional impact fees collected for such new service units shall be determined by using the applicable platting date range table of schedule 2 then in effect, and such additional fee shall be collected at the times prescribed by this section.

(h) For a single family residential lot of record existing on June 20, 1987, for which no replatting is necessary pursuant to the city's subdivision regulations prior to development, or for a development which was assessed between June 20, 1987 and May 15, 1990, and for which no increase in the meter size or meter type is sought, collection of impact fees shall be pursuant to the applicable platting date range table of schedule 2, and such fees shall be collected at the times prescribed by this section.

Sec. 130-29. - Offsets and credits against impact fees.

(a) The city shall offset the reasonable value of any system facility which is on the impact fee capital improvements plan and which has been dedicated to and has been accepted by the city on or after

January 1, 1983, or credit the amount of any monetary contribution to such facility, against the amount of the impact fee for that category of capital improvement.

(b) All offsets and credits against impact fees shall be subject to the following limitations and shall be granted based on this article and additional standards promulgated by the city council, which may be adopted as city council-approved administrative guidelines.

(1) No offset or credit shall be given for the dedication of land or easements for or the construction of site-related facilities.

(2) No offset or credit shall exceed the documented and city approved costs to the developer of the system facility which was dedicated to and accepted by the city, or the amount of the monetary contribution actually made.

(3) The costs used to calculate the offsets shall not exceed those assumed for the capital improvements included in the capital improvements plan for utility impact fees for the category of facilities within the service area for which the impact fee is imposed.

(4) Offsets or credits given for system facilities for a development which has received final plat approval prior to the effective date of this amendatory ordinance shall be discounted taking into consideration the number of existing service units within such development.

(5) An offset or credit created pursuant to prior impact fee ordinances for which a specific termination date was not established shall expire no later than ten years after the date the ordinance under which such offset or credit was created was amended, repealed or replaced. Offsets or credits created pursuant to this article shall expire within ten years from the date the offset or credit was created.

(6) In no event will the city reimburse the property owner or developer for an offset or credit when no impact fees for the new development can be collected pursuant to this chapter or for any amount exceeding the total impact fees due for the development for that category of capital improvement, unless otherwise agreed to by the city.

(7) No offset shall be given for a site-related or system facility or any facility which is not identified within the applicable impact fees capital improvements plan, unless the city agrees that such improvement supplies capacity to new developments other than the development paying the impact fee and provisions for offsets are incorporated in an agreement for capital improvements pursuant to section 130-36 and an amendment is adopted adding such improvement to the impact fees capital improvements plan.

(8) A provision stating that in those instances where the city determines the projected cost to construct a system facility is not roughly proportionate to the dollar value of the impact fee credits which may be awarded for that system facility the city may consider, upon request of the developer, awarding impact fee credits based on the lesser of a percentage of the city's projected costs for that system facility or a percentage of the documented and city-approved costs to the developer of the system facility which was dedicated to and accepted by the city with the city's projected costs or the documented and city-approved costs to the developer being reduced by the same percentage of reduction as applied to the maximum impact fee per service unit (pre-credit) to arrive at the maximum assessable impact fee per service unit (post-credit) as reflected in the applicable platting date range table of Schedule 1.

(c) An applicant for new development must apply for an offset or credit against impact fees due for the development either at the time of application for final plat approval or at the time of connection(s) to the utility system, unless the city otherwise agrees. The applicant shall file a petition for offsets or credits with the city on a form provided for such purpose. The contents of the petition shall be established by council-approved administrative guidelines. The city must provide the applicant, in writing, with a decision on the offset or credit request, including the reasons for the decision within ninety (90) days.

(d) The available offset or credit associated with the plat shall be applied against an impact fee in the following manner:

(1) For single family residential lots in a new development consisting only of single-family residential lots which have received final plat approval, such offset or credit shall be applied at the time of issuance of the building permit or connection to the city's utility system by the first lot and thereafter for each subsequent lot within the final plat at the time of plat recordation in the order in which building permits or utility connections are issued for such lots until the offset or credit has been exhausted, unless stipulated otherwise in a binding facilities agreement or a binding impact fee credit agreement.

(2) For all other types of new development, including those involving mixed uses, which have received final plat approval, the offset or credit applicable to the plat shall be applied to the impact fee due at the time of issuance of the first building permit or connection to which the offset or credit is applicable, and thereafter to all subsequently issued building permits or connections, until the offset or credit has been exhausted, unless stipulated otherwise in a binding facilities agreement or a binding impact fee credit agreement.

(3) At its sole discretion, the city may authorize alternative credit or offset agreements upon petition by the owner in accordance with guidelines promulgated by the city council.

Sec. 130-30. - Establishment of accounts.

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(a) The city's finance department shall establish an account to which interest is allocated for each category of capital facility in each service area for which an impact fee is imposed pursuant to this chapter. Each impact fee collected within the service area shall be deposited in such account.

(b) Interest earned on the account into which the impact fees are deposited shall be considered funds of the account and shall be used solely for the purposes authorized in section 130-31.

(c) The city's finance department shall establish adequate financial and accounting controls to ensure that impact fees disbursed from the account are utilized solely for the purposes authorized in section 130-31. Disbursement of funds shall be authorized by the city at such times as are reasonably necessary to carry out the purposes and intent of this chapter; provided, however, that any fee paid shall be expended within a reasonable period of time, but not to exceed ten years from the date the fee is deposited into the account.

(d) The city's finance department shall maintain and keep financial records for impact fees, which shall show the source and disbursement of all fees collected in or expended from each service area. The records of the account into which impact fees are deposited shall be open for public inspection and copying during ordinary business hours. The city may establish a fee for copying services.

(e) The finance department shall maintain and keep adequate financial records for said account which shall show the source and disbursement of all funds placed in or expended by such account.

(f) Any credits, offsets or rights to reimbursement hereunder, including facility agreements under section 130-36(a) and (b) shall terminate or be payable, as the case may require, on September 30 of the final year of any right to such offset, credit, or reimbursement.

(g) Any payments to a developer required hereunder accruing in any year shall be due on or before sixty (60) days after the end of the fiscal year, September 30.

Sec. 130-31. - Use of proceeds of impact fee accounts.

(a) The impact fees collected for each service area pursuant to this chapter may be used to finance, pay for or to recoup the costs of any capital improvements or facilities expansions identified in the applicable capital improvements plan for utility impact fees for the service area, including the construction contract price, surveying and engineering fees, land acquisition costs (including land purchases, court awards and costs, attorney's fees, and expert witness fees), and the fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the capital improvements plan for utility impact fees who is not an employee of the political subdivision. Impact fees may also be used to pay the principal sum and interest and other finance costs on bonds, notes or other obligations issued by or on behalf of the city to finance such capital improvements or facilities expansions.

(b) Impact fees collected pursuant to this chapter shall not be used to pay for any of the following expenses:

(1) Construction, acquisition or expansion of capital improvements or assets other than those identified in the applicable capital improvements plan for utility impact fees;

(2) Repair, operation, or maintenance of existing or new capital improvements or facilities expansions;

(3) Upgrading, expanding or replacing existing capital improvements to serve existing development in order to meet stricter safety, efficiency, environmental or regulatory standards;

(4) Upgrading, expanding or replacing existing capital improvements to provide better service to existing development; provided, however, that impact fees may be used to pay the costs of upgrading, expanding or replacing existing capital improvements in order to meet the need for new capital improvements generated by new development;

(5) Administrative and operating costs of the city.

Sec. 130-32. - Appeals.

(a) The property owner or applicant for development may appeal the follow administrative decisions to the city council:

(1) The applicability of an impact fee to the development;

(2) The amount of the impact fee due;

(3) The availability of, the amount of, or the expiration of an offset or a credit;

(4) The application of an offset or credit against an impact fee due;

(5) The amount of the impact fee in proportion to the benefit received by new development; or

(6) Amount of a refund due, if any.

(b) The appellant shall state the basis for the appeal in writing with particularity. The burden of proof shall be on the appellant to demonstrate that the amount of the fee or the amount of the offset or credit was not calculated according to the applicable schedule of impact fees or the guidelines established for determining offsets and credits. The appellant shall submit any study or other documents upon which he relies to the city with the request for appeal.

(c) The appellant must file a notice of appeal with the city secretary within 30 days following the decision. If the notice of appeal is accompanied by a bond or other sufficient surety with offices for local presentment in a form satisfactory to the city attorney in an amount equal to the original determination of the impact fee due, the development application may be processed while the appeal is pending.

(d) The appellant shall promptly pay to the city the full amount of the impact fee determined to be due by the city council regarding such appeal. Failure to promptly pay such impact fee within five business days after the city council's determination on the appeal shall serve as authority for the city to present the bond or other surety to the bonding company or financial institution for performance with no other or further notice or contact with the appellant.

Sec. 130-33. - Refunds.

(a) Any impact fee or portion thereof collected pursuant to this chapter which has not been expended within the service area for an authorized purpose within ten years from the date of payment, shall be refunded, upon application, to the record owner the property at the time the refund is paid or, if the impact fee, was paid by another governmental entity, to such governmental entity, together with interest calculated from the date of collection to the date of refund at the statutory rate as set forth in § 302.002 of the Texas Finance Code or its successor statute. The application for refund pursuant to this section shall be submitted in writing within 60 days after the expiration of the ten-year period for expenditure of the fee. An impact fee shall be considered expended on a first-in, first-out basis.

(b) An impact fee collected pursuant to this chapter shall be considered expended if the total expenditures for capital improvements or facilities expansion authorized in section 130-31 within the service area within ten years following the date of payment exceeds the total fees collected for such improvements expansions during such period.

(c) Upon application, any impact fee or portion thereof collected pursuant to these regulations shall be refunded if:

(1) Existing service is available and service is denied; or

(2) Service was not available when the fee was collected and the city has failed to commence construction of facilities to provide service within two years of fee payment; or

(3) Service was not available when the fee was collected and has not subsequently been made available within a reasonable period of time considering the type of capital improvement or facility expansion to be constructed, but in any event later than five (5) years from the date of fee payment.

(d) If a refund is due pursuant to subsections (a) and (b), the city shall prorate the same by dividing the difference between the amount of expenditures and the amount of the fees collected by the total number of service units assumed within the service area for the period to determine the refund due per service unit. The refund to the record owner shall be calculated by multiplying the refund due per service unit by the number of service units for the development for which the fee was paid, and interest due shall be calculated upon that amount.

(e) If the building permit for a new development for which an impact fee has been paid has expired, and a modified or new application has not been filed within six months of such expiration, the city shall, upon written application, refund the amount of the impact fee to the applicant. The city may establish guidelines for refunding of impact fees collected for which construction plans have been abandoned.

Sec. 130-34. - Updates to plans and revision of fees.

(a) The city shall update its land use assumptions and capital improvements plan for utility impact fees and shall recalculate its impact fees not less than once every five years in accordance with the procedures set forth in chapter 395 of the Texas Local Government Code, or in any successor statute.

(b) The city may review its land use assumptions, capital improvements plan for utility impact fees, plans, and other factors such as market conditions more frequently than provided in subsection (a) to determine whether the land use assumptions and capital improvements plan for utility impact fees should be updated and the impact fee recalculated accordingly, or whether schedule 2 should be increased, decreased, or otherwise recalculated.

Sec. 130-35. - Functions of advisory committee.

(a) The advisory committee shall perform the following functions:

(1) Advise and assist the city in adopting land use assumptions;

(2) Review the capital improvements plan for utility impact fees and file written comments thereon;

(3) Monitor and evaluate implementation of the capital improvements plan for utility impact fees;

(4) Advise the city of the need to update or revise the land use assumptions, capital improvements plan for utility impact fees and impact fees; and

(5) File a semiannual report evaluating the progress of the city in achieving the capital improvements plan for utility impact fees and identifying any problems in implementing the plans or administering the impact fees.

(b) The city council shall adopt, by resolution, procedural rules by which the advisory committee may carry out its duties.

(c) The city shall make available to the advisory committee any professional reports prepared in the development or implementation of the capital improvements plan for utility impact fees.

Sec. 130-36. - Agreement for capital improvements.

(a) An owner of a new development may construct or finance a capital improvement or facility expansion designated in the capital improvements plan for utility impact fees, if required or authorized by the city, by entering into a facilities agreement with the city prior to the issuance of any building permit for the development. The agreement shall be on a form approved by the city, and shall identify the estimated cost of the improvement or expansion, the schedule for initiation and completion of the improvement or expansion, a requirement that the improvement be designed and completed to city standards and such other terms and conditions as deemed necessary by the city. The facility agreement shall provide for the method to be used to determine the amount of the offset to be given against impact fees due for the development.

(b) In the event that the cost of any improvements constructed under section 130-35 exceeds the impact fee to be collected for the new development, the city shall within ten years reimburse the owner for the dedication, construction or financing of a capital improvement or facility expansion designated in the capital improvements plan for utility impact fees. The terms of reimbursement shall be incorporated in the agreement required by subsection (a). Such reimbursement agreements shall take into account the proximity of the new development to existing infrastructure and may require a repayment schedule which is based upon actual connections to the improvements constructed. Reimbursement agreements shall further be based on and made subject to the availability of city funds from all sources including current and projected impact fee fund accounts.

Sec. 130-37. - Use of other financing mechanisms.

(a) The city may finance capital improvements or facilities expansions designated in the capital improvements plan for utility impact fees through the issuance of bonds, through the formation of public improvement districts or other assessment districts, or through any other authorized mechanism, in such manner and subject to such limitations as may be provided by law, in addition to the use of impact fees.

(b) Except as herein otherwise provided, the assessment and collection of an impact fee shall be additional and supplemental to, and not in substitution of, any other tax, fee, charge or assessment which is lawfully imposed on and due against the property.

(c) The city may pay all or part of impact fees due for a new development taking into account available offsets and credits pursuant to duly adopted criteria.

Sec. 130-38. - Impact fee as additional and supplemental regulation.

Impact fees established by this chapter are additional and supplemental to, and not in substitution of, any other requirements imposed by the city on the development of land or the issuance of building permits or certificates of occupancy. Such fee is intended to be consistent with and to further the policies of city's comprehensive plan; the capital improvements plan for utility impact fees; the zoning ordinance, subdivision ordinance and/or the Unified Development Code; and other City regulations and other city policies, ordinances and resolutions by which the city seeks to ensure the provision of adequate public facilities in conjunction with the development of land.

Sec. 130-39. - Relief procedures.

(a) Any person who has paid an impact fee or an owner of land upon which an impact fee has been paid may petition the city council to determine whether any duty required by this division has not been performed within the time so prescribed. The petition shall be in writing and shall state the nature of the unperformed duty and request that the act be performed within 60 days of the request. If the city council determines that the duty is required pursuant to the ordinance and is late in being performed, it shall cause the duty to commence within 60 days of the date of the request and to continue until completion.

(b) Upon written request by a developer or owner of property subject to the ordinance the city council may grant a variance or waiver from any requirement of this division, following a public hearing, and only upon finding that a strict application of such requirement would when regarded as a whole result in confiscation of the property.

(c) If the city council grants a variance or waiver to the amount of the impact fee due for a new development under this section, it may cause to be appropriated from other city funds the amount of the reduction in the impact fee to the account for the service area in which the property is located.

(d) The city engineer, or his designee, may make interpretations of this article concerning the required meter equivalency of a tract, and thereby reduce the amount of an impact fee to be collected under schedule 2.

Secs. 130-40—130-66. - Reserved.

Exhibit A

DIVISION 2. - UTILITIES FACILITIES FEES

Sec. 130-67. - Water service area.

(a) There is hereby established a water service area, constituting the city's corporate limits and its extraterritorial jurisdiction as depicted in the water improvements plan.

(b) The boundaries of the water service area may be amended from time to time, pursuant to the procedures in section 130-34.

Sec. 130-68. - Water improvements plan.

(a) The water improvements plan for the city is a component of the water and wastewater improvements plans attached to Ord. No. 2020-12-___ and incorporated herein by reference as Exhibit 2.

(b) The water improvements plan may be amended from time to time, pursuant to the procedures in section 130-34.

Sec. 130-69. - Water impact fees.

(a) The maximum impact fees per service unit (pre-credit) and the maximum assessable impact fee per service unit (post-credit) for water facilities set out in schedule 1, tables A through E, attached to Ord. No. 2020-12-___ are hereby adopted and incorporated into this section by reference for all purposes allowed by law.

(b) The impact fees per service unit for water facilities that are to be paid and collected for each meter size and meter type which are set out in Schedule 2, tables A through E, attached to Ord. No. 2020-12-___ are hereby adopted and incorporated into this section by reference for all purposes allowed by law.

(c) The impact fees per service unit for water facilities set out in Schedules 1 and 2 attached to Ord. No. 2020-12-___ may be amended from time to time pursuant to the procedures in section 130-34.

Sec. 130-70. - Wastewater service area.

(a) There is hereby established a wastewater service area, constituting the city's corporate limits and its extraterritorial jurisdiction as depicted in the wastewater improvements plan.

(b) The boundaries of the wastewater service area may be amended from time to time, and new wastewater service areas may be delineated, pursuant to the procedures in section 130-34.

Sec. 130-71. - Wastewater improvements plan.

(a) The wastewater improvements plan for the city is a component of the water and wastewater improvements plans attached to Ord. No. 2020-12-___ and incorporated by reference as Exhibit 2.

(b) The wastewater improvements plan may be amended from time to time, pursuant to the procedures in section 130-34.

Sec. 130-72. - Wastewater impact fees.

(a) The maximum impact fees per service unit (pre-credit) and the maximum assessable impact fee per service unit (post-credit) for wastewater facilities set out in schedule 1, tables A through E, attached to Ord. No. 2020-12-___ are hereby adopted and incorporated into this section by reference for all purposes allowed by law.

(b) The impact fees per service unit for wastewater facilities that are to be paid and collected for each meter size and meter type which are set out in Schedule 2, tables A through E, attached to Ord. No.

Exhibit A

2020-12-___ are hereby adopted and incorporated into this section by reference for all purposes allowed by law.

(c) The impact fees per service unit for wastewater facilities set out in Schedules 1 and 2 attached to Ord. No. 2020-12-___ may be amended from time to time pursuant to the procedures in section 130-34.

Secs. 130-73—130-102. - Reserved.

RESOLUTION NO. 2019-09-114 (R)

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF McKINNEY, TEXAS, APPROVING THE LAND USE ASSUMPTIONS FOR THE 2018-2019 IMPACT FEE UPDATE

WHEREAS, per Chapter 395 of the Texas Local Government Code, a city imposing an impact fee shall update the Land Use Assumptions and capital improvements plan at least every five years; and

WHEREAS, the Land Use Assumptions were presented to the Capital Improvements Advisory Committee, on August 27, 2019 and the meeting minutes were forwarded to the City Council on September 17, 2019; and

WHEREAS, per Chapter 395 of the Texas Local Government Code, the City of McKinney, Texas has held a public hearing to consider updated Land Use Assumptions for the 2018-2019 Impact Fee Update; and

WHEREAS, per Chapter 395 of the Texas Local Government Code, the City of McKinney, Texas is required to adopt an ordinance, order, or resolution approving the Land Use Assumptions.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF McKINNEY, TEXAS, THAT:

Section 1. The City Council of the City of McKinney, Texas approves the Land Use Assumptions for the 2018-2019 Impact Fee Update.

Section 2. This Resolution shall take effect immediately from and after the date of passage and is so resolved.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF McKINNEY, TEXAS ON THE 17th DAY OF SEPTEMBER, 2019.

CITY OF McKINNEY, TEXAS

GEORGE C. FULLER
Mayor

CORRECTLY ENROLLED:

EMPRESS DRANE, City Secretary
LISA SEWELL, Deputy City Secretary

DATE: 09-17-2019

APPROVED AS TO FORM:

MARK S. HOUSER
City Attorney

Exhibit 1

LAND USE ASSUMPTIONS 2018-2019

Exhibit 1

Exhibit 1

CONTENTS

PURPOSE AND OVERVIEW

To accurately determine the costs associated with providing infrastructure services to new and existing development, a study must be conducted to determine the type, amount, and location of existing development and expected growth. This study is called the Land Use Assumptions (LUA), and is the first step in the impact fee update process. Impact fees are levied against new development to pay for the off-site construction or expansion of infrastructure that is necessitated by the additional impact caused by the new development.

As defined by Chapter 395 of the Texas Local Government Code, impact fees are “a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development”, and that “a political subdivision imposing an impact fee shall update the land use assumptions and capital improvements plan at least every five years”.

STUDY PROCESS

This report documents the practical approach that was taken to determine Land Use Assumptions. The residential and non-residential growth projections formulated in this report were performed using reasonable and generally accepted forecasting and planning principles. The following data and procedures were used in developing this report:

Study Data

- Existing land uses and non-residential square footages (source: Collin Central Appraisal District).
- Existing zoning map and development regulations (source: City of McKinney).
- ONE McKinney 2040 Comprehensive Plan - Future Land Use Plan (source: City of McKinney).
- Historical population information (source: City of McKinney, U.S. Census Bureau).
- Texas Population Projections 2010 to 2050 (source: Texas Demographic Center)
- Proposals for residential and non-residential developments that have been approved by the City but not yet constructed (source: City of McKinney).

Primary Steps

1. Update service area boundaries in accordance with State Law requirements.
2. Determine baseline conditions for 2019 population and non-residential square footage
3. Project the ultimate buildout population and non-residential square footage.
4. Project population and non-residential square footage growth for the next ten years.

SERVICE AREA MAPS

What is a Service Area?

As defined by Local Government Code Chapter 395, a "service area" may include all or part of the land within the political subdivision or its ETJ to be served by the capital improvements or facilities expansions specified in the Capital Improvements Plan, except roadway facilities and storm water, drainage, and flood control facilities.

For roadway facilities, a service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed 6 miles. Roadway service area boundaries generally follow existing and future major thoroughfares. Also, roadway service areas represent areas of similar traffic generation characteristics and help to maintain efficiencies in accounting and administration of roadway impact fees.

Exhibit "A" shows the 2019 Roadway Service Area Map. The 2019 Roadway Service Area Map includes the same 13 Service Areas that the City of McKinney recognized during the 2012-2013 Impact Fee Update. Slight changes have been made to align service area boundaries with newly constructed roadways and the Master Thoroughfare Plan that was adopted in 2018 as part of the ONE McKinney 2040 Comprehensive Plan.

Exhibit "B" shows the 2019 Utility Service Area Map. Minor changes have been made to reflect changes in the ETJ boundary that have taken effect since the last impact fee update that was completed in 2012-2013.

For the purpose of further analysis and geographic specificity, sub-service areas were created to assist with the classification of existing population and non-residential square footages, and distribution of future projections. The sub-service areas are smaller boundary entities that nest within their larger service area counterparts.

"Roadway service areas represent areas of similar traffic generation characteristics"

Exhibit 1

EXHIBIT A: ROADWAY SERVICE AREAS

+

EXHIBIT B: UTILITY SERVICE AREA

Exhibit 1

BASELINE DATA

Population

The baseline population in McKinney (including ETJ) as of January 1, 2019 has been estimated at 193,012.

Table 1 shows the population history for McKinney and its ETJ from the 2010 U.S. Census through the estimate for January 1, 2019. Using the official 2010 U.S. Census population as starting point, City Planning Staff estimated a population figure each year based on an analysis of building permit data for the previous years as well as on commonly accepted assumptions for occupancy rates and household sizes.

Table 1 illustrates that McKinney has been experiencing continual residential growth over the last nine years. This general trend of population growth is expected to continue throughout the ten year forecast of this study.

McKinney's population estimate was spatially distributed among the thirteen roadway service areas. To do this, City building permit data was used in conjunction with data from the 2010 Census to determine the location of McKinney's population. This permit data was subsequently converted into population using a "persons per dwelling unit figure" for single-family and multi-family housing types that is annually updated. For single-family, the average household size used is 3.08*. For multi-family, the average household size used is 2.17*.

YEAR	POPULATION	% GROWTH
2010	135,038	-
2011	137,406	1.8%
2012	141,330	2.9%
2013	145,511	3.0%
2014	153,807	5.7%
2015	159,100	3.4%
2016	166,569	4.7%
2017	174,141	4.5%
2018	184,420	5.9%
2019	193,012	4.7%

TABLE 1: POPULATION HISTORY

"McKinney has been experiencing continual residential growth over the last nine years"

Exhibit 1

*Estimated Persons per Dwelling Unit based on information obtained from the North Central Texas Council of Governments.

Non-Residential Square Footages

It is also necessary to establish a baseline figure for the square footage of non-residential uses currently in McKinney. For roadway impact fees, building square footage is the most common independent variable for the estimation of non-residential vehicle trips generated in the Institute of Transportation Engineers (ITE) Trip Generation Manual. Building square footage is closely tied to trip generation and is known at the time of assessment for an impact fee for a proposed development.

The building square footages were categorized into three commonly used land use classifications. Each classification has unique trip making characteristics.

Basic: Higher impact land uses that generate goods and services that are typically used and sold outside of McKinney, such as manufacturing, construction, transportation, warehousing, and other industrial uses.

Service: Land uses that provide personal and professional services, such as government facilities, schools, medical offices, and other professional offices.

Retail: Land uses where the retail sale of goods primarily serves households, and whose location choice is oriented towards a local market. Examples include restaurants, grocery, and clothing stores.

Baseline square footage of Basic, Service, and Retail uses are determined using data from Collin County Appraisal District (CAD). Collin CAD provides land use and square footage data for all existing non-residential uses within McKinney and its ETJ. Using this data, a summary table of all non-residential use categories within each service area was created. These figures act as the baseline conditions for non-residential square footages.

SERVICE AREA	RESIDENTIAL		NON-RESIDENTIAL SQUARE FEET		
	Population	*Dwelling Units*	*Basic*	*Service*	*Retail*
A	306	115	23,500	0	81,515
B	2,834	973	0	0	16,699
C	8,429	2,959	227,746	632,125	278,982
D	11,213	3,343	0	3,104,234	1,255,451
E	3,905	1,204	3,624,114	478,284	1,754,956
F	1,485	556	212,216	27,295	263,232
G	50,272	17,987	899,720	1,889,230	2,428,620
H	29,944	12,197	581,141	1,933,505	2,627,061
I	39,502	13,959	352,879	2,397,595	1,433,682
J	24,011	10,072	1,649,518	2,754,401	3,513,500
K	20,558	7,651	5,125,000	2,871,086	2,325,009
L	182	75	561,885	499,422	82,826
M	370	164	66,320	14,572	0
TOTAL	193,012	71,255	13,324,039	16,601,750	16,061,533

TABLE 2: BASELINE CONDITIONS

Exhibit 1

ULTIMATE BUILDOUT PROJECTIONS

Overview

An ultimate buildout projection is needed to determine the potential for additional growth that is available in the undeveloped areas of the city and ETJ. The ultimate buildout projection is broken into the same sub-categories as the baseline data (population, dwelling units, basic, service, and retail). The baseline data was used as the developed areas, and the undeveloped areas were broken into the two following categories:

Zoning Applications

Staff analyzed the zoning districts for all parcels within city limits that were considered undeveloped*. Base zoning districts were given an associated land use category (single-family, multi-family, basic, service, or retail). The Planned Development (PD) districts were reviewed and assigned one or more land use categories. In instances where multiple land uses existed in one zoning, the anticipated acreage of the different uses were applied. The land use acreages for each of these zonings were then multiplied by standard metrics from nearby existing conditions to determine the extent of additional growth that is possible. The standard metrics includes an average persons per acre for single-family and multi-family developments, as well as a typical floor-area-ratio (FAR) for non-residential uses. The districts from the ONE McKinney 2040 Comprehensive Plan's Preferred Scenario were utilized to derive a geographic and market specific approach in determining the existing condition metrics.

Future Land Use Plan Applications

Undeveloped areas located within the ETJ but outside the city limits are not subject to the City's zoning regulations. The Future Land Use Plan (FLUP) will be used to consider an appropriate land use at the time of development in the future. The ultimate buildout projection for the area within the ETJ but outside of the current city limits is calculated based on an analysis of the FLUP. Additionally, areas within city limits that are zoned "AG - Agricultural District" are anticipated to rezone and develop in the future and therefore will also adhere to FLUP designated land uses. The areas where the FLUP is applied were categorized by the Placetypes outlined in the ONE McKinney 2040 Comprehensive Plan. The Placetype acreages were multiplied using a calculator that determines anticipated population and square footages for non-residential uses. Since Placetypes are not land-use-specific, the calculator applies anticipated percentages to determine the associated acreage of a Placetype that will fall into one of the land use categories (residential, basic, service, retail).

*With the exception of Agricultural District zoned areas which are included in the Future Land Use Plan applications.

SERVICE AREA	RESIDENTIAL		NON-RESIDENTIAL SQUARE FEET		
	Population	*Dwelling Units*	*Basic*	*Service*	*Retail*
A	46,188	17,743	9,419,802	12,772,114	4,609,915
B	25,032	8,233	51,707	245,645	369,503
C	57,987	19,538	227,746	2,158,784	4,397,073
D	66,423	23,628	917,483	8,690,336	8,077,829
E	32,533	11,449	11,542,472	3,242,892	6,352,282
F	13,811	4,668	998,038	908,095	1,841,789
G	52,046	18,687	1,157,424	2,184,560	4,653,668
H	39,582	16,242	641,152	7,115,049	4,131,473
I	46,593	16,581	808,120	3,663,775	4,102,982
J	28,292	11,771	2,180,080	6,881,683	5,658,617
K	24,126	9,048	7,823,668	4,434,426	2,966,485
L	300	114	9,239,373	3,235,736	420,080
M	957	362	4,152,840	1,076,720	229,602
TOTAL	433,869	158,064	49,159,907	56,609,815	47,811,298

TABLE 3: BUILDOUT CONDITIONS

[Existing Population] + [Zoning Applications] + [FLUP Applications] = [Ultimate Buildout]

"An ultimate buildout projection is needed to determine the potential for additional growth"

Exhibit 1

10-YEAR GROWTH ASSUMPTIONS

This study considers the years 2019-2029. Acknowledging that the parameters of the study (city limits, Master Thoroughfare Plan, Comprehensive Plan, zoning maps, existing development, etc.) are changing constantly, this study is based on conditions as they were on January 1, 2019.

Population Projections

The following methods were used in projecting the population of McKinney in 2029. An explanation of why these methods were chosen follows their description.

Gompertz Method
The Gompertz growth curve is an extrapolation method that generally fits the growth pattern of McKinney over the last few years. It assumes that, during the total growth period of a geographic area, the growth is slow in the beginning, then increases exponentially for a period of time, and then tapers off as the population approaches an upper growth limit. Using the ultimate population (433,869) from the ultimate buildout projections as the upper growth limit, a Gompertz curve has been plotted and used in part to project the population in 2029.

Ratio Method
Projections for larger geographic areas (i.e. counties or regions) are more reliable than projections for smaller areas (i.e. cities) since a larger population base is less likely to exhibit short term variations. For this reason, the ratio method has also been utilized. This method operates under the assumptions that if a relationship between a city's population and its larger geographic area has a generally fixed ratio, the population of the city can be related and projected based on the population projection of the larger area. Eight variations of the ratio method were tested for their ability to project McKinney's population over the next ten years. From these methods, the two best performing were chosen, McKinney's share of Collin County's growth, and Collin County's population rate of change.

The Texas Demographic Center's Population Projections Program produces projections for the state, and all counties in the state by age, sex and race/ethnicity. These projections contain the anticipated population for Collin County for every year from 2010 to 2050. Using the ratio methods described above, and for the purposes of the Land Use Assumptions, McKinney's population was projected out to 2029.

Exhibit 1

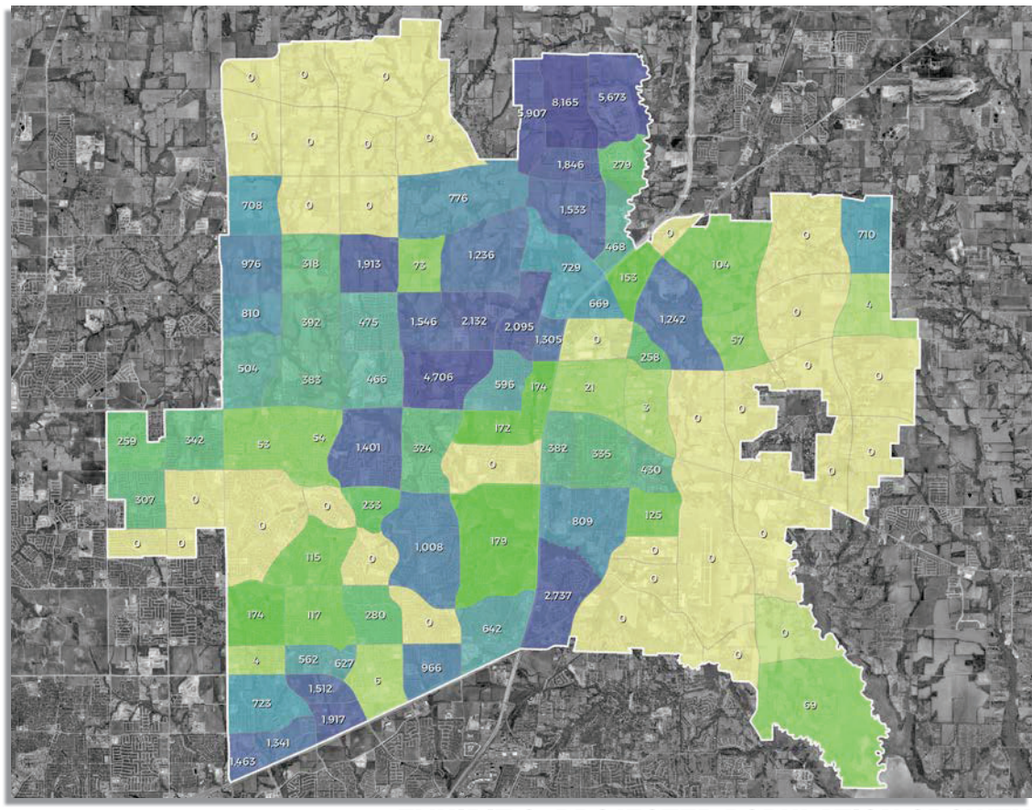


EXHIBIT C: PROJECTED POPULATION GROWTH

Similar to previous iterations of Land Use Assumptions, in projecting the population for McKinney it is assumed that using a combination of the Ratio and Gompertz method will perform best. The Ratio projection methods are a simplified extension of existing or predicted population trends. Gompertz is a logarithmic curve that recalculates new projections as new data points (updated yearly populations) are added. The combination of these methods help to provide a balanced approach for population projections.

In deriving the 2029 population, a weighted average was used between the three population projections (Collin County's Growth Share, Collin County's Population Rate of Change, and Gompertz) for the two methods. The average divides the weight of the projections by method, allotting 50% of the weight to the Ratio Method, and 50% to Gompertz. From this average, a population of 262,084 was calculated for McKinney in 2029; a growth of 69,073 from the 2019 population of 193,012.*

Once the population was projected for the ten year window, distribution was completed using the spatial data generated during the buildout potential calculation. The existing level of developed area in a sub-service area was calculated as well as the sub-service area's remaining growth potential. Then, using common Planning practices the sub-service area's buildout percent was structured to reflect conditions that area likely to exist in 2029. These incremental percentage increases generate additional population, and are influenced by the sub-service areas buildout potential and location.

Exhibit 1

*2019 and 2029 population distribution maps can be found in the Appendix.

10-YEAR GROWTH ASSUMPTIONS

Non-Residential Projections

To forecast the amount of growth in Basic, Service, and Retail land use categories over the ten year period of the study, a combination of methods were utilized. The previous ten years of non-residential square footages were analyzed on a service area basis to identify existing trends. The most consistent and noticeable trend were the land use categories relationship's with population. By analyzing the amount of Basic, Service, and Retail square feet per person for the last ten years, the following trends were identified:

Basic: It is assumed that as McKinney's population increases, the amount of Basic square footage per person will decrease. While total square feet of Basic has increased, the general trend for the past ten years showed a decrease in square feet per person. An average of the ten year median, and a ten year trend were used to determine a square foot per person growth over the next ten years. An additional 4,230,559 square feet of Basic is expected by 2029.

Service: It is assumed that as McKinney's population increases, the amount of Service square footage per person will remain the same. The general trend for the past five years showed a slight decrease in square feet per person. A five year median was used to determine a square foot per person growth over the next ten years. An additional 6,160,065 square feet of Service is expected by 2029.

Retail: It is assumed that as McKinney's population increases, the amount of Retail square footage per person will slightly increase. The general trend for the past ten years showed a general increase in square feet per person. An average of the ten year median, and a ten year trend were used to determine a square foot per person growth over the next ten years. An additional 6,136,024 square feet of Retail is expected by 2029.

Once the square footages were projected for the ten year window, distribution was completed using the spatial data generated during the buildout determination process. The existing level of developed area in a sub-service area was calculated as well as the sub-service area's remaining non-residential growth potential. Then, using common Planning practices the sub-service area's buildout percent was structured to reflect conditions that area likely to exist in 2029. These changes in percent generate additional square footages for the three land uses, and are influenced by the sub-service areas buildout potential.

SERVICE AREA	RESIDENTIAL		NON-RESIDENTIAL SQUARE FEET		
	Population	*Dwelling Units*	*Basic*	*Service*	*Retail*
A	0	0	0	0	0
B	21,871	6,959	10,071	207,903	86,236
C	6,945	2,312	0	726,068	438,993
D	17,370	6,277	59,635	700,061	830,401
E	2,506	873	2,482,408	199,736	725,194
F	713	118	19,891	71,783	212,738
G	1,130	435	30,630	69,408	719,260
H	8,439	3,495	14,932	1,806,746	787,669
I	4,218	1,608	112,104	252,841	1,199,668
J	4,112	1,390	227,006	1,733,118	774,630
K	1,700	639	504,952	247,260	331,012
L	0	0	597,354	113,513	16,437
M	69	23	171,577	31,628	13,786
TOTAL	69,073	24,128	4,230,559	6,160,065	6,136,024

TABLE 4: PROJECTED GROWTH

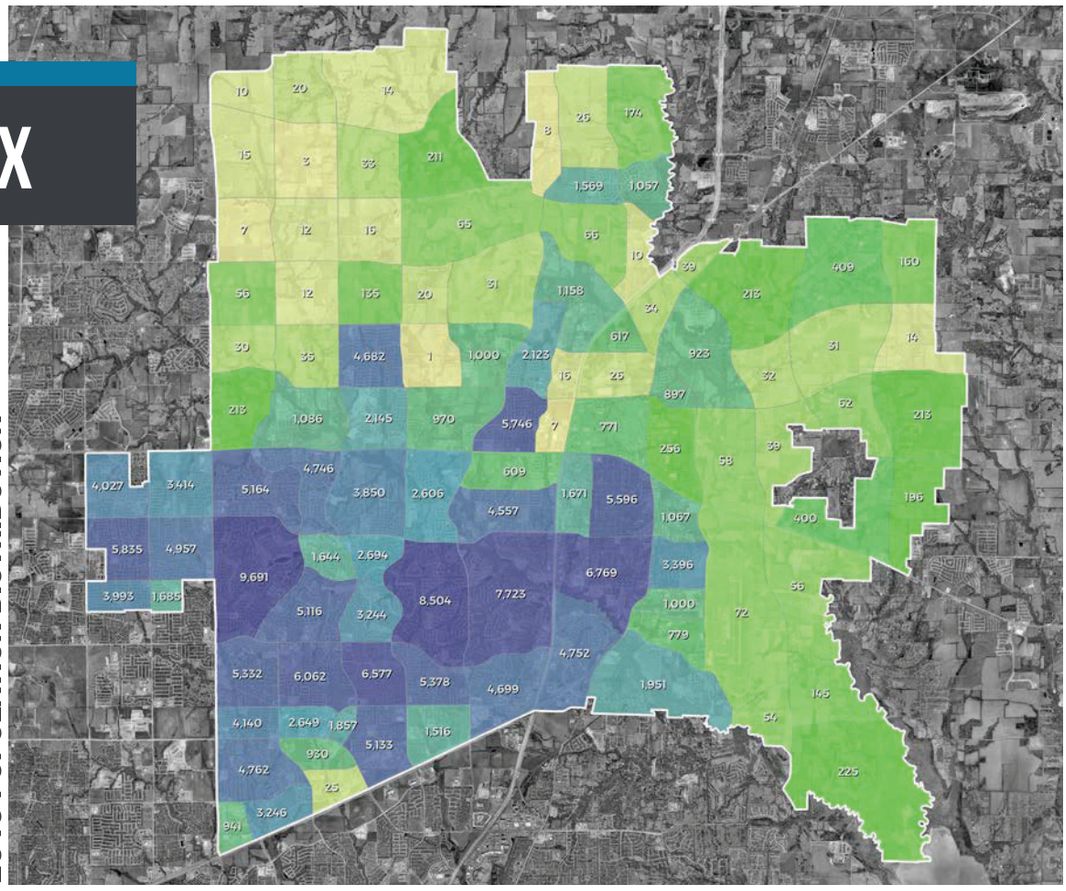
SERVICE AREA	RESIDENTIAL		NON-RESIDENTIAL SQUARE FEET		
	Population	*Dwelling Units*	*Basic*	*Service*	*Retail*
A	306	115	23,500	0	81,515
B	24,705	7,932	10,071	207,903	102,935
C	15,374	5,271	227,746	1,358,193	717,975
D	28,583	9,620	59,635	3,804,295	2,085,852
E	6,411	2,077	6,106,522	678,020	2,480,149
F	2,198	674	232,107	99,078	475,970
G	51,402	18,422	930,350	1,958,638	3,147,880
H	38,383	15,692	596,073	3,740,251	3,414,730
I	43,720	15,567	464,983	2,650,436	2,633,350
J	28,123	11,462	1,876,524	4,487,519	4,288,131
K	22,258	8,290	5,629,951	3,118,347	2,656,021
L	182	75	1,159,239	612,935	99,263
M	439	187	237,897	46,200	13,786
TOTAL	262,084	95,383	17,554,598	22,761,815	22,197,558

TABLE 5: 2029 BASELINE CONDITIONS

Exhibit 1

APPENDIX

2019 POPULATION DISTRIBUTION



2029 POPULATION DISTRIBUTION

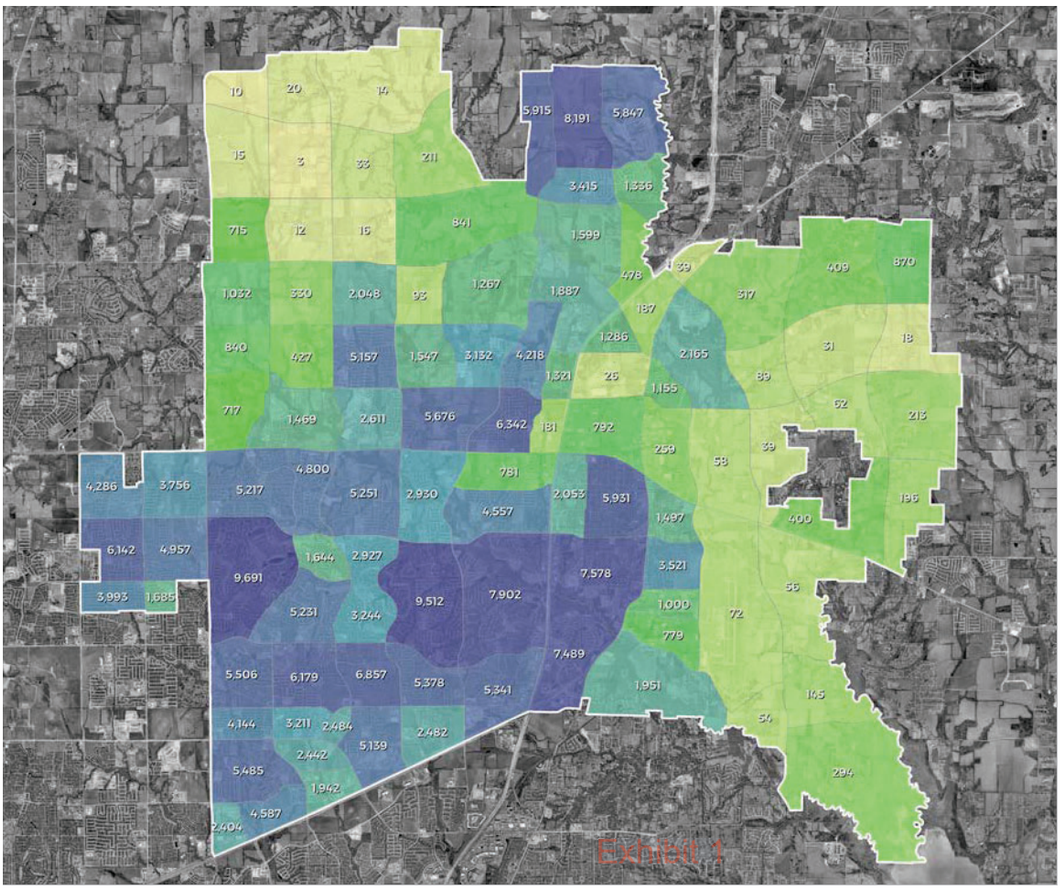


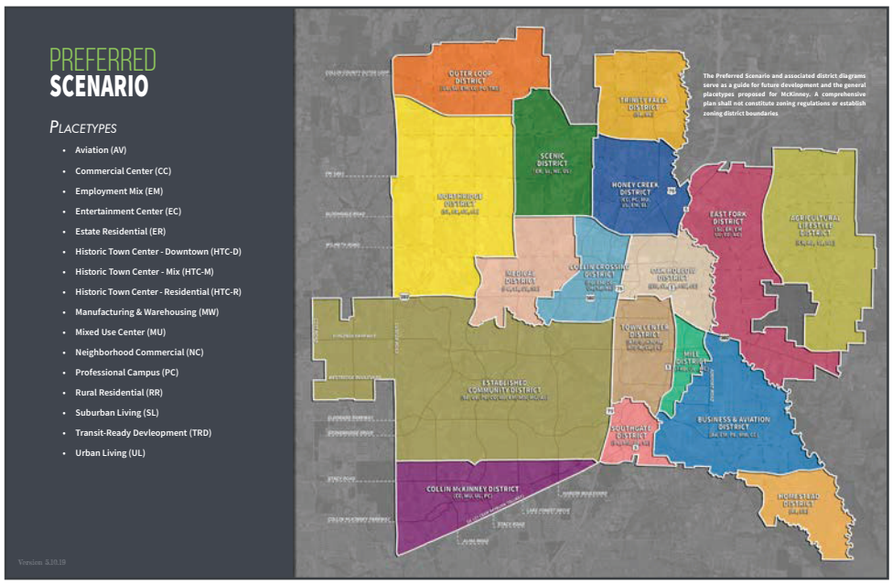
Exhibit 1

SERVICE AREA CHANGES

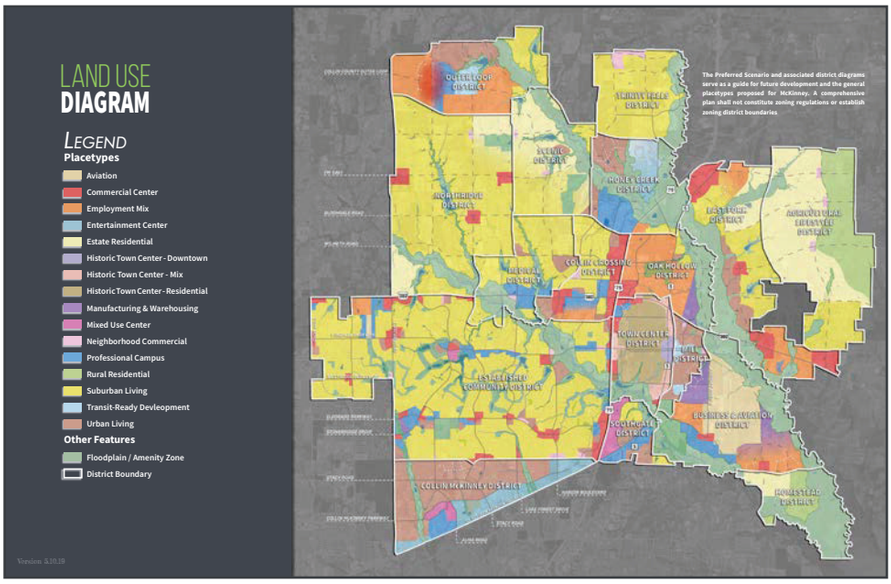
SUBSERVICE AREAS

Exhibit 1

PREFERRED SCENARIO



FUTURE LAND USE DIAGRAM



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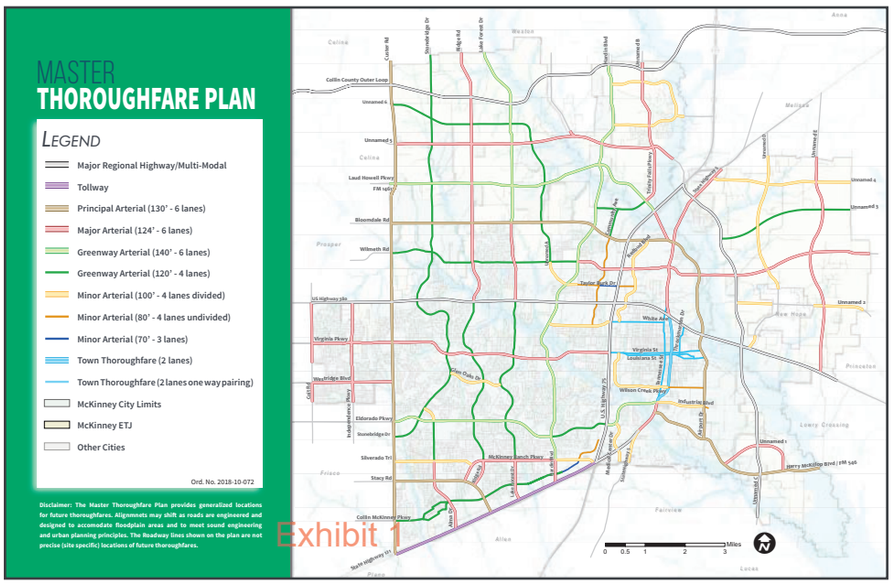
MASTER THOROUGHFARE PLAN



2019 – 2029 WATER & WASTEWATER IMPACT FEE UPDATE

Submitted To

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Submitted By

Matthew Hickey
3/31/2020

WATER
IMPACT FEE

03/31/2020

WASTEWATER
IMPACT FEE

BIRKHOFF, HENDRICKS & CARTER, L.L.P.

March 2020

Exhibit 2
APPENDIX E PREPARED BY OTHERS

CITY OF McKINNEY
2019 - 2029 WATER & WASTEWATER IMPACT FEE UPDATE

TABLE OF CONTENTS

CITY OF McKINNEY
2019 – 2029 WATER & WASTEWATER IMPACT FEE UPDATE

SECTION 1 – INTRODUCTION

A. GENERAL

In accordance with the requirements of Chapter 395.052 of the Local Government Code, this report establishes the City of McKinney's Capital Improvement Plan (CIP) for water and wastewater impact fees and calculates the maximum allowable fee for each. Land use assumptions for development of the CIP were generated under a separate document by the City of McKinney's Planning Department using the City's 2018 Comprehensive Plan Update.

Chapter 395, of the Local Government Code is an act that provides guidelines for financing capital improvements required by new development in municipalities, counties, and certain other local governments. The basis for determination of an impact fee requires the preparation and adoption of a land use plan and growth assumption, and the preparation of a 10-year capital improvement plan. The capital improvement plan requires an analysis of total capacity, the level of current usage and commitments of capacity of existing capital improvements. From these two phases, a maximum impact fee is calculated.

The Act allows the maximum impact fee to be charged if revenues from future ad valorem taxes, and water and sewer bills are included as a credit in the analysis. If not, the Act allows the maximum fee to be set at 50% of the calculated maximum fee. The following items were included in the impact fee calculation:

1. The portion of the cost of the new infrastructure that is to be paid by the City, including property acquisition and construction cost.

2. Existing excess capacity in lines and facilities that will serve future growth and which were paid for in whole or part by the City.

3. Engineering and quality control fees for construction projects.

4. Interest and other finance charges on bonds issued by the City to cover its portion of the cost.

The engineering analysis portion of the Water and Wastewater Fee determines utilized capacity cost of the major water distribution and wastewater collection facilities between the year 2019 and the year 2029. Facilities in this analysis include, water pump stations, water storage tanks, water transmission lines, wastewater collection lines, wastewater lift stations and wastewater treatment and conveyance expansion costs associated with the North Texas Municipal Water District (NTMWD) regional wastewater systems.

The NTMWD water treatment, water supply and distribution expansion components were excluded from this analysis. (NTMWD typically does not provide CIP data for their water supply systems.) NTMWD did, however, provide CIP data for their regional wastewater collection and wastewater treatment systems which support McKinney, and the cost data provided identified those projects which provide service capacity for new growth. The portion of McKinney's projected payments to NTMWD for wastewater collection, conveyance and treatment systems expansions for provision of service to new growth are included in this calculation of the maximum wastewater system impact fee.

The study period is a ten-year period with 2019 as the base year. The impact fee calculations for the water and wastewater systems are based on land use assumptions provided by the City of McKinney. Prior to this impact fee update, the City's Water Distribution and Wastewater Collection hydraulic models were updated for 2019, 2029 and buildout conditions. The hydraulic model results are available for review from the City of McKinney. The equivalency factors utilized in this analysis conform to McKinney's water meter manufacturer's maximum flow ratings.

B. LAND USE ASSUMPTIONS *(Provided By: City of McKinney Planning Department)*

The impact fee land use assumptions utilized in this update were prepared by the City of McKinney's Planning Department and are presented in a separate document. The land use assumptions projected an ultimate residential population of approximately 433,874 in the City of McKinney's ultimate planning boundary. This is a higher ultimate population than projected in the City's 2012 Water and Wastewater Impact Fee Update, which estimated a residential population of 357,967, an increase of 75,898 people.

The residential and non-residential growth provided by the City for the year 2019 through 2029 is summarized in **Table No. 1**.

TABLE NO. 1

Residential and Non-Residential Growth from 2019 to 2029

Year	Residential Population*	Non-Residential Uses**	
		Type	Developed Area (SF)
2019	193,011	Basic	13,324,039
		Service	16,601,750
		Retail	16,061,533
		Total:	**45,987,322**
2029	262,084	Basic	17,554,598
		Service	22,761,815
		Retail	22,197,558
		Total:	**62,513,971**
BUILDOUT	433,874	Basic	49,159,884
		Service	56,609,800
		Retail	47,811,292
		Total:	**153,580,976**
Res. Growth Rate	**135.787%**	**Non-Res. Growth Rate**	**135.937%**

** Residential Population – Represent Estate, Low Density, Medium Density and High Density Residential Categories*
*** Basic – Industrial Land Uses*
*** Service – Office & Institutional Land Uses*
*** Retail – Commercial Land Uses*

As shown in **Table No. 1**, increases in the residential population and non-residential uses will occur during the 10-year capital recovery period within the planning area. The water demand and wastewater flows from the residential and non-residential uses dictate the ultimate size of facilities, while the rate of growth is important to determine the timing of system improvements to meet the City's growing needs.

The eligible water impact fee facilities are shown on **Exhibit 1**. The eligible wastewater facilities are shown on **Exhibit 2** in this report.

SECTION II

WATER & WASTEWATER C.I.P. AND IMPACT FEE ANALYSIS

A. DEFINITION OF A SERVICE UNIT – WATER AND WASTEWATER

Chapter 395 of the Local Government Code requires that impact fees be based on a defined service unit. A "service unit" means a standardized measure of consumption, use generation, or discharge attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards. This impact fee defines a water and wastewater service unit to be a *¾-inch water meter* and has referred to this service unit as a Single Family Living Unit Equivalent (SFLUE). The SFLUE is based on the continuous duty capacity of a ¾-inch water meter. This is the typical meter used for a single family detached dwelling, and therefore is considered to be equivalent to one "living unit". Other meter sizes can be compared to the ¾-inch meter through a ratio of water flow rate capacities, as published by the water meter manufacturer for McKinney as shown in **Table No. 2** below. This same ratio is then used to determine the proportional water and wastewater impact fee amount for each water meter size.

TABLE NO. 2

Living Unit Equivalencies For Various Types and Sizes of Water Meters

Meter Type	Meter Size	Continuous Duty Maximum Rate (gpm) [(a)]	Ratio to 3/4" Meter
Multijet	¾"	30	1.00
Multijet	1"	50	1.67
Multijet	1½"	100	3.33
Ultrasonic	2"	250	8.33
Ultrasonic	3"	500	16.67
Ultrasonic	4"	1,000	33.33
Ultrasonic	6"	1,600	53.33
Ultrasonic	8"	2,800	93.33
Ultrasonic	12"	5,500	183.33

[(a)] *Source: Master Meter Performance Data*

B. CALCULATION OF WATER & WASTEWATER - LIVING UNIT EQUIVALENTS

The City of McKinney provided the existing water meter count by size category as of September 2019. In total, there are 60,645 domestic water and irrigation meters serving an existing population of 193,011 residents and the existing business. **Table No. 3** shows the number of existing meters, the living unit equivalent factor and the total number of living unit equivalents for each sized water meter.

The residential growth rate of 135.787% in **Table 1** was applied to ¾-inch and 1-inch meters. The non-residential growth rate of 135.937% in **Table 1** was applied to 1½-inch through 12-inch meters. Utilizing these growth rates in a straight-line extrapolation of the existing water and wastewater accounts, the numbers of new accounts was calculated for the year 2029. Living unit equivalents were calculated for the water meters and wastewater accounts for 2019 and 2029, resulting in a total number of living units. The difference in the total number of 2019 and 2029 living units results in the new living unit equivalents during the impact fee period. The calculation of living unit equivalents is summarized in **Table 3 and Table 4**.

TABLE NO. 3

Water Living Unit Equivalents 2019 – 2029

Meter Size	2019			2029			New Living Units During Impact Fee Period
	Meter Count	Living Units per Meter	Total Living Units	Meter Count	Living Units per Meter	Total Living Units	
¾"	**43,303**	1.00	43,303	**58,800**	1.00	58,799	15,496
1"	**14,015**	1.67	23,405	**19,031**	1.67	31,781	8,376
1½"	**468**	3.33	1,558	**636**	3.33	2,118	560
2"	**2,533**	8.33	21,099	**3,443**	8.33	28,682	7,583
3"	**225**	16.67	3,750	**306**	16.67	5,098	1,348
4"	**68**	33.33	2,266	**92**	33.33	3,080	814
6"	**22**	53.33	1,173	**30**	53.33	1,594	421
8"	**9**	93.33	839	**12**	93.33	1,141	302
12"	**2**	183.33	366	**3**	183.33	498	132
Totals:	**60,645**		**97,759**	**82,353**		**132,791**	**35,032**

The number of wastewater accounts was determined by subtracting the number of irrigation meters from the number of domestic water meters. This equates to 58,099 existing wastewater accounts. **Table No. 4** illustrates the existing wastewater accounts and the SFLUE's.

TABLE NO. 4

Wastewater Living Unit Equivalents 2019 – 2029

Meter Size	2019			2029			New Living Units During Impact Fee Period
	Meter Count	Living Units per Meter	Total Living Units	Meter Count	Living Units per Meter	Total Living Units	
¾"	**43,084**	1.00	43,084	**58,503**	1.00	58,502	15,418
1"	**13,171**	1.67	21,995	**17,885**	1.67	29,867	7,872
1½"	**287**	3.33	955	**390**	3.33	1,299	344
2"	**1,246**	8.33	10,379	**1,694**	8.33	14,109	3,730
3"	**215**	16.67	3,584	**292**	16.67	4,872	1,288
4"	**65**	33.33	2,166	**88**	33.33	2,945	779
6"	**20**	53.33	1,066	**27**	53.33	1,449	383
8"	**9**	93.33	839	**12**	93.33	1,141	302
12"	**2**	183.33	366	**3**	183.33	498	132
Totals:	**58,099**		**84,434**	**78,894**		**114,682**	**30,248**

C. COST OF FACILITIES

Unit cost for proposed water and wastewater lines larger than 12 inches in diameter that are anticipated to be constructed by private development include only the City's oversize cost participation. These water and wastewater lines are colored Green on **Exhibits 1 through 2**. Oversize cost participation from City is when funds are available. For City participation, the developer must bid the 12-inch as a base and the oversize as an additive alternate. City initiated water and wastewater lines include the full cost of the proposed facility. These water and wastewater lines are colored Red on **Exhibits 1 through 2**. Existing water and wastewater lines that the City funded or participated in the cost of the project that were assessed for utilized capacity are colored Dark Blue on **Exhibits 1 through 2**. Developer initiated water and wastewater line projects which are 12 inches or less in diameter are not included in this Impact Fee analysis, as the cost for these size lines are the responsibility of the developer. These water and wastewater lines are colored Light Blue on **Exhibits 1 through 2**.

Actual construction costs of the various elements of the water and wastewater systems were utilized where the information was known. The existing cost of facilities was determined from Contractor's final pay requests, City purchase orders, bid tabulation forms and developer's agreements. Most of the cost data for existing water and wastewater lines included in the impact fee analysis have been located. A 4.5% debt service, over a period of 20-years, has been added to all projects. Actual costs were used for those existing projects where records were available.

D. WATER DISTRIBUTION SYSTEM

Computer models for the years 2019, 2029 and Buildout were prepared and analyzed by Birkhoff, Hendricks & Carter, LLP. The models were developed and water demand distributed from residential population and non-residential land use projections provided by the City of McKinney's Planning Department. The projected developed land areas from the City's Land Use Assumptions follow closely to the construction of major facilities in the system. These facilities include pump stations, storage tanks, and major distribution lines. All computer models were run for the Maximum Hourly Demands in a three-day extended period simulation to ensure proper sizing of the facilities to meet peak demands.

1. Existing Pump Stations, Ground Storage Reservoirs & Elevated Storage Tanks

The existing pump station, ground storage and elevated storage facilities of the water distribution system are summarized in **Table No. 5** and **Table No. 6.** These facilities are included in the impact fee analysis as additional capacity is available.

TABLE NO. 5

Water Distribution System - Existing Pump Stations & Ground Storage

Pump Station	Number of Pumps	Rated Capacity (MGD)	Number of Ground Storage Tanks	Total Ground Storage Available (Gallons)
McKinney Ranch	11	56.5	2	16,000,000
University	6	50.0	3	26,000,000
Gerrish	4	18.1	1	2,000,000
Total:	**21**	**124.6**	**6**	**44,000,000**

TABLE NO. 6

Existing Elevated Storage Tanks

Elevated Storage Tanks	Capacity in Million Gallons
Industrial Elevated Storage Tank	2.0
U.S. 380 Elevated Storage Tank	1.5
Hardin Elevated Storage Tank	2.0
Wilmeth Elevated Storage Tank	2.0
Virginia Elevated Storage Tank	1.5
Independence Elevated Storage Tank	3.0
Community Elevated Storage Tank	3.0
Total	**15.0**

The existing McKinney Ranch 850 Pump Station 1 pumps and the Chestnut Elevated Storage Tank are no longer utilized and were not included in the impact fee calculation.

The pump stations and ground storage facilities were analyzed with the maximum daily demand, while the dynamic hydraulics of elevated storage facilities were analyzed utilizing the difference between the Maximum Hourly Demand and the Maximum Daily Demand.

2. Distribution Lines

The distribution lines consist of all lines within the Service Area planning boundary supplying water to customers in the City of McKinney. Existing and proposed distribution lines vary in size from 3/4-inch services to 72-inch transmission lines. The cost of water lines includes construction cost, appurtenances (water valves, fire hydrants, taps and the like), utility relocations, purchase of easements and engineering costs. Financing cost over a 20-year term is included for each project.

Unit cost for proposed capital improvement water lines that are classified as City-initiated include the City's full cost of the proposed facility. CIP projects classified as City-participation in oversize are reduced in cost by the unit cost for 12-inches water line. Developer's initiated water line projects, 12 inches or less in diameter were not included in this Impact Fee analysis, as the cost for these size lines is the responsibility of the developer.

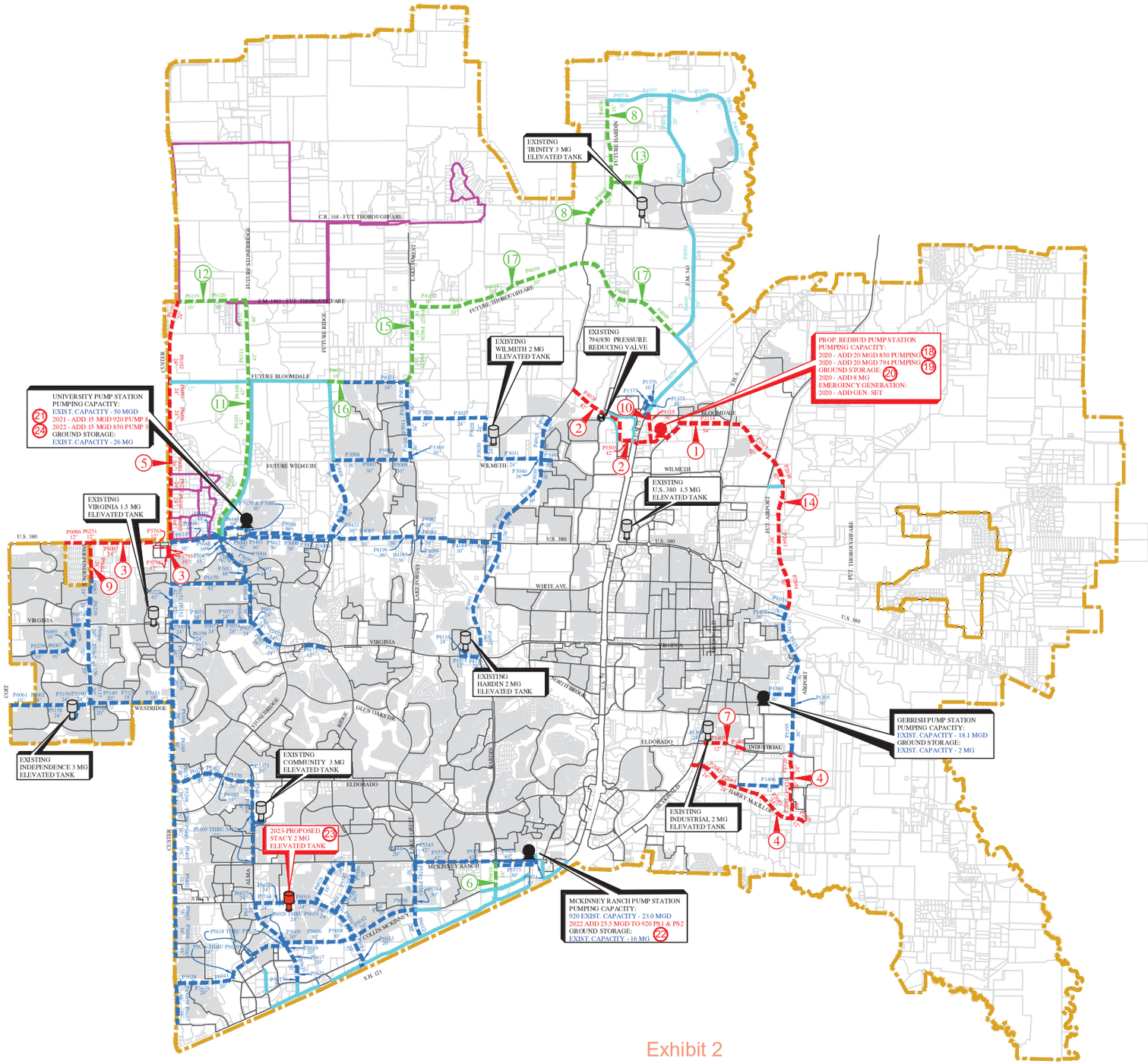
3. Water Supply

The City of McKinney currently receives all of its water supply from the North Texas Municipal Water District (NTMWD). McKinney's allocation of the capital cost of services as a Member of the NTMWD was specifically excluded from the impact fee analysis.

4. Water Distribution System Capital Improvement Projects for Impact Fees

In order to meet the demands of the anticipated growth over the next 10-years, as provided in the Land Use Assumptions prepared by the City of McKinney, certain water distribution system improvements are required. **Exhibit 1** shows the recommended water system improvements and **Table No. 7** itemizes each project and the project cost in 2019 dollars. These recommended improvements form the basis for the water system impact fee calculation.

The capital improvement plan for impact fees provides for system improvements within the defined Service Area Planning Boundary where the land use assumptions show growth.



McKINNEY TEXAS
Unique by nature.

2019 - 2029 WATER IMPACT FEE 10-YEAR CAPITAL IMPROVEMENT PLAN

BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
Dallas, Texas

NOVEMBER 2019

Exhibit 2

Table No. 7

Water Distribution System 10-Year Capital Improvement Plan Summary

PROPOSED WATER LINES

Proj. No.	Year	1=City Participation in Cost Oversize 2=City Initiated and Funded	Project	Size	Opinion of Construction Cost (A)	Debt Service (B)	Total Project Cost
1	2020	2	REDBUD 794 PUMP STATION 54" DISCHARGE LINE	54"	$ 4,496,262	$ 2,416,844	$ 6,913,106
2	2019	2	REDBUD 850 PUMP STATION 42" DISCHARGE LINE	42"	$ 8,137,350	$ 4,374,012	$ 12,511,362
3	2020	2	US 380 / INDEPENDENCE LOOP	12", 16", 24"	$ 2,203,102	$ 1,184,218	$ 3,387,320
4	2021	2	HARRY McKILLOP BLVD. 24" WATER LINE	12", 24"	$ 8,350,000	$ 4,488,315	$ 12,838,315
5	2021	2	CUSTER 24" NORTH WATER LINE	18", 24"	$ 11,888,125	$ 6,390,139	$ 18,278,264
6	2021	1	HARDIN SOUTH 16" WATER LINE	16"	$ 108,900	$ 58,536	$ 167,436
7	2022	2	INDUSTRIAL BLVD. 12" WATER LINE (PIPE BURST 8" to 12")	12"	$ 569,109	$ 305,909	$ 875,018
8	2022	1	HARDIN 24" & 16" (TRINITY FALLS WEST FEED NORTH)	16", 24"	$ 691,392	$ 371,639	$ 1,063,031
9	2022	2	INDEPENDENCE CONNECTION TO US 380	24"	$ 561,120	$ 301,615	$ 862,735
10	2023	2	REDBUD PUMP STATION 850 DISCHARGE LINE (T-FALLS EAST FEED)	42"	$ 737,100	$ 396,208	$ 1,133,308
11	2024	1	STONEBRIDGE 42" WATER LINE	42"	$ 5,342,040	$ 2,871,468	$ 8,213,508
12	2025	1	F.M. 1461 (FUTURE E/W THOROUGHFARE)	16"	$ 289,560	$ 155,645	$ 445,205
13	2025	1	COUNTY ROAD 228 16" WATER LINE	16"	$ 125,100	$ 67,244	$ 192,344
14	2026	2	AIRPORT WATER LINE NORTH LOOP	30", 36"	$ 4,821,900	$ 2,591,882	$ 7,413,782
15	2027	1	LAKE FOREST 16" WATER LINE	16"	$ 337,138	$ 181,219	$ 518,357
16	2027	1	BLOOMDALE 16" WATER LINE	16"	$ 200,220	$ 107,623	$ 307,843
17	2029	1	FUT. 850 EAST / WEST THOROUGHFARE WATER LINE	12", 20", 24"	$ 2,245,020	$ 1,206,749	$ 3,451,769
			Subtotal: Proposed Water Lines		**$ 51,103,438**	**$ 27,469,265**	**$ 78,572,703**

PUMPING AND STORAGE FACILITIES

Proj. No.	Year	Project	Capacity	Opinion of Construction Cost (A)	Debt Service (B)	Total Project Cost
18	2020	Redbud Pump Station - Phase I Improvements (850)	20 MGD	$ 12,600,000	$ 6,772,788	$ 19,372,788
19	2020	Redbud Pump Station - Phase I Improvements (794)	20 MGD	$ 12,600,000	$ 6,772,788	$ 19,372,788
20	2020	Redbud Pump Station 8-MG Ground Storage Reservoir No. 1	8 MG	$ 3,828,000	$ 2,057,638	$ 5,885,638
21	2021	University Pump Station Phase III Improvements - Add Pump 920 PS2 Pump 8	15-MGD	$ 2,482,830	$ 1,334,578	$ 3,817,408
22	2022	McK. Ranch P.S. - Phase I - Replace PS 1 PMPs 6-8, Add 9, PS 2 Pumps 1 & 2	25.5 MGD	$ 10,574,487	$ 5,684,029	$ 16,258,516
23	2023	Stacy 2-MG Elevated Storage Tank	2 MG	$ 5,500,000	$ 2,956,376	$ 8,456,376
24	2029	University Pump Station Phase III Improvements - Add Pump 920 PS2 Pump 8	15-MGD	$ 2,420,000	$ 1,300,805	$ 3,720,805
		Subtotal: Pumping and Storage Facilities		**$ 50,005,317**	**$ 26,879,002**	**$ 76,884,319**
		GRAND TOTAL: Water Distribution System CIP		**$ 101,108,755**	**$ 54,348,267**	**$ 155,457,022**

(A) Opinion of Cost includes:
a) Engineer's Opinion of Construction Cost
b) Professional Services Fees (Survey, Engineering, Testing, Legal)
c) Cost of Easement or Land Acquisitions

(B) Debt Service based on 20-year simple interest bonds at 4.5%

5. Utilized Capacity

Utilized capacity for the water distribution system was calculated based on the water line peak flow rate for each model year (2019, 2029 and buildout). The proposed water distribution lines are sized for the maximum flow rates reported by the hydraulic model at buildout. Pump station capacity is generally based on the maximum daily system demand. Peak flow rates in the water system lines can be observed during either the maximum hourly demand or during the minimum hourly demand, during refilling of elevated storage tanks, for a particular water line, whichever demand generates the greater flow rate.

The percent utilized capacity was then calculated for each year based on the buildout capacity. The utilized capacity during the Impact Fee period is the difference between the year 2029 capacity and the year 2019 capacity. **Table No. 8** below summarizes the project cost and utilized cost over the impact fee period of 2019 - 2029 for each element of the Water Distribution System. The utilized capacity for each water distribution facility, both existing and proposed, is presented in detail in Impact Fee Capacity Calculation **Table Nos. 9, 10, 11, 12 and 13.**

Table No. 8

Summary of Eligible Water Distribution Project Cost and Utilized Capacity Cost

Water System Facility	20-Year Project Cost	Utilized Capacity in the CRP Period
Existing Pump Stations	$30,631,427	$9,408,650
Existing Ground Storage Reservoirs	$34,931,412	$12,013,850
Existing Elevated Storage Tanks	$29,760,105	$9,552,229
Existing Transmission/Distribution Lines	$64,978,704	$11,094,827
Proposed Pump Stations	$62,542,305	$21,078,674
Proposed Ground Storage Reservoirs	$5,885,638	$2,471,968
Proposed Elevated Storage Tanks	$8,456,376	$6,257,718
Proposed Transmission/Distribution Lines	$78,572,703	$28,836,729
Planning Expenses	$204,417	$204,417
Total:	**$315,963,087**	**$100,919,062**

TABLE NO. 9
Water Pump Station Facilities

Pump Station Improvements	Year Const.	Projected Capacity (MGD)	Pump Station Cost ($)				Capacity Utilized (%)			Capacity Utilized ($)		
			Const.	Engineering & Testing	20 Year Debt Service Interest Rate	Total 20 Yr. Project Cost $ 4.5%	2019	2029	In The CRF Period	2019	2029	In The CRF Period
EXISTING PUMP STATIONS												
McKinney Ranch Pump Station												
Original Construction (920) [3] *	1987	14.3	$ 189,700	$ 18,970	$ 112,165	$ 320,835	88.0%	100.0%	12.0%	$ 282,335	$ 320,835	$ 38,500
Phase I Improvements (920) [4]	1999	20.1	$ 1,020,172	$ 103,000	$ 603,731	$ 1,726,903	39.0%	83.0%	44.0%	$ 673,492	$ 1,433,329	$ 759,837
Phase II Improvements (920) [1]	2002	5.0	$ 157,929	$ 40,000	$ 106,391	$ 304,320	39.0%	83.0%	44.0%	$ 118,685	$ 252,586	$ 133,901
850 Service Area Pumps (850) [3]	2007	15.0	$ 4,184,997	$ 303,285	$ 2,412,554	$ 6,900,836	100.0%	100.0%	0.0%	$ 6,900,836	$ 6,900,836	$ -
Emergency Generator (2 Sets)	2008		$ 1,875,964	$ 222,263	$ 1,127,845	$ 3,226,071	50.0%	100.0%	50.0%	$ 1,613,036	$ 3,226,071	$ 1,613,036
University Pump Station												
Phase IA Improvements (920) [2]	2004	20.0	$2,380,738	$166,880	$ 1,369,403	$ 3,917,021	49.00%	100.00%	51.0%	$ 1,919,340	$ 3,917,021	$ 1,997,681
Phase II Improvements (850) [2]	2007	30.0	$2,949,246	$189,113	$ 1,686,939	$ 4,825,297	67.00%	100.00%	33.0%	$ 3,232,949	$ 4,825,297	$ 1,592,348
Phase II Improvements (920) [2]	2007	30.0	$2,949,246	$189,113	$ 1,686,939	$ 4,825,297	67.00%	93.00%	26.0%	$ 3,232,949	$ 4,487,526	$ 1,254,577
Emergency Generator - Set 1	2008		$2,024,937	$148,017	$ 1,168,012	$ 3,340,966	50.00%	100.00%	50.0%	$ 1,670,483	$ 3,340,966	$ 1,670,483
Gerrish Pump Station												
(1) Replace Pump 4 + Electrical [1]	2017	4.8	$ 740,877	$ 68,140	$ 434,865	$ 1,243,882	72.0%	100.0%	28.0%	$ 895,595	$ 1,243,882	$ 348,287
SUBTOTAL EXISTING:			**$ 18,473,804**	**$ 1,448,779**	**$ 10,708,844**	**$ 30,631,427**						**$ 9,408,650**
PROPOSED PUMP STATIONS												
University Pump Station												
Phase III - Add 920 PS 2 Pump 8 [1]	2021	15.0	$2,369,065	$113,765	$ 1,334,578	$ 3,817,408	0.0%	93.0%	93.0%	$ -	$ 3,550,189	$ 3,550,189
1 PhaseIV - Add 850 PS2 Pump 3 [1]	2029	15.0	$2,300,000	$120,000	$ 1,300,805	$ 3,720,805	0.0%	37.0%	37.0%	$ -	$ 1,376,698	$ 1,376,698
McKinney Ranch Pump Station												
1 Phase 1 & 2 [6]	2022	25.5	$9,613,170	$961,317	$ 5,684,029	$ 16,258,516	54.0%	89.0%	35.0%	$ 8,779,599	$ 14,470,079	$ 5,690,481
Redbud Pump Station												
Phase I Improvements (850) [2] *	2020	20.0	$ 12,000,000	$ 600,000	$ 6,772,788	$ 19,372,788	0.0%	26.0%	26.0%	$ -	$ 5,036,925	$ 5,036,925
Phase I Improvements (794) [2] *	2020	20.0	$ 12,000,000	$ 600,000	$ 6,772,788	$ 19,372,788	0.0%	28.0%	28.0%	$ -	$ 5,424,381	$ 5,424,381
SUBTOTAL PROPOSED:			**$ 38,282,235**	**$ 2,395,082**	**$ 21,864,988**	**$ 62,542,305**						**$ 21,078,674**
EXISTING + PROPOSED TOTAL:						**$ 93,173,732**						**$ 30,487,324**

* 10% of Construction Assumed for Engineering and Testing
(1) Estimated Cost in 2019 Dollars
[#] Number of Proposed Pumps

TABLE NO. 10
Ground Storage Reservoirs

Pump Station		Year Const.	Capacity (MG)	Capital Cost ($)				Capacity Utilized (%)			Capacity Utilized ($)		
				Const.	Eng. & Testing	Total 20 Yr. Project Cost $ 4.5%	Total 20 Yr. Project Cost $	2009	2019	In the CRF Period	2019	2029	In the CRF Period
EXISTING GROUND STORAGE RESERVOIRS													
McKinney Ranch No. 1	*	1987	6.0	$ 2,910,000	$ 291,000	$ 1,720,611	$ 4,921,611	44.2%	84.6%	40.4%	$ 2,177,704	$ 4,163,770	$ 1,986,066
McKinney Ranch No. 2	1	2007	10.0	$ 3,748,480	$ 335,500	$ 2,195,233	$ 6,279,213	44.2%	84.6%	40.4%	$ 2,778,413	$ 5,312,325	$ 2,533,913
University No. 1	1	2003	6.0	$ 2,008,499	$ 150,544	$ 1,160,535	$ 3,319,578	52.6%	84.2%	31.6%	$ 1,747,146	$ 2,795,434	$ 1,048,288
University No. 2	1	2007	10.0	$ 5,921,753	$ 257,689	$ 3,321,592	$ 9,501,034	52.6%	84.2%	31.6%	$ 5,000,544	$ 8,000,871	$ 3,000,327
University No. 3	1	2014	10.0	$ 6,740,817	$ 354,997	$ 3,814,162	$ 10,909,976	52.6%	84.2%	31.6%	$ 5,742,093	$ 9,187,348	$ 3,445,256
SUBTOTAL EXISTING:			**42.0**				**$ 34,931,412**						**$ 12,013,850**
PROPOSED GROUND STORAGE RESERVOIRS													
Redbud No. 1	1*	2020	8.0	$ 3,445,200	$ 382,800	$ 2,057,638	$ 5,885,638	0.0%	42.0%	42.0%	$ -	$ 2,471,968	$ 2,471,968
SUBTOTAL PROPOSED:			**8.0**				**$ 5,885,638**						**$ 2,471,968**
EXISTING + PROPOSED TOTAL:			**50.0**				**$ 40,817,050**						**$ 14,485,818**

* 10% of Construction Assumed for Engineering and Testing
(1) Actual Cost

TABLE NO. 11
Elevated Storage Tanks

Elevated Storage		Pressure Divide	Year Const.	Storage Capacity (MGD)	Capital Cost ($)				Capacity Utilized (%)			Capacity Utilized ($)		
					Const.	Eng. & Testing	Total 20 Yr. Project Cost $ 4.5%	Total 20 Yr. Project Cost $	2019	2029	In the CRF Period	2019	2029	In the CRF Period
EXISTING ELEVATED STORAGE TANKS														
U.S. 380	2*	794	Unknown	1.5	$ 550,000	$ 55,000	$ 325,201	$ 930,201	84%	87%	3%	$ 781,369	$ 809,275	$ 27,906
Virginia	1*	920	1993	1.5	$ 1,234,301	$ 123,430	$ 729,812	$ 2,087,543	90%	100%	10%	$ 1,878,789	$ 2,087,543	$ 208,754
Community	1	920	2002	3.0	$ 3,313,500	$ 105,000	$ 1,837,522	$ 5,256,022	0%	96%	96%	$ -	$ 5,045,781	$ 5,045,781
Industrial	1	794	2002	2.0	$ 1,787,500	$ 70,000	$ 998,449	$ 2,855,949	68%	84%	16%	$ 1,942,045	$ 2,398,997	$ 456,952
Wilmeth	1	850	2006	2.0	$ 2,400,000	$ 280,137	$ 1,440,635	$ 4,120,772	81%	84%	3%	$ 3,337,825	$ 3,461,448	$ 123,623
Hardin	1	850	2013	2.0	$ 4,682,481	$ 374,585	$ 2,718,289	$ 7,775,355	77%	95%	18%	$ 5,987,023	$ 7,386,587	$ 1,399,564
Independence	1	920	2008	3.0	$ 4,218,250	$ 161,693	$ 2,354,320	$ 6,734,263	65%	99%	34%	$ 4,377,271	$ 6,666,920	$ 2,289,649
SUBTOTAL EXISTING:				15.0				**$ 29,760,105**						**$ 9,552,229**
PROPOSED ELEVATED STORAGE TANKS														
Stacy	2*	920	2023	2.0	$ 5,000,000	$ 500,000	$ 2,956,376	$ 8,456,376	0%	74%	74%	$ -	$ 6,257,718	$ 6,257,718
SUBTOTAL PROPOSED:				2.0				**$ 8,456,376**						**$ 6,257,718**
EXISTING +PROPOSED TOTAL:				**17.0**				**$ 38,216,481**						**$ 15,809,947**

* 15% of Construction Assumed for Engineering and Testing
(1) Actual Cost
(2) Estimated Cost in 2019 Dollars

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity 2019	(%) Utilized Capacity 2029	(%) Utilized Capacity During Fee Period	($) Utilized Capacity 2019	($) Utilized Capacity 2029	($) Utilized Capacity During Fee Period
F.M. 720 PUMP STATION 30" WATER LINE																
Pump Station Name Change to McKinney Ranch - Project from McKinney Ranch Pump Station to Hardin Rd.																
1	P5573	920	2,282	30		$61.63	$140,651		$75,603	$216,254	57%	91%	34%	$123,265	$196,791	$73,526
1	P5574	920	287	30		$61.63	$17,689		$9,508	$27,197	51%	90%	39%	$13,870	$24,477	$10,607
	Subtotal:		**2,569**		**1990**		**$158,340**	**4.5%**	**$85,111**	**$243,451**				**$137,135**	**$221,268**	**$84,133**
VIRGINIA PARKWAY 24" WATER LINE																
From Stonebridge Dr. West to the Virginia Elevated Storage Tank																
1	P5069	920	976	24		$6.01	$5,864		$3,152	$9,016	79%	91%	12%	$7,123	$8,205	$1,082
1	P5070	920	299	24		$6.01	$1,796		$965	$2,761	94%	100%	6%	$2,595	$2,761	$166
1	P5071	920	582	24		$6.01	$3,497		$1,880	$5,377	95%	100%	5%	$5,108	$5,377	$269
1	P5072	920	1,109	24		$6.01	$6,663		$3,582	$10,245	99%	100%	1%	$10,143	$10,245	$102
1	P5073	920	298	24		$6.01	$1,790		$962	$2,752	100%	100%	0%	$2,752	$2,752	$0
1	P5074	920	919	24		$6.01	$5,521		$2,968	$8,489	100%	100%	0%	$8,489	$8,489	$0
1	P5075	920	636	24		$6.01	$3,821		$2,054	$5,875	100%	100%	0%	$5,875	$5,875	$0
1	P5076	920	1,148	24		$6.01	$6,897		$3,707	$10,604	100%	100%	0%	$10,604	$10,604	$0
1	P5077	920	552	24		$6.01	$3,316		$1,782	$5,098	100%	100%	0%	$5,098	$5,098	$0
1	P5078	920	469	24		$6.01	$2,818		$1,515	$4,333	100%	100%	0%	$4,333	$4,333	$0
1	P5079	920	376	24		$6.01	$2,259		$1,214	$3,473	100%	100%	0%	$3,473	$3,473	$0
1	P5747	920	98	24		$6.01	$589		$317	$906	100%	100%	0%	$906	$906	$0
1	P5761	920	454	12		$6.01	$2,728		$1,466	$4,194	39%	100%	61%	$1,636	$4,194	$2,558
1	P6198	920	387	24		$6.01	$2,325		$1,250	$3,575	93%	100%	7%	$3,325	$3,575	$250
	Subtotal:		**8,303**		**1992**		**$49,884**	**4.5%**	**$26,814**	**$76,698**				**$71,460**	**$75,887**	**$4,427**
CUSTER 16" WATER LINE																
From Stacy Rd. to Stonebridge Dr.																
1	P5399	920	483	16		$62.34	$30,112		$16,186	$46,298	100%	100%	0%	$46,298	$46,298	$0
1	P5400	920	1,289	16		$62.34	$80,360		$43,195	$123,555	100%	100%	0%	$123,555	$123,555	$0
1	P5401	920	1,311	16		$62.34	$81,732		$43,933	$125,665	100%	100%	0%	$125,665	$125,665	$0
1	P5402	920	1,287	16		$62.34	$80,236		$43,129	$123,365	100%	100%	0%	$123,365	$123,365	$0
	Subtotal:		**4,370**		**1996**		**$272,440**	**4.5%**	**$146,443**	**$418,883**				**$418,883**	**$418,883**	**$0**
F.M. 720 PARALLEL 42" WATER LINE																
F.M. 720 Now Called McKinney Ranch Pkwy.- Project Begins at McKinney Ranch Pump Station and Ends at Lake Forest Dr.																
2	P5544	920	59	20		$173.14	$10,215		$5,491	$15,706	60%	88%	28%	$9,424	$13,821	$4,398
2	P5545	920	42	42		$173.14	$7,272		$3,909	$11,181	60%	88%	28%	$6,709	$9,839	$3,131
2	P5578	920	8,018	42		$173.14	$1,388,205		$746,192	$2,134,397	56%	89%	33%	$1,195,262	$1,899,613	$704,351
	Subtotal:		**8,119**		**1999**		**$1,405,692**	**4.5%**	**$755,592**	**$2,161,284**				**$1,211,395**	**$1,923,273**	**$711,880**
INDUSTRIAL 2-MG ELEVATED STORAGE TANK WATER LINE																
From Industrial Elevated Storage Tank to McDonald St.																
2	P1304	794	385	24		$334.79	$128,893		$69,283	$198,176	67%	100%	33%	$132,778	$198,176	$65,398
	Subtotal:		**385**		**2002**		**$128,893**	**4.5%**	**$69,283**	**$198,176**				**$132,778**	**$198,176**	**$65,398**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
ALMA ROAD 24-INCH WATER LINE																
From Eldorado Pkwy. South to Community 3-MG Elevated Storage Tank																
1	P5403	920	1,146	24		$157.44	$180,423		$96,981	$277,404	100%	100%	0%	$277,404	$277,404	$0
1	P5404	920	897	24		$157.44	$141,221		$75,910	$217,131	100%	100%	0%	$217,131	$217,131	$0
1	P5405	920	674	24		$157.44	$106,112		$57,038	$163,150	100%	100%	0%	$163,150	$163,150	$0
1	P5406	920	140	24		$157.44	$22,041		$11,848	$33,889	100%	100%	0%	$33,889	$33,889	$0
Subtotal:			**2,857**		**2005**		**$449,797**	**4.5%**	**$241,777**	**$691,574**				**$691,574**	**$691,574**	**$0**
ELDORADO 20-INCH WATER LINE																
From Alma Rd. to Custer Rd.																
1	P5301	920	1,367	20		$14.56	$19,897		$10,695	$30,592	100%	100%	0%	$30,592	$30,592	$0
1	P5370	920	1,863	20		$14.56	$27,117		$14,576	$41,693	100%	100%	0%	$41,693	$41,693	$0
1	P5371	920	116	20		$14.56	$1,688		$907	$2,595	100%	100%	0%	$2,595	$2,595	$0
1	P6154	920	2,061	20		$14.56	$29,999		$16,125	$46,124	100%	100%	0%	$46,124	$46,124	$0
Subtotal:			**5,407**		**2005**		**$78,702**	**4.5%**	**$42,303**	**$121,004**				**$121,004**	**$121,004**	**$0**
GERRISH PUMP STATION / AIRPORT BLVD. 36-INCH WATER LINES																
From Gerrish Pump Station East to Airport Blvd. and Airport Blvd. from U.S. 380 to Industrial Blvd.																
2	P1059	794	532	36		$115.52	$61,455		$33,033	$94,488	100%	100%	0%	$94,488	$94,488	$0
2	P1192	794	1,366	36		$115.52	$157,795		$84,818	$242,613	42%	95%	53%	$101,897	$230,482	$128,585
2	P1193	794	952	36		$115.52	$109,971		$59,112	$169,083	48%	83%	35%	$81,160	$140,339	$59,179
2	P1194	794	2,918	36		$115.52	$337,076		$181,186	$518,262	50%	70%	20%	$259,131	$362,783	$103,652
2	P1195	794	2,574	36		$115.52	$297,338		$159,826	$457,164	20%	56%	36%	$91,433	$256,012	$164,579
2	P1360	794	2,110	36		$115.52	$243,739		$131,015	$374,754	49%	100%	51%	$183,629	$374,754	$191,125
2	P1395	794	1,300	36		$115.52	$150,171		$80,720	$230,891	24%	57%	33%	$55,414	$131,608	$76,194
2	P1408	794	831	36		$115.52	$95,994		$51,599	$147,593	42%	96%	54%	$61,989	$141,689	$79,700
Subtotal:			**12,583**		**2003**		**$1,453,539**	**4.5%**	**$781,309**	**$2,234,848**				**$929,141**	**$1,732,155**	**$803,014**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
UNIVERSITY 36-INCH WATER LINE - DISCHARGE LINE 1																
From University Pump Station to U.S. 380; East Along U.S. 380 to Stonebridge Dr.																
2	P5000	920	1,878	36		$313.15	$588,092		$316,113	$904,205	75%	100%	25%	$678,154	$904,205	$226,051
2	P5004	920	60	36		$313.15	$18,789		$10,100	$28,889	75%	100%	25%	$21,667	$28,889	$7,222
	Subtotal:		**1,938**		**2003**		**$606,881**	**4.5%**	**$326,213**	**$933,094**				**$699,821**	**$933,094**	**$233,273**
HARDIN BLVD. 36-INCH WATER LINE - (VIRGINIA TO US 380)																
From Virginia Pkwy. to U.S. 380																
2	P3090	850	2,375	36		$161.00	$382,368		$205,532	$587,900	85%	100%	15%	$499,715	$587,900	$88,185
2	P3091	850	3,645	36		$161.00	$586,834		$315,437	$902,271	85%	100%	15%	$766,930	$902,271	$135,341
2	P3092	850	2,005	36		$161.00	$322,799		$173,512	$496,311	87%	100%	13%	$431,791	$496,311	$64,520
	Subtotal:		**8,025**		**2003**		**$1,292,000**	**4.5%**	**$694,481**	**$1,986,482**				**$1,698,436**	**$1,986,482**	**$288,046**
HARDIN NORTH WATER LINE - (US 380 TO BUCHANAN)																
From U.S. 380 North to Buchanan St. (Constructed with President's Point)																
1	P3036	850	599	36		$272.00	$162,928		$87,578	$250,506	100%	100%	0%	$250,506	$250,506	$0
1	P3037	850	1,264	36		$272.00	$343,808		$184,805	$528,613	100%	100%	0%	$528,613	$528,613	$0
	Subtotal:		**1,863**		**2002**		**$347,000**	**4.5%**	**$272,383**	**$779,119**				**$779,119**	**$779,119**	**$0**
850 WILMETH WATER MAIN - PHASE 1																
Along Hardin Blvd from Buchanan St. to Wilmeth Rd.																
2	P3038	850	3,414	36		$145.90	$498,086		$267,733	$765,819	100%	100%	0%	$765,819	$765,819	$0
2	P3039	850	783	36		$145.90	$114,236		$61,404	$175,640	98%	100%	2%	$172,127	$175,640	$3,513
2	P3040	850	97	36		$145.90	$14,152		$7,607	$21,759	85%	100%	15%	$18,495	$21,759	$3,264
2	P3041	850	723	20		$145.90	$105,482		$56,699	$162,181	96%	100%	4%	$155,694	$162,181	$6,487
	Subtotal:		**5,017**		**2005**		**$731,955**	**4.5%**	**$393,443**	**$1,125,399**				**$1,112,135**	**$1,125,399**	**$13,264**
850 WILMETH WATER MAIN - PHASE 2																
Along Wilmeth Rd. from Hardin Blvd. to C.R. 943; North Along C.R. 943 2,880-ft; West to Lake Forest Dr.; South Along Lake Forest Dr. to Wilmeth Rd.																
2	P3010	850	1,443	36		$145.90	$210,527		$113,163	$323,690	62%	100%	38%	$200,688	$323,690	$123,002
2	P3011	850	1,083	36		$145.90	$158,004		$84,931	$242,935	61%	100%	39%	$148,190	$242,935	$94,745
2	P3026	850	2,897	24		$145.90	$422,658		$227,188	$649,846	100%	100%	0%	$649,846	$649,846	$0
2	P3027	850	2,285	24		$145.90	$333,370		$179,194	$512,564	100%	100%	0%	$512,564	$512,564	$0
2	P3028	850	1,848	24		$145.90	$269,614		$144,924	$414,538	100%	100%	0%	$414,538	$414,538	$0
2	P3030	850	910	24		$145.90	$132,764		$71,364	$204,128	80%	91%	11%	$163,302	$185,756	$22,454
2	P3031	850	2,760	24		$145.90	$402,670		$216,444	$619,114	86%	86%	0%	$532,438	$532,438	$0
2	P3369	850	302	36		$145.90	$44,060		$23,683	$67,743	62%	100%	38%	$42,001	$67,743	$25,742
	Subtotal:		**13,528**		**2005**		**$1,973,668**	**4.5%**	**$1,060,891**	**$3,034,558**				**$2,663,567**	**$2,929,510**	**$265,943**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
850 LOOPED SYSTEM NORTH																
From University Pump Station East to Future Ridge Rd.; Along Future Ridge Rd. North to Wilmeth Rd.; East Along Wilmeth Rd. to Lake Forest Dr.																
2	P3000	850	1,830	36		$145.90	$266,988		$143,512	$410,500	68%	100%	32%	$279,140	$410,500	$131,360
2	P3002	850	1,373	36		$145.90	$200,314		$107,673	$307,987	69%	100%	31%	$212,511	$307,987	$95,476
2	P3003	850	663	36		$145.90	$96,728		$51,994	$148,722	70%	100%	30%	$104,105	$148,722	$44,617
2	P3004	850	4,325	36		$145.90	$630,996		$339,175	$970,171	55%	100%	45%	$533,594	$970,171	$436,577
2	P3005	850	1,694	36		$145.90	$247,146		$132,847	$379,993	56%	100%	44%	$212,796	$379,993	$167,197
2	P3006	850	2,602	36		$145.90	$379,619		$204,054	$583,673	68%	100%	32%	$396,898	$583,673	$186,775
2	P3007	850	522	36		$145.90	$76,157		$40,936	$117,093	67%	100%	33%	$78,452	$117,093	$38,641
2	P3008	850	1,032	36		$145.90	$150,564		$80,932	$231,496	64%	100%	36%	$148,157	$231,496	$83,339
2	P3009	850	1,172	36		$145.90	$170,989		$91,911	$262,900	61%	100%	39%	$160,369	$262,900	$102,531
2	P3461	850	1,049	36		$145.90	$153,044		$82,265	$235,309	68%	100%	32%	$160,010	$235,309	$75,299
2	P3462	850	625	36		$145.90	$91,184		$49,013	$140,197	68%	100%	32%	$95,334	$140,197	$44,863
	Subtotal:		**16,887**		**2005**		**$2,463,730**	**4.5%**	**$1,324,312**	**$3,788,041**				**$2,381,366**	**$3,788,041**	**$1,406,675**
STONEBRIDGE 48-INCH WATERMAIN																
U.S. 380 to Lacima Dr.																
2	P5686	920	52	30		$406.96	$21,162		$11,375	$32,537	100%	100%	0%	$32,537	$32,537	$0
2	P5687	920	866	48		$406.96	$352,425		$189,437	$541,862	100%	100%	0%	$541,862	$541,862	$0
2	P5688	920	1,087	48		$406.96	$442,363		$237,780	$680,143	100%	100%	0%	$680,143	$680,143	$0
2	P5690	920	874	48		$406.96	$355,681		$191,187	$546,868	100%	100%	0%	$546,868	$546,868	$0
	Subtotal:		**2,879**		**2006**		**$1,171,630**	**4.5%**	**$629,779**	**$1,801,410**				**$1,801,410**	**$1,801,410**	**$0**
36-INCH & 48INCH WATERLINE FROM VIRGINIA TO STONEBRIDGE																
Along Lacima Dr. from Stonebridge Dr. to Bristol Dr.; Along Bristol Dr. from Lacima Dr. to St. Gabriel Dr.; Along St. Gabriel Dr. from Bristol Dr. to Virginia Pkwy.																
2	P5034	920	49	48		$406.96	$19,941		$10,719	$30,660	100%	100%	0%	$30,660	$30,660	$0
2	P5691	920	740	48		$406.96	$301,148		$161,874	$463,022	100%	100%	0%	$463,022	$463,022	$0
2	P5692	920	212	48		$406.96	$86,275		$46,375	$132,650	100%	100%	0%	$132,650	$132,650	$0
2	P5693	920	2,726	36		$406.96	$1,109,365		$596,309	$1,705,674	100%	100%	0%	$1,705,674	$1,705,674	$0
2	P5694	920	390	36		$406.96	$158,713		$85,312	$244,025	100%	100%	0%	$244,025	$244,025	$0
	Subtotal:		**4,117**		**2006**		**$1,675,443**	**4.5%**	**$900,589**	**$2,576,031**				**$2,576,031**	**$2,576,031**	**$0**
ALMA ROAD 24-INCH WATER LINE (CRAIG RANCH NORTH)																
From Community 3-MG Elevated Storage Tank South to C.R. 152																
1	P5407	920	772	24		$596.59	$460,564		$0	$460,564	100%	100%	0%	$460,564	$460,564	$0
1	P5408	920	154	24		$596.59	$91,874		$0	$91,874	100%	100%	0%	$91,874	$91,874	$0
1	P5409	920	831	24		$596.59	$495,763		$0	$495,763	100%	100%	0%	$495,763	$495,763	$0
1	P5410	920	265	24		$596.59	$158,095		$0	$158,095	100%	100%	0%	$158,095	$158,095	$0
1	P5411	920	704	24		$596.59	$419,996		$0	$419,996	100%	100%	0%	$419,996	$419,996	$0
1	P5412	920	77	24		$596.59	$45,937		$0	$45,937	100%	100%	0%	$45,937	$45,937	$0
	Subtotal:		**2,803**		**2002**		**$1,672,230**	**0.0%**	**$0**	**$1,672,229**				**$1,672,229**	**$1,672,229**	**$0**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
										2019	2029	During Fee Period	2019	2029	During Fee Period
LAKE FOREST DRIVE 30-INCH WATER LINE (WAL-MART)															
From McKinney Ranch Pkwy. South 1,400-ft															
1 P5582	920	1,373	30		$148.02	$203,232		$109,242	$312,474	63%	90%	27%	$196,859	$281,227	$84,368
Subtotal:		**1,373**		**2004**		**$203,232**	**4.5%**	**$109,242**	**$312,474**				**$196,859**	**$281,227**	**$84,368**
VILLAGE PARK - PHASE 1 - 20", 30" & 36" WATER LINE (LAKE FOREST DR., COLLIN MCKINNEY PKWY. & RIDGE RD.)															
20" - Ridge Road from Stacy Rd. to McKinney Ranch Pkwy.; 30" -Lake Forest Dr. from 1,400-ft South of McKinney Ranch Pkwy. to Collin McKinney Pkwy.; 36"- Collin McKinney Pkwy. from Lake Forest Dr. to 1,900-ft West															
1 P5583	920	1,087	30		$66.01	$71,758		$38,572	$110,330	63%	89%	26%	$69,508	$98,194	$28,686
1 P5584	920	711	30		$66.01	$46,936		$25,229	$72,165	63%	89%	26%	$45,464	$64,227	$18,763
1 P5606	920	666	36		$66.01	$43,966		$23,633	$67,599	56%	85%	29%	$37,855	$57,459	$19,604
1 P5586	920	1,054	20		$66.01	$69,580		$37,401	$106,981	28%	81%	53%	$29,955	$86,655	$56,700
1 P5587	920	434	20		$66.01	$28,650		$15,400	$44,050	21%	79%	58%	$9,251	$34,800	$25,549
1 P5588	920	1,331	20		$66.01	$87,866		$47,230	$135,096	39%	99%	60%	$52,687	$133,745	$81,058
1 P6017	920	690	20		$66.01	$45,550		$24,484	$70,034	32%	85%	53%	$22,411	$59,529	$37,118
Subtotal:		**5,973**		**2004**		**$394,306**	**4.5%**	**$211,949**	**$606,255**				**$267,131**	**$534,609**	**$267,478**
COLLIN MCKINNEY 30" & 36" WATER LINE (CRAIG RANCH INFRASTRUCTURE) (VCIM 1)															
From 1,900-ft West of Lake Forest Dr. to Alma Dr.															
1 P5607	920	3,484	36		$71.56	$249,309		$0	$249,309	54%	82%	28%	$134,627	$204,433	$69,807
1 P5608	920	2,844	30		$71.56	$203,512		$0	$203,512	53%	77%	24%	$107,861	$156,704	$48,843
1 P5609	920	603	30		$71.56	$43,150		$0	$43,150	53%	75%	22%	$22,870	$32,363	$9,493
1 P5682	920	358	30		$71.56	$25,618		$0	$25,618	54%	81%	27%	$13,834	$20,751	$6,917
1 P5696	920	895	30		$71.56	$64,045		$0	$64,045	53%	77%	24%	$33,944	$49,315	$15,371
Subtotal:		**8,184**		**2004**		**$585,633**	**0.0%**	$0	**$585,634**				**$313,136**	**$463,566**	**$150,431**

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2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
COLLIN MCKINNEY 20" & 24" WATER LINE (CRAIG RANCH INFRASTRUCTURE) (VCIM 1)																
From Alma Dr. to TPC Dr.																
1	P5610	920	299	20		$71.56	$21,396		$0	$21,396	53%	73%	20%	$11,340	$15,619	$4,279
1	P5618	920	495	24		$71.56	$35,421		$0	$35,421	43%	54%	11%	$15,231	$19,127	$3,896
1	P5619	920	307	24		$71.56	$21,968		$0	$21,968	47%	60%	13%	$10,325	$13,181	$2,856
1	P5620	920	294	24		$71.56	$21,038		$0	$21,038	61%	76%	15%	$12,833	$15,989	$3,156
1	P5621	920	238	24		$71.56	$17,031		$0	$17,031	61%	76%	15%	$10,389	$12,944	$2,555
1	P5622	920	290	24		$71.56	$20,752		$0	$20,752	62%	76%	14%	$12,866	$15,772	$2,905
1	P5623	920	298	24		$71.56	$21,324		$0	$21,324	62%	76%	14%	$13,221	$16,206	$2,985
1	P5624	920	290	24		$71.56	$20,752		$0	$20,752	63%	77%	14%	$13,074	$15,979	$2,905
1	P5625	920	296	24		$71.56	$21,181		$0	$21,181	64%	78%	14%	$13,556	$16,521	$2,965
1	P5626	920	220	24		$71.56	$15,743		$0	$15,743	46%	52%	6%	$7,242	$8,186	$945
1	P5627	920	586	24		$71.56	$41,933		$0	$41,933	44%	50%	6%	$18,451	$20,967	$2,516
1	P5628	920	597	24		$71.56	$42,720		$0	$42,720	42%	44%	2%	$17,942	$18,797	$854
1	P5629	920	922	24		$71.56	$65,977		$0	$65,977	41%	44%	3%	$27,051	$29,030	$1,979
Subtotal:			**5,132**		**2004**		**$367,237**	**0.0%**	**$0**	**$367,236**				**$183,521**	**$218,318**	**$34,796**
ALMA ROAD 20-INCH WATER LINE (CRAIG RANCH INFRASTRUCTURE) (VCIM 1)																
From Collin McKinney Parkway to S.H. 121																
1	P5611	920	879	20		$71.56	$62,900		$0	$62,900	26%	100%	74%	$16,354	$62,900	$46,546
1	P5612	920	349	20		$71.56	$24,974		$0	$24,974	25%	32%	7%	$6,244	$7,992	$1,748
1	P5613	920	347	20		$71.56	$24,831		$0	$24,831	26%	64%	38%	$6,456	$15,892	$9,436
1	P5616	920	624	20		$71.56	$44,652		$0	$44,652	29%	42%	13%	$12,949	$18,754	$5,805
1	P5617	920	583	20		$71.56	$41,719		$0	$41,719	29%	32%	3%	$12,099	$13,350	$1,252
Subtotal:			**2,782**		**2004**		**$199,075**	**0.0%**	**$0**	**$199,076**				**$54,102**	**$118,888**	**$64,787**
WESTRIDGE WATER LINE																
From Custer Rd. to the Independence Elevated Storage Tank																
1	P5148	920	1,100	20		$47.44	$52,179		$28,047	$80,226	100%	100%	0%	$80,226	$80,226	$0
1	P5149	920	578	20		$47.44	$27,418		$14,738	$42,156	100%	100%	0%	$42,156	$42,156	$0
1	P5150	920	1,106	18		$47.44	$52,464		$28,201	$80,665	100%	100%	0%	$80,665	$80,665	$0
1	P5151	920	2,736	18		$47.44	$129,784		$69,762	$199,546	100%	100%	0%	$199,546	$199,546	$0
Subtotal:			**5,520**		**2002**		**$261,844**	**4.5%**	**$140,748**	**$402,593**				**$402,593**	**$402,593**	**$0**
INDEPENDENCE 20-INCH WATER LINE																
From Westridge Blvd. to 650-ft South of Virginia Pkwy.																
1	P5136	920	1,245	20		$46.76	$58,212		$31,290	$89,502	75%	100%	25%	$67,127	$89,502	$22,376
1	P5137	920	1,005	20		$46.76	$46,991		$25,259	$72,250	82%	100%	18%	$59,245	$72,250	$13,005
1	P5138	920	259	20		$46.76	$12,110		$6,509	$18,619	86%	100%	14%	$16,012	$18,619	$2,607
1	P5567	920	1,205	20		$46.76	$56,342		$30,285	$86,627	60%	100%	40%	$51,976	$86,627	$34,651
1	P5695	920	920	20		$46.76	$43,016		$23,122	$66,138	61%	100%	39%	$40,344	$66,138	$25,794
Subtotal:			**4,634**		**2002**		**$216,672**	**4.5%**	**$116,465**	**$333,136**				**$234,704**	**$333,136**	**$98,433**

TABLE NO. 12
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1 - City Participation in Cost Oversize

2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
STACY ROAD WATER LINE																
From S.H. 121 to Old FM 720																
1	P6013	920	485	20		$55.40	$26,869		$14,443	$41,312	51%	100%	49%	$21,069	$41,312	$20,243
1	P6014	920	1,553	20		$55.40	$86,036		$46,246	$132,282	44%	98%	54%	$58,204	$129,636	$71,432
1	P6016	920	2,084	20		$54.65	$113,891		$61,219	$175,110	51%	74%	23%	$89,306	$129,581	$40,275
1	P6018	920	1,376	24		$82.11	$112,983		$60,731	$173,714	31%	67%	36%	$53,851	$116,388	$62,537
1	P6019	920	1,423	24		$82.11	$116,843		$62,806	$179,649	28%	68%	40%	$50,302	$122,161	$71,860
	Subtotal:		**6,921**		**2007**		**$456,622**	**4.5%**	**$245,445**	**$702,067**				**$272,732**	**$539,078**	**$266,347**
MCKINNEY RANCH 16-INCH WATER LINE																
From Ridge Rd. to Stacy Rd.																
1	P6024	920	1,666	16		$34.40	$57,310		$30,805	$88,115	25%	68%	43%	$22,029	$59,918	$37,889
1	P6026	920	2,331	16		$34.40	$80,186		$43,102	$123,288	21%	72%	51%	$25,890	$88,767	$62,877
	Subtotal:		**3,997**		**2007**		**$137,496**	**4.5%**	**$73,907**	**$211,403**				**$47,919**	**$148,685**	**$100,766**
COLLIN MCKINNEY 20-INCH WATER LINE - (CRAIG RANCH INFRASTRUCTURE) (VCIM 2)																
From Boston Rd. to Custer Rd.																
1	P5678	920	1,001	20		$130.87	$131,001		$0	$131,001	35%	100%	65%	$45,850	$131,001	$85,151
1	P5679	920	1,391	20		$130.87	$182,040		$0	$182,040	32%	100%	68%	$58,253	$182,040	$123,787
	Subtotal:		**2,392**		**2007**		**$313,041**	**0.0%**	**$0**	**$313,041**				**$104,103**	**$313,041**	**$208,938**
ALMA ROAD 24-INCH WATER LINE - (CRAIG RANCH INFRASTRUCTURE) (VCIM 2)																
From Stacy Road to Collin McKinney Pkwy.																
1	P6027	920	147	24		$130.87	$19,238		$10,341	$29,579	100%	100%	0%	$29,579	$29,579	$0
1	P6028	920	684	24		$130.87	$89,515		$48,116	$137,631	46%	64%	18%	$63,310	$88,084	$24,774
1	P6029	920	626	24		$130.87	$81,925		$44,037	$125,962	47%	65%	18%	$59,202	$81,875	$22,673
1	P6030	920	727	24		$130.87	$95,143		$51,142	$146,285	47%	64%	17%	$68,754	$93,622	$24,868
1	P6031	920	472	24		$130.87	$61,771		$33,203	$94,974	47%	65%	18%	$44,638	$61,733	$17,095
1	P6171	920	1,014	24		$130.87	$132,702		$71,330	$204,032	44%	65%	21%	$89,774	$132,621	$42,847
	Subtotal:		**3,670**		**2007**		**$480,293**	**4.5%**	**$258,169**	**$738,463**				**$355,257**	**$487,514**	**$132,257**
CUSTER ROAD 16-INCH WATER LINE - (CRAIG RANCH INFRASTRUCTURE) (VCIM 2)																
From Stacy Rd. to Town Crossing (2,720-ft South of Boston Rd.)																
1	P5665	920	1,561	16		$130.87	$204,288		$109,809	$314,097	86%	100%	14%	$270,123	$314,097	$43,974
1	P5666	920	1,113	16		$130.87	$145,658		$78,295	$223,953	86%	100%	14%	$192,600	$223,953	$31,353
1	P5667	920	917	16		$130.87	$120,008		$64,507	$184,515	69%	100%	31%	$127,315	$184,515	$57,200
1	P6037	920	1,290	16		$130.87	$168,822		$90,746	$259,568	47%	100%	53%	$121,997	$259,568	$137,571
1	P6038	920	1,430	16		$130.87	$187,144		$100,594	$287,738	26%	100%	74%	$74,812	$287,738	$212,926
	Subtotal:		**6,311**		**2007**		**$825,921**	**4.5%**	**$443,951**	**$1,269,871**				**$786,847**	**$1,269,871**	**$483,024**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
										2019	2029	During Fee Period	2019	2029	During Fee Period
COLLIN MCKINNEY 20-INCH WATER LINE - ROWLETT CREEK BRIDGE															
From TPC Dr. to Boston Rd.															
2 P6041	920	1,324	20		$18.35	$24,289		$13,056	$37,345	37%	43%	6%	$13,818	$16,058	$2,241
Subtotal:		**1,324**		**2006**		**$24,289**	**4.5%**	**$13,056**	**$37,345**				**$13,818**	**$16,058**	**$2,241**
BRISTOL / CUSTER 42-INCH WATER LINE															
Bristol Dr. from Lacima Dr. to Custer Rd. & Custer Rd. from Bristol Dr. to Virginia Pkwy.															
2 P6150	920	4,864	42		$ 507.59	$2,468,898		$1,327,089	$3,795,987	100%	100%	0%	$3,795,987	$3,795,987	$0
2 P6151	920	610	42		$ 507.59	$309,627		$166,432	$476,059	100%	100%	0%	$476,059	$476,059	$0
2 P6152	920	871	42		$ 507.59	$442,107		$237,643	$679,750	100%	100%	0%	$679,750	$679,750	$0
2 P6222	920	900	42		$ 507.59	$456,827		$245,555	$702,382	100%	100%	0%	$702,382	$702,382	$0
Subtotal:		**7,245**		**2008**		$3,677,460	**4.5%**	**$1,976,719**	**$5,654,178**				**$5,654,178**	**$5,654,178**	**$0**
CUSTER ROAD UTILITY RELOCATION															
From Virginia Pkwy. to Eldorado Pkwy.															
2 P5130	920	275	36		$ 432.41	$118,913.0		$63,918	$182,831	100%	100%	0%	$182,831	$182,831	$0
2 P5132	920	260	36		$ 432.41	$112,427		$60,432	$172,859	100%	100%	0%	$172,859	$172,859	$0
2 P5754	920	487	30		$ 432.41	$210,584		$113,194	$323,778	100%	100%	0%	$323,778	$323,778	$0
2 P6153	920	841	36		$ 432.41	$363,657		$195,474	$559,131	100%	100%	0%	$559,131	$559,131	$0
2 P6155	920	1,717	36		$ 432.41	$742,448		$399,083	$1,141,531	100%	100%	0%	$1,141,531	$1,141,531	$0
2 P6156	920	2,392	36		$ 432.41	$1,034,324		$555,973	$1,590,297	100%	100%	0%	$1,590,297	$1,590,297	$0
2 P6168	920	1,347	30		$ 432.41	$582,456		$313,083	$895,539	100%	100%	0%	$895,539	$895,539	$0
2 P6169	920	2,744	30		$ 432.41	$1,186,532		$637,788	$1,824,320	100%	100%	0%	$1,824,320	$1,824,320	$0
2 P6170	920	1,007	30		$ 432.41	$435,437		$234,057	$669,494	100%	100%	0%	$669,494	$669,494	$0
Subtotal:		**11,070**		**2010**		**$4,786,776**	**4.5%**	**$2,573,002**	**$7,359,780**				**$7,359,780**	**$7,359,780**	**$0**
ELDORADO PKWY. / STONEBRIDGE DRIVE INTERSECTION 20-INCH WATER LINE															
Intersection of Eldorado Pkwy. and Stonebridge Dr. - Replace Existing 12" Water Line with 20" Water Line by Bore															
2 P6183	920	182	20		$1,202.14	$218,789		$117,604	$336,393	100%	100%	0%	$336,393	$336,393	$0
Subtotal:		**182**		**2012**		**$218,789**	**4.5%**	**$218,789**	**$218,789**				**$336,393**	**$336,393**	**$0**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity 2019	(%) Utilized Capacity 2029	(%) Utilized Capacity During Fee Period	($) Utilized Capacity 2019	($) Utilized Capacity 2029	($) Utilized Capacity During Fee Period
U.S. 380 36-INCH WATER LINE																
From University Pump Station to Hardin Rd.																
2	P3423	850	30	36		$361.33	$10,840		$5,827	$16,667	87%	100%	13%	$14,500	$16,667	$2,167
2	P4084	850	5,597	36		$361.33	$2,022,341		$1,087,055	$3,109,396	71%	100%	29%	$2,207,671	$3,109,396	$901,725
2	P4085	850	3,643	36		$361.33	$1,316,310		$707,547	$2,023,857	87%	100%	13%	$1,760,756	$2,023,857	$263,101
2	P4086	850	1,082	36		$361.33	$390,955		$210,147	$601,102	93%	100%	7%	$559,025	$601,102	$42,077
2	P4087	850	320	36		$361.33	$115,624		$62,151	$177,775	97%	100%	3%	$172,442	$177,775	$5,333
2	P4088	850	129	30		$361.33	$46,611		$25,054	$71,665	97%	100%	3%	$69,515	$71,665	$2,150
2	P4089	850	1,451	30		$361.33	$524,284		$281,815	$806,099	100%	100%	0%	$806,099	$806,099	$0
2	P4090	850	926	30		$361.33	$334,588		$179,849	$514,437	100%	100%	0%	$514,437	$514,437	$0
2	P4183	850	441	36		$361.33	$159,345		$85,652	$244,997	95%	100%	5%	$232,747	$244,997	$12,250
2	P4184	850	3,229	30		$361.33	$1,166,722		$627,140	$1,793,862	100%	100%	0%	$1,793,862	$1,793,862	$0
2	P4196	850	366	36		$361.33	$132,245		$71,085	$203,330	95%	100%	5%	$193,164	$203,330	$10,167
	Subtotal:		**17,214**		**2012**		**$6,219,865**	**4.5%**	**$3,343,322**	**$9,563,187**				**$8,324,218**	**$9,563,187**	**$1,238,970**
UNIVERSITY PUMP STATION DISCHARGE LINE NO. 2																
From University Pump Station West to Future Stonebridge Dr.; South Along Future Stonebridge Dr. to U.S. 380; U.S. 380 to Custer Rd.																
2	P6090	920	184	30		$689.46	$126,860		$68,190	$195,050	100%	100%	0%	$195,050	$195,050	$0
2	P6091	920	112	48		$689.46	$77,219		$41,507	$118,726	11%	33%	22%	$13,060	$39,180	$26,120
2	P6148	920	2,145	66		$689.46	$1,478,883		$794,933	$2,273,816	54%	88%	34%	$1,227,861	$2,000,958	$773,097
2	P6149	920	2,784	30		$689.46	$1,919,445		$1,031,746	$2,951,191	48%	100%	52%	$1,416,572	$2,951,191	$1,534,619
2	P6235	920	623	30		$689.46	$429,531		$230,883	$660,414	46%	100%	54%	$303,790	$660,414	$356,624
	Subtotal:		**5,848**		**2009**		**$4,031,938**	**4.5%**	**$2,167,259**	**$6,199,197**				**$3,156,333**	**$5,846,793**	**$2,690,460**
STACY ROAD 24-INCH WATER LINE																
From Alma Rd. East 2,756-ft																
1	P6020	920	1,033	24		193.1679939	$199,543		$107,259	$306,802	52%	100%	48%	$159,537	$306,802	$147,265
1	P5744	920	1,604	24		193.1679939	$309,841		$166,547	$476,388	48%	100%	52%	$228,666	$476,388	$247,722
	Subtotal:		**2,637**		**2009**		**$509,384**	**4.5%**	**$273,806**	**$783,190**				**$388,203**	**$783,190**	**$394,987**
HARDIN 36-INCH WATER LINE (TIMBER CREEK ACCESS IMPROVEMENTS)																
From Wilmeth Rd. to Holly Ridge Way																
1	P4015	850	1,200	36		$249.82	$299,782		$161,140	$460,922	58%	100%	42%	$267,335	$460,922	$193,587
1	P4016	850	1,606	36		$249.82	$401,208		$215,658	$616,866	53%	100%	47%	$326,939	$616,866	$289,927
	Subtotal:		**2,806**		**2010**		**$700,990**	**4.5%**	**$376,798**	**$1,077,788**				**$594,274**	**$1,077,788**	**$483,514**
LAKE FOREST 20-INCH WATER LINE																
From Collin McKinney Pkwy. to S.H. 121																
1	P6012	920	1,879	20		$302.70	$568,772		$305,728	$874,500	100%	100%	0%	$874,500	$874,500	$0
	Subtotal:		**1,879**		**2010**		**$568,772**	**4.5%**	**$305,728**	**$874,500**				**$874,500**	**$874,500**	**$0**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
VALOR POINTE AT WESTRIDGE, PHASE 10 - 16-INCH WATER LINES																
Along Virginia Parkway West 1,250-ft to Future Westridge Subdivision; South & Southwest in Future Westridge Subdivision																
1	P6069	920	1,243	16		$18.30	$22,741		$12,224	$34,965	28%	100%	72%	$9,790	$34,965	$25,175
1	P6079	920	643	16		$18.30	$11,764		$6,323	$18,087	26%	100%	74%	$4,703	$18,087	$13,384
Subtotal:			**1,886**		**2012**		**$34,505**	**4.5%**	**$18,547**	**$53,052**				**$14,493**	**$53,052**	**$38,559**
920 VIRGINIA PKWY. 12-INCH PARALLEL LINE																
From Adriatic Pkwy. to Ridge Rd.																
2	P5232	920	949	12		$67.51	$64,065		$34,436	$98,501	93%	100%	7%	$91,606	$98,501	$6,895
2	P5702	920	620	8		$67.51	$41,855		$22,498	$64,353	100%	100%	0%	$64,353	$64,353	$0
2	P5736	920	949	12		$67.51	$64,065		$34,436	$98,501	94%	100%	6%	$92,591	$98,501	$5,910
2	P5737	920	389	8		$67.51	$26,261		$14,116	$40,377	100%	100%	0%	$40,377	$40,377	$0
2	P6172	920	1,095	12		$67.51	$73,921		$39,734	$113,655	100%	100%	0%	$113,655	$113,655	$0
Subtotal:			**4,002**		**2011**		**$270,166**	**4.5%**	**$145,220**	**$415,387**				**$402,582**	**$415,387**	**$12,805**
WESTRIDGE 24-INCH WATER LINE																
Westridge Blvd. Phase 4A & 4B (Custer West Partners) From Independence Elevated Storage Tank to Willard Dr.																
1	P5158	920	1,163	24		$50.72	$58,988		$31,707	$90,695	88%	100%	12%	$79,812	$90,695	$10,883
1	P5159	920	632	24		$50.72	$32,055		$17,230	$49,285	89%	100%	11%	$43,864	$49,285	$5,421
1	P5160	920	867	24		$50.72	$43,975		$23,638	$67,613	86%	100%	14%	$58,147	$67,613	$9,466
1	P5683	920	287	24		$50.72	$14,557		$7,825	$22,382	88%	100%	12%	$19,696	$22,382	$2,686
1	P6062	920	1,289	24		$50.72	$65,379		$35,143	$100,522	70%	100%	30%	$70,365	$100,522	$30,157
Subtotal:			**4,238**		**2007**		**$214,953**	**4.5%**	**$115,543**	**$330,497**				**$271,884**	**$330,497**	**$58,613**

TABLE NO. 12
Existing Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
										2019	2029	During Fee Period	2019	2029	During Fee Period
LAKE FOREST 36-INCH WATER LINE															
From Willmeth Phase 2 Water Line to Bloomdale Rd.															
1 P4013	850	1,650	36		$421.05	$694,738		$373,438	$1,068,176	10%	27%	17%	$106,818	$288,408	$181,590
1 P4189	850	892	36		$421.05	$375,579		$201,882	$577,461	18%	29%	11%	$103,943	$167,464	$63,521
Subtotal:		**2,542**		**2010**		**$1,070,317**	**4.5%**	**$575,320**	**$1,645,637**				**$210,761**	**$455,872**	**$245,111**
COUCH DRIVE 12" WATER LINE LOOP															
From Airport Rd. to Couch Dr.															
2 P1406 *	794	3,454	12		$94.38	$326,000		$175,232	$501,232	38%	66%	28%	$190,468	$330,813	$140,345
		3,454		**2014**		**$326,000**	**4.5%**	**$175,232**	**$501,232**				**$190,468**	**$330,813**	**$140,345**
HARDIN ELEVATED STORAGE TANK WATER LINES															
From Mallard Lakes 12" WL to Hardin Blvd.															
2 P3359	850	464	24		$407.34	$189,006		$101,595	$290,601	96%	100%	4%	$278,977	$290,601	$11,624
2 P3371	850	369	12		$169.32	$62,479		$33,584	$96,063	100%	100%	0%	$96,063	$96,063	$0
2 P4116	850	1,072	24		$300.92	$322,586		$173,397	$495,983	98%	100%	2%	$486,063	$495,983	$9,920
Subtotal:		**1,905**		**2012**		**$574,071**	**4.5%**	**$308,576**	**$882,647**				**$861,103**	**$882,647**	**$21,544**
EXISTING TOTAL:		**223,317**							**$64,978,704**						**$11,094,827**

TABLE NO. 13
Proposed Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

! Average Unit Costs are Based on Bid Tabulation or Design Opinion of Cost, plus Engineering and Easements

**Average Unit Costs are Based in 2019 Dollars Unless Otherwise Indicated and Includes 20% for Engineering and Easements.*

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
REDBUD 794 PUMP STATION 54" DISCHARGE LINE																
From Future Redbud Pump Station to S.H. 5																
2	P2114 *	794	4,739	54		$948.78	$4,496,262		$2,416,844	$6,913,106	0%	26%	26%	$0	$1,797,408	$1,797,408
Subtotal:			**4,739**		**2020**		**$4,496,262**	**4.5%**	**$2,416,844**	**$6,913,106**				**$0**	**$1,797,408**	**$1,797,408**
REDBUD 850 PUMP STATION 42" DISCHARGE LINE																
From Future Redbud Pump Station to Community Ave.																
2	P3503 !	850	4,768	42		$1,112.42	$5,304,017		$2,851,031	$8,155,048	0%	30%	30%	$0	$2,446,514	$2,446,514
2	P4024 !	850	2,547	42		$1,112.42	$2,833,333		$1,522,981	$4,356,314	0%	28%	28%	$0	$1,219,768	$1,219,768
Subtotal:			**7,315**		**2019**		**$8,137,350**	**4.5%**	**$4,374,012**	**$12,511,362**				**$0**	**$3,666,282**	**$3,666,282**
US 380 / INDEPENDENCE LOOP							$8,137,350									
From Custer Rd. to Independence Pkwy. & Independence Pkwy. from US 380 to Virginia Pkwy. (Pipe 5757 is a Bore Across Custer)																
2	P5757 !	920	146	16		$268.02	$39,131		$21,034	$60,165	0%	78%	78%	$0	$46,929	$46,929
2	P5758 !	920	449	12		$268.02	$120,340		$64,686	$185,026	0%	100%	100%	$0	$185,026	$185,026
2	P5763 !	920	329	12		$268.02	$88,178		$47,398	$135,576	0%	51%	51%	$0	$69,144	$69,144
2	P6083 !	920	1,523	24		$268.02	$408,190		$219,411	$627,601	0%	100%	100%	$0	$627,601	$627,601
2	P6086 !	920	1,215	12		$268.02	$325,641		$175,039	$500,680	0%	100%	100%	$0	$500,680	$500,680
2	P6087 !	920	4,099	24		$268.02	$1,098,603		$590,524	$1,689,127	0%	100%	100%	$0	$1,689,127	$1,689,127
2	P6251	920	459	12		$268.02	$123,020		$66,126	$189,146	0%	100%	100%	$0	$189,146	$189,146
			8,220		**2020**		**$2,203,102**	**4.5%**	**$1,184,218**	**$3,387,320**				**$0**	**$3,307,653**	**$3,307,653**
HARRY McKILLOP BLVD. 24" WATER LINE																
From McDonald St. to Future Airport Blvd.																
2	P2082 !	794	2,051	24		$629.95	$1,292,029		$694,495	$1,986,524	0%	63%	63%	$0	$1,251,510	$1,251,510
2	P2083 !	794	1,631	24		$629.95	$1,027,450		$552,278	$1,579,728	0%	63%	63%	$0	$995,229	$995,229
2	P2085 !	794	4,142	24		$629.95	$2,609,257		$1,402,535	$4,011,792	0%	65%	65%	$0	$2,607,665	$2,607,665
2	P2087 !	794	1,135	24		$629.95	$714,994		$384,326	$1,099,320	0%	57%	57%	$0	$626,612	$626,612
2	P2088 !	794	900	12		$629.95	$566,956		$304,752	$871,708	0%	19%	19%	$0	$165,625	$165,625
2	P2120 !	794	2,296	24		$629.95	$1,446,367		$777,455	$2,223,822	0%	52%	52%	$0	$1,156,387	$1,156,387
2	P2121 !	794	1,100	24		$629.95	$692,946		$372,474	$1,065,420	0%	52%	52%	$0	$554,018	$554,018
Subtotal:			**13,255**		**2021**		**$8,350,000**	**4.5%**	**$4,488,315**	**$12,838,315**				**$0**	**$7,357,046**	**$7,357,046**

TABLE NO. 13
Proposed Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

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**Average Unit Costs are Based in 2019 Dollars Unless Otherwise Indicated and Includes 20% for Engineering and Easements.*

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
CUSTER 24" NORTH WATER LINE																
From U.S. 380 North to FM 1461 (Future E / W Thoroughfare)																
2	P6052 !	920	1,426	18		$742.50	$1,058,801		$569,130	$1,627,931	0%	36%	36%	$0	$586,055	$586,055
2	P6093 !	920	2,204	24		$742.50	$1,636,464		$879,637	$2,516,101	0%	32%	32%	$0	$805,152	$805,152
2	P6096 !	920	2,587	24		$742.50	$1,920,841		$1,032,496	$2,953,337	0%	26%	26%	$0	$767,868	$767,868
2	P6097 !	920	1,392	24		$742.50	$1,033,556		$555,560	$1,589,116	0%	27%	27%	$0	$429,061	$429,061
2	P6102 !	920	3,111	24		$742.50	$2,309,909		$1,241,629	$3,551,538	0%	19%	19%	$0	$674,792	$674,792
2	P6103 !	920	2,357	24		$742.50	$1,750,066		$940,701	$2,690,767	0%	20%	20%	$0	$538,153	$538,153
2	P6210 !	920	1,925	24		$742.50	$1,429,307		$768,285	$2,197,592	0%	33%	33%	$0	$725,205	$725,205
2	P6211 !	920	1,009	24		$742.50	$749,180		$402,701	$1,151,881	0%	32%	32%	$0	$368,602	$368,602
	Subtotal:		**16,011**		**2021**		**$11,888,125**	**4.5%**	**$6,390,139**	**$18,278,264**				**$0**	**$4,894,888**	**$4,894,888**
HARDIN SOUTH 16" WATER LINE																
From McKinney Ranch Pkwy. to Collin McKinney Pkwy.																
1	P6010 *	920	1,815	16		$60.00	$108,900		$58,536	$167,436	0%	84%	84%	$0	$140,646	$140,646
	Subtotal:		**1,815**		**2021**		**$108,900**	**4.5%**	**$58,536**	**$167,436**				**$0**	**$140,646**	**$140,646**
INDUSTRIAL BLVD. 12" WATER LINE (PIPE BURST 8" to 12")																
From Industrial Elevated Tank East 1,540-ft & from Union Pacific RR to Lavon Dr.																
2	P1402 *	794	630	12		$261.90	$164,997		$88,690	$253,687	0%	33%	33%	$0	$83,717	$83,717
2	P1403 *	794	1,543	12		$261.90	$404,112		$217,219	$621,331	0%	0%	0%	$0	$0	$0
	Subtotal:		**2,173**		**2022**		**$569,109**	**4.5%**	**$305,909**	**$875,018**				**$0**	**$83,717**	**$83,717**
HARDIN 24" & 16" (TRINITY FALLS WEST FEED NORTH)																
"Trinity Falls West Feed" From F.M. 546 to Trinity Falls North Loop																
1	P4069 *	850	3,359	20		$108.00	$362,772		$194,998	$557,770	0%	33%	33%	$0	$184,064	$184,064
1	P4070 *	850	5,477	16		$60.00	$328,620		$176,641	$505,261	0%	33%	33%	$0	$166,736	$166,736
	Subtotal:		**8,836**		**2022**		**$691,392**	**4.5%**	**$371,639**	**$1,063,031**				**$0**	**$350,800**	**$350,800**
INDEPENDENCE CONNECTION TO US 380																
From Existing Pipe P6083 to U.S. 380																
2	P6084 *	920	2,338	24		$240.00	$561,120		$301,615	$862,735	0%	100%	100%	$0	$862,735	$862,735
	Subtotal:		**2,338**		**2022**		**$561,120**	**4.5%**	**$301,615**	**$862,735**				**$0**	**$862,735**	**$862,735**
REDBUD PUMP STATION 850 DISCHARGE LINE (T-FALLS EAST FEED)																
From Redbud Pump Station North Along McLarry Dr. to N. Side of Bloomdale Road																
2	P4118 *	850	1,890	36		$390.00	$737,100		$396,208	$1,133,308	0%	30%	30%	$0	$339,992	$339,992
	Subtotal:		**1,890**		**2023**		**$737,100**	**4.5%**	**$396,208**	**$1,133,308**				**$0**	**$339,992**	**$339,992**

TABLE NO. 13
Proposed Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

! Average Unit Costs are Based on Bid Tabulation or Design Opinion of Cost, plus Engineering and Easements

**Average Unit Costs are Based in 2019 Dollars Unless Otherwise Indicated and Includes 20% for Engineering and Easements.*

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
STONEBRIDGE 42" WATER LINE																
From U.S. 380 to F.M. 1461 (Future East-West Thoroughfare)																
1	P6092 *	920	6,831	42		$330.00	$2,254,230		$1,211,700	$3,465,930	0%	9%	9%	$0	$311,934	$311,934
1	P6100 *	920	1,500	42		$330.00	$495,000		$266,074	$761,074	0%	6%	6%	$0	$45,664	$45,664
1	P6101 *	920	2,380	42		$330.00	$785,400		$422,170	$1,207,570	0%	6%	6%	$0	$72,454	$72,454
1	P6111 *	920	3,289	42		$330.00	$1,085,370		$583,411	$1,668,781	0%	4%	4%	$0	$66,751	$66,751
1	P6112 *	920	2,188	42		$330.00	$722,040		$388,113	$1,110,153	0%	4%	4%	$0	$44,406	$44,406
	Subtotal:		**16,188**		**2024**		**$5,342,040**	**4.5%**	**$2,871,468**	**$8,213,508**				**$0**	**$541,209**	**$541,209**
F.M. 1461 (FUTURE E/W THOROUGHFARE)																
From Custer Rd. to Future Stonebridge Dr.																
1	P6119 *	920	1,932	16		$60.00	$115,920		$62,310	$178,230	0%	69%	69%	$0	$122,979	$122,979
1	P6120 *	920	2,894	16		$60.00	$173,640		$93,335	$266,975	0%	71%	71%	$0	$189,552	$189,552
	Subtotal:		**4,826**		**2025**		**$289,560**	**4.5%**	**$155,645**	**$445,205**				**$0**	**$312,531**	**$312,531**
COUNTY ROAD 228 16" WATER LINE																
From CR 227 (Future Hardin Rd. East to Trinity Falls)																
1	P4072 *	850	2,085	16		$60.00	$125,100		$67,244	$192,344	0%	43%	43%	$0	$82,708	$82,708
	Subtotal:		**2,085**		**2025**		**$125,100**	**4.5%**	**$67,244**	**$192,344**				**$0**	**$82,708**	**$82,708**
AIRPORT WATER LINE NORTH LOOP																
Along Future Airport Blvd. From Bloomdale Rd. to U.S. 380																
2	P2017 *	794	3,911	42		$450.00	$1,759,950		$946,013	$2,705,963	0%	30%	30%	$0	$811,789	$811,789
2	P2018 *	794	1,729	42		$450.00	$778,050		$418,220	$1,196,270	0%	31%	31%	$0	$370,844	$370,844
2	P2043 *	794	4,941	30		$276.00	$1,363,716		$733,029	$2,096,745	0%	73%	73%	$0	$1,530,624	$1,530,624
2	P2044 *	794	3,334	30		$276.00	$920,184		$494,620	$1,414,804	0%	77%	77%	$0	$1,089,399	$1,089,399
	Subtotal:		**13,915**		**2026**		**$4,821,900**	**4.5%**	**$2,591,882**	**$7,413,782**				**$0**	**$3,802,656**	**$3,802,656**
LAKE FOREST 16" WATER LINE																
From Bloomdale Rd. to Future E/W Thoroughfare at C.R. 166 and F.M. 1461																
1	P4025 *	850	2,317	16		$60.00	$139,020		$74,726	$213,746	0%	21%	21%	$0	$44,887	$44,887
1	P4026 *	850	1,780	16		$60.00	$106,800		$57,407	$164,207	0%	22%	22%	$0	$36,126	$36,126
1	P4027 *	850	1,522	16		$60.00	$91,318		$49,086	$140,404	0%	21%	21%	$0	$29,485	$29,485
	Subtotal:		**5,619**		**2027**		**$337,138**	**4.5%**	**$181,219**	**$518,357**				**$0**	**$110,498**	**$110,498**
BLOOMDALE 16" WATER LINE																
From Future Ridge Rd. to West side of Bloomridge Subdivision																
1	P4020 *	850	3,337	16		$60.00	$200,220		$107,623	$307,843	0%	16%	16%	$0	$49,255	$49,255
	Subtotal:		**3,337**		**2027**		**$200,220**	**4.5%**	**$107,623**	**$307,843**				**$0**	**$49,255**	**$49,255**

TABLE NO. 13
Proposed Impact Fee Water Lines

1 - City Participation in Cost Oversize

2 - City Initiated and Funded

! Average Unit Costs are Based on Bid Tabulation or Design Opinion of Cost, plus Engineering and Easements

**Average Unit Costs are Based in 2019 Dollars Unless Otherwise Indicated and Includes 20% for Engineering and Easements.*

	Pipe Number	Pressure Plane	Length (Ft.)	Diameter (Inches)	Date of Const.	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Year Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
											2019	2029	During Fee Period	2019	2029	During Fee Period
FUT. 850 EAST / WEST THOROUGHFARE WATER LINE																
From U.S. 75 to Future Lake Forest Dr.																
1	P4037 *	850	2,361	24		$120.00	$283,320		$152,291	$435,611	0%	28%	28%	$0	$121,971	$121,971
1	P4038 *	850	3,220	20		$108.00	$347,760		$186,929	$534,689	0%	37%	37%	$0	$197,835	$197,835
1	P4039 *	850	4,465	20		$108.00	$482,220		$259,204	$741,424	0%	35%	35%	$0	$259,498	$259,498
1	P4047 *	850	5,383	24		$120.00	$645,960		$347,218	$993,178	0%	30%	30%	$0	$297,953	$297,953
1	P4048 *	850	3,089	24		$120.00	$370,680		$199,249	$569,929	0%	30%	30%	$0	$170,979	$170,979
1	P4107 *	850	1,918	16		$60.00	$115,080		$61,858	$176,938	0%	50%	50%	$0	$88,469	$88,469
Subtotal:			**20,436**		**2029**		**$2,245,020**	**4.5%**	**$1,206,749**	**$3,451,769**				**$0**	**$1,136,705**	**$1,136,705**
PROPOSED TOTAL:			**128,487**							**$78,572,703**						**$28,836,729**

E. WASTEWATER COLLECTION SYSTEM

Hydraulic wastewater collection system models for the years 2019, 2029 and Buildout were prepared by Birkhoff, Hendricks & Carter, LLP. The models were developed with the peak flows calculated from the residential population and non-residential land use projections provided by the City of McKinney's Planning Department. The models were simulated to determine peak wet weather flow to ensure proper sizing of the collection system and to determine utilized capacities.

1. Collection Lines

Wastewater generated by the City of McKinney is collected through the installed system of collection lines that flow into the geographic area serviced by the North Texas Municipal Water District (NTMWD).

The wastewater collection system analysis covered all of the drainage basins in the Service Area planning boundary. Each branch of the collection system was analyzed, and future lines were sized to accommodate ultimate wastewater flows. Generally, sewer lines larger than 12-inches in diameter, that are proposed to be constructed within the 10-year period, were included in the Capital Improvements Plan (CIP), shown on **Exhibit 2**. Wastewater lines 12-inches in diameter and smaller, being generally the responsibility of developers, are excluded from the impact fee calculation. The wastewater project costs include necessary appurtenances (manholes, lift stations, aerial crossings and the like), purchase of easements, utility relocation, pavement removal and replacement, and engineering costs. For existing Impact Fee projects, actual costs were used where known. CIP project cost estimates were based on 2019 average unit costs or were provided by the City based on preliminary engineering design budgets.

Eligible wastewater collection line projects in the Service Area planning boundary were included in the impact fee analysis. The eligible existing and proposed wastewater collection lines and facilities are shown on **Exhibit 2**.

2. Lift Stations

The City of McKinney owns and operates seven (7) existing lift stations. The highest-capacity lift station, known as the Stonebridge Lift Station, is approaching a need for additional capacity. The wastewater system CIP proposes a bypass sanitary sewer line which will relieve peak flows to the lift station. Timing for the full relief or abandonment of Stonebridge Lift Station is dependent on the provision of additional capacity to the existing NTMWD trunk sewers along Wilson Creek by NTMWD.

The Rutherford Branch East Lift Station will also require additional pumping capacity to support the peak flow rates generated during the study period. Replacement of the two (2) existing pumps for larger-capacity pumps is included in the CIP.

The Sloan Creek Lift Station is a newer City Lift Station which was placed in service in 2018. Although this lift station was projected to be developer-constructed in the last impact fee CIP, the City did contribute financially to the installation. The Sloan Creek Lift Station is considered an existing lift station in this study and its initial existing utilized capacity is based on existing land uses in the service area.

3. NTMWD Regional Wastewater Collection, Conveyance and Treatment

The North Texas Municipal Water District (NTMWD) provides the City of McKinney with a significant portion of its wastewater collection and conveyance system. NTMWD also owns and operates the Wilson Creek Treatment Plant and provides all of McKinney's wastewater treatment. McKinney pays NTMWD for the cost of this service according to the City's proportional contribution of wastewater flows in any given year.

This Impact Fee study includes McKinney's share of the cost to expand NTMWD's regional wastewater collection, conveyance and treatment facilities to accommodate the new growth. NTMWD provided their 10-year CIP costs for the required collection system and treatment plant expansions which are specified to serve the new growth, being labeled *"Expanding / New Growth"*. McKinney's estimated share of NTMWD's Regional Wastewater System (RWWS) and NTMWD's Upper East Fork Interceptor System (UEFIS) expansion costs are summarized in **Table 14**. Approximately 32-percent of McKinney's estimated payments to NTMWD over the next 10-years are projected to be used for expansion of the capacity of the two (2) regional wastewater systems which serve

McKinney in order to provide service to the anticipated new growth. One element of NTMWD's CIP is the proposed 48-inch to 72-inch McKinney-Prosper Transfer Sewer (MPTS) along Wilson Creek that is currently under design to provide the necessary wastewater conveyance capacity to serve new growth in the City.

Table No. 14

NTMWD's 10-Year C.I.P. for New Growth

(McKinney's Share of Regional Collection & Treatment Systems CIP)

NTMWD Regional Collection & Treatment System	NTMWD Total 10-Year Member Charges	McKinney's Total 10-Year Estimated Charge	McKinney's Overall 10-Year Cost Share (%)	(1) NTMWD Total 10-Year CIP Growth Charges	McKinney's Share of 10-year Capacity Expansion for new Growth
* RWWS	$1,219,574,169	$213,425,660	17.5%	$476,957,590	$83,467,649
** UEFIS	$604,645,159	$149,871,738	24.8%	$135,899,000	$33,684,913
Total:	**$1,824,219,328**	**$363,297,398**		**$612,856,590**	**$117,152,561**

** RWWS - NTMWD's "Regional Wastewater System"*

*** UEFIS - NTMWD's "Upper East Fork Interceptor System"*

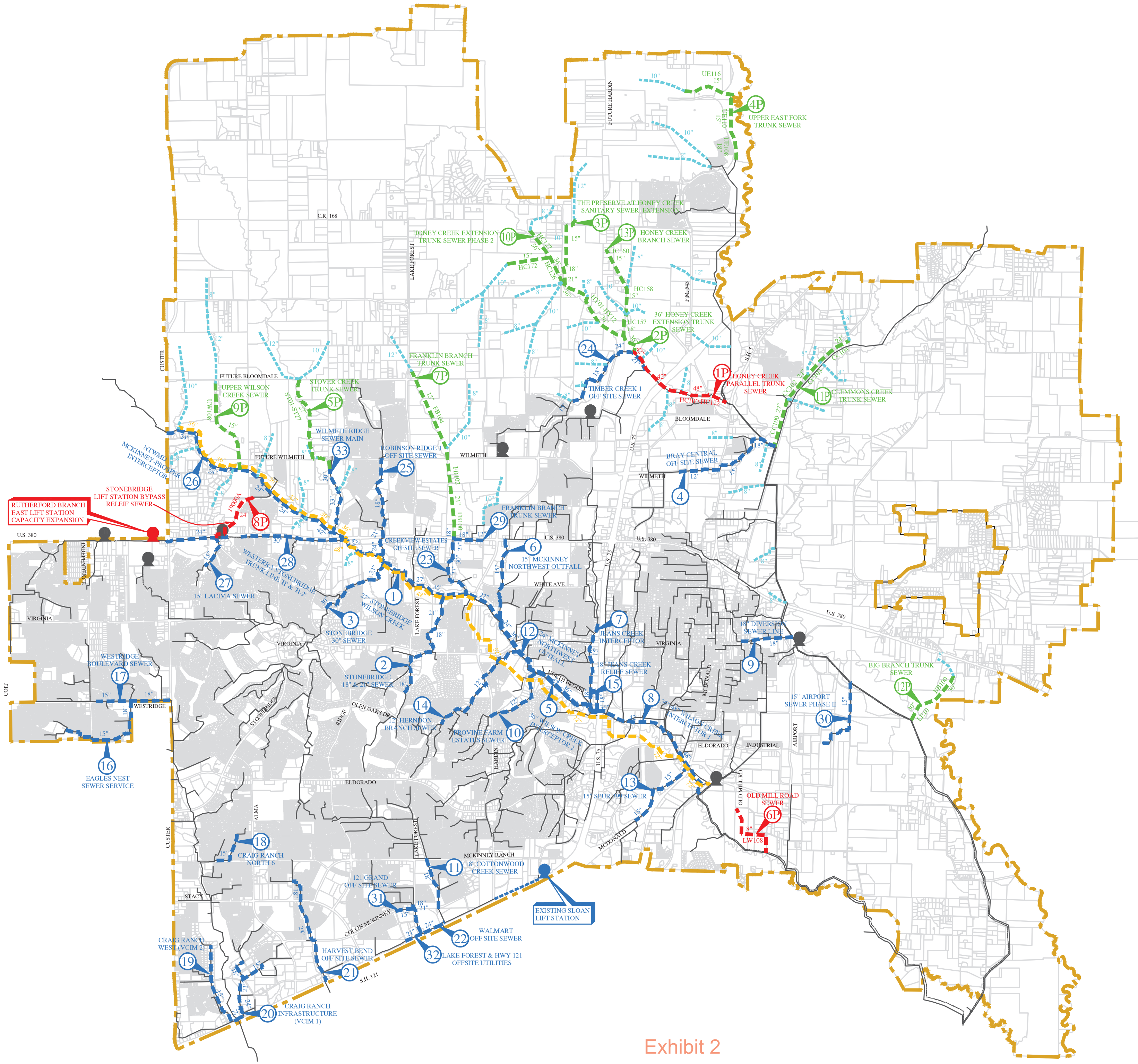
(1) - Based on Summation of NTMWD's 10-year CIP Elements for 'Expanding/ New Growth'

It should be noted, the 10-year CIP provided by NTMWD included additional projects that were designated as projects for *"Peak Flows / New Growth"*, but these projects were excluded from this wastewater impact fee CIP.

4. Wastewater System Capital Improvement Projects for Impact Fees

The 10-year Wastewater System CIP for Impact Fees was developed by Birkhoff, Hendricks & Carter for the proposed lines and facilities that will be owned and operated by the City. **Exhibit 2** shows the recommended system improvements along with improvements that are currently under design or construction, and **Table No. 15** itemizes each proposed CIP project and the project cost. These recommended improvements form the basis for the Wastewater System Impact Fee Calculation.

Referencing **Exhibit 2**, the Dark Blue colored sewer lines represent existing infrastructure that was assessed for utilized capacity. The Green and Red colored facilities are proposed CIP projects; with Red representing City-initiated and funded projects and Green representing projects that the City intends to participate in oversize costs. Projects colored Light Blue are considered fully developer-funded lines that are generally 12-inches in diameter and smaller.



2019 - 2029 WASTEWATER IMPACT FEE 10-YEAR CAPITAL IMPROVEMENT PLAN

McKINNEY TEXAS — Unique by nature.

BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
Dallas, Texas
NOVEMBER 2019

NOT TO SCALE

EXHIBIT 2

LEGEND

- EXIST. WASTEWATER LINE
- EXIST. IMPACT FEE LINE
- PROP. IMPACT FEE WASTEWATER LINE (DEVELOPER INITIATED - CITY OVERSIZE)
- PROP. WASTEWATER LINE (DEVELOPER CONSTRUCTED)
- PROP. WASTEWATER R LINE (CITY CONSTRUCTED)
- FUTURE NTMWD WASTEWATER LINE (IN THIS 10-YEAR C.I.P.)
- PLANNING BOUNDARY
- EXIST. IMPACT FEE LIFT STATION
- PROP. IMPACT FEE LIFT STATION
- EXIST. LIFT STATION & FORCE MAIN
- CIP PROJECT NUMBER

Table No. 15

Wastewater Collection System 10-Year Capital Improvement Plan Summary

WASTEWATER COLLECTION C.I.P.

Project I.D.	Year	(1) = City Participation in Cost Oversize (2) = City Initiated and Funded Project		Size	Total Capital Cost (A)	Debt Service (B)	Total Project Cost ($)
PROPOSED WASTEWATER COLLECTION LINES							
1P	2022	(2)	Honey Creek Parallel Trunk Sewer	42" - 48"	$ 11,000,000	$ 5,912,750	$ 16,912,750
2P	2020	(1)	36" Honey Creek Extension Trunk Sewer	36"	$ 1,018,593	$ 547,518	$ 1,566,111
3P	2020	(1)	The Preserve at Honey Creek	15" - 21"	$ 307,836	$ 165,468	$ 473,304
4P	2021	(1)	Upper East Fork Trunk Sewer	15" - 18"	$ 324,625	$ 174,493	$ 499,118
5P	2020	(1)	Stover Creek Trunk Sewer Phase 2	27"	$ 1,240,000	$ 666,526	$ 1,906,527
6P	2020	(2)	Old Mill Road Sewer (WW1858)	8"	$ 2,000,000	$ 1,075,046	$ 3,075,046
7P	2022	(1)	Franklin Branch Trunk Sewer	15" - 21"	$ 696,949	$ 374,626	$ 1,071,575
8P	2024	(2)	Stonebridge Lift Station No. 1 Bypass Sewer	24"	$ 4,000,000	$ 2,150,092	$ 6,150,092
9P	2022	(1)	Upper Wilson Creek Sewer	15"	$ 224,864	$ 120,870	$ 345,734
10P	2027	(1)	Honey Creek Extension Trunk Sewer Phase 2	36"	$ 1,331,872	$ 715,911	$ 2,047,783
11P	2025	(1)	Clemons Creek Trunk Sewer	24" - 27"	$ 1,183,662	$ 636,245	$ 1,819,907
12P	2026	(1)	Big Branch Trunk Sewer	30"	$ 894,445	$ 480,785	$ 1,375,230
13P	2026	(1)	Honey Creek Branch Sewer	15" - 18"	$ 343,825	$ 184,814	$ 528,639
			PROPOSED WASTEWATER COLLECTION LINES SUBTOTAL:		**$ 24,566,671**	**$ 13,205,144**	**$ 37,771,816**
PROPOSED WASTEWATER LIFT STATIONS							
PWWF-1	2023	(2)	Rutherford Branch East Pumping Capacity Expansion	5.9-MGD	$ 440,000	$ 236,510	$ 676,510
			PROPOSED WASTEWATER LIFT STATIONS SUBTOTAL:		**$ 440,000**	**$ 236,510**	**$ 676,510**
			CAPITAL IMPROVEMENTS PLAN TOTAL:		**$ 25,006,671**	**$ 13,441,654**	**$ 38,448,326**

(A) Opinion of Cost includes:
a) Engineer's Opinion of Construction Cost
b) Professional Services Fees (Survey, Engineering, Testing, Legal)
c) Cost of Easement or Land Acquisitions
(B) Debt Service based on 20-year simple interest bonds at 4.5%

5. Utilized Capacity

Utilized capacity for the wastewater collection system was calculated based on land use assumptions provided by the City of McKinney. Future wastewater flow rates were calculated utilizing the City's projections of population and non-residential growth in each wastewater drainage basin. These growth rates were utilized to calculate 2019, 2029 and buildout peak wastewater design flows.

The percent-utilized capacity was calculated from the wastewater design flow of each study year based on the required buildout capacity. The utilized capacity during the Impact Fee period is the difference between the year 2029 required capacity and the year 2019 required capacity. **Table No. 16** summarizes the project cost and utilized cost over the impact fee period of 2019 – 2029.

TABLE NO. 16

Summary of Eligible Capital Cost and Utilized Capacity Cost

Wastewater System Facility	20-Year Project Cost	Utilized Capacity in the CRP Period
Existing Lift Stations	$2,862,087	$137,870
Existing Wastewater Collection Lines	$21,637,663	$1,557,169
Proposed Lift Stations	$676,510	$539,821
Proposed Wastewater Collection Lines	$37,771,816	$17,806,099
Proposed NTMWD Systems CIP	$117,152,561	$117,152,561
Planning Expenses	$294,000	$294,000
Total:	**$180,394,637**	**$137,487,520**

The details of the utilized capacity calculations for the eligible existing and proposed wastewater lift station projects are presented in **Table Nos. 17 and 18**. The details of the utilized capacity calculations for each eligible existing wastewater collection line are presented in **Table No. 19**, and the calculation details for each proposed City of McKinney wastewater collection line are presented in **Table No. 20**.

TABLE 17
Existing Wastewater Lift Stations

Pump Station Improvements	Year Const.	Estimated Capacity	Cost ($)						Capacity Utilized (%)			Capacity Utilized ($)		
			Const.	Engineering	Total Project Cost	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost $	2019	2029	In The CRF Period	2019	2029	In The CRF Period
Existing Lift Station Facilities														
(2) Sloan Lift Station & Force Main (WW1623)	2018	1.4-MGD	$1,861,492	$0	$1,861,492	4.5%	$1,000,595	$2,862,087	62%	67%	5%	$1,768,486	$1,906,356	$137,870
TOTAL EXISTING WASTEWATER LIFT STATIONS:			**$1,861,492**	**$0**	**$1,861,492**		**$1,000,595**	**$2,862,087**				**$1,768,486**	**$1,906,356**	**$137,870**

(1) Opinion of Probable Cost
(2) Cost Obtained from the City of McKinney
(3) Cost Obtained from Final Pay Request
(4) Cost from Bid Tabulation

TABLE 18
Proposed Wastewater Lift Stations

Waste Water Lift Station Facility Improvements	Projected Year	Estimated Capacity	Cost ($)						Capacity Utilized (%)			Capacity Utilized ($)		
			Const.	Engineering	Total Project Cost	Debt Service Interest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost $	2019	2029	In The CRF Period	2019	2029	In The CRF Period
Proposed Lift Station Facilities														
(1) Rutherford Branch East Pumping Capacity Expansion	2023	5.9-MGD	$400,000	$40,000	$440,000	4.5%	$236,510	$676,510	0%	80%	80%	$0	$539,821	$539,821
TOTAL PROPOSED WASTEWATER LIFT STATIONS:			**$400,000**	**$40,000**	**$440,000**	**$0**	**$236,510**	**$676,510**				**$0**	**$539,821**	**$539,821**

(1) Opinion of Probable Cost

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
1 - Stonebridge 27" Offsite Sewer Along Wilson Creek (1987) Line A1													
North Of Virginia Parkway (Wilson Creek Main Interceptor)													
440	378	27	$46.24	$17,491	4.5%	$9,402	$26,893	100%	22%	0%	$26,893	$5,843	$0
446	189	27	$46.24	$8,731	4.5%	$4,693	$13,424	100%	12%	0%	$13,424	$1,557	$0
464	297	27	$46.24	$13,756	4.5%	$7,394	$21,150	100%	12%	0%	$21,150	$2,454	$0
18443	178	27	$46.24	$8,230	4.5%	$4,424	$12,654	100%	12%	0%	$12,654	$1,468	$0
498	302	27	$46.24	$13,945	4.5%	$7,496	$21,441	100%	7%	0%	$21,441	$1,489	$0
496	425	27	$46.24	$19,633	4.5%	$10,553	$30,186	100%	7%	0%	$30,186	$2,097	$0
501	301	27	$46.24	$13,899	4.5%	$7,471	$21,370	100%	7%	0%	$21,370	$1,484	$0
539	283	27	$46.24	$13,092	4.5%	$7,037	$20,129	100%	7%	0%	$20,129	$1,398	$0
587	146	27	$46.24	$6,769	4.5%	$3,638	$10,407	100%	7%	0%	$10,407	$723	$0
588	464	27	$46.24	$21,451	4.5%	$11,530	$32,981	100%	7%	0%	$32,981	$2,291	$0
612	63	27	$46.24	$2,924	4.5%	$1,572	$4,496	100%	2%	0%	$4,496	$111	$0
613	333	27	$46.24	$15,393	4.5%	$8,274	$23,667	100%	2%	0%	$23,667	$583	$0
615	274	27	$46.24	$12,662	4.5%	$6,806	$19,468	100%	2%	0%	$19,468	$479	$0
665	302	27	$46.24	$13,949	4.5%	$7,498	$21,447	100%	2%	0%	$21,447	$528	$0
695	501	27	$46.24	$23,175	4.5%	$12,457	$35,632	100%	2%	0%	$35,632	$878	$0
713	411	27	$46.24	$19,026	4.5%	$10,227	$29,253	100%	2%	0%	$29,253	$721	$0
714	493	27	$46.24	$22,814	4.5%	$12,263	$35,077	100%	23%	0%	$35,077	$8,136	$0
710	298	27	$46.24	$13,787	4.5%	$7,411	$21,198	100%	23%	0%	$21,198	$4,917	$0
720	501	27	$46.24	$23,160	4.5%	$12,449	$35,609	100%	23%	0%	$35,609	$8,259	$0
727	178	27	$46.24	$8,250	4.5%	$4,435	$12,685	100%	23%	0%	$12,685	$2,942	$0
734	410	27	$46.24	$18,978	4.5%	$10,201	$29,179	100%	23%	0%	$29,179	$6,768	$0
749	502	27	$46.24	$23,222	4.5%	$12,482	$35,704	100%	25%	0%	$35,704	$8,969	$0
778	494	27	$46.24	$22,864	4.5%	$12,290	$35,154	100%	25%	0%	$35,154	$8,831	$0
817	140	27	$46.24	$6,455	4.5%	$3,470	$9,925	100%	25%	0%	$9,925	$2,493	$0
834	126	27	$46.24	$5,814	4.5%	$3,125	$8,939	100%	25%	0%	$8,939	$2,246	$0
867	286	27	$46.24	$13,247	4.5%	$7,121	$20,368	100%	25%	0%	$20,368	$5,117	$0
906	351	27	$46.24	$16,223	4.5%	$8,720	$24,943	100%	25%	0%	$24,943	$6,266	$0
952	505	27	$46.24	$23,353	4.5%	$12,553	$35,906	100%	25%	0%	$35,906	$9,021	$0
42293	202	27	$46.24	$9,336	4.5%	$5,018	$14,354	100%	25%	0%	$14,354	$3,606	$0
18435	326	27	$46.24	$15,070	4.5%	$8,100	$23,170	100%	2%	0%	$23,170	$571	$0
Subtotal:	**9,659**			**$446,699**	**4.5%**	**$240,110**	**$686,809**				**$686,809**	**$102,246**	**$0**
2 - Stonebridge 18" & 21" Offsite Sewer (1987) Line A1-1													
Main Interceptor Crossing Virginia Parkway (Wilson Creek Lateral #22)													
799	443	21	$44.94	$19,899	4.5%	$10,696	$30,595	86%	88%	2%	$26,331	$26,881	$550
873	376	21	$44.94	$16,878	4.5%	$9,072	$25,950	86%	88%	2%	$22,334	$22,800	$466
920	318	21	$44.94	$14,307	4.5%	$7,690	$21,997	86%	88%	2%	$18,931	$19,327	$396
980	381	21	$44.94	$17,146	4.5%	$9,216	$26,362	86%	88%	2%	$22,688	$23,162	$474
1059	329	21	$44.94	$14,765	4.5%	$7,937	$22,702	87%	88%	2%	$19,650	$20,047	$397
1164	379	18	$44.94	$17,046	4.5%	$9,163	$26,209	87%	89%	2%	$22,821	$23,267	$446
1212	354	18	$44.94	$15,908	4.5%	$8,551	$24,459	87%	89%	2%	$21,303	$21,721	$418
1254	162	18	$44.94	$7,298	4.5%	$3,923	$11,221	87%	89%	2%	$9,776	$9,969	$193
1260	164	18	$44.94	$7,384	4.5%	$3,969	$11,353	87%	89%	2%	$9,894	$10,090	$196

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
1262	61	18	$44.94	$2,749	4.5%	$1,478	$4,227	87%	89%	2%	$3,685	$3,758	$73
1314	166	18	$44.94	$7,463	4.5%	$4,012	$11,475	87%	89%	2%	$10,007	$10,206	$199
1343	140	18	$44.94	$6,313	4.5%	$3,393	$9,706	87%	89%	2%	$8,467	$8,636	$169
1358	63	18	$44.94	$2,851	4.5%	$1,532	$4,383	87%	89%	2%	$3,826	$3,903	$77
1363	119	18	$44.94	$5,336	4.5%	$2,868	$8,204	87%	89%	2%	$7,159	$7,303	$144
1458	362	18	$44.94	$16,253	4.5%	$8,736	$24,989	87%	89%	2%	$21,821	$22,261	$440
1473	111	18	$44.94	$4,968	4.5%	$2,670	$7,638	87%	89%	2%	$6,672	$6,807	$135
1533	198	18	$44.94	$8,901	4.5%	$4,784	$13,685	87%	89%	2%	$11,958	$12,201	$243
1550	114	18	$44.94	$5,131	4.5%	$2,758	$7,889	87%	89%	2%	$6,896	$7,037	$141
1623	228	18	$44.94	$10,231	4.5%	$5,499	$15,730	87%	89%	2%	$13,755	$14,036	$281
1619	388	18	$44.94	$17,452	4.5%	$9,381	$26,833	88%	90%	2%	$23,636	$24,051	$415
1682	457	18	$44.94	$20,543	4.5%	$11,042	$31,585	88%	90%	1%	$27,871	$28,344	$473
1686	125	18	$44.94	$5,607	4.5%	$3,014	$8,621	89%	90%	1%	$7,634	$7,759	$125
1688	225	18	$44.94	$10,112	4.5%	$5,435	$15,547	88%	90%	1%	$13,750	$13,979	$229
1715	341	18	$44.94	$15,331	4.5%	$8,241	$23,572	88%	90%	1%	$20,823	$21,173	$350
1732	127	18	$44.94	$5,709	4.5%	$3,069	$8,778	91%	92%	1%	$7,998	$8,073	$75
1810	208	18	$44.94	$9,350	4.5%	$5,026	$14,376	91%	92%	1%	$13,099	$13,221	$122
1829	79	18	$44.94	$3,551	4.5%	$1,909	$5,460	91%	92%	1%	$4,975	$5,022	$47
1830	53	18	$44.94	$2,382	4.5%	$1,280	$3,662	91%	92%	1%	$3,337	$3,368	$31
1905	203	18	$44.94	$9,122	4.5%	$4,903	$14,025	91%	92%	1%	$12,780	$12,900	$120
1971	155	18	$44.94	$6,984	4.5%	$3,754	$10,738	91%	92%	1%	$9,789	$9,888	$99
1981	86	18	$44.94	$3,884	4.5%	$2,088	$5,972	92%	92%	0%	$5,480	$5,487	$7
2071	345	18	$44.94	$15,508	4.5%	$8,336	$23,844	92%	92%	0%	$21,876	$21,904	$28
2153	338	18	$44.94	$15,194	4.5%	$8,167	$23,361	92%	92%	0%	$21,430	$21,458	$28
2182	128	18	$44.94	$5,731	4.5%	$3,081	$8,812	92%	92%	0%	$8,082	$8,093	$11
2279	310	18	$44.94	$13,933	4.5%	$7,489	$21,422	92%	92%	0%	$19,646	$19,672	$26
2323	282	18	$44.94	$12,685	4.5%	$6,818	$19,503	92%	92%	0%	$17,882	$17,908	$26
2372	190	18	$44.94	$8,551	4.5%	$4,596	$13,147	92%	92%	0%	$12,052	$12,070	$18
2426	239	18	$44.94	$10,741	4.5%	$5,774	$16,515	92%	92%	0%	$15,138	$15,160	$22
Subtotal:	**8,749**			**$393,197**	**4.5%**	**$211,350**	**$604,547**				**$535,252**	**$542,942**	**$7,690**
3 - Stonebridge 30" Offsite Sewer (1987) Line B1													
Along Gray Branch (Wilson Creek Lateral #25)													
458	156	33	$52.35	$8,156	4.5%	$4,384	$12,540	100%	100%	0%	$12,540	$12,540	$0
474	231	33	$52.35	$12,089	4.5%	$6,498	$18,587	100%	100%	0%	$18,587	$18,587	$0
475	237	33	$52.35	$12,400	4.5%	$6,665	$19,065	100%	100%	0%	$19,065	$19,065	$0
518	274	33	$52.35	$14,355	4.5%	$7,716	$22,071	100%	100%	0%	$22,071	$22,071	$0
532	239	30	$52.35	$12,533	4.5%	$6,737	$19,270	100%	100%	0%	$19,270	$19,270	$0
554	235	30	$52.35	$12,317	4.5%	$6,621	$18,938	100%	100%	0%	$18,938	$18,938	$0
557	390	30	$52.35	$20,399	4.5%	$10,965	$31,364	100%	100%	0%	$31,364	$31,364	$0
558	252	30	$52.35	$13,182	4.5%	$7,086	$20,268	100%	100%	0%	$20,268	$20,268	$0
589	454	30	$52.35	$23,772	4.5%	$12,778	$36,550	100%	100%	0%	$36,550	$36,550	$0
593	368	30	$52.35	$19,271	4.5%	$10,359	$29,630	100%	100%	0%	$29,630	$29,630	$0
604	368	30	$52.35	$19,261	4.5%	$10,353	$29,614	100%	100%	0%	$29,614	$29,614	$0
630	331	30	$52.35	$17,335	4.5%	$9,318	$26,653	100%	100%	0%	$26,653	$26,653	$0

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
718	331	30	$52.35	$17,344	4.5%	$9,323	$26,667	100%	100%	0%	$26,667	$26,667	$0
741	282	30	$52.35	$14,754	4.5%	$7,931	$22,685	100%	100%	0%	$22,685	$22,685	$0
780	297	30	$52.35	$15,557	4.5%	$8,362	$23,919	100%	100%	0%	$23,919	$23,919	$0
809	259	30	$52.35	$13,565	4.5%	$7,291	$20,856	100%	100%	0%	$20,856	$20,856	$0
805	267	30	$52.35	$13,996	4.5%	$7,523	$21,519	100%	100%	0%	$21,519	$21,519	$0
822	217	30	$52.35	$11,369	4.5%	$6,111	$17,480	100%	100%	0%	$17,480	$17,480	$0
868	366	30	$52.35	$19,171	4.5%	$10,305	$29,476	100%	100%	0%	$29,476	$29,476	$0
674	267	30	$52.35	$13,973	4.5%	$7,511	$21,484	100%	100%	0%	$21,484	$21,484	$0
Subtotal:	**5,823**			**$304,799**	**4.5%**	**$163,837**	**$468,636**				**$468,636**	**$468,636**	**$0**
4 - Bray Central 2 - Off Site Sewer													
Trinity River Lateral #6													
43272	381	18	$6.62	$2,521	4.5%	$1,355	$3,876	91%	100%	9%	$3,527	$3,876	$349
21	443	18	$6.62	$2,929	4.5%	$1,574	$4,503	91%	100%	9%	$4,098	$4,503	$405
18	329	18	$6.62	$2,175	4.5%	$1,169	$3,344	91%	100%	9%	$3,043	$3,344	$301
25	576	21	$6.62	$3,811	4.5%	$2,048	$5,859	91%	100%	9%	$5,332	$5,859	$527
29	473	15	$6.62	$3,127	4.5%	$1,681	$4,808	99%	100%	1%	$4,782	$4,808	$26
30	498	15	$6.62	$3,294	4.5%	$1,771	$5,065	99%	100%	1%	$5,038	$5,065	$27
31	195	15	$6.62	$1,293	4.5%	$695	$1,988	99%	100%	1%	$1,965	$1,988	$23
32	430	15	$6.62	$2,846	4.5%	$1,530	$4,376	99%	100%	1%	$4,325	$4,376	$51
34	235	15	$6.62	$1,556	4.5%	$836	$2,392	99%	100%	1%	$2,364	$2,392	$28
12498	191	15	$6.62	$1,266	4.5%	$681	$1,947	99%	100%	1%	$1,924	$1,947	$23
35	187	15	$6.62	$1,236	4.5%	$664	$1,900	99%	100%	1%	$1,877	$1,900	$23
12496	148	15	$6.62	$976	4.5%	$525	$1,501	99%	100%	1%	$1,482	$1,501	$19
40	167	15	$6.62	$1,106	4.5%	$595	$1,701	99%	100%	1%	$1,679	$1,701	$22
42	204	15	$6.62	$1,352	4.5%	$727	$2,079	99%	100%	1%	$2,051	$2,079	$28
39	340	15	$6.62	$2,246	4.5%	$1,207	$3,453	99%	100%	1%	$3,406	$3,453	$47
41	119	15	$6.62	$787	4.5%	$423	$1,210	99%	100%	1%	$1,193	$1,210	$17
49	448	16	$6.62	$2,967	4.5%	$1,595	$4,562	99%	100%	1%	$4,495	$4,562	$67
46	301	15	$6.62	$1,992	4.5%	$1,071	$3,063	99%	100%	1%	$3,018	$3,063	$45
45	402	16	$6.62	$2,663	4.5%	$1,431	$4,094	99%	100%	1%	$4,035	$4,094	$59
50	342	12	$6.62	$2,265	4.5%	$1,217	$3,482	99%	100%	1%	$3,433	$3,482	$49
52	132	12	$6.62	$871	4.5%	$468	$1,339	99%	100%	1%	$1,321	$1,339	$18
51	551	12	$6.62	$3,645	4.5%	$1,959	$5,604	99%	100%	1%	$5,527	$5,604	$77
53	109	12	$6.62	$723	4.5%	$389	$1,112	99%	100%	1%	$1,098	$1,112	$14
24022	140	12	$6.62	$926	4.5%	$498	$1,424	99%	100%	1%	$1,407	$1,424	$17
56	478	12	$6.62	$3,163	4.5%	$1,700	$4,863	99%	100%	1%	$4,806	$4,863	$57
47	146	16	$6.62	$964	4.5%	$518	$1,482	98%	100%	2%	$1,460	$1,482	$22
Subtotal:	**7,965**			**$52,700**	**4.5%**	**$28,327**	**$81,027**				**$78,686**	**$81,027**	**$2,341**
5 - 36" Wilson Creek Interceptor Phase 2													
Along Wilson Creek To Wastewater Treatment Plant (Wilson Creek Main Interceptor)													
13612	74	36	$46.52	$3,423	4.5%	$1,840	$5,263	60%	18%	0%	$3,160	$954	$0
13611	259	36	$46.52	$12,045	4.5%	$6,474	$18,519	60%	18%	0%	$11,119	$3,355	$0

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
13610	142	36	$46.52	$6,628	4.5%	$3,563	$10,191	61%	18%	0%	$6,187	$1,857	$0
13634	382	36	$46.52	$17,773	4.5%	$9,553	$27,326	51%	29%	0%	$13,830	$7,820	$0
18421	24	36	$46.52	$1,111	4.5%	$597	$1,708	44%	54%	11%	$746	$927	$181
18422	20	36	$46.52	$922	4.5%	$496	$1,418	44%	54%	11%	$619	$770	$151
13633	653	36	$46.52	$30,393	4.5%	$16,337	$46,730	59%	31%	0%	$27,636	$14,518	$0
13631	626	36	$46.52	$29,115	4.5%	$15,650	$44,765	59%	31%	0%	$26,474	$13,906	$0
13630	210	36	$46.52	$9,785	4.5%	$5,260	$15,045	59%	16%	0%	$8,897	$2,337	$0
13628	453	36	$46.52	$21,068	4.5%	$11,325	$32,393	59%	16%	0%	$19,156	$5,031	$0
13626	113	36	$46.52	$5,265	4.5%	$2,830	$8,095	60%	17%	0%	$4,823	$1,401	$0
13627	746	36	$46.52	$34,709	4.5%	$18,657	$53,366	60%	17%	0%	$31,796	$9,234	$0
1743	137	36	$46.52	$6,389	4.5%	$3,434	$9,823	60%	16%	0%	$5,853	$1,536	$0
13625	225	36	$46.52	$10,471	4.5%	$5,628	$16,099	60%	16%	0%	$9,591	$2,518	$0
13624	87	36	$46.52	$4,061	4.5%	$2,183	$6,244	60%	16%	0%	$3,720	$977	$0
1834	391	36	$46.52	$18,178	4.5%	$9,771	$27,949	60%	16%	0%	$16,652	$4,371	$0
13622	174	36	$46.52	$8,097	4.5%	$4,352	$12,449	60%	16%	0%	$7,417	$1,947	$0
13620	236	36	$46.52	$10,990	4.5%	$5,907	$16,897	61%	20%	0%	$10,327	$3,445	$0
13619	794	36	$46.52	$36,939	4.5%	$19,856	$56,795	61%	20%	0%	$34,710	$11,579	$0
13618	601	36	$46.52	$27,942	4.5%	$15,019	$42,961	61%	20%	0%	$26,256	$8,758	$0
13617	752	36	$46.52	$35,003	4.5%	$18,815	$53,818	61%	20%	0%	$32,891	$10,972	$0
13616	712	36	$46.52	$33,109	4.5%	$17,797	$50,906	61%	20%	0%	$31,111	$10,378	$0
13615	730	36	$46.52	$33,956	4.5%	$18,252	$52,208	61%	20%	0%	$31,907	$10,643	$0
13613	474	36	$46.52	$22,050	4.5%	$11,852	$33,902	59%	16%	0%	$20,098	$5,563	$0
13614	19	36	$46.52	$899	4.5%	$483	$1,382	59%	16%	0%	$819	$227	$0
13632	17	36	$46.52	$796	4.5%	$428	$1,224	59%	31%	0%	$724	$380	$0
13621	352	36	$46.52	$16,390	4.5%	$8,810	$25,200	61%	20%	0%	$15,401	$5,138	$0
13623	398	36	$46.52	$18,494	4.5%	$9,941	$28,435	60%	16%	0%	$16,940	$4,447	$0
Subtotal:	**9,801**			**$456,001**	**4.5%**	**$245,110**	**$701,111**				**$418,860**	**$144,989**	**$332**
6 - 15" Mckinney Northwest Outfall Sewer (1982)													
From Wilson Creek To Wastewater Treatment Plant (Wilson Creek Lateral #20)													
265	355	15	$33.72	$11,975	4.5%	$6,437	$18,412	87%	95%	7%	$16,054	$17,421	$1,367
311	499	15	$33.72	$16,841	4.5%	$9,052	$25,893	87%	95%	7%	$22,587	$24,504	$1,917
348	456	15	$33.72	$15,382	4.5%	$8,268	$23,650	87%	95%	7%	$20,641	$22,385	$1,744
376	461	15	$33.72	$15,531	4.5%	$8,348	$23,879	87%	95%	7%	$20,858	$22,606	$1,748
435	508	15	$33.72	$17,117	4.5%	$9,201	$26,318	87%	95%	7%	$23,007	$24,920	$1,913
483	604	15	$33.72	$20,370	4.5%	$10,949	$31,319	87%	95%	7%	$27,401	$29,660	$2,259
542	423	15	$33.72	$14,257	4.5%	$7,663	$21,920	87%	94%	7%	$19,052	$20,693	$1,641
600	346	15	$33.72	$11,676	4.5%	$6,276	$17,952	85%	94%	8%	$15,327	$16,806	$1,479
658	127	15	$33.72	$4,267	4.5%	$2,294	$6,561	86%	94%	8%	$5,610	$6,148	$538
669	226	15	$33.72	$7,616	4.5%	$4,094	$11,710	86%	94%	8%	$10,028	$10,983	$955
698	58	15	$33.72	$1,970	4.5%	$1,059	$3,029	86%	94%	8%	$2,598	$2,843	$245
701	216	15	$33.72	$7,296	4.5%	$3,922	$11,218	86%	94%	8%	$9,634	$10,540	$906
730	125	15	$33.72	$4,204	4.5%	$2,260	$6,464	86%	94%	8%	$5,558	$6,078	$520
Subtotal:	**4,404**			**$148,502**	**4.5%**	**$79,823**	**$228,325**				**$198,355**	**$215,587**	**$17,232**

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
7 - Jeans Creek Interceptor Line													
Along Jeans Creek (Wilson Creek Lateral #15)													
1081	410	15	$27.90	$11,434	4.5%	$6,146	$17,580	93%	94%	2%	$16,290	$16,589	$299
1186	284	15	$27.90	$7,914	4.5%	$4,254	$12,168	93%	94%	2%	$11,275	$11,482	$207
1248	101	15	$27.90	$2,805	4.5%	$1,508	$4,313	93%	94%	2%	$3,997	$4,068	$71
1278	411	15	$27.90	$11,473	4.5%	$6,167	$17,640	93%	94%	2%	$16,346	$16,638	$292
1376	125	15	$27.90	$3,494	4.5%	$1,878	$5,372	93%	94%	2%	$4,978	$5,067	$89
1395	189	15	$27.90	$5,265	4.5%	$2,830	$8,095	93%	94%	2%	$7,496	$7,628	$132
1460	168	15	$27.90	$4,688	4.5%	$2,520	$7,208	93%	94%	2%	$6,675	$6,792	$117
1528	152	15	$27.90	$4,235	4.5%	$2,276	$6,511	93%	94%	2%	$6,029	$6,135	$106
1565	177	15	$27.90	$4,927	4.5%	$2,648	$7,575	93%	94%	2%	$7,015	$7,138	$123
1618	116	15	$27.90	$3,233	4.5%	$1,738	$4,971	93%	94%	2%	$4,605	$4,682	$77
1643	360	15	$27.90	$10,058	4.5%	$5,406	$15,464	93%	94%	2%	$14,324	$14,567	$243
1763	321	15	$27.90	$8,968	4.5%	$4,821	$13,789	93%	94%	2%	$12,773	$12,989	$216
1868	54	15	$27.90	$1,510	4.5%	$812	$2,322	93%	94%	1%	$2,155	$2,190	$35
42764	257	15	$27.90	$7,170	4.5%	$3,854	$11,024	93%	94%	1%	$10,231	$10,395	$164
1963	215	15	$27.90	$6,007	4.5%	$3,229	$9,236	93%	94%	1%	$8,572	$8,709	$137
2034	151	15	$27.90	$4,211	4.5%	$2,264	$6,475	93%	94%	1%	$6,009	$6,106	$97
2073	118	18	$27.90	$3,285	4.5%	$1,766	$5,051	93%	94%	1%	$4,688	$4,763	$75
2072	560	18	$27.90	$15,637	4.5%	$8,405	$24,042	93%	94%	1%	$22,313	$22,671	$358
2222	604	18	$27.90	$16,841	4.5%	$9,052	$25,893	93%	94%	1%	$24,031	$24,416	$385
2381	227	18	$27.90	$6,335	4.5%	$3,405	$9,740	93%	94%	1%	$9,040	$9,185	$145
2387	237	18	$27.90	$6,603	4.5%	$3,549	$10,152	93%	94%	1%	$9,422	$9,573	$151
2389	80	18	$27.90	$2,244	4.5%	$1,206	$3,450	93%	94%	1%	$3,202	$3,253	$51
2409	146	18	$27.90	$4,068	4.5%	$2,187	$6,255	93%	94%	1%	$5,805	$5,898	$93
2439	409	15	$27.90	$11,409	4.5%	$6,133	$17,542	93%	94%	1%	$16,287	$16,547	$260
2698	384	15	$27.90	$10,711	4.5%	$5,757	$16,468	93%	94%	1%	$15,296	$15,539	$243
43060	397	15	$27.90	$11,075	4.5%	$5,953	$17,028	93%	94%	1%	$15,816	$16,068	$252
Subtotal:	**6,652**			**$185,600**	**4.5%**	**$99,764**	**$285,364**				**$264,670**	**$269,088**	**$4,418**
8 - 36"-48" Wilson Creek Interceptor Sewer Phase 1													
From Rail Road To West Side Of S.H. 75													
6109	148	42	$211.76	$31,336	4.5%	$16,844	$48,180	62%	24%	0%	$29,939	$11,582	$0
6110	411	42	$211.76	$87,081	4.5%	$46,808	$133,889	62%	24%	0%	$83,199	$32,185	$0
6111	95	42	$211.76	$20,056	4.5%	$10,781	$30,837	81%	40%	0%	$24,835	$12,226	$0
6112	865	42	$211.76	$183,278	4.5%	$98,516	$281,794	81%	40%	0%	$226,944	$111,722	$0
6176	548	42	$211.76	$116,000	4.5%	$62,353	$178,353	81%	40%	0%	$143,636	$70,711	$0
6175	370	42	$211.76	$78,344	4.5%	$42,112	$120,456	81%	40%	0%	$97,008	$47,757	$0
6174	263	48	$211.76	$55,660	4.5%	$29,919	$85,579	81%	40%	0%	$68,921	$33,930	$0
6173	364	48	$211.76	$77,072	4.5%	$41,428	$118,500	81%	40%	0%	$95,433	$46,982	$0
6172	293	48	$211.76	$62,002	4.5%	$33,327	$95,329	81%	40%	0%	$76,770	$37,795	$0
3153	560	48	$211.76	$118,604	4.5%	$63,752	$182,356	69%	34%	0%	$126,665	$62,466	$0
3238	744	48	$211.76	$157,655	4.5%	$84,743	$242,398	68%	37%	0%	$165,653	$90,848	$0
3425	231	48	$211.76	$48,831	4.5%	$26,248	$75,079	68%	37%	0%	$51,308	$28,139	$0
3486	293	48	$211.76	$61,983	4.5%	$33,317	$95,300	68%	37%	0%	$65,127	$35,717	$0

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
3553	663	48	$211.76	$140,300	4.5%	$75,414	$215,714	69%	36%	0%	$148,592	$76,697	$0
3700	232	48	$211.76	$49,197	4.5%	$26,445	$75,642	70%	38%	0%	$52,690	$28,801	$0
6182	170	48	$211.76	$36,094	4.5%	$19,401	$55,495	70%	38%	0%	$38,656	$21,130	$0
6183	376	48	$211.76	$79,707	4.5%	$42,844	$122,551	70%	38%	0%	$85,365	$46,661	$0
6184	435	48	$211.76	$92,099	4.5%	$49,505	$141,604	70%	38%	0%	$98,636	$53,915	$0
6185	359	48	$211.76	$76,001	4.5%	$40,852	$116,853	70%	38%	0%	$81,395	$44,491	$0
6186	302	48	$211.76	$64,006	4.5%	$34,405	$98,411	70%	38%	0%	$68,552	$37,467	$0
6187	273	48	$211.76	$57,770	4.5%	$31,053	$88,823	70%	38%	0%	$61,862	$33,817	$0
6228	212	48	$211.76	$44,978	4.5%	$24,177	$69,155	76%	61%	0%	$52,841	$42,226	$0
6103	508	36	$211.76	$107,601	4.5%	$57,838	$165,439	62%	21%	0%	$102,087	$34,804	$0
6104	80	42	$211.76	$16,899	4.5%	$9,084	$25,983	62%	21%	0%	$16,033	$5,466	$0
6105	62	42	$211.76	$13,213	4.5%	$7,102	$20,315	59%	23%	0%	$12,041	$4,732	$0
2828	525	42	$211.76	$111,074	4.5%	$59,705	$170,779	57%	22%	0%	$98,105	$37,633	$0
2870	169	42	$211.76	$35,854	4.5%	$19,272	$55,126	57%	22%	0%	$31,667	$12,148	$0
2906	587	42	$211.76	$124,265	4.5%	$66,795	$191,060	57%	22%	0%	$109,752	$42,101	$0
20740	42	42	$211.76	$8,840	4.5%	$4,752	$13,592	59%	23%	0%	$8,057	$3,166	$0
Subtotal:	**10,180**			**$2,155,800**	**4.5%**	**$1,158,792**	**$3,314,592**				**$2,321,769**	**$1,147,315**	**$0**
9 - 18" Diversion Sewer Line: West, Davis, Louisiana & Woodleigh St.													
From Throckmorton To 27" Ntmwd Sewer Line													
1365	777	18	$64.24	$49,933	4.5%	$26,840	$76,773	100%	100%	0%	$76,681	$76,773	$92
1369	346	18	$64.24	$22,251	4.5%	$11,960	$34,211	100%	100%	0%	$34,211	$34,211	$0
1372	496	18	$64.24	$31,876	4.5%	$17,134	$49,010	100%	100%	0%	$49,010	$49,010	$0
1374	336	18	$64.24	$21,592	4.5%	$11,606	$33,198	100%	100%	0%	$33,198	$33,198	$0
1389	276	18	$64.24	$17,720	4.5%	$9,525	$27,245	100%	100%	0%	$27,245	$27,245	$0
1401	207	18	$64.24	$13,278	4.5%	$7,137	$20,415	100%	100%	0%	$20,399	$20,415	$16
13982	268	18	$64.24	$17,216	4.5%	$9,254	$26,470	100%	100%	0%	$26,451	$26,470	$19
1397	228	18	$64.24	$14,658	4.5%	$7,879	$22,537	100%	100%	0%	$22,520	$22,537	$17
15341	495	18	$64.24	$31,775	4.5%	$17,080	$48,855	100%	100%	0%	$48,855	$48,855	$0
Subtotal:	**3,429**			**$220,299**	**4.5%**	**$118,415**	**$338,714**				**$338,570**	**$338,714**	**$144**
10 - 12" Provine Farm Estates													
From Hardin Boulevard To Wilson Creek Interceptor													
2723	174	12	$48.75	$8,463	4.5%	$4,549	$13,012	100%	100%	0%	$13,012	$13,012	$0
2750	185	12	$48.75	$9,007	4.5%	$4,841	$13,848	100%	100%	0%	$13,848	$13,848	$0
2769	306	12	$48.75	$14,904	4.5%	$8,011	$22,915	100%	100%	0%	$22,915	$22,915	$0
2788	295	12	$48.75	$14,400	4.5%	$7,740	$22,140	100%	100%	0%	$22,140	$22,140	$0
2803	295	12	$48.75	$14,384	4.5%	$7,732	$22,116	100%	100%	0%	$22,116	$22,116	$0
2820	297	12	$48.75	$14,458	4.5%	$7,772	$22,230	100%	100%	0%	$22,230	$22,230	$0
2858	329	12	$48.75	$16,057	4.5%	$8,631	$24,688	100%	100%	0%	$24,688	$24,688	$0
2139	422	15	$48.75	$20,552	4.5%	$11,047	$31,599	98%	99%	1%	$30,884	$31,205	$321
2154	107	16	$48.75	$5,196	4.5%	$2,793	$7,989	98%	99%	1%	$7,828	$7,907	$79
2316	521	12	$48.75	$25,413	4.5%	$13,660	$39,073	100%	100%	0%	$39,073	$39,073	$0
2388	329	12	$48.75	$16,039	4.5%	$8,621	$24,660	100%	100%	0%	$24,660	$24,660	$0

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
2502	499	12	$48.75	$24,317	4.5%	$13,071	$37,388	100%	100%	0%	$37,388	$37,388	$0
2493	149	12	$48.75	$7,284	4.5%	$3,915	$11,199	100%	100%	0%	$11,199	$11,199	$0
2638	480	12	$48.75	$23,404	4.5%	$12,580	$35,984	100%	100%	0%	$35,984	$35,984	$0
2650	150	12	$48.75	$7,307	4.5%	$3,928	$11,235	100%	100%	0%	$11,235	$11,235	$0
2709	486	12	$48.75	$23,713	4.5%	$12,746	$36,459	100%	100%	0%	$36,459	$36,459	$0
Subtotal:	**5,023**			**$244,898**	**4.5%**	**$131,637**	**$376,535**				**$375,659**	**$376,059**	**$400**
11 - 18" Cottonwood Creek Sanitary Sewer													
From S.H. 121 To South Of Eldorado Parkway													
4741	278	18	$88.25	$24,540	4.5%	$13,191	$37,731	91%	94%	3%	$34,257	$35,348	$1,091
42290	86	18	$88.25	$7,619	4.5%	$4,095	$11,714	90%	93%	3%	$10,589	$10,951	$362
4720	123	18	$88.25	$10,893	4.5%	$5,855	$16,748	93%	94%	1%	$15,579	$15,769	$190
4723	785	18	$88.25	$69,236	4.5%	$37,216	$106,452	92%	94%	2%	$98,290	$100,058	$1,768
4729	762	18	$88.25	$67,252	4.5%	$36,149	$103,401	92%	94%	2%	$94,809	$97,035	$2,226
4733	481	18	$88.25	$42,405	4.5%	$22,794	$65,199	91%	94%	3%	$59,387	$61,093	$1,706
5419	721	18	$88.25	$63,630	4.5%	$34,203	$97,833	91%	94%	3%	$89,292	$91,858	$2,566
4738	401	18	$88.25	$35,424	4.5%	$19,041	$54,465	91%	94%	3%	$49,672	$51,135	$1,463
Subtotal:	**3,637**			**$320,999**	**4.5%**	**$172,544**	**$493,543**				**$451,875**	**$463,247**	**$11,372**
12 - 24" Mckinney Northwest Outfall Sewer Along Wilson Creek (1982)													
From West Of S.H. 75 To 1,600 Feet North Of Virginia Parkway													
P6226	54	24	$100.73	$5,449	4.5%	$2,929	$8,378	59%	9%	0%	$4,902	$724	$0
2789	277	24	$100.73	$27,949	4.5%	$15,023	$42,972	60%	12%	0%	$25,745	$5,124	$0
2795	134	24	$100.73	$13,503	4.5%	$7,258	$20,761	60%	21%	0%	$12,445	$4,258	$0
751	252	15	$100.73	$25,373	4.5%	$13,639	$39,012	86%	94%	8%	$33,590	$36,716	$3,126
784	597	15	$100.73	$60,114	4.5%	$32,313	$92,427	87%	95%	8%	$80,446	$87,389	$6,943
897	635	15	$100.73	$63,939	4.5%	$34,369	$98,308	88%	95%	7%	$86,702	$93,442	$6,740
1050	378	24	$100.73	$38,104	4.5%	$20,482	$58,586	100%	33%	0%	$58,586	$19,085	$0
1157	22	24	$100.73	$2,266	4.5%	$1,218	$3,484	100%	33%	0%	$3,484	$1,135	$0
1307	714	24	$100.73	$71,922	4.5%	$38,660	$110,582	28%	2%	0%	$31,239	$1,974	$0
1466	122	24	$100.73	$12,243	4.5%	$6,581	$18,824	56%	36%	0%	$10,569	$6,702	$0
1499	458	24	$100.73	$46,134	4.5%	$24,798	$70,932	56%	36%	0%	$39,806	$25,254	$0
1608	109	24	$100.73	$10,962	4.5%	$5,892	$16,854	57%	17%	0%	$9,576	$2,920	$0
1675	402	24	$100.73	$40,528	4.5%	$21,785	$62,313	57%	17%	0%	$35,397	$10,795	$0
10219	345	24	$100.73	$34,722	4.5%	$18,664	$53,386	57%	17%	0%	$30,321	$9,248	$0
1808	57	24	$100.73	$5,788	4.5%	$3,111	$8,899	57%	18%	0%	$5,094	$1,625	$0
10217	54	24	$100.73	$5,426	4.5%	$2,917	$8,343	57%	18%	0%	$4,775	$1,523	$0
1781	533	24	$100.73	$53,698	4.5%	$28,864	$82,562	57%	18%	0%	$47,247	$15,072	$0
2024	595	24	$100.73	$59,945	4.5%	$32,222	$92,167	57%	18%	0%	$52,737	$16,825	$0
2074	550	24	$100.73	$55,410	4.5%	$29,784	$85,194	58%	15%	0%	$49,293	$12,542	$0
2132	800	24	$100.73	$80,610	4.5%	$43,330	$123,940	58%	15%	0%	$71,698	$18,246	$0
2272	600	24	$100.73	$60,397	4.5%	$32,465	$92,862	58%	15%	0%	$53,719	$13,671	$0
2386	751	24	$100.73	$75,659	4.5%	$40,668	$116,327	58%	15%	0%	$67,276	$17,124	$0
2506	704	24	$100.73	$70,958	4.5%	$38,142	$109,100	58%	15%	0%	$63,088	$16,060	$0

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
2677	716	24	$100.73	$72,134	4.5%	$38,774	$110,908	58%	15%	0%	$64,125	$16,326	$0
2671	16	24	$100.73	$1,657	4.5%	$891	$2,548	58%	15%	0%	$1,473	$375	$0
13614MH2	507	24	$100.73	$51,080	4.5%	$27,457	$78,537	59%	23%	0%	$46,557	$17,927	$0
136322	667	24	$100.73	$67,202	4.5%	$36,123	$103,325	28%	2%	0%	$29,192	$1,848	$0
Subtotal:	**11,051**			**$1,113,172**	**4.5%**	**$598,359**	**$1,711,531**				**$1,019,082**	**$453,930**	**$16,809**
13 - 15" Spur 399 Sanitary Sewer Line													
From Wilson Creek Interceptor To S.H. 75													
3795	481	15	$51.59	$24,829	4.5%	$13,346	$38,175	72%	91%	19%	$27,634	$34,772	$7,138
43486	115	15	$51.59	$5,940	4.5%	$3,193	$9,133	72%	91%	19%	$6,612	$8,319	$1,707
3843	184	15	$51.59	$9,475	4.5%	$5,093	$14,568	72%	91%	19%	$10,547	$13,269	$2,722
3885	310	15	$51.59	$16,006	4.5%	$8,604	$24,610	72%	91%	19%	$17,816	$22,416	$4,600
3925	337	15	$51.59	$17,408	4.5%	$9,357	$26,765	72%	91%	19%	$19,377	$24,379	$5,002
3962	375	15	$51.59	$19,349	4.5%	$10,401	$29,750	72%	91%	19%	$21,538	$27,098	$5,560
3990	333	15	$51.59	$17,197	4.5%	$9,244	$26,441	72%	91%	19%	$18,991	$24,138	$5,147
4003	82	15	$51.59	$4,218	4.5%	$2,267	$6,485	71%	92%	20%	$4,618	$5,934	$1,316
4001	312	15	$51.59	$16,072	4.5%	$8,639	$24,711	70%	92%	22%	$17,253	$22,737	$5,484
21027	494	15	$51.59	$25,491	4.5%	$13,702	$39,193	69%	92%	23%	$27,051	$36,175	$9,124
4130	228	15	$51.59	$11,758	4.5%	$6,320	$18,078	68%	93%	24%	$12,317	$16,743	$4,426
4169	280	15	$51.59	$14,448	4.5%	$7,766	$22,214	67%	93%	26%	$14,919	$20,652	$5,733
4221	338	15	$51.59	$17,435	4.5%	$9,372	$26,807	66%	93%	27%	$17,710	$25,028	$7,318
4272	380	15	$51.59	$19,613	4.5%	$10,542	$30,155	65%	94%	29%	$19,551	$28,287	$8,736
4316	373	15	$51.59	$19,256	4.5%	$10,351	$29,607	63%	94%	31%	$18,784	$27,925	$9,141
4396	489	15	$51.59	$25,236	4.5%	$13,565	$38,801	62%	95%	33%	$24,000	$36,814	$12,814
21029	309	15	$51.59	$15,917	4.5%	$8,556	$24,473	71%	92%	21%	$17,266	$22,454	$5,188
Subtotal:	**5,420**			**$279,648**	**4.5%**	**$150,318**	**$429,966**				**$295,984**	**$397,140**	**$101,156**
14 - 12" Herdon Branch Trunk Sewer													
From Hills Creek Drive To Wilson Creek Interceptor													
2973	530	12	$60.00	$31,799	4.5%	$17,093	$48,892	92%	93%	1%	$45,095	$45,378	$283
2731	249	12	$60.00	$14,960	4.5%	$8,041	$23,001	92%	93%	1%	$21,088	$21,363	$275
2719	223	12	$60.00	$13,389	4.5%	$7,197	$20,586	92%	93%	1%	$18,856	$19,121	$265
6062	64	12	$60.00	$3,821	4.5%	$2,054	$5,875	92%	93%	1%	$5,391	$5,456	$65
2758	234	12	$60.00	$14,019	4.5%	$7,536	$21,555	92%	93%	1%	$19,747	$20,020	$273
2768	479	12	$60.00	$28,739	4.5%	$15,448	$44,187	92%	93%	1%	$40,487	$41,022	$535
2814	267	12	$60.00	$16,023	4.5%	$8,613	$24,636	92%	93%	1%	$22,649	$22,877	$228
2850	408	12	$60.00	$24,457	4.5%	$13,146	$37,603	92%	93%	1%	$34,602	$34,911	$309
2857	188	12	$60.00	$11,255	4.5%	$6,050	$17,305	92%	93%	1%	$15,942	$16,065	$123
1614	480	12	$60.00	$28,827	4.5%	$15,495	$44,322	78%	83%	5%	$34,610	$36,747	$2,137
1755	306	12	$60.00	$18,370	4.5%	$9,874	$28,244	78%	83%	5%	$22,057	$23,417	$1,360
1737	340	12	$60.00	$20,390	4.5%	$10,960	$31,350	79%	83%	5%	$24,627	$26,124	$1,497
1767	138	12	$60.00	$8,273	4.5%	$4,447	$12,720	79%	84%	5%	$10,055	$10,656	$601
1875	342	12	$60.00	$20,531	4.5%	$11,036	$31,567	80%	84%	5%	$25,116	$26,592	$1,476
1880	96	12	$60.00	$5,740	4.5%	$3,085	$8,825	80%	84%	5%	$7,028	$7,444	$416

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
6059	288	12	$60.00	$17,265	4.5%	$9,280	$26,545	80%	84%	5%	$21,155	$22,419	$1,264
2080	503	12	$60.00	$30,194	4.5%	$16,230	$46,424	80%	85%	5%	$37,033	$39,266	$2,233
2118	441	12	$60.00	$26,458	4.5%	$14,222	$40,680	80%	85%	5%	$32,492	$34,466	$1,974
2292	623	12	$60.00	$37,403	4.5%	$20,105	$57,508	82%	86%	5%	$46,908	$49,575	$2,667
2309	60	12	$60.00	$3,612	4.5%	$1,942	$5,554	83%	88%	4%	$4,631	$4,876	$245
2288	165	12	$60.00	$9,885	4.5%	$5,313	$15,198	85%	89%	4%	$12,967	$13,599	$632
2407	574	12	$60.00	$34,445	4.5%	$18,515	$52,960	87%	91%	4%	$46,287	$48,348	$2,061
2509	620	12	$60.00	$37,200	4.5%	$19,996	$57,196	90%	93%	4%	$51,238	$53,304	$2,066
6060	309	12	$60.00	$18,520	4.5%	$9,955	$28,475	90%	93%	3%	$25,684	$26,509	$825
2695	239	12	$60.00	$14,349	4.5%	$7,713	$22,062	91%	93%	2%	$20,047	$20,513	$466
43024	245	12	$60.00	$14,675	4.5%	$7,888	$22,563	78%	83%	5%	$17,619	$18,707	$1,088
Subtotal:	**8,411**			**$504,599**	**4.5%**	**$271,234**	**$775,833**				**$663,411**	**$688,775**	**$25,364**
15 - 18" Jeans Creek Relief Sewer													
Along S.H 75 To Wilson Creek Interceptor													
P7273	371	18	$66.59	$24,714	4.5%	$13,284	$37,998	89%	91%	2%	$33,852	$34,704	$852
6100	500	18	$66.59	$33,300	4.5%	$17,900	$51,200	93%	94%	1%	$47,540	$48,298	$758
6101	102	18	$66.59	$6,772	4.5%	$3,640	$10,412	93%	94%	1%	$9,668	$9,822	$154
P7273	371	18	$66.59	$24,714	4.5%	$13,284	$37,998	89%	91%	2%	$33,852	$34,704	$852
Subtotal:	**1,344**			**$89,500**	**4.5%**	**$48,108**	**$137,608**				**$124,912**	**$127,528**	**$2,616**
16 - Eagles Nest Sewer Service													
Eagles Nest 2 (2002) / Eagle'S Nest 1C & 3 / Eagle'S Nest 4													
13437	315	18	$3.63	$1,145	4.5%	$615	$1,760	100%	100%	0%	$1,754	$1,757	$3
13438	122	18	$3.63	$443	4.5%	$238	$681	100%	100%	0%	$679	$680	$1
13440	196	18	$3.63	$713	4.5%	$383	$1,096	100%	100%	0%	$1,092	$1,094	$2
13441	23	18	$3.63	$83	4.5%	$45	$128	100%	100%	0%	$127	$128	$1
13451	269	18	$3.63	$977	4.5%	$525	$1,502	100%	100%	0%	$1,496	$1,499	$3
13452	272	18	$3.63	$988	4.5%	$531	$1,519	100%	100%	0%	$1,513	$1,516	$3
13458	285	15	$3.63	$1,035	4.5%	$556	$1,591	100%	100%	0%	$1,584	$1,588	$4
13457	378	15	$3.63	$1,375	4.5%	$739	$2,114	100%	100%	0%	$2,105	$2,110	$5
13456	353	15	$3.63	$1,281	4.5%	$689	$1,970	100%	100%	0%	$1,962	$1,967	$5
13468	339	15	$3.63	$1,232	4.5%	$662	$1,894	100%	100%	0%	$1,886	$1,891	$5
13466	364	15	$3.63	$1,322	4.5%	$711	$2,033	100%	100%	0%	$2,024	$2,029	$5
14284	143	15	$3.63	$519	4.5%	$279	$798	99%	100%	0%	$794	$796	$2
P9227	27	15	$3.63	$519	4.5%	$279	$798	100%	100%	0%	$794	$796	$2
14286	116	15	$3.63	$422	4.5%	$227	$649	100%	100%	0%	$646	$648	$2
14287	276	15	$3.63	$1,003	4.5%	$539	$1,542	99%	100%	0%	$1,534	$1,539	$5
14289	275	15	$3.63	$1,000	4.5%	$538	$1,538	99%	100%	0%	$1,529	$1,535	$6
14290	340	15	$3.63	$1,237	4.5%	$665	$1,902	99%	100%	0%	$1,891	$1,898	$7
14326	450	15	$3.63	$1,636	4.5%	$879	$2,515	99%	100%	0%	$2,499	$2,509	$10
14327	500	15	$3.63	$1,817	4.5%	$977	$2,794	99%	100%	0%	$2,777	$2,787	$10
15492	476	15	$3.63	$1,731	4.5%	$930	$2,661	100%	100%	0%	$2,649	$2,656	$7
15493	487	15	$3.63	$1,768	4.5%	$950	$2,718	100%	100%	0%	$2,706	$2,713	$7

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
41257	183	15	$3.63	$665	4.5%	$357	$1,022	100%	100%	0%	$1,017	$1,020	$3
13654	190	15	$3.63	$689	4.5%	$370	$1,059	100%	100%	0%	$1,054	$1,057	$3
13436	423	18	$3.63	$1,536	4.5%	$826	$2,362	100%	100%	0%	$2,354	$2,358	$4
13439	397	18	$3.63	$1,441	4.5%	$775	$2,216	100%	100%	0%	$2,209	$2,213	$4
Subtotal:	**7,198**			**$26,577**	**4.5%**	**$14,285**	**$40,862**				**$40,675**	**$40,784**	**$109**
17 - Westridge Blvd. Sewer													
Along Westridge Blvd - Independence Pkwy To Custer Rd (Westridge Blvd. Phase 1 (County Road 115) / Westridge Blvd. Phase 2)													
5052	265	18	$2.99	$792	4.5%	$426	$1,218	99%	58%	0%	$1,203	$702	$0
5072	265	18	$2.99	$792	4.5%	$426	$1,218	99%	58%	0%	$1,203	$702	$0
5076	500	18	$2.99	$1,493	4.5%	$803	$2,296	99%	48%	0%	$2,270	$1,106	$0
5077	408	18	$2.99	$1,219	4.5%	$655	$1,874	99%	100%	1%	$1,853	$1,869	$16
5078	311	18	$2.99	$928	4.5%	$499	$1,427	99%	100%	1%	$1,410	$1,423	$13
13653	310	18	$2.99	$925	4.5%	$497	$1,422	99%	100%	1%	$1,405	$1,418	$13
41370	531	18	$2.99	$1,586	4.5%	$853	$2,439	99%	100%	1%	$2,410	$2,432	$22
5089	475	18	$2.99	$1,419	4.5%	$763	$2,182	98%	100%	2%	$2,133	$2,172	$39
5090	490	15	$2.99	$1,464	4.5%	$787	$2,251	98%	100%	2%	$2,199	$2,240	$41
5091	499	15	$2.99	$1,490	4.5%	$801	$2,291	98%	100%	2%	$2,237	$2,280	$43
12522	159	15	$2.99	$474	4.5%	$255	$729	98%	100%	2%	$712	$725	$13
14739	316	15	$2.99	$945	4.5%	$508	$1,453	98%	99%	2%	$1,417	$1,445	$28
14740	360	15	$2.99	$1,075	4.5%	$578	$1,653	97%	99%	2%	$1,611	$1,644	$33
Subtotal:	**4,888**			**$14,602**	**4.5%**	**$7,851**	**$22,453**				**$22,063**	**$20,158**	**$261**
18 - 15" Craig Ranch North 6													
Phase 6													
14651	664	15	$302.19	$200,690	4.5%	$107,875	$308,565	94%	94%	0%	$288,864	$288,965	$101
14654	265	15	$302.19	$80,067	4.5%	$43,038	$123,105	94%	94%	0%	$115,155	$115,194	$39
14655	265	15	$302.19	$80,083	4.5%	$43,046	$123,129	93%	94%	0%	$115,094	$115,131	$37
14656	372	15	$302.19	$112,467	4.5%	$60,454	$172,921	93%	93%	0%	$161,527	$161,552	$25
14657	264	15	$302.19	$79,782	4.5%	$42,885	$122,667	93%	93%	0%	$114,511	$114,529	$18
14658	422	15	$302.19	$127,438	4.5%	$68,501	$195,939	93%	93%	0%	$182,801	$182,855	$54
14676	474	15	$302.19	$143,152	4.5%	$76,947	$220,099	93%	93%	0%	$205,225	$205,255	$30
Subtotal:	**2,726**			**$823,679**	**4.5%**	**$442,746**	**$1,266,425**				**$1,183,177**	**$1,183,481**	**$304**
19 - 15"- 24" Craig Ranch West 1 (VCIM2)													
Phase 1													
41584	374	24	$132.06	$49,340	4.5%	$26,521	$75,861	70%	84%	15%	$52,897	$63,979	$11,082
41585	76	24	$132.06	$9,997	4.5%	$5,374	$15,371	70%	84%	15%	$10,718	$12,964	$2,246
41590	236	15	$132.06	$31,115	4.5%	$16,725	$47,840	73%	83%	11%	$34,696	$39,828	$5,132
41592	229	15	$132.06	$30,245	4.5%	$16,257	$46,502	77%	81%	4%	$35,660	$37,601	$1,941
41591	128	15	$132.06	$16,870	4.5%	$9,068	$25,938	77%	81%	4%	$19,924	$21,020	$1,096
41593	220	15	$132.06	$29,004	4.5%	$15,590	$44,594	75%	79%	4%	$33,409	$35,133	$1,724
41606	410	15	$132.06	$54,121	4.5%	$29,091	$83,212	74%	78%	4%	$61,662	$64,744	$3,082
41610	439	15	$132.06	$57,964	4.5%	$31,157	$89,121	74%	78%	4%	$66,303	$69,663	$3,360

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
41609	356	15	$132.06	$47,061	4.5%	$25,296	$72,357	75%	78%	4%	$54,026	$56,799	$2,773
41602	332	15	$132.06	$43,889	4.5%	$23,591	$67,480	73%	77%	4%	$49,576	$52,021	$2,445
41604	332	15	$132.06	$43,872	4.5%	$23,582	$67,454	74%	77%	4%	$49,781	$52,253	$2,472
42899	510	15	$132.06	$67,353	4.5%	$36,204	$103,557	72%	83%	11%	$74,702	$86,423	$11,721
42898	752	18	$132.06	$99,313	4.5%	$53,383	$152,696	72%	83%	11%	$110,149	$127,432	$17,283
42897	645	18	$132.06	$85,119	4.5%	$45,753	$130,872	72%	83%	11%	$94,418	$109,233	$14,815
42896	332	24	$132.06	$43,880	4.5%	$23,587	$67,467	70%	85%	15%	$47,087	$57,229	$10,142
42895	647	24	$132.06	$85,401	4.5%	$45,905	$131,306	70%	85%	15%	$91,643	$111,381	$19,738
Subtotal:	**6,017**			**$794,544**	**4.5%**	**$427,084**	**$1,221,628**				**$886,651**	**$997,703**	**$111,052**
20 - 15"- 24" Craig Ranch Infrastructure 1 (VCIM1)													
Phase 1 15" To 24"													
20930	465	24	$62.21	$28,951	4.5%	$15,562	$44,513	50%	73%	23%	$22,375	$32,545	$10,170
20928	317	24	$62.21	$19,748	4.5%	$10,615	$30,363	50%	74%	24%	$15,271	$22,425	$7,154
20929	205	24	$62.21	$12,742	4.5%	$6,849	$19,591	50%	73%	23%	$9,831	$14,317	$4,486
20927	289	24	$62.21	$17,954	4.5%	$9,651	$27,605	50%	74%	24%	$13,857	$20,380	$6,523
20926	298	21	$62.21	$18,526	4.5%	$9,958	$28,484	50%	74%	24%	$14,272	$21,020	$6,748
20899	291	21	$62.21	$18,078	4.5%	$9,717	$27,795	50%	74%	24%	$13,908	$20,623	$6,715
20908	528	21	$62.21	$32,832	4.5%	$17,648	$50,480	50%	76%	26%	$25,144	$38,158	$13,014
20898	456	21	$62.21	$28,337	4.5%	$15,232	$43,569	50%	76%	26%	$21,666	$33,167	$11,501
20897	238	21	$62.21	$14,777	4.5%	$7,943	$22,720	50%	77%	27%	$11,277	$17,427	$6,150
20909	555	18	$62.21	$34,497	4.5%	$18,543	$53,040	54%	80%	26%	$28,519	$42,329	$13,810
20910	425	18	$62.21	$26,462	4.5%	$14,224	$40,686	53%	80%	26%	$21,765	$32,463	$10,698
20911	594	18	$62.21	$36,974	4.5%	$19,874	$56,848	53%	80%	27%	$30,264	$45,360	$15,096
20895	299	15	$62.21	$18,573	4.5%	$9,983	$28,556	45%	74%	29%	$12,754	$20,994	$8,240
20896	295	15	$62.21	$18,350	4.5%	$9,864	$28,214	44%	74%	29%	$12,535	$20,804	$8,269
20893	294	15	$62.21	$18,298	4.5%	$9,836	$28,134	44%	74%	30%	$12,353	$20,879	$8,526
20894	300	15	$62.21	$18,684	4.5%	$10,043	$28,727	44%	74%	30%	$12,692	$21,248	$8,556
20892	300	15	$62.21	$18,636	4.5%	$10,017	$28,653	51%	69%	18%	$14,476	$19,646	$5,170
20891	226	15	$62.21	$14,041	4.5%	$7,547	$21,588	50%	69%	18%	$10,864	$14,847	$3,983
Subtotal:	**6,373**			**$396,460**	**4.5%**	**$213,106**	**$609,566**				**$303,823**	**$458,632**	**$154,809**
21 - 18" - 24" Harvest Bend 1 Offsite S.S. Line													
Stacy Road To S.H. 121													
17572	126	24	$25.64	$3,240	4.5%	$1,742	$4,982	64%	81%	17%	$3,192	$4,054	$862
17571	223	24	$25.64	$5,720	4.5%	$3,075	$8,795	67%	80%	13%	$5,884	$7,057	$1,173
17570	130	24	$25.64	$3,343	4.5%	$1,797	$5,140	66%	80%	14%	$3,415	$4,113	$698
17569	274	24	$25.64	$7,039	4.5%	$3,784	$10,823	66%	80%	14%	$7,139	$8,635	$1,496
17568	447	24	$25.64	$11,453	4.5%	$6,156	$17,609	65%	80%	14%	$11,529	$14,007	$2,478
42633	598	24	$25.64	$15,324	4.5%	$8,237	$23,561	65%	79%	14%	$15,305	$18,682	$3,377
17567	596	24	$25.64	$15,285	4.5%	$8,216	$23,501	64%	79%	15%	$15,142	$18,572	$3,430
19754	243	24	$25.64	$6,238	4.5%	$3,353	$9,591	64%	79%	15%	$6,104	$7,560	$1,456
19755	481	24	$25.64	$12,335	4.5%	$6,630	$18,965	63%	78%	15%	$12,032	$14,834	$2,802
19756	584	24	$25.64	$14,987	4.5%	$8,056	$23,043	64%	78%	14%	$14,779	$17,931	$3,152

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
19757	501	24	$25.64	$12,836	4.5%	$6,900	$19,736	65%	77%	12%	$12,810	$15,274	$2,464
19758	234	24	$25.64	$6,010	4.5%	$3,231	$9,241	66%	77%	11%	$6,076	$7,108	$1,032
19759	397	24	$25.64	$10,184	4.5%	$5,474	$15,658	67%	76%	10%	$10,438	$11,964	$1,526
19760	262	24	$25.64	$6,714	4.5%	$3,609	$10,323	68%	76%	8%	$6,988	$7,829	$841
44524	438	24	$25.64	$11,238	4.5%	$6,041	$17,279	69%	75%	6%	$11,889	$12,997	$1,108
19763	423	18	$25.64	$10,858	4.5%	$5,836	$16,694	71%	76%	6%	$11,839	$12,768	$929
19762	485	18	$25.64	$12,434	4.5%	$6,684	$19,118	75%	79%	4%	$14,379	$15,115	$736
44410	296	18	$25.64	$7,590	4.5%	$4,080	$11,670	76%	79%	3%	$8,827	$9,175	$348
44173	298	18	$25.64	$7,641	4.5%	$4,107	$11,748	76%	78%	2%	$8,942	$9,182	$240
14629	245	18	$25.64	$6,278	4.5%	$3,375	$9,653	77%	78%	1%	$7,399	$7,495	$96
19750	546	24	$25.64	$13,994	4.5%	$7,522	$21,516	65%	81%	16%	$13,900	$17,445	$3,545
Subtotal:	**7,828**			**$200,741**	**4.5%**	**$107,905**	**$308,646**				**$208,008**	**$241,797**	**$33,789**
22 - Wal-Mart Super Center Off-Site Sanitary Sewer													
720 & Lake Forest Drive													
13959	295	24	$31.84	$9,398	4.5%	$5,052	$14,450	91%	94%	3%	$13,121	$13,614	$493
14098	444	24	$31.84	$14,122	4.5%	$7,591	$21,713	91%	94%	3%	$19,716	$20,457	$741
13957	283	24	$31.84	$9,009	4.5%	$4,843	$13,852	91%	94%	3%	$12,578	$13,050	$472
42975	312	24	$31.84	$9,942	4.5%	$5,344	$15,286	91%	94%	3%	$13,880	$14,401	$521
14096	199	24	$31.84	$6,325	4.5%	$3,400	$9,725	91%	94%	3%	$8,830	$9,162	$332
13955	597	24	$31.84	$19,002	4.5%	$10,214	$29,216	94%	97%	2%	$27,514	$28,239	$725
13954	367	24	$31.84	$11,694	4.5%	$6,286	$17,980	95%	97%	2%	$17,027	$17,431	$404
13953	230	24	$31.84	$7,321	4.5%	$3,935	$11,256	95%	97%	2%	$10,720	$10,946	$226
13952	560	24	$31.84	$17,829	4.5%	$9,583	$27,412	96%	98%	2%	$26,259	$26,742	$483
13950	154	21	$31.84	$4,898	4.5%	$2,633	$7,531	96%	98%	2%	$7,258	$7,371	$113
13949	114	18	$31.84	$3,641	4.5%	$1,957	$5,598	96%	98%	2%	$5,375	$5,466	$91
13940	151	18	$31.84	$4,820	4.5%	$2,591	$7,411	96%	98%	2%	$7,115	$7,236	$121
Subtotal:	**3,706**			**$118,001**	**4.5%**	**$63,429**	**$181,430**				**$169,393**	**$174,115**	**$4,722**
23 - 27" Creekview Estates 1 Offsite Sanitary Sewer													
Franklin Branch - From Wilson Creek To Franklin Branch Trunk Sewer													
43014	258	27	$56.35	$14,563	4.5%	$7,828	$22,391	15%	61%	46%	$3,354	$13,709	$10,355
34636	136	27	$56.35	$7,674	4.5%	$4,125	$11,799	15%	61%	46%	$1,792	$7,239	$5,447
34638	383	27	$56.35	$21,554	4.5%	$11,586	$33,140	15%	61%	46%	$5,103	$20,371	$15,268
34640	375	27	$56.35	$21,106	4.5%	$11,345	$32,451	16%	62%	46%	$5,064	$19,986	$14,922
34642	484	27	$56.35	$27,247	4.5%	$14,646	$41,893	23%	62%	39%	$9,604	$25,985	$16,381
34644	231	27	$56.35	$12,999	4.5%	$6,987	$19,986	23%	62%	39%	$4,622	$12,426	$7,804
34646	359	27	$56.35	$20,245	4.5%	$10,882	$31,127	23%	62%	39%	$7,260	$19,397	$12,137
34648	443	27	$56.35	$24,966	4.5%	$13,420	$38,386	24%	63%	39%	$9,091	$24,015	$14,924
34652	377	27	$56.35	$21,260	4.5%	$11,428	$32,688	24%	63%	39%	$7,806	$20,495	$12,689
34650	209	27	$56.35	$11,755	4.5%	$6,319	$18,074	24%	63%	39%	$4,316	$11,332	$7,016
Subtotal:	**3,254**			**$183,369**	**4.5%**	**$98,566**	**$281,935**				**$58,012**	**$174,955**	**$116,943**
24 - Timber Creek 1 Offsite Sanitary Sewer Main													

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
Lower Honey Creek													
14459	766	21	$52.34	$40,109	4.5%	$21,560	$61,669	77%	62%	0%	$47,380	$38,058	$0
14460	725	21	$52.34	$37,952	4.5%	$20,400	$58,352	100%	70%	0%	$58,352	$40,977	$0
14461	716	24	$52.34	$37,457	4.5%	$20,134	$57,591	46%	77%	31%	$26,587	$44,511	$17,924
14462	204	21	$52.34	$10,694	4.5%	$5,748	$16,442	46%	77%	31%	$7,592	$12,708	$5,116
14463	137	21	$52.34	$7,185	4.5%	$3,862	$11,047	46%	77%	31%	$5,102	$8,546	$3,444
14464	225	21	$52.34	$11,777	4.5%	$6,330	$18,107	47%	78%	31%	$8,471	$14,053	$5,582
14465	718	21	$52.34	$37,566	4.5%	$20,193	$57,759	47%	78%	30%	$27,406	$44,994	$17,588
14466	569	18	$52.34	$29,776	4.5%	$16,005	$45,781	55%	81%	26%	$25,111	$36,935	$11,824
14467	360	18	$52.34	$18,845	4.5%	$10,130	$28,975	55%	81%	26%	$15,900	$23,382	$7,482
14468	407	18	$52.34	$21,328	4.5%	$11,464	$32,792	55%	81%	26%	$18,017	$26,479	$8,462
26019	360	18	$52.34	$18,868	4.5%	$10,142	$29,010	55%	81%	26%	$15,940	$23,430	$7,490
14469	392	18	$52.34	$20,525	4.5%	$11,033	$31,558	55%	81%	26%	$17,369	$25,496	$8,127
26021	480	18	$52.34	$25,105	4.5%	$13,495	$38,600	55%	81%	26%	$21,260	$31,219	$9,959
43200	479	18	$52.34	$25,079	4.5%	$13,481	$38,560	60%	83%	23%	$23,030	$31,819	$8,789
14470	471	18	$52.34	$24,649	4.5%	$13,249	$37,898	60%	83%	23%	$22,671	$31,278	$8,607
14471	590	18	$52.34	$30,897	4.5%	$16,608	$47,505	70%	97%	27%	$33,467	$46,202	$12,735
34446	211	21	$52.34	$11,065	4.5%	$5,948	$17,013	46%	77%	31%	$7,843	$13,144	$5,301
Subtotal:	**7,812**			**$408,877**	**4.5%**	**$219,782**	**$628,659**				**$381,498**	**$493,231**	**$138,430**
25 - Robinson Ridge 1 Offsite Sewer													
Wilmeth Road To Wilson Creek													
14517	443	18	$37.30	$16,510	4.5%	$8,875	$25,385	100%	100%	0%	$25,385	$25,385	$0
14518	383	18	$37.30	$14,299	4.5%	$7,686	$21,985	100%	100%	0%	$21,985	$21,985	$0
14512	319	21	$37.30	$11,895	4.5%	$6,394	$18,289	100%	100%	0%	$18,289	$18,289	$0
14513	134	21	$37.30	$4,990	4.5%	$2,682	$7,672	100%	100%	0%	$7,672	$7,672	$0
14514	202	21	$37.30	$7,535	4.5%	$4,050	$11,585	100%	100%	0%	$11,585	$11,585	$0
14516	190	18	$37.30	$7,077	4.5%	$3,804	$10,881	100%	100%	0%	$10,881	$10,881	$0
14515	498	18	$37.30	$18,575	4.5%	$9,984	$28,559	100%	100%	0%	$28,559	$28,559	$0
14530	110	18	$37.30	$4,096	4.5%	$2,202	$6,298	100%	100%	0%	$6,298	$6,298	$0
14532	393	18	$37.30	$14,646	4.5%	$7,873	$22,519	100%	100%	0%	$22,519	$22,519	$0
14528	505	18	$37.30	$18,830	4.5%	$10,122	$28,952	100%	100%	0%	$28,952	$28,952	$0
14527	454	18	$37.30	$16,926	4.5%	$9,098	$26,024	100%	100%	0%	$26,024	$26,024	$0
14526	407	18	$37.30	$15,164	4.5%	$8,151	$23,315	100%	100%	0%	$23,315	$23,315	$0
14525	253	18	$37.30	$9,435	4.5%	$5,072	$14,507	100%	100%	0%	$14,507	$14,507	$0
14524	300	18	$37.30	$11,208	4.5%	$6,025	$17,233	100%	100%	0%	$17,233	$17,233	$0
14523	379	18	$37.30	$14,149	4.5%	$7,605	$21,754	100%	100%	0%	$21,754	$21,754	$0
14522	442	18	$37.30	$16,502	4.5%	$8,870	$25,372	100%	100%	0%	$25,372	$25,372	$0
14511	434	24	$37.30	$16,189	4.5%	$8,702	$24,891	100%	100%	0%	$24,891	$24,891	$0
14510	285	24	$37.30	$10,628	4.5%	$5,713	$16,341	100%	100%	0%	$16,341	$16,341	$0
14509	179	24	$37.30	$6,685	4.5%	$3,593	$10,278	100%	100%	0%	$10,278	$10,278	$0
14519	76	18	$37.30	$2,826	4.5%	$1,519	$4,345	100%	100%	0%	$4,345	$4,345	$0
14520	401	18	$37.30	$14,950	4.5%	$8,036	$22,986	100%	100%	0%	$22,986	$22,986	$0
14521	282	18	$37.30	$10,503	4.5%	$5,646	$16,149	100%	100%	0%	$16,149	$16,149	$0
14531	31	18	$37.30	$1,145	4.5%	$615	$1,760	100%	100%	0%	$1,760	$1,760	$0

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
Subtotal:	**7,098**			**$264,763**	**4.5%**	**$142,317**	**$407,080**				**$407,080**	**$407,080**	**$0**
26 - NTMWD Mckinney Prosper Interceptor Sewer													
Upper Wilson Creek - Prosper To University Drive													
42016	404	42	$20.25	$8,189	4.5%	$4,402	$12,591	31%	59%	28%	$3,868	$7,457	$3,589
43412	478	24	$20.25	$9,678	4.5%	$5,202	$14,880	90%	95%	6%	$13,364	$14,207	$843
43402	481	24	$20.25	$9,739	4.5%	$5,235	$14,974	100%	100%	0%	$14,974	$14,974	$0
43411	500	24	$20.25	$10,125	4.5%	$5,442	$15,567	90%	95%	6%	$13,981	$14,863	$882
43410	614	24	$20.25	$12,439	4.5%	$6,686	$19,125	90%	95%	6%	$17,176	$18,260	$1,084
43409	271	24	$20.25	$5,490	4.5%	$2,951	$8,441	90%	95%	6%	$7,581	$8,059	$478
42015	267	42	$20.25	$5,405	4.5%	$2,905	$8,310	47%	82%	36%	$3,893	$6,849	$2,956
43408	773	24	$20.25	$15,657	4.5%	$8,416	$24,073	90%	95%	6%	$21,620	$22,984	$1,364
10153	693	24	$20.25	$14,028	4.5%	$7,540	$21,568	92%	96%	4%	$19,759	$20,639	$880
43406	197	24	$20.25	$4,000	4.5%	$2,150	$6,150	92%	96%	4%	$5,634	$5,885	$251
43405	134	24	$20.25	$2,721	4.5%	$1,463	$4,184	92%	96%	4%	$3,833	$4,004	$171
43404	735	24	$20.25	$14,885	4.5%	$8,001	$22,886	92%	96%	4%	$20,967	$21,900	$933
43403	505	24	$20.25	$10,234	4.5%	$5,501	$15,735	92%	96%	4%	$14,415	$15,057	$642
43401	332	24	$20.25	$6,730	4.5%	$3,618	$10,348	100%	100%	0%	$10,348	$10,348	$0
42014	417	42	$20.25	$8,444	4.5%	$4,539	$12,983	47%	82%	36%	$6,077	$10,703	$4,626
41800	452	24	$20.25	$9,147	4.5%	$4,917	$14,064	87%	95%	8%	$12,244	$13,341	$1,097
41799	318	24	$20.25	$6,447	4.5%	$3,465	$9,912	90%	95%	6%	$8,902	$9,464	$562
41798	167	24	$20.25	$3,377	4.5%	$1,815	$5,192	90%	95%	6%	$4,663	$4,957	$294
42025	247	42	$20.25	$5,004	4.5%	$2,690	$7,694	31%	59%	28%	$2,366	$4,554	$2,188
42021	693	42	$20.25	$14,041	4.5%	$7,547	$21,588	47%	82%	36%	$10,095	$17,800	$7,705
42020	788	24	$20.25	$15,969	4.5%	$8,584	$24,553	47%	82%	36%	$11,467	$20,256	$8,789
42019	589	24	$20.25	$11,934	4.5%	$6,415	$18,349	47%	83%	36%	$8,601	$15,184	$6,583
42018	252	24	$20.25	$5,105	4.5%	$2,744	$7,849	48%	83%	36%	$3,736	$6,528	$2,792
42017	352	24	$20.25	$7,130	4.5%	$3,833	$10,963	48%	83%	36%	$5,210	$9,141	$3,931
41848	650	24	$20.25	$13,170	4.5%	$7,079	$20,249	48%	83%	36%	$9,621	$16,884	$7,263
41824	617	24	$20.25	$12,504	4.5%	$6,721	$19,225	47%	84%	36%	$9,059	$16,068	$7,009
42024	341	42	$20.25	$6,906	4.5%	$3,712	$10,618	31%	59%	28%	$3,264	$6,286	$3,022
41807	613	24	$20.25	$12,421	4.5%	$6,677	$19,098	46%	84%	38%	$8,872	$16,128	$7,256
41806	682	24	$20.25	$13,820	4.5%	$7,429	$21,249	69%	89%	20%	$14,633	$18,817	$4,184
41805	343	24	$20.25	$6,951	4.5%	$3,736	$10,687	69%	89%	20%	$7,360	$9,464	$2,104
41804	368	24	$20.25	$7,451	4.5%	$4,005	$11,456	69%	89%	20%	$7,889	$10,145	$2,256
41803	586	24	$20.25	$11,868	4.5%	$6,379	$18,247	72%	90%	18%	$13,145	$16,415	$3,270
41802	298	24	$20.25	$6,042	4.5%	$3,248	$9,290	72%	90%	18%	$6,692	$8,357	$1,665
41801	450	24	$20.25	$9,109	4.5%	$4,896	$14,005	72%	90%	18%	$10,089	$12,599	$2,510
Subtotal:	**15,610**			**$316,160**	**4.5%**	**$169,943**	**$486,103**				**$335,398**	**$428,577**	**$93,179**
27 - 15" Lacima Sanitary Sewer													
Along Watch Hill Lane, Wakehurst Drive To Wilson Creek (Lacima Haven / Lacima Manor)													
13830	160	15	$5.43	$870	4.5%	$468	$1,338	100%	100%	0%	$1,338	$1,338	$0
13797	50	15	$5.43	$270	4.5%	$145	$415	100%	100%	0%	$414	$415	$1

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
13798	307	15	$5.43	$1,668	4.5%	$897	$2,565	100%	100%	0%	$2,559	$2,565	$6
13799	345	15	$5.43	$1,870	4.5%	$1,005	$2,875	100%	100%	0%	$2,875	$2,875	$0
13802	334	15	$5.43	$1,811	4.5%	$973	$2,784	100%	100%	0%	$2,784	$2,784	$0
13808	131	15	$5.43	$713	4.5%	$383	$1,096	100%	100%	0%	$1,096	$1,096	$0
13810	129	15	$5.43	$702	4.5%	$377	$1,079	100%	100%	0%	$1,079	$1,079	$0
13827	339	15	$5.43	$1,840	4.5%	$989	$2,829	100%	100%	0%	$2,829	$2,829	$0
13828	329	15	$5.43	$1,784	4.5%	$959	$2,743	100%	100%	0%	$2,743	$2,743	$0
13829	81	15	$5.43	$438	4.5%	$235	$673	100%	100%	0%	$673	$673	$0
13796	64	15	$5.43	$346	4.5%	$186	$532	100%	100%	0%	$530	$532	$2
Subtotal:	**2,269**			**$12,312**	**4.5%**	**$6,617**	**$18,929**				**$18,920**	**$18,929**	**$9**
28 - Westerra Stonebridge Trunk Main "H" & "H-2"													
	Line H & H-2												
42026	177	42	$35.06	$6,199	4.5%	$3,332	$9,531	47%	53%	6%	$4,481	$5,058	$577
5595	284	30	$35.06	$9,962	4.5%	$5,355	$15,317	100%	100%	0%	$15,317	$15,293	$0
5657	500	24	$35.06	$17,518	4.5%	$9,416	$26,934	90%	90%	0%	$24,265	$24,291	$26
5647	346	30	$35.06	$12,129	4.5%	$6,520	$18,649	100%	100%	0%	$18,649	$18,649	$0
5645	391	30	$35.06	$13,707	4.5%	$7,368	$21,075	100%	100%	0%	$21,075	$21,075	$0
5621	246	30	$35.06	$8,622	4.5%	$4,635	$13,257	100%	100%	0%	$13,257	$13,246	$0
5648	493	30	$35.06	$17,300	4.5%	$9,299	$26,599	100%	100%	0%	$26,599	$26,599	$0
5651	495	30	$35.06	$17,341	4.5%	$9,321	$26,662	100%	100%	0%	$26,662	$26,662	$0
5620	278	30	$35.06	$9,748	4.5%	$5,240	$14,988	100%	100%	0%	$14,988	$14,940	$0
5619	208	30	$35.06	$7,280	4.5%	$3,913	$11,193	100%	100%	0%	$11,193	$11,137	$0
5618	488	30	$35.06	$17,123	4.5%	$9,204	$26,327	100%	100%	0%	$26,327	$26,201	$0
5652	287	30	$35.06	$10,047	4.5%	$5,400	$15,447	100%	100%	0%	$15,447	$15,430	$0
5653	291	30	$35.06	$10,206	4.5%	$5,486	$15,692	100%	98%	0%	$15,692	$15,327	$0
5617	233	30	$35.06	$8,168	4.5%	$4,390	$12,558	100%	100%	0%	$12,558	$12,498	$0
5655	363	24	$35.06	$12,726	4.5%	$6,841	$19,567	89%	89%	0%	$17,352	$17,370	$18
5656	132	24	$35.06	$4,612	4.5%	$2,479	$7,091	90%	90%	0%	$6,386	$6,395	$9
5664	487	24	$35.06	$17,068	4.5%	$9,174	$26,242	92%	92%	0%	$24,091	$24,110	$19
5654	138	24	$35.06	$4,852	4.5%	$2,608	$7,460						
5663	14	15	$35.06	$492	4.5%	$264	$756						
5594	384	30	$35.06	$13,448	4.5%	$7,229	$20,677	100%	100%	0%	$20,677	$20,628	$0
5591	470	30	$35.06	$16,485	4.5%	$8,861	$25,346	100%	100%	0%	$25,346	$25,277	$0
5665	499	24	$35.06	$17,499	4.5%	$9,406	$26,905	93%	93%	0%	$24,998	$25,001	$3
12526	223	30	$35.06	$7,831	4.5%	$4,209	$12,040	100%	100%	0%	$12,040	$12,016	$0
5587	338	42	$35.06	$11,866	4.5%	$6,378	$18,244	100%	100%	0%	$18,244	$18,244	$0
5586	180	42	$35.06	$6,294	4.5%	$3,383	$9,677	47%	53%	6%	$4,535	$5,136	$601
5588	457	30	$35.06	$16,032	4.5%	$8,618	$24,650	100%	99%	0%	$24,650	$24,466	$0
5666	482	24	$35.06	$16,889	4.5%	$9,078	$25,967	94%	94%	0%	$24,287	$24,305	$18
5589	449	30	$35.06	$15,724	4.5%	$8,452	$24,176	100%	99%	0%	$24,176	$24,019	$0
5590	514	30	$35.06	$18,017	4.5%	$9,685	$27,702	100%	100%	0%	$27,702	$27,590	$0
5667	430	24	$35.06	$15,067	4.5%	$8,099	$23,166	94%	94%	0%	$21,816	$21,836	$20
13770	159	24	$35.06	$5,558	4.5%	$2,988	$8,546	98%	98%	0%	$8,340	$8,347	$7
5585	290	42	$35.06	$10,164	4.5%	$5,463	$15,627	47%	53%	6%	$7,302	$8,295	$993

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
5584	405	42	$35.06	$14,208	4.5%	$7,637	$21,845	47%	53%	6%	$10,170	$11,590	$1,420
5583	362	42	$35.06	$12,707	4.5%	$6,830	$19,537	46%	53%	7%	$9,064	$10,368	$1,304
5582	216	42	$35.06	$7,578	4.5%	$4,073	$11,651	46%	53%	7%	$5,368	$6,193	$825
5581	148	42	$35.06	$5,184	4.5%	$2,787	$7,971	46%	53%	7%	$3,669	$4,237	$568
5577	155	42	$35.06	$5,449	4.5%	$2,929	$8,378	46%	53%	7%	$3,831	$4,453	$622
5576	446	42	$35.06	$15,650	4.5%	$8,412	$24,062	46%	53%	7%	$10,990	$12,790	$1,800
5578	398	42	$35.06	$13,936	4.5%	$7,491	$21,427	46%	53%	7%	$9,825	$11,389	$1,564
5579	59	42	$35.06	$2,082	4.5%	$1,119	$3,201	46%	53%	7%	$1,471	$1,702	$231
5580	69	42	$35.06	$2,406	4.5%	$1,293	$3,699	46%	53%	7%	$1,701	$1,967	$266
5575	396	42	$35.06	$13,872	4.5%	$7,457	$21,329	46%	53%	7%	$9,739	$11,338	$1,599
5574	136	42	$35.06	$4,784	4.5%	$2,572	$7,356	48%	55%	7%	$3,558	$4,071	$513
5573	316	42	$35.06	$11,090	4.5%	$5,961	$17,051	48%	55%	7%	$8,248	$9,438	$1,190
5572	198	42	$35.06	$6,951	4.5%	$3,736	$10,687	48%	55%	7%	$5,164	$5,914	$750
13769	126	24	$35.06	$4,428	4.5%	$2,380	$6,808	96%	96%	0%	$6,545	$6,552	$7
5662	207	8	$35.06	$7,274	4.5%	$3,910	$11,184	97%	98%	1%	$10,853	$10,937	$84
5668	98	24	$35.06	$3,443	4.5%	$1,851	$5,294	99%	99%	0%	$5,233	$5,236	$3
5658	178	8	$35.06	$6,246	4.5%	$3,357	$9,603	97%	98%	1%	$9,312	$9,402	$90
5659	64	8	$35.06	$2,246	4.5%	$1,207	$3,453	97%	98%	1%	$3,348	$3,376	$28
46453	239	8	$35.06	$8,386	4.5%	$4,508	$12,894	97%	98%	1%	$12,502	$12,603	$101
5661	74	8	$35.06	$2,585	4.5%	$1,389	$3,974	97%	98%	1%	$3,857	$3,888	$31
Subtotal:	**15,018**			**$526,479**	**4.5%**	**$282,993**	**$809,472**				**$672,900**	**$686,885**	**$15,287**
29 - Franklin Branch Trunk Sewer													
From North Side Of Parker Creek Estates North Along Franklin Branch To U.S. 380 And East To Bois D' Arc Road													
42799	102	30	$205.57	$20,910	4.5%	$11,240	$32,150	15%	61%	46%	$4,748	$19,644	$14,896
42800	38	30	$205.57	$7,796	4.5%	$4,191	$11,987	14%	61%	47%	$1,702	$7,331	$5,629
16012	60	30	$205.57	$12,405	4.5%	$6,668	$19,073	14%	61%	48%	$2,600	$11,674	$9,074
42801	381	27	$205.57	$78,378	4.5%	$42,130	$120,508	13%	61%	48%	$15,733	$73,826	$58,093
43011	800	27	$205.57	$164,470	4.5%	$88,406	$252,876	12%	61%	49%	$31,551	$155,063	$123,512
43012	60	27	$205.57	$12,335	4.5%	$6,630	$18,965	12%	61%	49%	$2,254	$11,641	$9,387
43013	209	18	$205.57	$43,004	4.5%	$23,116	$66,120	1%	64%	64%	$568	$42,640	$42,072
43010	229	18	$205.57	$47,053	4.5%	$25,292	$72,345	43%	67%	24%	$31,042	$48,527	$17,485
43009	300	18	$205.57	$61,619	4.5%	$33,122	$94,741	42%	67%	25%	$39,551	$63,138	$23,587
43007	192	18	$205.57	$39,425	4.5%	$21,192	$60,617	40%	66%	26%	$24,547	$40,112	$15,565
43008	308	18	$205.57	$63,364	4.5%	$34,060	$97,424	39%	66%	27%	$38,144	$63,979	$25,835
34518	140	18	$205.57	$28,779	4.5%	$15,469	$44,248	38%	65%	27%	$16,681	$28,821	$12,140
43026	775	12	$205.57	$159,327	4.5%	$85,642	$244,969	73%	77%	3%	$180,015	$188,366	$8,351
Subtotal:	**3,594**			**$738,865**	**4.5%**	**$397,158**	**$1,136,023**				**$389,136**	**$754,762**	**$365,626**
30 - 15" Airport Sewer Phase 2 Sewer Main													
From Northeast Of Termination Of Industrial Blvd To North Mckinney Interceptor													
43296	25	15	$149.89	$3,816	4.5%	$2,051	$5,867	80%	82%	2%	$4,716	$4,834	$118
43295	43	15	$149.89	$6,454	4.5%	$3,469	$9,923	80%	82%	2%	$7,977	$8,175	$198
43294	438	15	$149.89	$65,671	4.5%	$35,300	$100,971	80%	82%	2%	$81,166	$83,186	$2,020

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
43293	500	15	$149.89	$74,974	4.5%	$40,300	$115,274	80%	82%	2%	$92,663	$94,976	$2,313
43292	500	15	$149.89	$74,882	4.5%	$40,251	$115,133	80%	82%	2%	$92,550	$94,860	$2,310
43291	500	15	$149.89	$75,012	4.5%	$40,321	$115,333	80%	82%	2%	$92,711	$95,025	$2,314
43290	183	15	$149.89	$27,499	4.5%	$14,781	$42,280	80%	82%	2%	$33,987	$34,833	$846
43289	498	15	$149.89	$74,701	4.5%	$40,153	$114,854	80%	82%	2%	$92,327	$94,624	$2,297
43288	499	15	$149.89	$74,768	4.5%	$40,190	$114,958	80%	82%	2%	$92,404	$94,710	$2,306
43287	523	15	$149.89	$78,400	4.5%	$42,142	$120,542	80%	82%	2%	$96,906	$99,315	$2,409
43286	296	15	$149.89	$44,350	4.5%	$23,839	$68,189	80%	82%	2%	$54,825	$56,188	$1,363
43285	532	15	$149.89	$79,816	4.5%	$42,903	$122,719	80%	82%	2%	$98,687	$101,140	$2,453
43284	357	15	$149.89	$53,464	4.5%	$28,738	$82,202	80%	82%	2%	$66,099	$67,741	$1,642
43283	282	15	$149.89	$42,255	4.5%	$22,713	$64,968	80%	82%	2%	$52,253	$53,551	$1,298
43282	445	15	$149.89	$66,709	4.5%	$35,858	$102,567	80%	82%	2%	$82,480	$84,529	$2,049
43298	24	15	$149.89	$3,667	4.5%	$1,971	$5,638	80%	82%	2%	$4,537	$4,649	$112
Subtotal:	**5,647**			**$846,438**	**4.5%**	**$454,980**	**$1,301,418**				**$1,046,288**	**$1,072,336**	**$26,048**
31 - 121 Grand Offsite Sewer													
Along Collin Mckinney Pkwy. From Mckinney Place Drive To Lake Forest Drive													
43763	402	15	$114.35	$45,976	4.5%	$24,713	$70,689	98%	99%	1%	$69,166	$69,846	$680
43762	398	15	$114.35	$45,504	4.5%	$24,459	$69,963	98%	99%	1%	$68,472	$69,146	$674
43766	385	15	$114.35	$44,055	4.5%	$23,681	$67,736	98%	99%	1%	$66,294	$66,945	$651
Subtotal:	**1,185**			**$135,535**	**4.5%**	**$72,853**	**$208,388**				**$203,932**	**$205,937**	**$2,005**
32 - 21" Lake Forest & Hwy 121 Offsite Utilities													
Along Sh 121 North Row From Mckinney Place Drive To Lake Forest Drive													
42098	203	21	$507.26	$103,049	4.5%	$55,391	$158,440	58%	68%	11%	$91,207	$108,279	$17,072
42099	226	21	$507.26	$114,481	4.5%	$61,536	$176,017	58%	68%	11%	$101,325	$120,291	$18,966
42100	223	21	$507.26	$113,296	4.5%	$60,899	$174,195	58%	68%	11%	$100,277	$119,046	$18,769
42101	420	21	$507.26	$212,903	4.5%	$114,440	$327,343	58%	68%	11%	$188,437	$223,708	$35,271
45799	91	21	$507.26	$46,081	4.5%	$24,770	$70,851	58%	68%	11%	$40,786	$48,420	$7,634
Subtotal:	**1,163**			**$589,810**	**4.5%**	**$317,036**	**$906,846**				**$522,032**	**$619,744**	**$97,712**
33 - Wilmeth Ridge (Stover Creek) Sanitary Sewer Main 1 (WW4213)													
Wilmeth Road To Wilson Creek													
45715	374	30	$163.30	$61,103	4.5%	$32,844	$93,947	2%	20%	18%	$2,160	$18,676	$16,516
45716	270	30	$163.30	$44,114	4.5%	$23,712	$67,826	2%	20%	18%	$1,559	$13,483	$11,924
45717	902	30	$163.30	$147,276	4.5%	$79,164	$226,440	2%	20%	18%	$5,206	$45,014	$39,808
45718	64	33	$163.30	$10,518	4.5%	$5,654	$16,172	2%	20%	18%	$365	$3,244	$2,879
45719	104	33	$163.30	$16,965	4.5%	$9,119	$26,084	2%	20%	18%	$589	$5,233	$4,644
45720	213	33	$163.30	$34,769	4.5%	$18,689	$53,458	2%	20%	18%	$1,208	$10,724	$9,516
45721	346	33	$163.30	$56,480	4.5%	$30,359	$86,839	2%	20%	18%	$1,962	$17,421	$15,459
45722	493	33	$163.30	$80,524	4.5%	$43,283	$123,807	2%	20%	18%	$2,797	$24,837	$22,040
45723	293	33	$163.30	$47,893	4.5%	$25,744	$73,637	2%	20%	18%	$1,664	$14,773	$13,109
45724	155	33	$163.30	$25,379	4.5%	$13,642	$39,021	2%	20%	18%	$882	$7,828	$6,946
45725	134	33	$163.30	$21,809	4.5%	$11,723	$33,532	2%	20%	18%	$757	$6,727	$5,970

TABLE 19
Existing Wastewater Collection Lines

Pipe Number	Length (Ft.)	Diameter (Inches)	Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
								2019	2029	During Fee Period	2019	2029	During Fee Period
45726	237	33	$163.30	$38,686	4.5%	$20,795	$59,481	2%	20%	18%	$1,343	$11,933	$10,590
45727	267	33	$163.30	$43,522	4.5%	$23,394	$66,916	2%	20%	18%	$1,511	$13,425	$11,914
45728	148	33	$163.30	$24,234	4.5%	$13,026	$37,260	2%	20%	18%	$842	$7,475	$6,633
45729	225	33	$163.30	$36,744	4.5%	$19,751	$56,495	2%	20%	18%	$1,276	$11,334	$10,058
45730	304	33	$163.30	$49,717	4.5%	$26,724	$76,441	2%	20%	18%	$1,726	$15,335	$13,609
45731	121	33	$163.30	$19,709	4.5%	$10,594	$30,303	2%	20%	18%	$684	$6,079	$5,395
Subtotal:	**4,651**			**$759,442**	**4.5%**	**$408,217**	**$1,167,659**				**$26,531**	**$233,541**	**$207,010**
TOTAL EXISTING COLLECTION LINES:													
	207,586			**14,073,067**		**7,564,596**	**21,637,663**				**15,118,047**	**14,029,870**	**1,557,169**

TABLE 20
Proposed Wastewater Collection Lines

(1) - City Participate in Cost Oversize
(2) - City Initiated and Funded
! Average Unit costs are based on Bid Tabulation or Design Opinion of Cost, plus Engineering and Easements
** Average Unit costs are based in 2019 dollars unless otherwise indicated and include 20% for engineering and easements.*
B - Bore Across State Highway or Interstate

	Pipe Number		Length (Ft.)	Diameter (Inches)	*Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
										2019	2029	During Fee Period	2019	2029	During Fee Period
1P - Honey Creek Parallel Trunk Sewer															
(2)	*	HC100	489	48	$1,464.81	$716,398	4.5%	$385,080	$1,101,478	0%	38%	38%	$0	$421,442	$421,442
(2)	*	HC102	712	48	$1,464.81	$1,042,744	4.5%	$560,499	$1,603,243	0%	35%	35%	$0	$566,953	$566,953
(2)	*	HC104	154	48	$1,464.81	$226,285	4.5%	$121,633	$347,918	0%	35%	35%	$0	$122,462	$122,462
(2)	*	HC106	1,098	48	$1,464.81	$1,608,459	4.5%	$864,584	$2,473,043	0%	35%	35%	$0	$870,584	$870,584
(2)	*	HC108	716	48	$1,464.81	$1,049,519	4.5%	$564,140	$1,613,659	0%	35%	35%	$0	$563,432	$563,432
(2)	*	HC110	823	48	$1,464.81	$1,206,156	4.5%	$648,336	$1,854,492	0%	35%	35%	$0	$647,790	$647,790
(2)	*	HC112	413	42	$1,464.81	$605,442	4.5%	$325,439	$930,881	0%	35%	35%	$0	$323,298	$323,298
(2)	*	HC114 B	430	42	$1,464.81	$629,955	4.5%	$338,615	$968,570	0%	35%	35%	$0	$336,495	$336,495
(2)	*	HC116	372	42	$1,464.81	$544,373	4.5%	$292,613	$836,986	0%	35%	35%	$0	$290,944	$290,944
(2)	*	HC118	823	42	$1,464.81	$1,206,163	4.5%	$648,340	$1,854,503	0%	35%	35%	$0	$644,843	$644,843
(2)	*	HC120	781	42	$1,464.81	$1,143,987	4.5%	$614,919	$1,758,906	0%	33%	33%	$0	$575,504	$575,504
(2)	*	HC122	697	42	$1,464.81	$1,020,519	4.5%	$548,552	$1,569,071	0%	33%	33%	$0	$513,410	$513,410
		Subtotal:	**7,510**			**$11,000,000**	**4.5%**	**$5,912,750**	**$16,912,750**				**$0**	**$5,877,157**	**$5,877,157**
2P - 36" Honey Creek Extension Trunk Sewer															
(1)	!	HY01	465	36	$139.51	$64,900	4.5%	$34,885	$99,785	0%	28%	28%	$0	$28,413	$28,413
(1)	!	HY02	733	36	$139.51	$102,306	4.5%	$54,992	$157,298	0%	28%	28%	$0	$44,789	$44,789
(1)	!	HY03	429	36	$139.51	$59,820	4.5%	$32,155	$91,975	0%	28%	28%	$0	$26,189	$26,189
(1)	!	HY04	488	36	$139.51	$68,023	4.5%	$36,564	$104,587	0%	24%	24%	$0	$24,855	$24,855
(1)	!	HY05	1,020	36	$139.51	$142,296	4.5%	$76,487	$218,783	0%	24%	24%	$0	$51,994	$51,994
(1)	!	HY06	384	36	$139.51	$53,610	4.5%	$28,817	$82,427	0%	24%	24%	$0	$19,589	$19,589
(1)	!	HY07	1,010	36	$139.51	$140,964	4.5%	$75,771	$216,735	0%	22%	22%	$0	$48,000	$48,000
(1)	!	HY08	695	36	$139.51	$96,957	4.5%	$52,117	$149,074	0%	22%	22%	$0	$33,015	$33,015
(1)	!	HY09	312	36	$139.51	$43,533	4.5%	$23,400	$66,933	0%	22%	22%	$0	$14,824	$14,824
(1)	!	HY10	667	36	$139.51	$93,043	4.5%	$50,013	$143,056	0%	22%	22%	$0	$30,818	$30,818
(1)	!	HY11	688	36	$139.51	$96,048	4.5%	$51,628	$147,676	0%	22%	22%	$0	$31,814	$31,814
(1)	!	HY12	409	36	$139.51	$57,093	4.5%	$30,689	$87,782	0%	22%	22%	$0	$18,911	$18,911
		Subtotal:	**7,301**			**$1,018,593**	**4.5%**	**$547,518**	**$1,566,111**				**$0**	**$373,211**	**$373,211**
3P - The Preserve at Honey Creek															
(1)	!	HY13	90	21	$59.10	$5,304	4.5%	$2,851	$8,155	0%	92%	92%	$0	$7,466	$7,466
(1)	!	HY14	87	21	$59.10	$5,118	4.5%	$2,751	$7,869	0%	92%	92%	$0	$7,204	$7,204
(1)	!	HY15	109	21	$59.10	$6,421	4.5%	$3,451	$9,872	0%	92%	92%	$0	$9,037	$9,037
(1)	!	HY16	448	21	$59.10	$26,504	4.5%	$14,246	$40,750	0%	92%	92%	$0	$37,305	$37,305

TABLE 20
Proposed Wastewater Collection Lines

(1) - City Participate in Cost Oversize
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! Average Unit costs are based on Bid Tabulation or Design Opinion of Cost, plus Engineering and Easements
** Average Unit costs are based in 2019 dollars unless otherwise indicated and include 20% for engineering and easements.*
B - Bore Across State Highway or Interstate

	Pipe Number	Length (Ft.)	Diameter (Inches)	*Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
									2019	2029	During Fee Period	2019	2029	During Fee Period
(1) !	HY17	227	18	$59.10	$13,391	4.5%	$7,198	$20,589	0%	92%	92%	$0	$18,849	$18,849
(1) !	HY18	444	18	$59.10	$26,223	4.5%	$14,095	$40,318	0%	92%	92%	$0	$36,909	$36,909
(1) !	HY19	272	18	$59.10	$16,101	4.5%	$8,655	$24,756	0%	92%	92%	$0	$22,663	$22,663
(1) !	HY20	257	18	$59.10	$15,180	4.5%	$8,160	$23,340	0%	92%	92%	$0	$21,367	$21,367
(1) !	HY21	425	18	$59.10	$25,145	4.5%	$13,516	$38,661	0%	92%	92%	$0	$35,391	$35,391
(1) !	HY22	499	18	$59.10	$29,499	4.5%	$15,857	$45,356	0%	92%	92%	$0	$41,522	$41,522
(1) !	HY23	499	18	$59.10	$29,499	4.5%	$15,856	$45,355	0%	92%	92%	$0	$41,519	$41,519
(1) !	HY24	496	15	$59.10	$29,329	4.5%	$15,765	$45,094	0%	92%	92%	$0	$41,282	$41,282
(1) !	HY25	488	15	$59.10	$28,858	4.5%	$15,512	$44,370	0%	92%	92%	$0	$40,617	$40,617
(1) !	HY26	429	15	$59.10	$25,332	4.5%	$13,617	$38,949	0%	92%	92%	$0	$35,655	$35,655
(1) !	HY27	139	15	$59.10	$8,212	4.5%	$4,414	$12,626	0%	92%	92%	$0	$11,559	$11,559
(1) !	HY28	300	15	$59.10	$17,718	4.5%	$9,524	$27,242	0%	92%	92%	$0	$24,938	$24,938
	Subtotal:	**5,209**			**$307,836**	**4.5%**	**$165,468**	**$473,304**				**$0**	**$433,283**	**$433,283**
	4P - Upper East Fork Trunk Sewer													
(1) *	UE108	1,905	18	$60.00	$114,292	4.5%	$61,435	$175,727	0%	80%	80%	$0	$140,619	$140,619
(1) *	UE110	2,543	15	$35.00	$89,011	4.5%	$47,845	$136,856	0%	82%	82%	$0	$111,615	$111,615
(1) *	UE116	3,466	15	$35.00	$121,322	4.5%	$65,213	$186,535	0%	82%	82%	$0	$152,142	$152,142
	Subtotal:	**7,914**			**$324,625**	**4.5%**	**$174,493**	**$499,118**				**$0**	**$404,376**	**$404,376**
	5P - Stover Creek Trunk Sewer Phase 2													
(1) !	ST01	206	27	$167.85	$34,613	4.5%	$18,605	$53,218	0%	19%	19%	$0	$10,354	$10,354
(1) !	ST02	345	27	$167.85	$57,931	4.5%	$31,139	$89,070	0%	19%	19%	$0	$17,329	$17,329
(1) !	ST03	144	27	$167.85	$24,121	4.5%	$12,966	$37,087	0%	19%	19%	$0	$7,216	$7,216
(1) !	ST04	513	27	$167.85	$86,190	4.5%	$46,329	$132,519	0%	19%	19%	$0	$25,783	$25,783
(1) !	ST05	281	27	$167.85	$47,234	4.5%	$25,389	$72,623	0%	19%	19%	$0	$14,129	$14,129
(1) !	ST06	151	27	$167.85	$25,376	4.5%	$13,640	$39,016	0%	19%	19%	$0	$7,591	$7,591
(1) !	ST07	218	27	$167.85	$36,577	4.5%	$19,661	$56,238	0%	19%	19%	$0	$10,457	$10,457
(1) !	ST08	332	27	$167.85	$55,808	4.5%	$29,998	$85,806	0%	19%	19%	$0	$15,956	$15,956
(1) !	ST09	277	27	$167.85	$46,416	4.5%	$24,950	$71,366	0%	19%	19%	$0	$13,271	$13,271
(1) !	ST10	489	27	$167.85	$82,075	4.5%	$44,117	$126,192	0%	19%	19%	$0	$23,465	$23,465
(1) !	ST11	150	27	$167.85	$25,153	4.5%	$13,520	$38,673	0%	19%	19%	$0	$7,191	$7,191
(1) !	ST12	56	27	$167.85	$9,369	4.5%	$5,036	$14,405	0%	19%	19%	$0	$2,679	$2,679
(1) !	ST13	432	27	$167.85	$72,454	4.5%	$38,946	$111,400	0%	19%	19%	$0	$20,715	$20,715
(1) !	ST14	319	27	$167.85	$53,593	4.5%	$28,807	$82,400	0%	19%	19%	$0	$15,322	$15,322
(1) !	ST15	181	27	$167.85	$30,374	4.5%	$16,327	$46,701	0%	19%	19%	$0	$8,684	$8,684
(1) !	ST16	118	27	$167.85	$19,791	4.5%	$10,638	$30,429	0%	19%	19%	$0	$5,658	$5,658

TABLE 20
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(2) - City Initiated and Funded
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** Average Unit costs are based in 2019 dollars unless otherwise indicated and include 20% for engineering and easements.*
B - Bore Across State Highway or Interstate

	Pipe Number	Length (Ft.)	Diameter (Inches)	*Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
									2019	2029	During Fee Period	2019	2029	During Fee Period
(1) !	ST17	244	27	$167.85	$40,877	4.5%	$21,972	$62,849	0%	19%	19%	$0	$11,686	$11,686
(1) !	ST18	284	27	$167.85	$47,719	4.5%	$25,650	$73,369	0%	19%	19%	$0	$13,642	$13,642
(1) !	ST19	229	27	$167.85	$38,496	4.5%	$20,692	$59,188	0%	19%	19%	$0	$11,006	$11,006
(1) !	ST20	549	27	$167.85	$92,222	4.5%	$49,571	$141,793	0%	19%	19%	$0	$26,365	$26,365
(1) !	ST21	266	27	$167.85	$44,689	4.5%	$24,021	$68,710	0%	19%	19%	$0	$12,776	$12,776
(1) !	ST22	212	27	$167.85	$35,543	4.5%	$19,105	$54,648	0%	19%	19%	$0	$10,161	$10,161
(1) !	ST23	140	27	$167.85	$23,467	4.5%	$12,614	$36,081	0%	19%	19%	$0	$6,709	$6,709
(1) !	ST24	162	27	$167.85	$27,236	4.5%	$14,640	$41,876	0%	19%	19%	$0	$7,786	$7,786
(1) !	ST25	623	27	$167.85	$104,602	4.5%	$56,226	$160,828	0%	19%	19%	$0	$29,904	$29,904
(1) !	ST26	320	27	$167.85	$53,670	4.5%	$28,849	$82,519	0%	19%	19%	$0	$15,344	$15,344
(1) !	ST27	145	27	$167.85	$24,405	4.5%	$13,118	$37,523	0%	19%	19%	$0	$6,977	$6,977
	Subtotal:	**7,388**			**$1,240,000**	**4.5%**	**$666,526**	**$1,906,527**				**$0**	**$358,156**	**$358,156**
	6P - Old Mill Road Sewer (WW1858)													
(2) !	LW108	4,455	8	$448.92	$2,000,000	4.5%	$1,075,046	$3,075,046	0%	107%	107%	$0	$3,279,228	$3,279,228
	Subtotal:	**4,455**			**$2,000,000**	**4.5%**	**$1,075,046**	**$3,075,046**				**$0**	**$3,279,228**	**$3,279,228**
	7P - Franklin Branch Trunk Sewer													
(1) *	FB100	883	21	$85.00	$75,014	4.5%	$40,322	$115,336	0%	65%	65%	$0	$74,478	$74,478
(1) *	FB102	5,010	21	$85.00	$425,832	4.5%	$228,894	$654,726	0%	65%	65%	$0	$427,417	$427,417
(1) *	FB104	5,603	15	$35.00	$196,103	4.5%	$105,410	$301,513	0%	64%	64%	$0	$191,882	$191,882
	Subtotal:	**11,495**			**$696,949**	**4.5%**	**$374,626**	**$1,071,575**				**$0**	**$693,777**	**$693,777**
	8P - Stonebridge Lift Station No. 1 Bypass Sewer													
(2) !	19000A	4,329	24	$923.98	$4,000,000	4.5%	$2,150,092	$6,150,092	0%	89%	89%	$0	$5,483,703	$5,483,703
	Subtotal:	**4,329**			**$4,000,000**	**4.5%**	**$2,150,092**	**$6,150,092**				**$0**	**$5,483,703**	**$5,483,703**
	9P - Upper Wilson Creek Sewer													
(1) *	UW108	6,425	15	$35.00	$224,864	4.5%	$120,870	$345,734	0%	60%	60%	$0	$208,494	$208,494
	Subtotal:	**6,425**			**$224,864**	**4.5%**	**$120,870**	**$345,734**				**$0**	**$208,494**	**$208,494**
	10P - Honey Creek Extension Trunk Sewer Phase 2													

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B - Bore Across State Highway or Interstate

	Pipe Number	Length (Ft.)	Diameter (Inches)	*Avg. Unit Cost ($/Ft.)	Total Capital Cost ($)	Debt Service Intersest Rate %	20 Year Debt Service Utilizing Simple Interest	Total 20 Yr. Project Cost ($)	(%) Utilized Capacity			($) Utilized Capacity		
									2019	2029	During Fee Period	2019	2029	During Fee Period
(1) *	HC126	2,141	36	$280.00	$599,342	4.5%	$322,160	$921,502	0%	9%	9%	$0	$82,298	$82,298
(1) *	HC127	2,251	36	$280.00	$630,394	4.5%	$338,851	$969,245	0%	2%	2%	$0	$15,000	$15,000
(1) *	HC172	2,918	15	$35.00	$102,136	4.5%	$54,900	$157,036	0%	71%	71%	$0	$112,048	$112,048
	Subtotal:	**7,310**			**$1,331,872**	**4.5%**	**$715,911**	**$2,047,783**				**$0**	**$209,346**	**$209,346**
	11P - Clemons Creek Trunk Sewer													
(1) *	CC100	3,283	27	$150.00	$492,469	4.5%	$264,713	$757,182	0%	19%	19%	$0	$140,413	$140,413
(1) *	CC102	2,106	24	$120.00	$252,706	4.5%	$135,835	$388,541	0%	6%	6%	$0	$23,055	$23,055
(1) *	CC103	1,196	24	$120.00	$143,504	4.5%	$77,137	$220,641	0%	4%	4%	$0	$9,775	$9,775
(1) *	CC104	2,458	24	$120.00	$294,983	4.5%	$158,560	$453,543	0%	2%	2%	$0	$10,969	$10,969
	Subtotal:	**9,043**			**$1,183,662**	**4.5%**	**$636,245**	**$1,819,907**				**$0**	**$184,212**	**$184,212**
	12P - Big Branch Trunk Sewer													
(1) *	LE10	2,227	30	$210.00	$467,621	4.5%	$251,357	$718,978	0%	3%	3%	$0	$21,117	$21,117
(1) *	BB100	2,032	30	$210.00	$426,824	4.5%	$229,428	$656,252	0%	2%	2%	$0	$13,730	$13,730
	Subtotal:	**4,259**			**$894,445**	**4.5%**	**$480,785**	**$1,375,230**				**$0**	**$34,847**	**$34,847**
	13P - Honey Creek Branch Sewer													
(1) *	HC157 B	1,386	18	$129.24	$179,186	4.5%	$96,317	$275,503	0%	50%	50%	$0	$137,210	$137,210
(1) *	HC158	1,710	15	$35.00	$59,864	4.5%	$32,178	$92,042	0%	53%	53%	$0	$48,645	$48,645
(1) *	HC160	2,994	15	$35.00	$104,775	4.5%	$56,319	$161,094	0%	50%	50%	$0	$80,454	$80,454
	Subtotal:	**6,090**			**$343,825**	**4.5%**	**$184,814**	**$528,639**				**$0**	**$266,309**	**$266,309**
TOTAL PROPOSED COLLECTION LINES:		**88,728**			**$24,566,671**		**$13,205,144**	**$37,771,816**				**$0**	**$17,806,099**	**$17,806,099**

F. CREDIT CALCULATION FOR UTILITY SERVICE REVENUES

The City elected to pursue determination of a credit for the portion of utility revenues generated by new service units during the analysis period that are used for payment of improvements of the Water and Wastewater Impact Fee CIP. Chapter 395 of the Local Government Code requires the municipality to either award a 50-percent credit of the total projected cost of implementing the CIP or to award a calculated credit that is determined through financial analysis based on the utility service revenues generated by the projected new service units during the analysis period that is used for payment of CIP improvements, including payment of debt.

For the credit analysis, recoverable impact fee costs were provided to the City's financial consultant for this study; NewGen Strategies & Solutions, LLC. NewGen performed monetary amortization calculations that were based on numerous factors including the City's interest earnings on the existing impact fee fund balance and assumptions of the portion of the future project costs that will be financed. The existing financial standings and assumptions were coordinated with the City.

NewGen Strategies & Solutions, LLC provided the following discussion on their credit calculation. Details of the credit calculation are provided as **Appendix E**.

The impact fee determination method employed by NewGen Strategies and Solutions, LLC is developed through a financial based model, which fully recognizes the requirements of Chapter 395, including the recognition of cash and/or debt financing, interest earnings, fund balances, and applicable credits associated with the use of utility revenues. In developing the components of the financial model several assumptions must be made, including the following:

- Financing
- Method of financing (i.e. cash or debt financing)
- The level of financing (e.g. 100% debt)
- Cost of financing
- Debt repayment structure
- Timing and Level of Expenditures and Revenues
- Interest Earnings
- Annual Service Growth
- Portion of Utility Revenue Used to Fund Impact Fee Water and Wastewater Improvements

The assumptions employed in the maximum assessable impact fee determination provide a reasonable basis for forecasting; however, it must be emphasized that these assumptions may not necessarily reflect actual future conditions. To address this, Chapter 395 requires the monitoring of impact fees through the Impact Fee Advisory Committee and allows for the option to update or revise impact fees to reflect the actual implementation of the impact fee program.

Once the cost of capacity added that is attributable to growth is determined, it must then be decided how the cost will be financed: cash and/or debt. For any previously funded projects, whether partially funded or in full, actual costs of capital have been included. Based on discussions with City staff, unless specific funding has already been determined, it is assumed that the City will debt finance 70% of the future project costs, and the remaining 30% with sources other than debt. For debt financing, the cost of financing is based on the City staff estimates of future debt costs for bonds issued with 20-year terms, as shown in **Appendix E**. Debt service payments for each future debt issue are assumed to remain constant over the issue's term.

Currently, the exact timing and annual level of cash capital expenditures over the forecast period is indeterminate; therefore, it is assumed that capital expenditures will occur in equal amounts over the 10-year program period. It is also assumed that for debt-financed capital projects, the City will expend debt proceeds over a 3-year timeframe. For the calculation of the maximum assessable impact fee, debt is assumed to be issued in equal amounts for each year. In order to recognize the full amount of debt to be issued for the cost of capacity added that is attributable to growth during the 10-year period, a portion of years 8, 9, and 10 are assumed to be spent in the final 3 years.

Because debt is issued over 20-year terms and impact fees developed herein are to be charged over a 10-year period, sufficient fund balance must be generated to meet the future debt service obligations. Fund balances were identified for each service area as a potential source for the current Impact Fee CIP. Because of the generation of the fund balance, excess monies will be available for interest earnings.

Chapter 395 states that interest earnings are funds of the impact fee account and are to be held to the same restrictions as impact fee revenues. Therefore, in order to recognize that interest earnings are used to fund only impact fee eligible improvements, interest earnings are credited against the costs recoverable through impact fees. It should be noted that Chapter 395 does not require the upfront recognition of interest earnings in the impact fee determination; however, in

an effort to acknowledge the time value of the impact fee payers' monies, interest earnings have been credited. Interest is assumed to be earned at an annual rate of 2% per City staff.

As with the timing and level of the capital expenditures over the 10-year forecast, the timing and annual level of service unit growth over the 10-year program period is indeterminate at the present time. As such, it is assumed that service unit growth will be consistent over the 10-year forecast.

Chapter 395 requires a plan for awarding either a credit for the portion of ad valorem tax and/or utility service revenues generated by new service units during the program period that are used for payment of improvements that are included in the Water and Wastewater Impact Fee CIP. As an alternative, a credit equal to 50% of the total cost of implementing the Water and Wastewater Impact Fee CIP may be used. The City has elected to pursue the determination of a credit for the portion of utility revenues generated by new service units during the program period that are used for payment of improvements that are included in the Water and Wastewater Impact Fee CIP. It should be noted that the credit is not a determination to recognize the total utility revenue generated by new service units, but is only a credit for the portion of utility revenue that is used for payment of improvements that are included in the Water and Wastewater Impact Fee CIP. Theoretically, the credit determination could be zero ($0) if the City does not utilize any of the new service unit utility revenue to fund improvements that are included in the Water and Wastewater Impact Fee CIP. However, to be conservative and recognize potential cash flow issues that can occur with the funding of major capital improvement projects, it is assumed that the debt-funded projects (50% of the improvement costs included in the Water and Wastewater Impact Fee CIP but not otherwise funded) could potentially be funded by utility revenue. Lastly, the City's participation in related NTMWD's projects included in the Wastewater Impact Fee CIP is anticipated to be funded in the wastewater utility rates. This amount was divided evenly over 30 years to match NTWMD's assumed debt terms, and included in the revenue credit calculation for wastewater.

G. MAXIMUM IMPACT FEES - WATER & WASTEWATER

The maximum assessable impact fees for the water and wastewater systems were calculated separately and include credit for utility service revenues. The maximum assessable impact fees were calculated by dividing the recoverable costs and financing by the new service unit equivalents in the analysis period. Recoverable costs include the existing and proposed capital improvements or facility expansions necessitated and attributable to new development in the Service Area within the ten (10) year period.

The City employed the utility service revenue credit analysis, prescribed by the Local Government Code, Chapter 395, to calculate the Maximum Assessable Impact Fees, based on the project costs, utilized capacities and utility service revenues, including interest earnings. Details of the utility service revenue credit analysis, by NewGen Strategies & Solutions, LLC, are provided in **Appendix E**.

The calculated maximum impact fees for the base service unit equivalent, a three-quarter inch (¾") water meter, having a land use equivalency (LUE) factor of 1.00, are as follows:

- **Maximum Assessible Water System Impact Fee: $1,754/ LUE**
- **Maximum Assessible Wastewater System Impact Fee: $2,899/ LUE**

Table No. 21 summarizes the maximum assessible impact fees that can be charged based on the credit analysis. The NTMWD Wastewater CIP component of the maximum assessable wastewater impact fee is presented separately in Table 21. To simplify collection, we recommend the fee remain fixed throughout the 5-year period, unless changed by Council.

TABLE NO. 21

Maximum Assessable Water & Wastewater Impact Fee by Water Meter Size

Max. Assessible Water Impact fee /LUE $1,754.00
Max. Assessible Wastewater Impact fee /LUE $2,899.00

Meter Type	Meter Size	Living Unit Equivalent	Max. Assessable Impact Fee				
			Water	Wastewater			Total
				McKinney	*NTMWD*	Total	
Multijet	¾"	1.00	$ 1,754.00	*$ 388.00*	*$ 2,511.00*	$ 2,899.00	$ 4,653.00
Multijet	1"	1.67	$ 2,929.18	*$ 647.96*	*$ 4,193.37*	$ 4,841.33	$ 7,770.51
Multijet	1½"	3.33	$ 5,840.82	*$ 1,292.04*	*$ 8,361.63*	$ 9,653.67	$ 15,494.49
Ultrasonic	2"	8.33	$ 14,610.82	*$ 3,232.04*	*$ 20,916.63*	$ 24,148.67	$ 38,759.49
Ultrasonic	3"	16.67	$ 29,239.18	*$ 6,467.96*	*$ 41,858.37*	$ 48,326.33	$ 77,565.51
Ultrasonic	4"	33.33	$ 58,460.82	*$ 12,932.04*	*$ 83,691.63*	$ 96,623.67	$ 155,084.49
Ultrasonic	6"	53.33	$ 93,540.82	*$ 20,692.04*	*$ 133,911.63*	$ 154,603.67	$ 248,144.49
Ultrasonic	8"	93.33	$ 163,700.82	*$ 36,212.04*	*$ 234,351.63*	$ 270,563.67	$ 434,264.49
Ultrasonic	12"	183.33	$ 321,560.82	*$ 71,132.04*	*$ 460,341.63*	$ 531,473.67	$ 853,034.49

Appendix – E

Water and Wastewater Systems

Impact Fee Credit Calculation for Utility Service Revenues

City of McKinney - 2019 Water Impact Fee Study
Capital Improvement Plan for Impact Fees
Impact Fee Summary Table
Water Service Area

0	Existing Fund Balance	$ 4,545,014
1	Existing Number of Service Units	97,759
2	Total Number of Services Units for Planning Period	132,791
3	Additional Service Units Added During Planning Period (Line 2 - Line 1)	35,032
4	Total Cost of the Water Impact Fee CIP	$ 207,079,119
5	Recoverable Cost for Impact Fee Planning Period	$ 65,876,352
6	Percent Recoverable for Water Impact Fee Planning Period (Line 5 / Line 4)	31.81%
7	Financing Costs (From Financial Analysis)	$ 21,554,433
8	Interest Earnings (From Financial Analysis)	$ (6,222,687)
9	Recoverable Cost of Water Impact Fee and Financing Costs Less Balance (Line 5 + Line 7 + Line 8 - Line 0)	$ 76,663,084
10	Pre-Credit Maximum Fee (Line 9 / Line 3)	$ 2,188
11	Credit for Utility Revenues (From Financial Analysis)	$ (15,216,343)
12	Recoverable Cost of Water Impact Fee and Financing (Line 9 + Line 11)	$ 61,446,741
13	Maximum Assessable Fee (Line 12 / Line 3)	$ 1,754

SUMMARY OF WATER IMPACT FEE DETERMINATION

Water Service Area

Recoverable Impact Fee CIP Costs	$	65,876,352	BHC Impact Fee Report
Financing Cost		21,554,433	See Detail Below
Existing Fund Balance		(4,545,014)	Water Appendices - page 1
Interest Earnings		(6,222,687)	Water Appendices - page 3
Pre Credit Recoverable Cost for Impact Fee	$	76,663,084	Sum of Above
Credit for Utility Revenues		(15,216,343)	Water Appendices - page 6
Maximum Recoverable Cost for Impact Fee	**$**	**61,446,741**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees. Reference is the Birkhoff, Hendricks Carter, LLP (BHC) Impact Fee Report.

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues.

New Annual Debt Service	$	20,071,440	Water Appendices - page 2
Existing Annual Debt Service		50,277,619	Water Appendices - page 2
Principal Component (New and Existing Debt)		(48,794,626)	Water Appendices - page 1
Financing Costs	$	21,554,433	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects from the 2013 Impact Fee Study have been included in the 2019 Impact Fee Study. Reference is page 1 of Water Appendices.

Interest Earnings:

Represents the interest earned on cash flows and assumes a 2.00% annual interest rate. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 3 of Water Appendices.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Utility Revenues:

In 2001, the Local Government Code Chapter 395 was amended to include a credit for ad valorem and/or utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund impact fee eligible projects. Reference is page 6 of Water Appendices.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Revenues. This is the maximum cost that can be recovered through impact fees.

City of McKinney - 2019 Water Impact Fee Study

Capital Improvement Plan for Impact Fees
Impact Fee Calculation Assumptions
Water Service Area

I. General Assumptions

Annual Interest Rate on Deposits[1]	2.00%
Annual Service Unit Growth[2]	3,503
Existing Fund Balance[3]	4,545,014

Portion of Projects Funded by Existing Debt[4]	$ 35,155,755
Non-debt Funded Project Cost[5]	17,081,727
New Project Cost Funded Through New Debt[6]	13,638,871
Total Recoverable Project Cost[7]	$ 65,876,353

II. New Debt Issues Assumptions

Year	Principal[8]	Interest[9]	Term
1	$ 1,363,887	4.00%	20
2	1,363,887	4.00%	20
3	1,363,887	4.00%	20
4	1,363,887	4.00%	20
5	1,363,887	4.00%	20
6	1,363,887	4.00%	20
7	1,363,887	4.00%	20
8	1,363,887	4.00%	20
9	1,363,887	4.00%	20
10	1,363,887	4.00%	20
Total	$ 13,638,871		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures[10]
1	$ 1,708,173
2	2,162,802
3	2,617,431
4	3,072,060
5	3,072,060
6	3,072,060
7	3,072,060
8	3,072,060
9	3,072,060
10	3,072,060
11	1,363,887
12	909,258
13	454,629
Total	30,720,598

(1) Per discussions with City Staff and City files
(2) Derived from Table 3 Water Living Unit Equivalents 2019-2029 from BHC Impact Fee Report
(3) Per discussions with City Staff and City files
(4) Per discussions with City Staff and City files
(5) This assumes 30% of new project costs funded through sources other than debt, unless specified otherwise
(6) This assumes 70% of new project costs funded through new debt issues, unless specified otherwise
(7) Birkhoff, Hendricks Carter, LLP (BHC) Impact Fee Report
(8) Assumes new debt issued in equal annual amounts
(9) Per discussions with City Staff and City files
(10) Assumes new debt proceeds expended over a 3-year timeframe
Non-debt funded capital expenditures allocated per discussions with City Staff

City of McKinney - 2019 Water Impact Fee Study

Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Water Service Area

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ 100,357	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,357
2	100,357	100,357	-	-	-	-	-	-	-	-	200,714
3	100,357	100,357	100,357	-	-	-	-	-	-	-	301,072
4	100,357	100,357	100,357	100,357	-	-	-	-	-	-	401,429
5	100,357	100,357	100,357	100,357	100,357	-	-	-	-	-	501,786
6	100,357	100,357	100,357	100,357	100,357	100,357	-	-	-	-	602,143
7	100,357	100,357	100,357	100,357	100,357	100,357	100,357	-	-	-	702,500
8	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	-	-	802,858
9	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	-	903,215
10	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
11	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
12	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
13	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
14	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
15	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
16	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
17	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
18	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
19	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
20	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	1,003,572
21	-	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	903,215
22	-	-	100,357	100,357	100,357	100,357	100,357	100,357	100,357	100,357	802,858
23	-	-	-	100,357	100,357	100,357	100,357	100,357	100,357	100,357	702,500
24	-	-	-	-	100,357	100,357	100,357	100,357	100,357	100,357	602,143
25	-	-	-	-	-	100,357	100,357	100,357	100,357	100,357	501,786
26	-	-	-	-	-	-	100,357	100,357	100,357	100,357	401,429
27	-	-	-	-	-	-	-	100,357	100,357	100,357	301,072
28	-	-	-	-	-	-	-	-	100,357	100,357	200,714
29	-	-	-	-	-	-	-	-	-	100,357	100,357
	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 2,007,144	$ 20,071,440

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ 100,357	$ 1,708,173	$ (1,363,887)	$ 2,832,583	$ (101,466)	$ 3,175,759
2	200,714	2,162,802	(1,363,887)	2,825,676	(202,396)	3,622,909
3	301,072	2,617,431	(1,363,887)	2,819,096	(302,874)	4,070,837
4	401,429	3,072,060	(1,363,887)	2,813,564	(403,063)	4,520,102
5	501,786	3,072,060	(1,363,887)	2,809,158	(503,097)	4,516,020
6	602,143	3,072,060	(1,363,887)	2,894,026	(618,688)	4,585,654
7	702,500	3,072,060	(1,363,887)	2,803,127	(703,021)	4,510,779
8	802,858	3,072,060	(1,363,887)	2,677,564	(775,460)	4,413,134
9	903,215	3,072,060	(1,363,887)	2,628,939	(861,370)	4,378,957
10	1,003,572	3,072,060	(1,363,887)	2,520,041	(929,575)	4,302,211
11	1,003,572	1,363,887	-	2,405,363	(899,322)	3,873,501
12	1,003,572	909,258	-	2,406,026	(899,496)	3,419,359
13	1,003,572	454,629	-	2,405,679	(899,405)	2,964,475
14	1,003,572	-	-	2,405,620	(899,389)	2,509,802
15	1,003,572	-	-	2,405,812	(899,440)	2,509,944
16	1,003,572	-	-	2,404,993	(899,224)	2,509,341
17	1,003,572	-	-	2,387,047	(894,490)	2,496,129
18	1,003,572	-	-	2,237,139	(854,942)	2,385,769
19	1,003,572	-	-	1,867,309	(757,376)	2,113,505
20	1,003,572	-	-	1,728,858	(720,851)	2,011,579
21	903,215	-	-	-	(238,280)	664,935
22	802,858	-	-	-	(211,804)	591,053
23	702,500	-	-	-	(185,329)	517,172
24	602,143	-	-	-	(158,853)	443,290
25	501,786	-	-	-	(132,378)	369,408
26	401,429	-	-	-	(105,902)	295,527
27	301,072	-	-	-	(79,427)	221,645
28	200,714	-	-	-	(52,951)	147,763
29	100,357	-	-	-	(26,476)	73,882
	$ 20,071,440	$ 30,720,598	$ (13,638,871)	$ 50,277,619	$ (15,216,343)	$ 72,214,443

(1) Water Appendices - page 2 Section I
(2) Water Appendices - page 1
(3) Eligible debt funded projects as a percent of total principal times original annual debt service
(4) Water Appendices - page 6

City of McKinney - 2019 Water Impact Fee Study

Capital Improvement Plan for Impact Fees

Revenue Test

Water Service Area

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ 4,545,014
1	$ 1,754	3,503	$ 6,144,674	$ 3,175,759	$ 2,968,915	$ 120,589	7,634,518
2	1,754	3,503	6,144,674	3,622,909	2,521,765	177,908	10,334,191
3	1,754	3,503	6,144,674	4,070,837	2,073,837	227,422	12,635,451
4	1,754	3,503	6,144,674	4,520,102	1,624,572	268,955	14,528,977
5	1,754	3,503	6,144,674	4,516,020	1,628,654	306,866	16,464,497
6	1,754	3,503	6,144,674	4,585,654	1,559,020	344,880	18,368,397
7	1,754	3,503	6,144,674	4,510,779	1,633,895	383,707	20,385,999
8	1,754	3,503	6,144,674	4,413,134	1,731,540	425,035	22,542,574
9	1,754	3,503	6,144,674	4,378,957	1,765,717	468,509	24,776,800
10	1,754	3,503	6,144,674	4,302,211	1,842,463	513,961	27,133,224
11	-	-	-	3,873,501	(3,873,501)	503,929	23,763,653
12	-	-	-	3,419,359	(3,419,359)	441,079	20,785,373
13	-	-	-	2,964,475	(2,964,475)	386,063	18,206,961
14	-	-	-	2,509,802	(2,509,802)	339,041	16,036,200
15	-	-	-	2,509,944	(2,509,944)	295,625	13,821,880
16	-	-	-	2,509,341	(2,509,341)	251,344	11,563,884
17	-	-	-	2,496,129	(2,496,129)	206,316	9,274,071
18	-	-	-	2,385,769	(2,385,769)	161,624	7,049,926
19	-	-	-	2,113,505	(2,113,505)	119,863	5,056,284
20	-	-	-	2,011,579	(2,011,579)	81,010	3,125,715
21	-	-	-	664,935	(664,935)	55,865	2,516,645
22	-	-	-	591,053	(591,053)	44,422	1,970,014
23	-	-	-	517,172	(517,172)	34,229	1,487,071
24	-	-	-	443,290	(443,290)	25,309	1,069,089
25	-	-	-	369,408	(369,408)	17,688	717,369
26	-	-	-	295,527	(295,527)	11,392	433,234
27	-	-	-	221,645	(221,645)	6,448	218,038
28	-	-	-	147,763	(147,763)	2,883	73,157
29	-	-	-	73,882	(73,882)	724	-
			$ 61,446,742	$ 72,214,443		$ 6,222,687	

City of McKinney - 2019 Water Impact Fee Study

Capital Improvement Plan for Impact Fees

Impact Fee Calculation

Water Service Area

Year	Number of Years to End of Period	Future Value Escalation: Interest Rate Factor	Future Value Escalation: Recovery Fee Factor	Annual Service Units: Actual	Annual Service Units: Escalated	Annual Expense: Actual	Annual Expense: Escalated
1	29	1.7584	1.0000	3,503	6,160	$ 3,175,759	$ 5,584,365
2	28	1.7240	1.0000	3,503	6,039	3,622,909	6,245,733
3	27	1.6902	1.0000	3,503	5,921	4,070,837	6,880,335
4	26	1.6570	1.0000	3,503	5,805	4,520,102	7,489,864
5	25	1.6245	1.0000	3,503	5,691	4,516,020	7,336,372
6	24	1.5927	1.0000	3,503	5,579	4,585,654	7,303,425
7	23	1.5614	1.0000	3,503	5,470	4,510,779	7,043,309
8	22	1.5308	1.0000	3,503	5,363	4,413,134	6,755,728
9	21	1.5008	1.0000	3,503	5,258	4,378,957	6,571,969
10	20	1.4714	1.0000	3,503	5,155	4,302,211	6,330,184
11	19	1.4425	1.0000	-	-	3,873,501	5,587,636
12	18	1.4142	1.0000	-	-	3,419,359	4,835,808
13	17	1.3865	1.0000	-	-	2,964,475	4,110,285
14	16	1.3593	1.0000	-	-	2,509,802	3,411,642
15	15	1.3327	1.0000	-	-	2,509,944	3,344,936
16	14	1.3065	1.0000	-	-	2,509,341	3,278,561
17	13	1.2809	1.0000	-	-	2,496,129	3,197,353
18	12	1.2558	1.0000	-	-	2,385,769	2,996,068
19	11	1.2312	1.0000	-	-	2,113,505	2,602,114
20	10	1.2070	1.0000	-	-	2,011,579	2,428,064
21	9	1.1834	1.0000	-	-	664,935	786,868
22	8	1.1602	1.0000	-	-	591,053	685,724
23	7	1.1374	1.0000	-	-	517,172	588,243
24	6	1.1151	1.0000	-	-	443,290	494,322
25	5	1.0933	1.0000	-	-	369,408	403,858
26	4	1.0718	1.0000	-	-	295,527	316,751
27	3	1.0508	1.0000	-	-	221,645	232,905
28	2	1.0302	1.0000	-	-	147,763	152,226
29	1	1.0100	1.0000	-	-	73,882	74,620
					56,441		$ 107,069,268

Annual Interest Rate:		2.00%
Present Value of Initial Impact Fee Fund Balance	$	4,545,014
Total Escalated Expense for Entire Period	$	107,069,268
Less Future Value of Initial Impact Fee Fund Balance		8,071,239
Sub-Total	$	98,998,029
Total Escalated Service Units		56,441
Impact Fee for Water Service Area	**$**	**1,754**

City of McKinney - 2019 Water Impact Fee Study

Capital Improvement Plan for Impact Fees

Impact Fee Project Funding

Water Service Area

Impact Fee Project Name[1]	Cost In Service Area[1]	Impact Fee Cost[1]	Debt Funded[2] Existing[3]	Debt Funded[2] Proposed	Non-Debt Funded[2]	Impact Fee Cost
McKinney Ranch Pump Station - Original Construction (920)	$ 208,670	$ 25,040	$ 25,040	$ -	$ -	$ 25,040
McKinney Ranch Pump Station - Phase I Improvements (920)	1,123,172	494,196	494,196	-	-	494,196
McKinney Ranch Pump Station - Phase II Improvements (920)	197,929	87,089	87,089	-	-	87,089
McKinney Ranch Pump Station - 850 Service Area Pumps (850)	4,488,282	-	-	-	-	-
McKinney Ranch Pump Station - Emergency Generator (2 Sets)	2,098,226	1,049,113	1,049,113	-	-	1,049,113
University Pump Station - Phase IA Improvements (920)	2,547,618	1,299,285	-	909,500	389,786	1,299,285
University Pump Station - Phase II Improvements (850)	3,138,358	1,035,658	-	724,961	310,697	1,035,658
University Pump Station - Phase II Improvements (920)	3,138,358	815,973	-	571,181	244,792	815,973
University Pump Station - Emergency Generator - Set 1	2,172,954	1,086,477	586,477	-	500,000	1,086,477
Gerrish Pump Station - Replace Pump 4 + Electrical	809,017	226,525	226,525	-	-	226,525
McKinney Ranch No. 1	3,201,000	1,291,731	1,291,731	-	-	1,291,731
McKinney Ranch No. 2	4,083,980	1,648,049	526,208	-	1,121,841	1,648,049
University No. 1	2,159,043	681,803	681,803	-	-	681,803
University No. 2	6,179,442	1,951,403	1,188,769	-	762,633	1,951,403
University No. 3	7,095,814	2,240,783	647,467	-	1,593,317	2,240,783
U.S. 380	605,000	18,150	18,150	-	-	18,150
Virginia	1,357,731	135,773	135,773	-	-	135,773
Community	3,418,500	3,281,760	3,281,760	-	-	3,281,760
Industrial	1,857,500	297,200	297,200	-	-	297,200
Wilmeth	2,680,137	80,404	80,404	-	-	80,404
Hardin	5,057,066	910,272	910,272	-	-	910,272
Independence	4,379,943	1,489,181	1,169,527	-	319,653	1,489,181
F.M. 720 PUMP STATION 30" WATER LINE	158,340	54,720	54,720	-	-	54,720
VIRGINIA PARKWAY 24" WATER LINE	49,884	2,879	2,879	-	-	2,879
CUSTER 16" WATER LINE	272,440	-	-	-	-	-
F.M. 720 PARALLEL 42" WATER LINE	1,405,692	463,004	463,004	-	-	463,004
INDUSTRIAL 2-MG ELEVATED STORAGE TANK WATER LINE	128,893	42,535	42,535	-	-	42,535
ALMA ROAD 24-INCH WATER LINE	449,797	-	-	-	-	-
ELDORADO 20-INCH WATER LINE	78,702	-	-	-	-	-
GERRISH PUMP STATION / AIRPORT BLVD. 36-INCH WATER LINES	1,453,539	522,278	522,278	-	-	522,278
UNIVERSITY 36-INCH WATER LINE - DISCHARGE LINE 1	606,881	151,720	151,720	-	-	151,720
HARDIN BLVD. 36-INCH WATER LINE - (VIRGINIA TO US 380)	1,292,000	187,344	187,344	-	-	187,344
HARDIN NORTH WATER LINE - (US 380 TO BUCHANAN)	506,736	-	-	-	-	-
850 WILMETH WATER MAIN - PHASE 1	731,955	8,627	8,627	-	-	8,627
850 WILMETH WATER MAIN - PHASE 2	1,973,668	172,969	172,969	-	-	172,969
850 LOOPED SYSTEM NORTH	2,463,730	914,897	914,897	-	-	914,897
STONEBRIDGE 48-INCH WATERMAIN	1,171,630	-	-	-	-	-
36-INCH & 48INCH WATERLINE FROM VIRGINIA TO STONEBRIDGE	1,675,443	-	-	-	-	-
ALMA ROAD 24-INCH WATER LINE (CRAIG RANCH NORTH)	1,672,230	-	-	-	-	-
LAKE FOREST DRIVE 30-INCH WATER LINE (WAL-MART)	203,232	54,873	54,873	-	-	54,873
VILLAGE PARK - PHASE 1 - 20", 30" & 36" WATER LINE	394,306	173,967	173,967	-	-	173,967
COLLIN MCKINNEY 30" & 36" WATER LINE (CRAIG RANCH INFRASTRUCTURE) (VCIM 1)	585,633	150,431	-	-	150,431	150,431
COLLIN MCKINNEY 20" & 24" WATER LINE (CRAIG RANCH INFRASTRUCTURE) (VCIM 1)	367,237	34,796	-	-	34,796	34,796
ALMA ROAD 20-INCH WATER LINE (CRAIG RANCH INFRASTRUCTURE) (VCIM 1)	199,075	64,787	-	-	64,787	64,787
WESTRIDGE WATER LINE	261,844	-	-	-	-	-
INDEPENDENCE 20-INCH WATER LINE	216,672	64,021	64,021	-	-	64,021
STACY ROAD WATER LINE	456,622	173,231	173,231	-	-	173,231
MCKINNEY RANCH 16-INCH WATER LINE	137,496	65,538	65,538	-	-	65,538
COLLIN MCKINNEY 20-INCH WATER LINE - (CRAIG RANCH INFRASTRUCTURE) (VCIM 2)	313,041	208,938	208,938	-	-	208,938
ALMA ROAD 24-INCH WATER LINE - (CRAIG RANCH INFRASTRUCTURE) (VCIM 2)	480,293	86,019	86,020	-	-	86,020
CUSTER ROAD 16-INCH WATER LINE - (CRAIG RANCH INFRASTRUCTURE) (VCIM 2)	825,921	314,157	314,158	-	-	314,158
COLLIN MCKINNEY 20-INCH WATER LINE - ROWLETT CREEK BRIDGE	24,289	1,458	1,458	-	-	1,458
BRISTOL / CUSTER 42-INCH WATER LINE	3,677,460	-	-	-	-	-
CUSTER ROAD UTILITY RELOCATION	4,786,776	-	-	-	-	-
ELDORADO PKWY. / STONEBRIDGE DRIVE INTERSECTION 20-INCH WATER LINE	218,789	-	-	-	-	-
U.S. 380 36-INCH WATER LINE	6,219,865	805,822	579,813	-	226,009	805,822
UNIVERSITY PUMP STATION DISCHARGE LINE NO. 2	4,031,938	1,749,867	1,315,865	-	434,001	1,749,867
STACY ROAD 24-INCH WATER LINE	509,384	256,898	256,898	-	-	256,898
HARDIN 36-INCH WATER LINE (TIMBER CREEK ACCESS IMPROVEMENTS)	700,990	314,476	314,476	-	-	314,476
LAKE FOREST 20-INCH WATER LINE	568,772	-	-	-	-	-
VALOR POINTE AT WESTRIDGE, PHASE 10 - 16-INCH WATER LINES	34,505	25,079	25,079	-	-	25,079
920 VIRGINIA PKWY. 12-INCH PARALLEL LINE	270,166	8,328	8,328	-	-	8,328
WESTRIDGE 24-INCH WATER LINE	214,953	38,122	38,122	-	-	38,122
LAKE FOREST 36-INCH WATER LINE	1,070,317	159,419	159,419	-	-	159,419
COUCH DRIVE 12" WATER LINE LOOP	326,000	91,280	91,280	-	-	91,280
HARDIN ELEVATED STORAGE TANK WATER LINES	574,071	14,012	14,012	-	-	14,012
University Pump Station - Phase III - Add 920 PS 2 Pump 8	2,482,830	2,309,032	832,564	-	1,476,468	2,309,032
University Pump Station - PhaseIV - Add 850 PS2 Pump 3	2,420,000	895,400	-	626,780	268,620	895,400
McKinney Ranch Pump Station - Phase 1 & 2	10,574,487	3,701,070	2,149,000	1,086,449	465,621	3,701,070
Redbud Pump Station - Phase I Improvements (850)	12,600,000	3,276,000	1,636,605	1,147,576	491,818	3,276,000
Redbud Pump Station - Phase I Improvements (794)	12,600,000	3,528,000	1,762,498	1,235,851	529,651	3,528,000
Redbud No. 1	3,828,000	1,607,760	803,195	563,195	241,369	1,607,760
Stacy	5,500,000	4,070,000	-	2,849,000	1,221,000	4,070,000
REDBUD 794 PUMP STATION 54" DISCHARGE LINE	4,496,262	1,169,028	1,169,028	-	-	1,169,028
REDBUD 850 PUMP STATION 42" DISCHARGE LINE	8,137,350	2,384,538	1,718,547	-	665,991	2,384,538
US 380 / INDEPENDENCE LOOP	2,203,102	2,151,287	851,061	-	1,300,226	2,151,287
HARRY McKILLOP BLVD. 24" WATER LINE	8,350,000	4,785,000	2,956,337	-	1,828,662	4,785,000
CUSTER 24" NORTH WATER LINE	11,888,125	3,183,620	1,883,961	909,761	389,898	3,183,620
HARDIN SOUTH 16" WATER LINE	108,900	91,476	-	64,033	27,443	91,476
INDUSTRIAL BLVD. 12" WATER LINE (PIPE BURST 8" to 12")	569,109	54,449	-	38,115	16,335	54,449
HARDIN 24" & 16" (TRINITY FALLS WEST FEED NORTH)	691,392	228,159	-	159,711	68,448	228,159
INDEPENDENCE CONNECTION TO US 380	561,120	561,120	-	-	561,120	561,120
REDBUD PUMP STATION 850 DISCHARGE LINE (T-FALLS EAST FEED)	737,100	221,130	24,570	-	196,560	221,130
STONEBRIDGE 42" WATER LINE	5,342,040	352,001	-	246,400	105,600	352,001
F.M. 1461 (FUTURE E/W THOROUGHFARE)	289,560	203,269	-	142,288	60,981	203,269
COUNTY ROAD 228 16" WATER LINE	125,100	53,793	-	37,655	16,138	53,793
AIRPORT WATER LINE NORTH LOOP	4,821,900	2,473,235	-	1,731,265	741,971	2,473,235
LAKE FOREST 16" WATER LINE	337,138	71,868	-	50,307	21,560	71,868
BLOOMDALE 16" WATER LINE	200,220	32,035	-	22,425	9,611	32,035
FUT. 850 EAST / WEST THOROUGHFARE WATER LINE	2,245,020	739,309	-	517,517	221,793	739,309
Water Master Plan & Impact Fee Update	204,417	204,417	204,417	-	-	204,417
Ad Valorem Tax/Utility Revenue Credit Analysis	7,000	7,000	-	4,900	2,100	7,000
Total	$ 207,079,119	$ 65,876,352	$ 35,155,755	$ 13,638,871	$ 17,081,727	$ 65,876,353

(1) BHC Impact Fee Report. The debt financing costs in the report were removed in order to calculate NewGen's financing costs

(2) Per discussions with City staff and City files

(3) An assumption of 4.5% was used for existing debt funding that did not have a specific bond issuance identified, in accordance with the BHC Impact Fee Report

City of McKinney - 2019 Water Impact Fee Study

Capital Improvement Plan for Impact Fees

Credit Determination

Water Service Area

Year	Eligible Revenue Funded Cost[2]	Annual Service Units	Eligible Debt Service per Service Unit	Annual Growth in Service Units (Cumulative)	Credit for Annual Water Rate Revenues
1	$ 2,932,940	101,262	$ 28.96	3,503	$ 101,466
2	3,026,391	104,765	28.89	7,006	202,396
3	3,120,167	108,269	28.82	10,510	302,874
4	3,214,993	111,772	28.76	14,013	403,063
5	3,310,944	115,275	28.72	17,516	503,097
6	3,496,170	118,778	29.43	21,019	618,688
7	3,505,628	122,281	28.67	24,522	703,021
8	3,480,422	125,785	27.67	28,026	775,460
9	3,532,154	129,288	27.32	31,529	861,370
10	3,523,613	132,791	26.54	35,032	929,575
11	3,408,935	132,791	25.67	35,032	899,322
12	3,409,598	132,791	25.68	35,032	899,496
13	3,409,251	132,791	25.67	35,032	899,405
14	3,409,192	132,791	25.67	35,032	899,389
15	3,409,384	132,791	25.67	35,032	899,440
16	3,408,565	132,791	25.67	35,032	899,224
17	3,390,619	132,791	25.53	35,032	894,490
18	3,240,711	132,791	24.40	35,032	854,942
19	2,870,881	132,791	21.62	35,032	757,376
20	2,732,430	132,791	20.58	35,032	720,851
21	903,215	132,791	6.80	35,032	238,280
22	802,858	132,791	6.05	35,032	211,804
23	702,500	132,791	5.29	35,032	185,329
24	602,143	132,791	4.53	35,032	158,853
25	501,786	132,791	3.78	35,032	132,378
26	401,429	132,791	3.02	35,032	105,902
27	301,072	132,791	2.27	35,032	79,427
28	200,714	132,791	1.51	35,032	52,951
29	100,357	132,791	0.76	35,032	26,476
Total	$ 70,349,059				$ 15,216,343

2019 Service Units[1]	97,759	
Ten Year Growth in Service Units[1]	35,032	
	10	years
Annual Growth in Service Units	3,503	
Credit Amount	**$ 15,216,343**	

(1) Derived from Table 3 Water Living Unit Equivalents 2019-2029 from BHC Impact Fee Report

(2) Water Appendices - page 2 Section II

City of McKinney - 2019 Wastewater Impact Fee Study
Capital Improvement Plan for Impact Fees
Impact Fee Summary Table
Wastewater Service Area

0	Existing Fund Balance	$ 1,368,844
1	Existing Number of Service Units	84,434
2	Total Number of Services Units for Planning Period	114,682
3	Additional Service Units Added During Planning Period (Line 2 - Line 1)	30,248
4	Total Cost of the Wastewater Impact Fee CIP	$ 158,394,791
5	Recoverable Cost for Impact Fee Planning Period	$ 130,488,137
6	Percent Recoverable for Wastewater Impact Fee Planning Period (Line 5 / Line 4)	82.38%
7	Financing Costs (From Financial Analysis)	$ 5,045,156
8	Interest Earnings (From Financial Analysis)	$ (16,068,573)
9	Recoverable Cost of Wastewater Impact Fee and Financing Costs Less Balance (Line 5 + Line 7 + Line 8 - Line 0)	$ 118,095,876
10	Pre-Credit Maximum Fee (Line 9 / Line 3)	$ 3,904
11	Credit for Utility Revenues (From Financial Analysis)	$ (30,416,281)
12	Recoverable Cost of Wastewater Impact Fee and Financing (Line 9 + Line 11)	$ 87,679,595
13	Maximum Assessable Fee (Line 12 / Line 3)	$ 2,899

SUMMARY OF WASTEWATER IMPACT FEE DETERMINATION

Wastewater Service Area

Recoverable Impact Fee CIP Costs	$	130,488,137	BHC Impact Fee Report
Financing Cost		5,045,156	See Detail Below
Existing Fund Balance		(1,368,844)	Wastewater Appendices - page 1
Interest Earnings		(16,068,573)	Wastewater Appendices - page 3
Pre Credit Recoverable Cost for Impact Fee	$	118,095,876	Sum of Above
Credit for Utility Revenues		(30,416,281)	Wastewater Appendices - page 6
Maximum Recoverable Cost for Impact Fee	**$**	**87,679,595**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees. Reference is the Birkhoff, Hendricks Carter, LLP (BHC) Impact Fee Report.

Financing Costs:

Represents the interest costs associated with debt financing the new impact fee project costs. Interest costs are derived from existing debt issues and forecasted debt issues.

New Annual Debt Service	$	5,952,622	Wastewater Appendices - page 2
Existing Annual Debt Service		10,395,042	Wastewater Appendices - page 2
Principal Component (New and Existing Debt)		(11,302,508)	Wastewater Appendices - page 1
Financing Costs	$	5,045,156	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects from the 2013 Impact Fee Study have been included in the 2019 Impact Fee Study. Reference is page 1 of Wastewater Appendices.

Interest Earnings:

Represents the interest earned on cash flows and assumes a 2.00% annual interest rate. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs. Reference is the sum of Accumulated Interest on page 3 of Wastewater Appendices.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Existing Fund Balance and Interest Earnings.

Credit for Utility Revenues:

In 2001, the Local Government Code Chapter 395 was amended to include a credit for ad valorem and/or utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund impact fee eligible projects. Reference is page 6 of Wastewater Appendices.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Revenues. This is the maximum cost that can be recovered through Impact fees.

Exhibit 2

City of McKinney - 2019 Wastewater Impact Fee Study

Capital Improvement Plan for Impact Fees
Impact Fee Calculation Assumptions
Wastewater Service Area

I. General Assumptions

Annual Interest Rate on Deposits[1]	2.00%
Annual Service Unit Growth[2]	3,025
Existing Fund Balance[3]	1,368,844

Portion of Projects Funded by Existing Debt[4]	$ 7,257,604
Non-debt Funded New Project Cost[5]	119,185,629
New Project Cost Funded Through New Debt[6]	4,044,904
Total Recoverable Project Cost[7]	$ 130,488,137

II. New Debt Issues Assumptions

Year	Principal[8]	Interest[9]	Term
1	$ 404,490	4.00%	20
2	404,490	4.00%	20
3	404,490	4.00%	20
4	404,490	4.00%	20
5	404,490	4.00%	20
6	404,490	4.00%	20
7	404,490	4.00%	20
8	404,490	4.00%	20
9	404,490	4.00%	20
10	404,490	4.00%	20
Total	$ 4,044,904		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures[10]
1	$ 4,108,392
2	4,243,222
3	4,378,052
4	4,512,883
5	4,512,883
6	4,512,883
7	4,512,883
8	4,512,883
9	4,512,883
10	4,512,883
11	4,309,576
12	4,174,746
13	4,039,916
14-30	66,386,451
Total	$ 123,230,533

(1) Per discussions with City Staff and City files
(2) Derived from Table 4 Wastewater Living Unit Equivalents 2019-2029 from BHC Impact Fee Report
(3) Per discussions with City Staff and City files
(4) Per discussions with City Staff and City files
(5) This assumes 30% of new project costs funded through sources other than debt, unless specified otherwise
(6) This assumes 70% of new project costs funded through new debt issues, unless specified otherwise
(7) Birkhoff, Hendricks Carter, LLP (BHC) Impact Fee Report
(8) Assumes new debt issued in equal annual amounts based on projected time frame
(9) Per discussions with City Staff and City files
(10) Assumes new debt proceeds expended over a 3-year timeframe
Non-debt funded capital expenditures allocated per discussions with City Staff
Years 14-30 reflect repayment of NTMWD eligible capital over 30 years in monthly wastewater charges

City of McKinney - 2019 Wastewater Impact Fee Study

Capital Improvement Plan for Impact Fees
Debt Service and Expense Summary
Wastewater Service Area

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ 29,763	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 29,763
2	29,763	29,763	-	-	-	-	-	-	-	-	59,526
3	29,763	29,763	29,763	-	-	-	-	-	-	-	89,289
4	29,763	29,763	29,763	29,763	-	-	-	-	-	-	119,052
5	29,763	29,763	29,763	29,763	29,763	-	-	-	-	-	148,816
6	29,763	29,763	29,763	29,763	29,763	29,763	-	-	-	-	178,579
7	29,763	29,763	29,763	29,763	29,763	29,763	29,763	-	-	-	208,342
8	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	-	-	238,105
9	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	-	267,868
10	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
11	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
12	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
13	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
14	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
15	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
16	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
17	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
18	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
19	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
20	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	297,631
21	-	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	267,868
22	-	-	29,763	29,763	29,763	29,763	29,763	29,763	29,763	29,763	238,105
23	-	-	-	29,763	29,763	29,763	29,763	29,763	29,763	29,763	208,342
24	-	-	-	-	29,763	29,763	29,763	29,763	29,763	29,763	178,579
25	-	-	-	-	-	29,763	29,763	29,763	29,763	29,763	148,816
26	-	-	-	-	-	-	29,763	29,763	29,763	29,763	119,052
27	-	-	-	-	-	-	-	29,763	29,763	29,763	89,289
28	-	-	-	-	-	-	-	-	29,763	29,763	59,526
29	-	-	-	-	-	-	-	-	-	29,763	29,763
30	-	-	-	-	-	-	-	-	-	-	-
	$ 595,262	$ 595,262	$ 595,262	$ 595,262	$ 595,262	$ 595,262	$ 595,262	$ 595,262	$ 595,262	$ 595,262	$ 5,952,622

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ 29,763	$ 4,108,392	$ (404,490)	$ 540,662	$ (154,787)	$ 4,119,539
2	59,526	4,243,222	(404,490)	540,783	(301,224)	4,137,817
3	89,289	4,378,052	(404,490)	540,065	(440,039)	4,162,878
4	119,052	4,512,883	(404,490)	539,723	(572,022)	4,195,146
5	148,816	4,512,883	(404,490)	539,862	(697,845)	4,099,225
6	178,579	4,512,883	(404,490)	541,680	(818,309)	4,010,342
7	208,342	4,512,883	(404,490)	540,398	(933,060)	3,924,072
8	238,105	4,512,883	(404,490)	523,326	(1,039,489)	3,830,333
9	267,868	4,512,883	(404,490)	516,736	(1,143,396)	3,749,600
10	297,631	4,512,883	(404,490)	515,065	(1,244,340)	3,676,748
11	297,631	4,309,576	-	512,697	(1,243,716)	3,876,188
12	297,631	4,174,746	-	513,323	(1,243,881)	3,741,819
13	297,631	4,039,916	-	513,208	(1,243,851)	3,606,904
14	297,631	3,905,085	-	513,086	(1,243,819)	3,471,984
15	297,631	3,905,085	-	513,152	(1,243,836)	3,472,033
16	297,631	3,905,085	-	512,578	(1,243,684)	3,471,610
17	297,631	3,905,085	-	513,073	(1,243,815)	3,471,974
18	297,631	3,905,085	-	492,854	(1,238,482)	3,457,088
19	297,631	3,905,085	-	486,526	(1,236,813)	3,452,429
20	297,631	3,905,085	-	486,246	(1,236,739)	3,452,223
21	267,868	3,905,085	-	-	(1,100,639)	3,072,314
22	238,105	3,905,085	-	-	(1,092,789)	3,050,401
23	208,342	3,905,085	-	-	(1,084,939)	3,028,488
24	178,579	3,905,085	-	-	(1,077,089)	3,006,575
25	148,816	3,905,085	-	-	(1,069,238)	2,984,663
26	119,052	3,905,085	-	-	(1,061,388)	2,962,750
27	89,289	3,905,085	-	-	(1,053,538)	2,940,837
28	59,526	3,905,085	-	-	(1,045,688)	2,918,924
29	29,763	3,905,085	-	-	(1,037,838)	2,897,011
30	-	3,905,085	-	-	(1,029,987)	2,875,098
	$ 5,952,622	$ 123,230,533	$ (4,044,904)	$ 10,395,042	$ (30,416,281)	$ 105,117,012

(1) Wastewater Appendices - page 2 Section I
(2) Wastewater Appendices - page 1
(3) Eligible debt funded projects as a percent of total principal times original annual debt service
(4) Wastewater Appendices - page 6

City of McKinney - 2019 Wastewater Impact Fee Study

Capital Improvement Plan for Impact Fees

Revenue Test

Wastewater Service Area

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ 1,368,844
1	$ 2,899	3,025	$ 8,767,960	$ 4,119,539	$ 4,648,421	$ 73,861	6,091,126
2	2,899	3,025	8,767,960	4,137,817	4,630,143	168,124	10,889,392
3	2,899	3,025	8,767,960	4,162,878	4,605,082	263,839	15,758,313
4	2,899	3,025	8,767,960	4,195,146	4,572,813	360,894	20,692,021
5	2,899	3,025	8,767,960	4,099,225	4,668,735	460,528	25,821,283
6	2,899	3,025	8,767,960	4,010,342	4,757,618	564,002	31,142,903
7	2,899	3,025	8,767,960	3,924,072	4,843,888	671,297	36,658,088
8	2,899	3,025	8,767,960	3,830,333	4,937,626	782,538	42,378,252
9	2,899	3,025	8,767,960	3,749,600	5,018,359	897,749	48,294,360
10	2,899	3,025	8,767,960	3,676,748	5,091,212	1,016,799	54,402,371
11	-	-	-	3,876,188	(3,876,188)	1,049,286	51,575,468
12	-	-	-	3,741,819	(3,741,819)	994,091	48,827,741
13	-	-	-	3,606,904	(3,606,904)	940,486	46,161,323
14	-	-	-	3,471,984	(3,471,984)	888,507	43,577,845
15	-	-	-	3,472,033	(3,472,033)	836,837	40,942,649
16	-	-	-	3,471,610	(3,471,610)	784,137	38,255,176
17	-	-	-	3,471,974	(3,471,974)	730,384	35,513,586
18	-	-	-	3,457,088	(3,457,088)	675,701	32,732,198
19	-	-	-	3,452,429	(3,452,429)	620,120	29,899,889
20	-	-	-	3,452,223	(3,452,223)	563,476	27,011,141
21	-	-	-	3,072,314	(3,072,314)	509,500	24,448,326
22	-	-	-	3,050,401	(3,050,401)	458,463	21,856,387
23	-	-	-	3,028,488	(3,028,488)	406,843	19,234,742
24	-	-	-	3,006,575	(3,006,575)	354,629	16,582,795
25	-	-	-	2,984,663	(2,984,663)	301,809	13,899,942
26	-	-	-	2,962,750	(2,962,750)	248,371	11,185,564
27	-	-	-	2,940,837	(2,940,837)	194,303	8,439,030
28	-	-	-	2,918,924	(2,918,924)	139,591	5,659,698
29	-	-	-	2,897,011	(2,897,011)	84,224	2,846,911
30	-	-	-	2,875,098	(2,875,098)	28,187	-
			$ 87,679,595	$ 105,117,012		$ 16,068,573	

City of McKinney - 2019 Wastewater Impact Fee Study

Capital Improvement Plan for Impact Fees

Impact Fee Calculation

Wastewater Service Area

Year	Number of Years to End of Period	Future Value Escalation: Interest Rate Factor	Future Value Escalation: Recovery Fee Factor	Annual Service Units: Actual	Annual Service Units: Escalated	Annual Expense: Actual	Annual Expense: Escalated
1	30	1.7936	1.0000	3,025	5,425	$ 4,119,539	$ 7,388,818
2	29	1.7584	1.0000	3,025	5,319	4,137,817	7,276,080
3	28	1.7240	1.0000	3,025	5,215	4,162,878	7,176,615
4	27	1.6902	1.0000	3,025	5,112	4,195,146	7,090,436
5	26	1.6570	1.0000	3,025	5,012	4,099,225	6,792,465
6	25	1.6245	1.0000	3,025	4,914	4,010,342	6,514,887
7	24	1.5927	1.0000	3,025	4,818	3,924,072	6,249,744
8	23	1.5614	1.0000	3,025	4,723	3,830,333	5,980,834
9	22	1.5308	1.0000	3,025	4,630	3,749,600	5,739,975
10	21	1.5008	1.0000	3,025	4,540	3,676,748	5,518,088
11	20	1.4714	1.0000	-	-	3,876,188	5,703,343
12	19	1.4425	1.0000	-	-	3,741,819	5,397,681
13	18	1.4142	1.0000	-	-	3,606,904	5,101,041
14	17	1.3865	1.0000	-	-	3,471,984	4,813,953
15	16	1.3593	1.0000	-	-	3,472,033	4,719,628
16	15	1.3327	1.0000	-	-	3,471,610	4,626,523
17	14	1.3065	1.0000	-	-	3,471,974	4,536,283
18	13	1.2809	1.0000	-	-	3,457,088	4,428,268
19	12	1.2558	1.0000	-	-	3,452,429	4,335,589
20	11	1.2312	1.0000	-	-	3,452,223	4,250,323
21	10	1.2070	1.0000	-	-	3,072,314	3,708,417
22	9	1.1834	1.0000	-	-	3,050,401	3,609,772
23	8	1.1602	1.0000	-	-	3,028,488	3,513,569
24	7	1.1374	1.0000	-	-	3,006,575	3,419,751
25	6	1.1151	1.0000	-	-	2,984,663	3,328,262
26	5	1.0933	1.0000	-	-	2,962,750	3,239,045
27	4	1.0718	1.0000	-	-	2,940,837	3,152,048
28	3	1.0508	1.0000	-	-	2,918,924	3,067,217
29	2	1.0302	1.0000	-	-	2,897,011	2,984,501
30	1	1.0100	1.0000	-	-	2,875,098	2,903,849
					49,708		$ 146,567,002

Annual Interest Rate:		2.00%
Present Value of Initial Impact Fee Fund Balance	$	1,368,844
Total Escalated Expense for Entire Period	$	146,567,002
Less Future Value of Initial Impact Fee Fund Balance		2,479,471
Sub-Total	$	144,087,531
Total Escalated Service Units		49,708
Impact Fee for Wastewater Service Area	**$**	**2,899**

City of McKinney - 2019 Wastewater Impact Fee Study

Capital Improvement Plan for Impact Fees

Impact Fee Project Funding

Wastewater Service Area

Impact Fee Project Name[1]	Cost In Service Area[1]	Impact Fee Recoverable Cost[1]	Debt Funded[2] Existing[3]	Debt Funded[2] Proposed	Non-Debt Funded[2]	Impact Fee Recoverable Cost
Sloan Lift Station & Force Main (WW1623)	$ 1,861,492	$ 89,670	$ 89,670	$ -	$ -	$ 89,670
Stonebridge 27" Offsite Sewer Along Wilson Creek (1987) Line A1	446,699	-	-	-	-	-
Stonebridge 18" & 21" Offsite Sewer (1987) Line A1-1	393,197	5,002	5,002	-	-	5,002
Stonebridge 30" Offsite Sewer (1987) Line B1	304,799	-	-	-	-	-
Bray Central 2 - Off Site Sewer	52,700	1,523	1,523	-	-	1,523
36" Wilson Creek Interceptor Phase 2	456,001	216	216	-	-	216
15" Mckinney Northwest Outfall Sewer (1982)	148,502	11,208	11,208	-	-	11,208
Jeans Creek Interceptor Line	185,600	2,873	2,873	-	-	2,873
36"-48" Wilson Creek Interceptor Sewer Phase 1	2,155,800	-	-	-	-	-
18" Diversion Sewer Line: West, Davis, Louisiana & Woodleigh St.	220,299	94	94	-	-	94
12" Provine Farm Estates	244,898	260	260	-	-	260
18" Cottonwood Creek Sanitary Sewer	320,999	7,396	7,396	-	-	7,396
24" Mckinney Northwest Outfall Sewer Along Wilson Creek (1982)	1,113,172	10,932	10,932	-	-	10,932
15" Spur 399 Sanitary Sewer Line	279,648	65,791	65,791	-	-	65,791
12" Herndon Branch Trunk Sewer	504,599	16,497	16,497	-	-	16,497
18" Jeans Creek Relief Sewer	89,500	1,701	1,701	-	-	1,701
Eagles Nest Sewer Service	26,577	71	-	-	71	71
Westridge Blvd. Sewer	14,602	170	-	-	170	170
15" Craig Ranch North 6	823,679	198	-	-	198	198
15"- 24" Craig Ranch West 1 (VCIM2)	794,544	72,228	72,228	-	-	72,228
15"- 24" Craig Ranch Infrastructure 1 (VCIM1)	396,460	100,687	100,687	-	-	100,687
18" - 24" Harvest Bend 1 Offsite S.S. Line	200,741	21,976	21,976	-	-	21,976
Wal-Mart Super Center Off-Site Sanitary Sewer	118,001	3,071	3,071	-	-	3,071
27" Creekview Estates 1 Offsite Sanitary Sewer	183,369	76,059	76,059	-	-	76,059
Timber Creek 1 Offsite Sanitary Sewer Main	408,877	90,034	90,034	-	-	90,034
Robinson Ridge 1 Offsite Sewer	264,763	-	-	-	-	-
NTMWD Mckinney Prosper Interceptor Sewer	316,160	60,603	57,506	-	3,097	60,603
15" Lacima Sanitary Sewer	12,312	6	6	-	-	6
Westerra Stonebridge Trunk Main "H" & "H-2"	526,479	9,943	9,943	-	-	9,943
Franklin Branch Trunk Sewer	738,865	237,802	237,802	-	-	237,802
15" Airport Sewer Phase 2 Sewer Main	846,438	16,942	14,940	-	2,002	16,942
121 Grand Offsite Sewer	135,535	1,304	1,304	-	-	1,304
21" Lake Forest & Hwy 121 Offsite Utilities	589,810	63,552	63,552	-	-	63,552
Wilmeth Ridge (Stover Creek) Sanitary Sewer Main 1 (WW4213)	759,442	134,639	134,639	-	-	134,639
Rutherford Branch East Pumping Capacity Expansion	440,000	351,098	351,098	-	-	351,098
NTMWD Treatment Systems Capacity Expansion Share	117,152,561	117,152,561	-	-	117,152,561	117,152,561
Honey Creek Parallel Trunk Sewer	11,000,000	3,822,485	55,600	2,636,819	1,130,065	3,822,485
36" Honey Creek Extension Trunk Sewer	1,018,593	242,735	-	169,915	72,821	242,735
The Preserve at Honey Creek	307,836	281,806	-	197,264	84,542	281,806
Upper East Fork Trunk Sewer	324,625	263,005	-	184,104	78,902	263,005
Stover Creek Trunk Sewer Phase 2	1,240,000	232,944	232,944	-	-	232,944
Old Mill Road Sewer (WW1858)	2,000,000	2,132,799	2,132,799	-	-	2,132,799
Franklin Branch Trunk Sewer	696,949	451,230	-	315,861	135,369	451,230
Stonebridge Lift Station No. 1 Bypass Sewer	4,000,000	3,566,583	3,388,254	124,830	53,499	3,566,583
Upper Wilson Creek Sewer	224,864	135,604	-	94,923	40,681	135,604
Honey Creek Extension Trunk Sewer Phase 2	1,331,872	136,158	-	95,311	40,847	136,158
Clemons Creek Trunk Sewer	1,183,662	119,811	-	83,868	35,943	119,811
Big Branch Trunk Sewer	894,445	22,664	-	15,865	6,799	22,664
Honey Creek Branch Sewer	343,825	173,206	-	121,245	51,962	173,206
Wastewater System Master Plan Update	52,000	52,000	-	-	52,000	52,000
Wastewater System Impact Fee Update	30,000	30,000	-	-	30,000	30,000
Wastewater Flow Monitoring Initiative	180,000	180,000	-	-	180,000	180,000
Wastewater Hydraulic Model Calibration	32,000	32,000	-	-	32,000	32,000
Ad Valorem Tax/Utility Revenue Credit Analysis	7,000	7,000	-	4,900	2,100	7,000
Total	$ 158,394,791	$ 130,488,137	$ 7,257,604	$ 4,044,904	$ 119,185,629	$ 130,488,137

(1) BHC Impact Fee Report. The debt financing costs in the report were removed in order to calculate NewGen's financing costs

(2) Per discussions with City staff and City files

(3) An assumption of 4.5% was used for existing debt funding that did not have a specific bond issuance identified, in accordance with the BHC Impact Fee Report

City of McKinney - 2019 Wastewater Impact Fee Study

Capital Improvement Plan for Impact Fees

Credit Determination

Wastewater Service Area

Year	Eligible Revenue Funded Cost[2]	Annual Service Units	Credit Eligible Revenue per Service Unit	Annual Growth in Service Units (Cumulative)	Annual Credit for Costs Paid in Rate Revenues
1	$ 4,475,510	87,459	$ 51.17	3,025	$ 154,787
2	4,505,394	90,484	49.79	6,050	301,224
3	4,534,440	93,508	48.49	9,074	440,039
4	4,563,861	96,533	47.28	12,099	572,022
5	4,593,763	99,558	46.14	15,124	697,845
6	4,625,344	102,583	45.09	18,149	818,309
7	4,653,825	105,608	44.07	21,174	933,060
8	4,666,516	108,632	42.96	24,198	1,039,489
9	4,689,689	111,657	42.00	27,223	1,143,396
10	4,717,781	114,682	41.14	30,248	1,244,340
11	4,715,414	114,682	41.12	30,248	1,243,716
12	4,716,039	114,682	41.12	30,248	1,243,881
13	4,715,924	114,682	41.12	30,248	1,243,851
14	4,715,803	114,682	41.12	30,248	1,243,819
15	4,715,869	114,682	41.12	30,248	1,243,836
16	4,715,294	114,682	41.12	30,248	1,243,684
17	4,715,789	114,682	41.12	30,248	1,243,815
18	4,695,571	114,682	40.94	30,248	1,238,482
19	4,689,243	114,682	40.89	30,248	1,236,813
20	4,688,963	114,682	40.89	30,248	1,236,739
21	4,172,953	114,682	36.39	30,248	1,100,639
22	4,143,190	114,682	36.13	30,248	1,092,789
23	4,113,427	114,682	35.87	30,248	1,084,939
24	4,083,664	114,682	35.61	30,248	1,077,089
25	4,053,901	114,682	35.35	30,248	1,069,238
26	4,024,138	114,682	35.09	30,248	1,061,388
27	3,994,375	114,682	34.83	30,248	1,053,538
28	3,964,612	114,682	34.57	30,248	1,045,688
29	3,934,848	114,682	34.31	30,248	1,037,838
30	3,905,085	114,682	34.05	30,248	1,029,987
Total	$ 133,500,225				$ 30,416,281

2019 Service Units[1]	84,434	
Ten Year Growth in Service Units[1]	30,248	
	10	years
Annual Growth in Service Units	3,025	
Credit Amount	**$ 30,416,281**	

(1) Derived from Table 4 Wastewater Living Unit Equivalents 2019-2029 from BHC Impact Fee Report

(2) Wastewater Appendices - page 2 Section II plus repayment of NTMWD eligible capital over 30 years in monthly wastewater charges

2019 - 2029 WATER & WASTEWATER IMPACT FEE UPDATE

BIRKHOFF, HENDRICKS & CARTER, L.L.P.

MARCH 2020

Exhibit 2

SCHEDULE 1

Maximum assessable utility fee based on date of final plat recordation.

TABLE A.

Maximum assessable utility impact fee if date of final plat recordation is prior to September 1, 2003 for which no replatting is necessary.

Meter Size (*inches*)	WATER		WASTEWATER	
	Maximum Fee (pre-credit)	Maximum Fee (post-credit)	Maximum Fee (pre-credit)	Maximum Fee (post-credit)
3/4	$ 640.00	$ 320.00	$ 725.00	$ 362.50
1	$ 1,120.00	$ 560.00	$ 1,268.75	$ 634.38
1 1/2	$ 2,560.00	$ 1,280.00	$ 2,900.00	$ 1,450.00
2	$ 4,480.00	$ 2,240.00	$ 5,075.00	$ 2,537.50
3	$ 10,240.00	$ 5,120.00	$ 11,600.00	$ 5,800.00
4	$ 17,920.00	$ 8,960.00	$ 20,300.00	$ 10,150.00
6	$ 40,960.00	$ 20,480.00	$ 46,400.00	$ 23,200.00
8	$ 64,000.00	$ 32,000.00	$ 72,500.00	$ 36,250.00
10	$ 96,000.00	$ 48,000.00	$ 108,750.00	$ 54,375.00

Maximum Assessable Fee (post-credit) is 50% of the Maximum Fee (pre-credit).

TABLE B.

Maximum assessable utility impact fee if date of final plat recordation is between September 1, 2003 and November 9, 2008 for which no replatting is necessary.

Meter Size (*inches*)	WATER		WASTEWATER	
	Maximum Fee (pre-credit)	Maximum Fee (post-credit)	Maximum Fee (pre-credit)	Maximum Fee (post-credit)
3/4	$ 2,832.97	$ 1,416.49	$ 1,412.18	$ 706.09
1	$ 4,816.04	$ 2,408.02	$ 2,400.70	$ 1,200.35
1 1/2	$ 9,348.76	$ 4,674.38	$ 4,660.16	$ 2,330.08
2	$ 15,014.68	$ 7,507.34	$ 7,484.40	$ 3,742.20
3	$ 30,312.68	$ 15,156.34	$ 15,110.24	$ 7,555.12
4	$ 47,310.44	$ 23,655.22	$ 23,512.65	$ 11,756.33
6	$ 94,337.56	$ 47,168.78	$ 47,025.30	$ 23,512.65
8	$ 151,087.76	$ 75,543.88	$ 75,268.72	$ 37,634.36
10	$ 434,292.76	$ 217,146.38	$ 216,485.84	$ 108,242.92

Maximum Assessable Fee (post-credit) is 50% of the Maximum Fee (pre-credit).

TABLE C.

Maximum assessable utility impact fee if date of final plat recordation is between November 10, 2008 and November 19, 2013 for which no replatting is necessary.

Meter Size (*inches*)	Meter Type	WATER		WASTEWATER	
		Maximum Fee (pre-credit)	Maximum Fee (post-credit)	Maximum Fee (pre-credit)	Maximum Fee (post-credit)
3/4	Simple	$ 3,255.36	$ 1,627.68	$ 411.04	$ 205.52
1	Simple	$ 5,534.12	$ 2,767.06	$ 698.76	$ 349.38
1 1/2	Simple	$ 10,742.68	$ 5,371.34	$ 1,356.44	$ 678.22
2	Simple	$ 17,253.40	$ 8,626.70	$ 2,178.52	$ 1,089.26
2	Compound	$ 17,253.40	$ 8,626.70	$ 2,178.52	$ 1,089.26
2	Turbine	$ 21,810.92	$ 10,905.46	$ 2,753.96	$ 1,376.98
3	Compound	$ 34,832.36	$ 17,416.18	$ 4,398.12	$ 2,199.06
3	Turbine	$ 52,085.76	$ 26,042.88	$ 6,576.64	$ 3,288.32
4	Compound	$ 54,364.52	$ 27,182.26	$ 6,864.36	$ 3,432.18
4	Turbine	$ 91,150.08	$ 45,575.04	$ 11,509.12	$ 5,754.56
6	Compound	$ 108,403.48	$ 54,201.74	$ 13,687.64	$ 6,843.82
6	Turbine	$ 199,553.56	$ 99,776.78	$ 25,196.76	$ 12,598.38
8	Compound	$ 173,510.68	$ 86,755.34	$ 21,908.44	$ 10,954.22
8	Turbine	$ 347,346.92	$ 173,673.46	$ 43,857.96	$ 21,928.98
10	Compound	$ 499,046.68	$ 249,523.34	$ 63,012.44	$ 31,506.22
10	Turbine	$ 542,668.52	$ 271,334.26	$ 68,520.36	$ 34,260.18
12	Turbine	$ 716,179.20	$ 358,089.60	$ 90,428.80	$ 45,214.40

Maximum Assessable Fee (post-credit) is 50% of the Maximum Fee (pre-credit).

TABLE D.

Maximum assessable utility impact fee if date of final plat recordation is between November 20, 2013 and November 30, 2020 for which no replatting is necessary.

Meter Size (*inches*)	Meter Type	WATER		WASTEWATER	
		Maximum Fee (pre-credit)	Maximum Fee (post-credit)	Maximum Fee (pre-credit)	Maximum Fee (post-credit)
3/4	Multi-Jet (Simple)	$ 2,589.39	$ 1,294.70	$ 324.28	$ 162.14
1	Multi-Jet (Simple)	$ 4,401.96	$ 2,200.99	$ 551.28	$ 275.64
2	Ultrasonic	$ 21,491.94	$ 10,746.01	$ 2,691.52	$ 1,345.76
3	Ultrasonic	$ 43,242.81	$ 21,621.49	$ 5,415.48	$ 2,707.74
4	Ultrasonic	$ 86,226.69	$ 43,113.51	$ 10,798.52	$ 5,399.26
6	Ultrasonic	$ 138,014.49	$ 69,007.51	$ 17,284.12	$ 8,642.06
8	Ultrasonic	$ 241,590.09	$ 120,795.51	$ 30,255.32	$ 15,127.66
10-12	Ultrasonic	$ 474,635.19	$ 237,318.51	$ 59,440.52	$ 29,720.26

Maximum Assessable Fee (post-credit) is 50% of the Maximum Fee (pre-credit).

TABLE E.

Maximum assessable utility impact fee if date of final plat recordation is on or after December 1, 2020 for which no replatting is necessary.

Meter Size (*inches*)	Meter Type	WATER	WASTEWATER
		Maximum Fee	Maximum Fee
3/4	Multijet	$ 1,754.00	$ 2,899.00
1	Multijet	$ 2,929.18	$ 4,841.33
1 1/2	Multijet	$ 5,840.82	$ 9,653.67
2	Ultrasonic	$ 14,610.82	$ 24,148.67
3	Ultrasonic	$ 29,239.18	$ 48,326.33
4	Ultrasonic	$ 58,460.82	$ 96,623.67
6	Ultrasonic	$ 93,540.82	$ 154,603.67
8	Ultrasonic	$ 163,700.82	$ 270,563.67
12	Ultrasonic	$ 321,560.82	$ 531,473.67

SCHEDULE 2

Actual water and wastewater impact fees charged based on date of final plat recordation.

TABLE A.

Actual water and wastewater impact fees charged if date of final plat recordation is prior to September 1, 2003 for which no replatting is necessary.

Meter Size (*inches*)	WATER	WASTEWATER
3/4	$ 320	$ 362
1	$ 560	$ 634
1 1/2	$ 1,280	$ 1,450
2	$ 2,240	$ 2,537
3	$ 5,120	$ 5,800
4	$ 8,960	$ 10,150
6	$ 20,480	$ 23,200
8	$ 32,000	$ 36,250
10	$ 48,000	$ 54,375

TABLE B.

Actual water and wastewater impact fees charged if date of final plat recordation is between September 1, 2003 and November 9, 2008 for which no replatting is necessary.

Meter Size (*inches*)	WATER	WASTEWATER
3/4	$ 1,416	$ 706
1	$ 2,408	$ 1,200
1 1/2	$ 4,674	$ 2,330
2	$ 7,507	$ 3,742
3	$ 15,156	$ 7,555
4	$ 23,655	$ 11,756
6	$ 47,168	$ 23,512
8	$ 75,543	$ 37,634
10	$ 217,146	$ 108,242

TABLE C.

Actual water and wastewater impact fees charged if date of final plat recordation is between November 9, 2008 and November 19, 2013 for which no replatting is necessary.

Meter Size (*inches*)	Meter Type	WATER	WASTEWATER
3/4	Simple	$ 1,627	$ 205
1	Simple	$ 2,767	$ 349
1 1/2	Simple	$ 5,371	$ 678
2	Simple	$ 8,626	$ 1,089
2	Compound	$ 8,626	$ 1,089
2	Turbine	$ 10,905	$ 1,376
3	Compound	$ 17,416	$ 2,199
3	Turbine	$ 26,042	$ 3,288
4	Compound	$ 27,182	$ 3,432
4	Turbine	$ 45,575	$ 5,754
6	Compound	$ 54,201	$ 6,843
6	Turbine	$ 99,776	$ 12,598
8	Compound	$ 86,755	$ 10,954
8	Turbine	$ 173,673	$ 21,928
10	Compound	$ 249,523	$ 31,506
10	Turbine	$ 271,334	$ 34,260
12	Turbine	$ 358,089	$ 45,214

TABLE D.

Actual water and wastewater impact fees charged if date of final plat recordation is between November 20, 2013 and November 30, 2020 for which no replatting is necessary.

Meter Size (*inches*)	Meter Type	WATER	WASTEWATER
3/4	Multi-Jet (Simple)	$ 1,294	$ 162
1	Multi-Jet (Simple)	$ 2,200	$ 275
2	Ultrasonic	$ 10,746	$ 1,345
3	Ultrasonic	$ 21,621	$ 2,707
4	Ultrasonic	$ 43,113	$ 5,399
6	Ultrasonic	$ 69,007	$ 8,642
8	Ultrasonic	$ 120,795	$ 15,127
10-12	Ultrasonic	$ 237,318	$ 29,720

TABLE E.

Actual water and wastewater impact fees charged if date of final plat recordation is on or after December 1, 2020 for which no replatting is necessary.

Meter Size (*inches*)	Meter Type	WATER	WASTEWATER
3/4	Multijet	$ 1,754	$ 1,643
1	Multijet	$ 2,929	$ 2,744
1 1/2	Multijet	$ 5,840	$ 5,472
2	Ultrasonic	$ 14,610	$ 13,690
3	Ultrasonic	$ 29,239	$ 27,397
4	Ultrasonic	$ 58,460	$ 54,777
6	Ultrasonic	$ 93,540	$ 87,647
8	Ultrasonic	$ 163,700	$ 153,387
12	Ultrasonic	$ 321,560	$ 301,302