

SANITARY SEWER IMPACT FEE ANALYSIS (IFA)

WOLF CREEK WATER AND SEWER
IMPROVEMENT DISTRICT



MARCH 2022


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IMPACT FEE CERTIFICATION

IFA CERTIFICATION

Lewis Young Robertson & Burningham, Inc. certifies that the Impact Fee Analysis prepared for sanitary sewer services:

1. includes only the costs of public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
 - a. costs of operation and maintenance of public facilities;
 - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
 - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
 - d. offsets costs with grants or other alternate sources of payment; and
3. complies in each and every relevant respect with the Impact Fees Act.

LEWIS YOUNG ROBERTSON & BURNINGHAM, INC.





DEFINITIONS

The following acronyms or abbreviations are used in this document:

ERU:	Equivalent Residential Unit
GAL:	Gallons
GPM:	Gallons per Minute
GPD:	Gallons per Day
IFA:	Impact Fee Analysis
IFFP:	Impact Fee Facilities Plan
LOS:	Level of Service
LYRB:	Lewis Young Robertson and Burningham, Inc.
MG:	Million Gallons
WCWSID:	Wolf Creek Water and Sewer Improvement District



SECTION 1: EXECUTIVE SUMMARY

The purpose of this Impact Fee Analysis (IFA), is to fulfill the requirements established in Utah Code Title 11 Chapter 36a, the “Impact Fees Act,” and help the Wolf Creek Water and Sewer Improvement District (WCWSID) fund necessary capital improvements for future growth. This document will address the future sanitary sewer infrastructure needed to serve new development through the next ten years, as well as the appropriate impact fees WCWSID may charge to new growth to maintain the level of service (LOS). The Sanitary Sewer Impact Fee Facilities Plan (IFFP) completed March 2022, along with information from WCWSID, provide much of the information for this analysis as the basis for calculating impact fees.

- ☞ **Impact Fee Service Area:** The Service Area for the sanitary sewer impact fees includes all areas within the WCWSID boundary. This document identifies the necessary future system improvements for the Service Area that will maintain the proposed LOS into the future.
- ☞ **Demand Analysis:** The demand unit utilized in this analysis is equivalent residential units (ERUs). The primary impact on the system will be growth in ERUs. As development occurs within the WCWSID, it generates increased demand on the sanitary sewer system. The system improvements identified in this study are designed to maintain the proposed LOS for any new ERUs that connect to the system.
- ☞ **Level of Service:** The existing and proposed LOS for this analysis is 300 gallons per day (gpd) per ERU, with a peaking factor of 2.5 and a maximum allowable depth to diameter ratio for peak flow conditions of .75.¹
- ☞ **Excess Capacity:** Based on the proposed LOS, new development in the next ten years will utilize approximately 29 percent of the excess capacity within the collection system and ten percent of the excess capacity within the treatment facility.
- ☞ **Outstanding Debt:** The WCWSID currently has one piece of outstanding debt related to the sanitary sewer system. The Series 2016 Bonds, in the original principal amount of \$3,761,000, along with the associated cost of issuance and interest, are included in this analysis.
- ☞ **Capital Facilities Analysis:** Based on the projected growth of 350 ERUs, new collection improvements will be needed. A total of \$489,617 is considered impact eligible capital cost within the next ten years.
- ☞ **Funding of Future Facilities:** This analysis assumes future growth related facilities will be funded through a combination of utility revenues and impact fee revenues.

PROPOSED SANITARY SEWER WATER IMPACT FEE

The sanitary sewer impact fees proposed in this analysis will be assessed within the Service Area. **Table 1.1** illustrates the appropriate fee associated with sanitary sewer projects occurring within the next ten years.

TABLE 1.1: IMPACT FEE PER ERU

	COST	% TO IFA	COST TO IFA	ERUS SERVED	COST PER ERU
Buy-In					
Treatment	\$6,474,957	14%	\$906,494	350	\$2,590
Collection and Lift Stations	\$583,204	34%	\$195,893	350	\$560
Future Facilities					
Future Collection and Treatment	\$7,129,776	7%	\$489,617	350	\$1,399
Professional Expense	\$22,600	100%	\$22,600	350	\$65
Total Fee Per ERU					\$4,613

NON-STANDARD IMPACT FEES

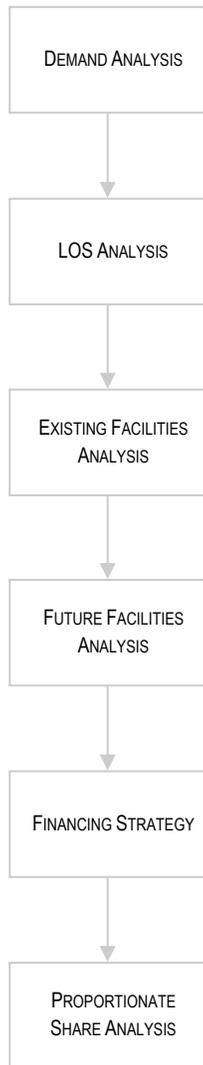
The WCWSID reserves the right under the Impact Fees Act to assess an adjusted fee that more closely matches the true impact that the land use will have upon public facilities.² This adjustment could result in a lower impact fee if the WCWSID determines that a particular user may create a different impact than what is standard for its land use.

¹ Source: IFFP p. 5-1

² 11-36a-402(1)(c)

SECTION 2: GENERAL IMPACT FEE METHODOLOGY

FIGURE 2.1: IMPACT FEE METHODOLOGY



The purpose of this study is to fulfill the requirements of the Impact Fees Act regarding the establishment of an IFA³. The IFFP, completed by Gardner Engineering, is designed to identify the demands placed upon the WCWSID’s existing facilities by future development and evaluate how these demands will be met by the WCWSID, as well as the future improvements required to maintain the existing LOS. The purpose of the IFA is to proportionately allocate the cost of the new facilities and any excess capacity to new development, while ensuring that all methods of financing are considered. The following elements are important considerations when completing an IFA.

DEMAND ANALYSIS

The demand analysis serves as the foundation for this analysis. This element focuses on a specific demand unit related to each public service – the existing demand on public facilities and the future demand as a result of new development that will impact system facilities.

LEVEL OF SERVICE ANALYSIS

The demand placed upon existing public facilities by existing development is known as the existing LOS. Through the inventory of existing facilities, combined with the growth assumptions, this analysis identifies the LOS which is provided to a community’s existing residents and ensures that future facilities maintain these standards. Any excess capacity identified within existing facilities can be apportioned to new development. Any demand generated from new development that overburdens the existing system beyond the existing capacity justifies the construction of new facilities.

EXISTING FACILITY INVENTORY

In order to quantify the demands placed upon existing public facilities by new development activity, the analysis provides an inventory of existing **system** facilities. The inventory of existing facilities is important to properly determine the excess capacity of existing facilities and the utilization of excess capacity by new development.

FUTURE CAPITAL FACILITIES ANALYSIS

The demand analysis, existing facility inventory and LOS analysis allow for the development of a list of capital projects necessary to serve new growth and to maintain the existing system. This list includes any excess capacity of existing facilities, as well as future **system improvements** necessary to maintain the level of service. Any demand generated from new development that overburdens the existing system beyond the existing capacity justifies the construction of new facilities.

FINANCING STRATEGY

This analysis must also include a consideration of all revenue sources, including impact fees, future debt costs, alternative funding sources and the dedication of system improvements, which may be used to finance system improvements.⁴ In conjunction with this revenue analysis, there must be a determination that impact fees are necessary to achieve an equitable allocation of the costs of the new facilities between the new and existing users.⁵

PROPORTIONATE SHARE ANALYSIS

The written impact fee analysis is required under the Impact Fees Act and must identify the impacts placed on the facilities by development activity and how these impacts are reasonably related to the new development. The written impact fee analysis must include a proportionate share analysis, clearly detailing each cost component and the methodology used to calculate each impact fee. A local political subdivision or private entity may only impose impact fees on development activities when its plan for financing system improvements establishes that impact fees are necessary to achieve an equitable allocation of the costs borne in the past and to be borne in the future (UCA 11-36a-302).

³UC 11-36a-301,302,303,304

⁴ UC 11-36a-302(2)

⁵ UC 11-36a-302(3)

SECTION 4: EXISTING FACILITIES INVENTORY

EXISTING SYSTEM

The existing system is comprised of treatment, collection, and lift station facilities. The existing WCWSID treatment plant is located at 4820 East Willow Brook Lane. The Membrane Bioreactor sewer facility was constructed in 2008 to replace a sewer lagoon system. The plant is designed to treat waste from 2,500 ERUs. There are three existing sewer lift stations within the existing sanitary sewer system. Two of them serve Phases 2 and 6 of the Eagle Ridge subdivision and the third services the Ridge Townhomes. Table 1 in the Appendix of the IFFP illustrates the existing collection system network and ERU capacity. The original value of the existing system is detailed in **Table 4.1**.

TABLE 4.1: EXISTING SYSTEM ORIGINAL VALUE

	Original Cost	Interest	Total
Treatment	\$5,852,547.19	\$622,409.55	\$6,474,956.74
Collection	\$179,848.31	\$0.00	\$179,848.31
Lift Stations	\$403,355.75	\$0.00	\$403,355.75
Total	\$6,435,751.25	\$622,409.55	\$7,058,160.80

EXCESS CAPACITY

Based on the proposed LOS, new development in the next ten years will utilize approximately 34 percent of the excess capacity within the collection system and 14 percent of the excess capacity within the treatment facility. The tables below illustrate the calculation of excess capacity and the proportional value included in the calculation of the impact fee.

TABLE 4.2: ILLUSTRATION OF COLLECTION SYSTEM EXCESS CAPACITY

		NOTES
Percent of Excess Capacity to IFFP	33.6%	See Appendix A
Value of Collection & Lift Stations Improvement	\$583,204	Based on Original Value of Existing System Improvements
Percent of Value to IFFP	33.6%	
Value to New Growth	\$195,893	\$583,204 x 33.6%

TABLE 4.3: ILLUSTRATION OF TREATMENT EXCESS CAPACITY

		NOTES
Existing Treatment Capacity (ERUs)	2,500	IFFP p.2-1
Required for Existing Dev to Maintain LOS (ERUs)	1,114	IFFP p.S-2
Excess Capacity (ERUs)	1,386	2,500 Total ERU Capacity – 1,114 Existing ERUs
Required for New Dev to Maintain LOS (ERUs)	350	
Percent of Excess Capacity to IFFP	14.0%	350 New ERU's / 2,500 ERU Capacity
Value of Treatment Improvement	\$6,474,957	Based on Original Value of Existing System Improvements
Percent of Value to IFFP	14.0%	
Value to New Growth	\$906,494	\$6,474,957 x 14.0%

As shown in **Tables 4.2-4.3**, there is capacity related to collection and treatment. However, based on the forecasted growth in ERUs, the WCWSID will also need to construct additional collection and treatment facilities to serve the demand within the next ten years. **Section 5** addresses the proposed capital improvements and the proportion of impact fee eligible costs.



MANNER OF FINANCING EXISTING PUBLIC FACILITIES

The WCWSID currently has one piece of outstanding debt related to the sanitary sewer system. These bonds, in the original amount of \$3,761,000, were issued in 2016. The proceeds of the bonds were used to refund the Series 2010 Sewer Revenue Bonds. The Series 2010 Bonds were used to fund the treatment facility acquisition. The interest related to the 2016 Bonds is included in this analysis, as shown below.

TABLE 4.4: ALLOCATION OF OUTSTANDING BOND INTEREST

	PRINCIPAL	COUPON	INTEREST
2016 Refunding Bonds	\$3,761,000.00	2.14%	\$622,409.55



SECTION 5: CAPITAL FACILITY ANALYSIS

The estimated costs attributed to new growth were analyzed based on existing development versus future development patterns. From this analysis, a portion of future development costs were attributed to new growth and included in the impact fee analysis as shown in **Table 5.1**. Capital projects related to curing existing deficiencies were not included in the calculation of the impact fees. The costs of projects related to curing existing deficiencies cannot be funded through impact fees. Based on the projected growth of 350 ERUs, the following system improvements will be needed in the next ten years.

TABLE 5.1: ILLUSTRATION OF CAPITAL IMPROVEMENTS SCHEDULED TO BE COMPLETED IN THE NEXT 10 YEARS

	DESCRIPTION	COST	% TO GROWTH	COST TO GROWTH	ERUs SERVED	ERUs IN 10-YEAR PLAN	% TO IFA	COST TO IFA
Project 1	Willow Brook Lane/The Villages Bypass	\$324,916	60%	\$193,581	1,230	350	28%	\$55,084
Project 2	Upsize Pipes 92 and 90 to 12" at bottom of The Villages	\$129,629	48%	\$62,374	1,230	350	28%	\$17,749
Project 3	10" line in Creek View Drive and Willow Brook Lane	\$962,550	100%	\$962,550	1,230	350	28%	\$273,896
Project 4	Upsize Wolf Creek Drive crossing to 12" (Pipe 36)	\$191,086	56%	\$107,516	1,230	350	28%	\$30,594
Project 5	Bridges Pond, pump facility, transmission line	\$5,321,595	5%	\$286,834	1,230	350	28%	\$81,619
Project 6	Total Cost to replace the existing, unsupported SCADA system	\$200,000	54%	\$107,800	1,230	350	28%	\$30,675
CIP		\$7,129,776	7%	\$1,720,655				\$489,617

A total of \$489,617 of the capital costs is considered impact fee eligible within the next ten years.

SYSTEM VS. PROJECT IMPROVEMENTS

System improvements are defined as existing and future public facilities designed to provide services to service areas within the community at large.⁹ Project improvements are improvements and facilities that are planned and designed to provide service for a specific development (resulting from a development activity) and considered necessary for the use and convenience of the occupants or users of that development.¹⁰ To the extent possible, this analysis only includes the costs of system improvements related to new growth within the proportionate share analysis.

FUNDING OF FUTURE FACILITIES

The IFFP must also include a consideration of all revenue sources, including impact fees and the dedication of system improvements, which may be used to finance system improvements.¹¹ In conjunction with this revenue analysis, there must be a determination that impact fees are necessary to achieve an equitable allocation of the costs of the new facilities between the new and existing users.¹²

In considering the funding of future facilities, the WCWSID has determined the portion of future projects that will be funded by impact fees as growth-related, system improvements. No other revenues from other government agencies, grants or developer contributions have been identified within the IFFP to help offset future capital costs. If these revenues become available in the future, the impact fee analysis should be revised. It is anticipated that future project improvements will be funded by the developer. These costs have not been included in the calculation of the impact fee.

Other revenues such as utility rate revenues will be necessary to fund non-growth related projects and to fund growth related projects when sufficient impact fee revenues are not available. In the latter case, impact fee revenues will be used to repay utility rate revenues for growth related projects. A brief description of alternative financing options is included below.

⁹ 11-36a-102(21)

¹⁰ 11-36a-102(14)

¹¹ 11-36a-302(2)

¹² 11-36a-302(3)

- ☞ **Utility Rate Revenues:** Utility rate revenues serve as the primary funding mechanism within enterprise funds. Rates are established to ensure appropriate coverage of all operations and maintenance expenses, debt service coverage, and capital project needs. Impact fee revenues are generally considered non-operating revenues and help offset future capital costs.
- ☞ **Grants, Donations and Other Contributions:** Grants and donations are not expected as a future funding source. The impact fees should be adjusted if grant monies are received. New development may be entitled to a reimbursement for any grants or donations received for growth related projects, or for developer funded IFFP projects.
- ☞ **Debt Financing:** Financing of future facilities is not contemplated in this analysis. If these assumptions change, the impact fee analysis should be updated to reflect the adjustments.

PROPOSED CREDITS OWED TO DEVELOPMENT

The Impact Fees Act requires a local political subdivision or private entity to ensure that the impact fee enactment allows a developer, including a school district or a charter school, to receive a credit against or proportionate reimbursement of an impact fee if the developer: (a) dedicates land for a system improvement; (b) builds and dedicates some or all of a system improvement; or (c) dedicates a public facility that the local political subdivision or private entity and the developer agree will reduce the need for a system improvement.¹³ The facilities must be considered system improvements or be dedicated to the public, and offset the need for an improvement identified in the IFFP.

EQUITY OF IMPACT FEES

Impact fees are intended to recover the costs of capital infrastructure that relate to future growth. The impact fee calculations are structured for impact fees to fund 100 percent of the growth-related facilities identified in the proportionate share analysis as presented in the impact fee analysis. Even so, there may be years that impact fee revenues cannot cover the annual growth-related expenses. In those years, other revenues such as general fund revenues will be used to make up any annual deficits. Any borrowed funds are to be repaid in their entirety through impact fees.

NECESSITY OF IMPACT FEES

An entity may only impose impact fees on development activity if the entity's plan for financing system improvements establishes that impact fees are necessary to achieve parity between existing and new development. This analysis has identified the improvements to public facilities and the funding mechanisms to complete the suggested improvements. Impact fees are identified as a necessary funding mechanism to help offset the costs of new capital improvements related to new growth. In addition, alternative funding mechanisms are identified to help offset the cost of future capital improvements.

¹³ 11-36a-402(2)

SECTION 6: SANITARY SEWER IMPACT FEE CALCULATION

Impact fees are calculated based on many variables centered on proportionality and LOS. The previous sections identified the future demand, the existing and proposed LOS, the availability of excess capacity and the needed future facilities to serve new development. The following section identifies the appropriate impact fee to be assessed to new development to maintain the existing LOS.

PROPOSED SANITARY SEWER IMPACT FEE

PLAN BASED IMPACT FEE CALCULATION

Impact fees can be calculated based on a defined set of costs specified for future development, usually defined within the Master Plan, Capital Improvement Plan and IFFP. The total project costs are divided by the total demand units the projects are designed to serve. Under this methodology, it is important to identify the existing level of service and determine any excess capacity in existing facilities that could serve new growth. Impact fees are then calculated based on many variables centered on proportionality share and LOS. The sanitary sewer impact fees proposed in this analysis will be assessed within the Service Area. The table below illustrates the appropriate impact fee to maintain the existing LOS, based on the assumptions within this document. The maximum allowable impact fee assignable to new development. The total fee per ERU is **\$4,613**.

TABLE 6.1: IMPACT FEE PER ERU

	COST	% TO IFA	COST TO IFA	ERUs SERVED	COST PER ERU
Buy-In					
Treatment	\$6,474,957	14%	\$906,494	350	\$2,590
Collection and Lift Stations	\$583,204	34%	\$195,893	350	\$560
Future Facilities					
Future Collection and Treatment	\$7,129,776	7%	\$489,617	350	\$1,399
Professional Expense	\$22,600	100%	\$22,600	350	\$65
Total Fee Per ERU					\$4,613

NON-STANDARD IMPACT FEES

The WCWSID reserves the right under the Impact Fees Act¹⁴ to assess an adjusted fee that more closely matches the true impact that the land use will have upon the sanitary sewer system. This adjustment could result in a lower impact fee if evidence suggests a particular user will create a different impact than what is standard for its category.

CONSIDERATION OF ALL REVENUE SOURCES

The Impact Fees Act requires the proportionate share analysis to demonstrate that impact fees paid by new development are the most equitable method of funding growth-related infrastructure. See **Section 5** for further discussion regarding the consideration of revenue sources.

EXPENDITURE OF IMPACT FEES

Legislation requires that impact fees should be spent or encumbered within six years after each impact fee is paid. Impact fees collected in the next five to six years should be spent only on those projects outlined in the IFFP as growth related costs to maintain the LOS.

GROWTH-DRIVEN EXTRAORDINARY COSTS

The WCWSID does not anticipate any extraordinary costs necessary to provide services to future development.

SUMMARY OF TIME PRICE DIFFERENTIAL

The Impact Fees Act allows for the inclusion of a time price differential to ensure that the future value of costs incurred at a later date are accurately calculated to include the costs of construction inflation. While an inflation component may be included in the impact fee analysis to reflect the future cost of facilities, at the request of the WCWSID it is not considered in the cost estimates in this study. However, the impact fee analysis should be updated regularly to account for changes in cost estimates over time.

¹⁴ 11-36a-402(1)(c)

APPENDIX A: ILLUSTRATION OF EXCESS CAPACITY RELATED TO COLLECTION SYSTEM

TABLE A.1: EXISTING DISTRIBUTION CAPACITY ANALYSIS

ELEMENT ID	LENGTH (FT)	PERCENT OF TOTAL	PEAK FLOW (CFS)	DESIGN FLOW 0.75% CAPACITY (CFS)	EXCESS CAPACITY (CFS)	EQUIVALENT ERU	MAXIMUM ERUS	EXCESS CAPACITY AS % OF DESIGN FLOW	ALLOCATION AS PERCENT OF BUILDOUT
Pipe-1	316	1.37%	0.29	2.4	2.11	1816	1327	87.92%	26.4%
Pipe-10	209	0.91%	0.38	0.57	0.19	167	167	33.33%	100.0%
Pipe-100	47	0.20%	0.28	4.42	4.14	3569	3569	93.67%	9.8%
Pipe-101	315	1.37%	0.28	2.21	1.93	1665	1665	87.33%	21.0%
Pipe-102	227	0.99%	0.28	2.97	2.69	2315	2315	90.57%	15.1%
Pipe-103	257	1.12%	0.28	3.45	3.17	2729	2729	91.88%	12.8%
Pipe-18	227	0.98%	0.01	2.68	2.67	2304	2304	99.63%	15.2%
Pipe-19	409	1.78%	0.06	0.77	0.71	608	608	92.21%	57.6%
Pipe-2	201	0.87%	0.29	2.23	1.94	1671	1671	87.00%	20.9%
Pipe-22	238	1.03%	0	3.83	3.83	3297	3297	100.00%	10.6%
Pipe-23	213	0.92%	0	4.29	4.29	3694	3694	100.00%	9.5%
Pipe-24	340	1.48%	0.08	3.64	3.56	3064	3064	97.80%	11.4%
Pipe-25	174	0.76%	0.09	3.38	3.29	2832	2832	97.34%	12.4%
Pipe-26	447	1.94%	0.09	3.11	3.02	2602	2602	97.11%	13.5%
Pipe-27	194	0.84%	0.09	2.68	2.59	2233	2233	96.64%	15.7%
Pipe-28	343	1.49%	0.09	3.14	3.05	2627	2627	97.13%	13.3%
Pipe-29	190	0.82%	0.09	2.55	2.46	2118	2118	96.47%	16.5%
Pipe-3	301	1.31%	0.29	2.37	2.08	1797	1797	87.76%	19.5%
Pipe-30	220	0.96%	0.09	3.61	3.52	3032	3032	97.51%	11.5%
Pipe-31	259	1.13%	0.09	2.77	2.68	2312	2312	96.75%	15.1%
Pipe-32	347	1.50%	0.33	3.06	2.73	2356	2356	89.22%	14.9%
Pipe-33	374	1.62%	0.33	2.54	2.21	1905	1905	87.01%	18.4%
Pipe-34	386	1.68%	0.61	1.72	1.11	952	952	64.53%	36.8%
Pipe-35	204	0.89%	0.6	2.24	1.64	1415	1415	73.21%	24.7%
Pipe-36	267	1.16%	0.69	0.67	-0.02	-15	-15	0.00%	0.0%
Pipe-37	251	1.09%	0.05	3.81	3.76	3240	3240	98.69%	10.8%
Pipe-38	227	0.98%	0.05	3.37	3.32	2865	2865	98.52%	12.2%
Pipe-39	273	1.18%	0.05	3.96	3.91	3366	3366	98.74%	10.4%
Pipe-4	206	0.89%	0.29	1.89	1.6	1377	1377	84.66%	25.4%
Pipe-40	167	0.73%	0.05	3.85	3.8	3276	3276	98.70%	10.7%
Pipe-41	216	0.94%	0.05	4.05	4	3446	3446	98.77%	10.2%
Pipe-42	318	1.38%	0.05	3.14	3.09	2663	2663	98.41%	13.1%
Pipe-43	161	0.70%	0.05	1.43	1.38	1187	1187	96.50%	29.5%
Pipe-44	200	0.87%	0.05	3.92	3.87	3338	3338	98.72%	10.5%
Pipe-45	353	1.53%	0.05	3.18	3.13	2700	2700	98.43%	13.0%
Pipe-46	154	0.67%	0.05	1.55	1.5	1293	1293	96.77%	27.1%
Pipe-47	403	1.75%	0.25	0.78	0.53	458	458	67.95%	76.4%
Pipe-48	301	1.31%	0.24	0.79	0.55	473	473	69.62%	74.0%
Pipe-49	370	1.61%	0.24	0.77	0.53	453	453	68.83%	77.3%
Pipe-5	198	0.86%	0.29	2.37	2.08	1797	1797	87.76%	19.5%
Pipe-50	365	1.58%	0.24	0.76	0.52	446	446	68.42%	78.5%
Pipe-51	171	0.74%	0.24	0.7	0.46	395	395	65.71%	88.6%



ELEMENT ID	LENGTH (FT)	PERCENT OF TOTAL	PEAK FLOW (CFS)	DESIGN FLOW 0.75% CAPACITY (CFS)	EXCESS CAPACITY (CFS)	EQUIVALENT ERU	MAXIMUM ERUS	EXCESS CAPACITY AS % OF DESIGN FLOW	ALLOCATION AS PERCENT OF BUILDOUT
Pipe-52	394	1.71%	0.24	0.66	0.42	364	364	63.64%	96.2%
Pipe-53	148	0.64%	0.28	0.79	0.51	439	439	64.56%	79.7%
Pipe-54	125	0.54%	0.28	3.3	3.02	2605	2605	91.52%	13.4%
Pipe-55	78	0.34%	0	1.86	1.86	1602	1602	100.00%	21.8%
Pipe-56	80	0.35%	0	2.17	2.17	1871	1871	100.00%	18.7%
Pipe-57	51	0.22%	0	2.7	2.7	2324	2324	100.00%	15.1%
Pipe-58	135	0.59%	0	2.92	2.92	2515	2515	100.00%	13.9%
Pipe-59	200	0.87%	0	3.28	3.28	2824	2824	100.00%	12.4%
Pipe-6	196	0.85%	0.29	1.51	1.22	1056	1056	80.79%	33.1%
Pipe-60	102	0.44%	0	3.12	3.12	2691	2691	100.00%	13.0%
Pipe-61	114	0.49%	0.07	2.22	2.15	1853	1853	96.85%	18.9%
Pipe-62	359	1.56%	0.07	2.32	2.25	1937	1937	96.98%	18.1%
Pipe-63	76	0.33%	0.07	2.71	2.64	2278	2278	97.42%	15.4%
Pipe-64	162	0.70%	0.07	2.64	2.57	2211	2211	97.35%	15.8%
Pipe-65	282	1.22%	0.07	2.7	2.63	2264	2264	97.41%	15.5%
Pipe-66	246	1.07%	0.07	2.57	2.5	2152	2152	97.28%	16.3%
Pipe-67	27	0.12%	0.07	3.45	3.38	2911	2911	97.97%	12.0%
Pipe-68	231	1.00%	0.07	2.39	2.32	1999	1999	97.07%	17.5%
Pipe-69	121	0.53%	0.07	1.75	1.68	1449	1449	96.00%	24.2%
Pipe-7	415	1.80%	0.29	2.08	1.79	1539	1539	86.06%	22.7%
Pipe-70	195	0.85%	0.15	1.1	0.95	818	818	86.36%	42.8%
Pipe-71	138	0.60%	0.15	2.58	2.43	2093	2093	94.19%	16.7%
Pipe-72	98	0.42%	0.15	2.2	2.05	1763	1763	93.18%	19.9%
Pipe-73	316	1.37%	0.15	2.64	2.49	2144	2144	94.32%	16.3%
Pipe-74	272	1.18%	0.15	2.11	1.96	1692	1692	92.89%	20.7%
Pipe-75	270	1.17%	0	1.13	1.13	977	977	100.00%	35.8%
Pipe-76	227	0.99%	0	3.94	3.94	3392	3392	100.00%	10.3%
Pipe-77	266	1.15%	0	4.98	4.98	4291	4291	100.00%	8.2%
Pipe-78	171	0.74%	0	1.36	1.36	1171	1171	100.00%	29.9%
Pipe-79	273	1.18%	0	1	1	863	863	100.00%	40.6%
Pipe-8	379	1.65%	0.38	0.93	0.55	475	475	59.14%	73.7%
Pipe-80	398	1.73%	0	1	1	863	863	100.00%	40.6%
Pipe-81	190	0.83%	0	1.1	1.1	945	945	100.00%	37.0%
Pipe-82	318	1.38%	0	0.9	0.9	772	772	100.00%	45.3%
Pipe-83	324	1.41%	0	0.98	0.98	846	846	100.00%	41.4%
Pipe-84	403	1.75%	0	1	1	863	863	100.00%	40.6%
Pipe-85	216	0.94%	0	1.06	1.06	913	913	100.00%	38.3%
Pipe-86	169	0.73%	0.01	1.27	1.26	1083	1083	99.21%	32.3%
Pipe-87	272	1.18%	0.01	0.69	0.68	589	589	98.55%	59.4%
Pipe-88	268	1.16%	0.01	1.2	1.19	1027	1027	99.17%	34.1%
Pipe-89	316	1.37%	0.01	1	0.99	855	855	99.00%	40.9%
Pipe-9	383	1.66%	0.38	0.8	0.42	359	359	52.50%	97.5%
Pipe-90	191	0.83%	0.82	0.7	-0.12	-104	-104	0.00%	0.0%
Pipe-91	312	1.35%	0.82	1.26	0.44	383	383	34.92%	91.4%
Pipe-92	130	0.56%	0.82	0.7	-0.12	-104	-104	0.00%	0.0%
Pipe-93	329	1.43%	0.42	0.86	0.44	376	376	51.16%	93.1%
Pipe-94	112	0.49%	0.42	0.85	0.43	369	369	50.59%	94.9%





ELEMENT ID	LENGTH (FT)	PERCENT OF TOTAL	PEAK FLOW (CFS)	DESIGN FLOW 0.75% CAPACITY (CFS)	EXCESS CAPACITY (CFS)	EQUIVALENT ERU	MAXIMUM ERUS	EXCESS CAPACITY AS % OF DESIGN FLOW	ALLOCATION AS PERCENT OF BUILDOUT
Pipe-95	387	1.68%	0.56	2.36	1.8	1555	1555	76.27%	22.5%
Pipe-96	155	0.67%	0.56	1.79	1.23	1059	1059	68.72%	33.1%
Pipe-97	153	0.67%	0.56	0.95	0.39	336	336	41.05%	100.0%
Pipe-98	80	0.35%	0.56	1.88	1.32	1139	1139	70.21%	30.7%
Pipe-99	119	0.52%	0.56	1.7	1.14	986	986	67.06%	35.5%
Pipe-91	312	1.35%	1.32	1.26	-0.06	-48	-48	0.00%	0.0%
Pipe-91	312	1.35%	1.32	2.29	0.97	838	838	42.36%	41.8%
	23,035	100%	20.3	206.33	186.03			83.20%	33.6%

Source: IFFP Appendix Table 1-4; LYRB

