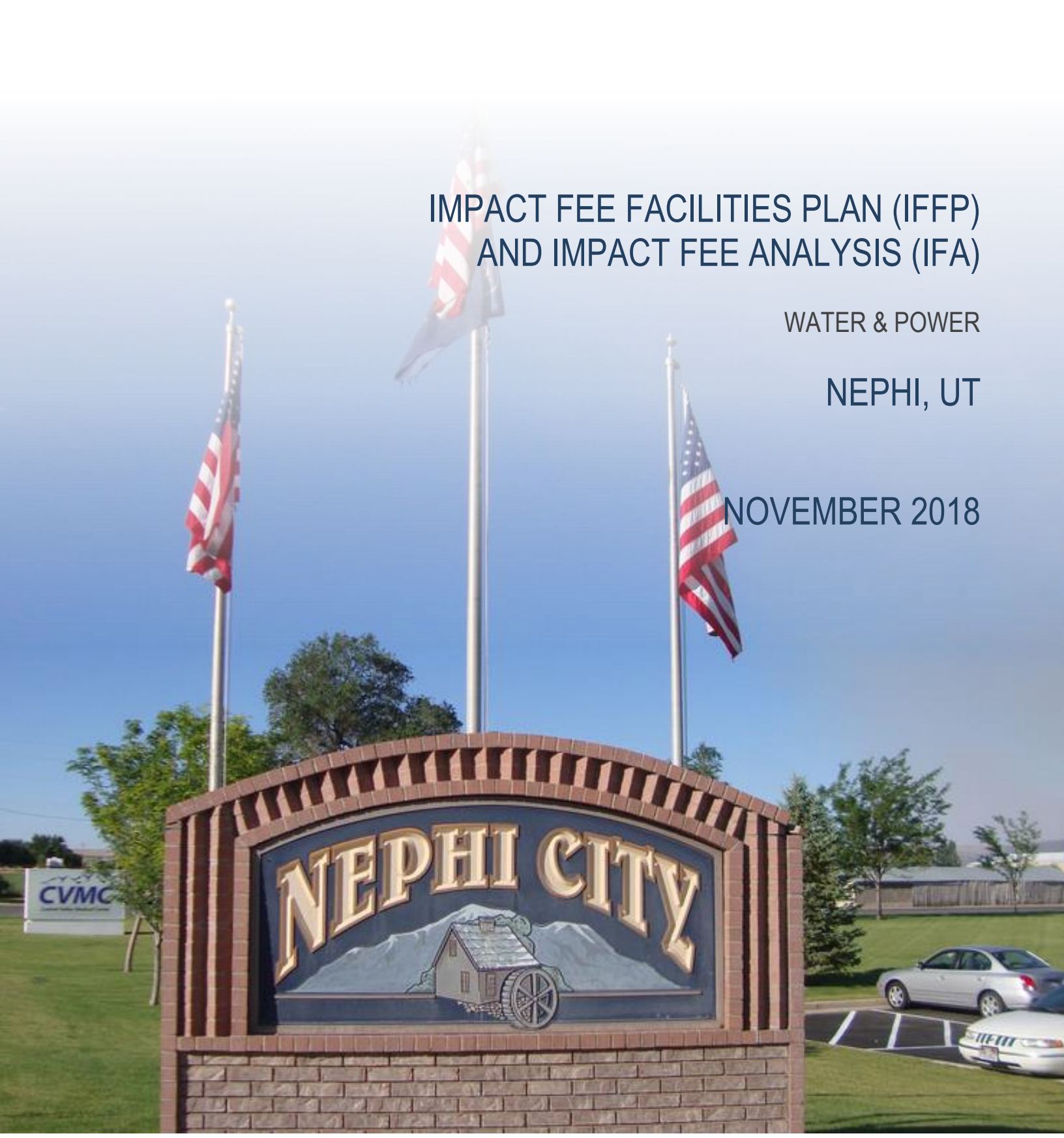
IMPACT FEE FACILITIES PLAN (IFFP) AND IMPACT FEE ANALYSIS (IFA)

WATER & POWER

NEPHI, UT

NOVEMBER 2018



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IMPACT FEE CERTIFICATION

IFFP CERTIFICATION

Lewis Young Robertson & Burningham, Inc. and Nephi City jointly certify that the Impact Fee Facilities Plan ("IFFP") prepared for water and power:

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; and
3. complies in each and every relevant respect with the Impact Fees Act.

LEWIS YOUNG ROBERTSON & BURNINGHAM, INC.
NEPHI CITY

IFA CERTIFICATION

Lewis Young Robertson & Burningham, Inc. certifies that the Impact Fee Analysis ("IFA") prepared for water and power:

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. makes this certification with the following caveats:

1. All of the recommendations for implementation of the IFFP made in the IFFP documents or in the IFA documents are followed by City Staff and elected officials.
2. If all or a portion of the IFFP or IFA are modified or amended, this certification is no longer valid.
3. All information provided to LYRB is assumed to be correct, complete, and accurate. This includes information provided by the City as well as outside sources.

LEWIS YOUNG ROBERTSON & BURNINGHAM, INC.

SECTION 1: EXECUTIVE SUMMARY

The purpose of this Impact Fee Facilities Plan (IFFP), with supporting Impact Fee Analysis (IFA), is to fulfill the requirements established in Utah Code Title 11 Chapter 36a, the "Impact Fees Act," and help Nephi City (City) fund necessary capital improvements for future growth. This document will address the water and power infrastructure needed to serve the City through the next 10 years, as well as the appropriate impact fees the City may charge to new growth to maintain the level of service (LOS). Much of the information related to the water system was obtained from the Nephi City Rural Development Preliminary Engineering Report (PER) prepared by Sunrise Engineering.

- **Impact Fee Service Area:** The Service Area for the water and power impact fees includes all areas within the City. **FIGURE 3.1** illustrates the proposed Service Area. This document identifies the necessary future system improvements for the Service Area that will maintain the existing LOS into the future.

- **Demand Analysis:** The demand units utilized in this analysis include equivalent domestic units (EDUs) for water and kilowatts (kWs) for power. As new development and redevelopment occurs within the City, it generates increased demand on City infrastructure. The system improvements identified in this study are designed to maintain the existing LOS for any new or redeveloped property within the City.

- **Level of Service (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. The existing LOS for water source is 800 gallons per day (gpd) and 400 gpd for storage per EDU. The existing level of service for power is 5.97 kWs per EDU.

- **Excess Capacity:** The demand analysis, existing facility inventory and LOS analysis allow for the development of a list of capital facilities necessary to serve new growth. This list includes any excess capacity of existing facilities, as well as future system improvements necessary to maintain the LOS. The inclusion of excess capacity is known as a "buy-in." Any demand generated from new development that overburdens the existing system beyond the existing capacity justifies the construction of new facilities. This analysis does not include a buy-in component. The City is currently in the process of building new system improvements to serve new development. For the purposes of this analysis, these facilities are considered future improvements.

- **Capital Facilities Analysis:** Due to the projected development within the City, additional capital improvements will be necessary related to water and power. This analysis considers an additional $25,828,208 of capital expense for the water system and $5,439,645 for the power system, including debt expenses. Only the proportional cost within the IFFP planning horizon is included in the impact fee calculation.

- **Debt Financing:** The City issued the USDA Loan 1 and USDA Loan 2 to fund, in part, the rehabilitation of the firehouse well, distribution improvements, two new capacity tanks and the Lower Bradley Spring rehabilitation and piping revisions. A total of $6,621,208 of interest expense has been evaluated as part of this analysis. The City also issued the Electric Revenue Bond Series 2018 to fund construction of the City's electric substation and related improvements. A total of $484,645 of interest expense is also evaluated in this analysis.

- **Funding of Future Facilities:** This analysis assumes future growth-related facilities will be funded through a combination of general fund revenues, bond financing, other governmental revenues, and impact fee revenues. Where applicable, interest costs are included in the total cost to fund proposed system improvements.

SUMMARY OF WATER AND POWER IMPACT FEES

The impact fees proposed in this analysis will be assessed within the Service Area. The tables below illustrate the calculated impact fee for water and power.

TABLE 1.1: WATER IMPACT FEE PER UNIT

	TOTAL COST	% TO GROWTH	COST TO GROWTH	EDUS SERVED	EDUS IN IFFP PLANNING HORIZON	% OF EDUS SERVED	COST TO IFFP	COST PER EDU
Future Facilities								
Source	$3,103,461	96.4%	$2,992,102	4,085	896	22%	$656,307	$732
Interest Expense	$1,069,853	96.4%	$1,031,464	4,085	896	22%	$226,248	$253
Storage	$4,495,637	66.0%	$2,965,750	2,956	896	30%	$898,845	$1,003
Interest Expense	$1,549,776	66.0%	$1,022,380	2,956	896	30%	$309,858	$346
Distribution	$11,607,902	47.0%	$5,450,871	1,974	896	45%	$2,474,154	$2,761
Interest Expense	$4,001,579	47.0%	$1,879,073	1,974	896	45%	$852,912	$952
Other								
Professional Expense	$9,925	100.0%	$9,925	505	505	100%	$9,925	$20
Total	**$25,838,133**	**59.4%**	**$15,351,565**					**$6,067**

TABLE 1.2: POWER IMPACT FEE PER UNIT

	TOTAL COST	% TO GROWTH	COST TO GROWTH	KWS SERVED	KWS IN IFFP PLANNING HORIZON	% OF KWS SERVED	COST TO IFFP	COST PER KW
Future Facilities								
Transmission	$955,000	100.0%	$955,000	5,353	5,353	100.0%	$955,000	$178
Substations	$4,000,000	83.3%	$3,333,333	25,000	5,353	21.4%	$713,782	$133
Interest Expense	$484,645	100.0%	$484,645	15,000	5,353	35.7%	$172,965	$32
Other								
Professional Expense	$9,925	100.0%	$9,925	3,017	3,017	100.0%	$9,925	$3
Total	**$5,449,570**	**87.8%**	**$4,782,904**					**$347**
							Fee per EDU (Based on 5.97 kW per EDU)	**$2,075**

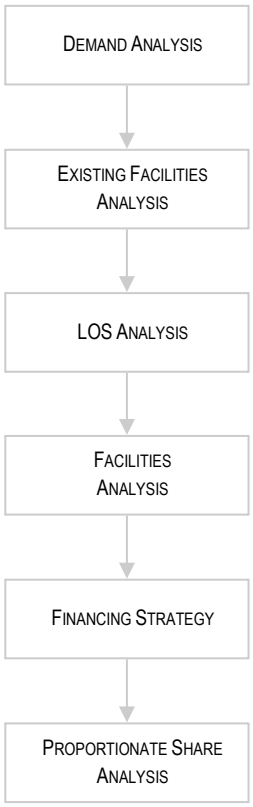
NON-STANDARD IMPACT FEES

The City 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.[1] This adjustment could result in a different impact fee if the City determines that a particular user may create a different impact than what is standard for its land use. The City may also decrease the impact fee if the developer can provide documentation, evidence, or other credible analysis that the proposed impact will be lower than what is proposed in this analysis.

[1] 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 IFFP and IFA. The IFFP identifies the demands placed upon the City's existing facilities by future development and evaluate how these demands will be met by the City. The IFFP is also intended to outline the improvements, which are intended to be funded by impact fees. The purpose of IFA is to allocate the cost of the new facilities and any excess capacity to new development, while ensuring that all methods of financing are considered. The Impact Fee Act requires that the IFFP and IFA consider the historic LOS provided to existing development and ensure that the proposed impact fees maintain the existing LOS. The following elements are important considerations when completing an IFFP and IFA.

DEMAND ANALYSIS

The demand analysis serves as the foundation for the IFFP. 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 affect system facilities.

EXISTING FACILITY INVENTORY

In order to quantify the demands placed upon existing public facilities by new development activity, to the extent possible the IFFP provides an inventory of the City's existing system facilities. The inventory valuation should include the original construction cost and estimated useful life of each facility. The inventory of existing facilities is important to determine the excess capacity of existing facilities and the utilization of excess capacity by new development.

LEVEL OF SERVICE ANALYSIS

"Level of service" means the defined performance standard or unit of demand for each capital component of a public facility within a service area. Through the inventory of existing facilities, combined with the growth assumptions, this analysis identifies the existing LOS that is provided to a community's existing residents and ensures that future facilities maintain these standards.

EXCESS CAPACITY AND 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 LOS. 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.

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.[2] 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.[3]

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

[2] 11-36a-302(2)
[3] 11-36a-302(3)

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).

IMPACT FEE METHODOLOGIES

There are two methods employed in the calculation of impact fees: the Growth-Driven Approach or the Plan-Based Approach. This analysis uses the Plan-Based Approach.

GROWTH-DRIVEN (PERPETUATION OF EXISTING LOS)

The growth-driven method utilizes the existing level of service and perpetuates that level of service into the future. Impact fees are then calculated to provide sufficient funds for the entity to expand or provide additional facilities, as growth occurs within the community. Under this methodology, impact fees are calculated to ensure new development provides sufficient investment to maintain the current LOS standards in the community. This approach is often used for public facilities that are not governed by specific capacity limitations and do not need to be built before development occurs (i.e. park facilities).

NEW FACILITY – PLAN BASED (FEE BASED ON DEFINED CIP)

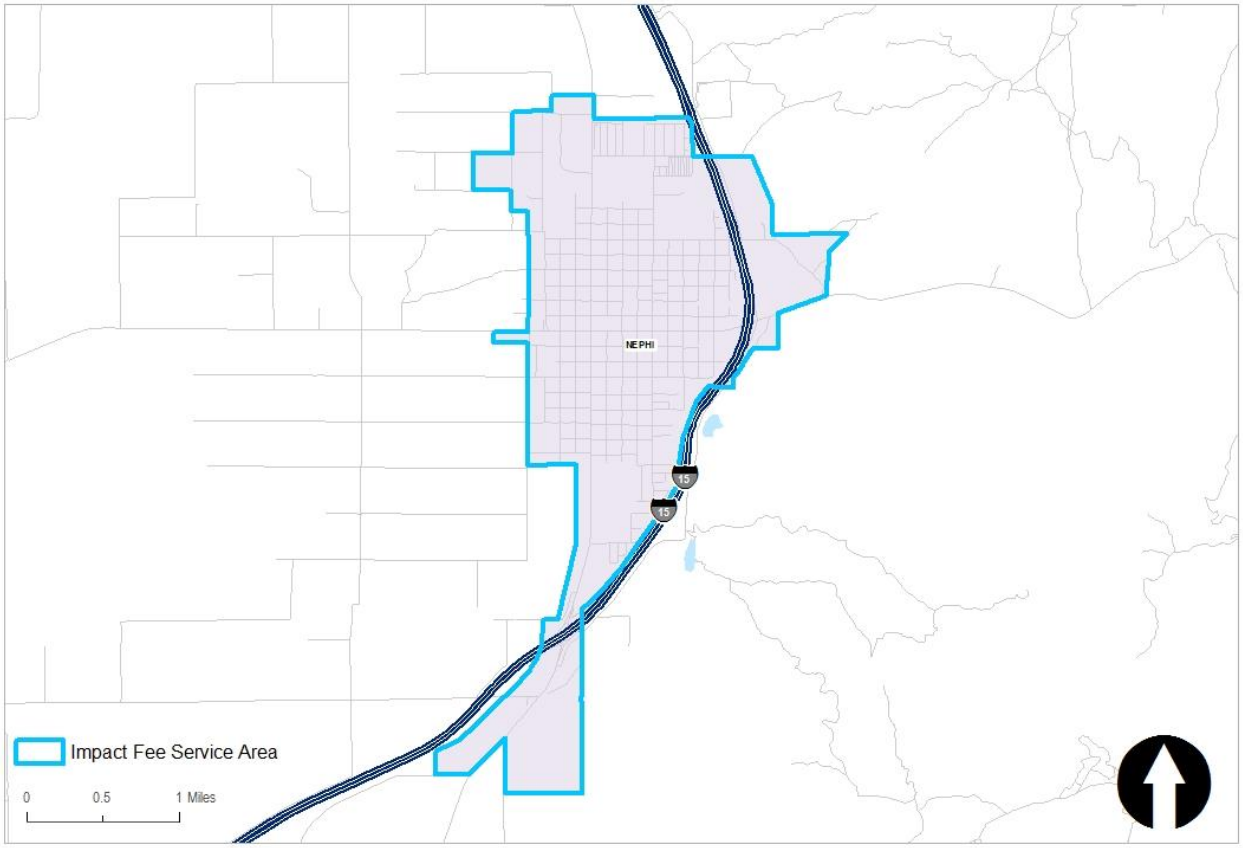
Impact fees can be calculated based on a defined set of capital costs specified for future development. The improvements are identified in a capital plan or impact fee facilities plan as growth-related system improvements. The total cost is divided by the total demand units the improvements are designed 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 and level of service.

SECTION 3: OVERVIEW OF SERVICE AREA AND GENERAL DEMAND FIGURES

SERVICE AREAS

Utah Code requires the impact fee enactment to establish one or more service areas within which impact fees will be imposed.[4] The Service Area for the water and power impact fees includes all areas within the current municipal boundaries of the City, as shown in **FIGURE 3.1**. This document identifies the necessary future system improvements for the Service Area that will maintain the existing LOS into the future.

FIGURE 3.1: SERVICE AREA



DEMAND ANALYSIS UNITS

The demand units utilized in this analysis include equivalent domestic units (EDU) for water and EDUs and kilowatts (kWs) for power. As new development and redevelopment occurs within the City, it generates increased demand on City infrastructure. The system improvements identified in this study are designed to maintain the existing LOS for any new or redeveloped property within the City. **Table 3.1** identifies population and EDU projections for a 20-year period from 2016 through 2036 which corresponds with the City's capital improvement plan (CIP). The estimated number of EDUs in 2018 was 2,929. By 2028, the number of EDUs is expected to reach 3,825. This equates to an additional 896 EDUs over the 10-year planning horizon.

TABLE 3.1: PROJECTED GROWTH IN EDUS

		EDU PROJECTIONS			
YEAR	POPULATION	EST. RES. EDUS	EST. COM. EDUS	EST. IND. EDUS	EST. TOTAL EDUS
2016	5,697	1,910	705	162	2,777
2017	5,853	1,962	720	170	2,852
2018	6,012	2,016	735	179	2,929
2019	6,176	2,071	750	188	3,008
2020	6,345	2,128	765	197	3,090
2021	6,518	2,186	780	207	3,172

[4] UC 11-36a-402(1)(a)

		EDU PROJECTIONS			
YEAR	POPULATION	EST. RES. EDUS	EST. COM. EDUS	EST. IND. EDUS	EST. TOTAL EDUS
2022	6,696	2,246	794	217	3,258
2023	6,879	2,307	809	228	3,344
2024	7,067	2,370	824	239	3,434
2025	7,260	2,435	839	251	3,526
2026	7,458	2,501	858	264	3,623
2027	7,662	2,569	877	277	3,723
2028	7,871	2,639	895	291	3,825
2029	8,086	2,711	913	306	3,929
2030	8,306	2,785	931	321	4,036
2031	8,533	2,861	950	337	4,146
2032	8,766	2,939	969	354	4,259
2033	9,005	3,019	988	371	4,375
2034	9,251	3,102	1,008	390	4,494
2035	9,504	3,186	1,028	410	4,616
2036	9,763	3,273	1,048	430	4,751
New EDUs in Planning Horizon					896
Source: PER p. 9-10 and Appendix A; Nephi City					

Based on the current peak electrical load of 17,500 kWs for the City, the total kWs per EDU is estimated at 5.97. **Table 3.2** includes the projected growth of kWs based on growth of EDUs through the planning horizon. The projected growth in kWs through the planning horizon is 5,353

TABLE 3.2: PROJECTED GROWTH IN KILOWATTS

YEAR	EST. TOTAL EDUS	PEAK LOAD KWS	KW PER EDU
2016	2,777		
2017	2,852		
2018	2,929	17,500	5.97
2019	3,008	17,972	5.97
2020	3,090	18,462	5.97
2021	3,172	18,952	5.97
2022	3,258	19,466	5.97
2023	3,344	19,980	5.97
2024	3,434	20,517	5.97
2025	3,526	21,067	5.97
2026	3,623	21,646	5.97
2027	3,723	22,244	5.97
2028	3,825	22,853	5.97
New EDUs in Planning Horizon		5,353	
Source: PER p. 9-10 and Appendix A; Nephi City			

SECTION 4: WATER IFFP AND IFA

The purpose of this section is to address the water IFFP, with supporting IFA and to help the City plan for the necessary capital improvements for future growth. This section will address the future water infrastructure needed to serve the City through the next 10 years, as well as address the appropriate culinary water impact fees the City may charge to new growth to maintain the existing LOS.

LEVEL OF SERVICE

Impact fees cannot be used to finance an increase in the level of service (LOS) to current or future users of capital improvements. Therefore, it is important to identify the water LOS to ensure that the new capacities of projects financed through impact fees do not exceed the established standard. The existing LOS for source is 800 gpd/EDU. The total existing and proposed storage LOS is 400 gpd/EDU.

EXISTING FACILITIES INVENTORY

TABLE 4.1: SOURCE: WATER RIGHTS

W.R. #	SOURCE	AC-FT	CFS	GPM
53	Marsh Spring	562.42	0.78	348.68
53-2	Rowley's Spring	83.00	0.11	51.46
53-35	Monument Springs 1,2,3	488.68	0.68	302.97
53-53	Underground, Airport well	57.92	0.08	35.91
53-63	Underground	2,628.04	3.63	1,629.28
53-64	Industrial Waste	200.00	0.28	123.99
53-65	Underground & Bradley Spring	4,343.87	6.00	2,693.02
53-80	Bradley Spring Winter	1,092.48	3.63	1,629.29
53-87	Underground	3,062.42	4.23	1,898.58
53-88	Underground	3,663.33	5.06	2,271.12
53-1516	Underground	839.82	1.16	520.65
Total		**17,021.97**	**25.63**	**11,504.94**

Source: PER p. 12 and Appendix A

TABLE 4.2: SOURCE CAPACITY

SOURCE	GALLONS PER MINUTE (GPM)
Upper & Lower Marsh Springs	600
Upper & Lower Bradley Springs	1,300
Equipment Shed Well	2,400
**Jones Well	-
Total	**4,300**

Source: PER p. 17 and Appendix A

TABLE 4.3: STORAGE CAPACITY

EXISTING STORAGE CAPACITY	GALLONS (GAL)
Tank #1 (Blue Tank)	2,000,000
Tank #2 (Silver Tank)	600,000
Total Existing Storage Capacity	**2,600,000**

Source: PER p. 25 and Appendix A

TABLE 4.4: DISTRIBUTION CAPACITY

EXISTING DISTRIBUTION REQUIREMENT	GPM	PROJECTED DISTRIBUTION REQUIREMENT 20 YEAR PLANNING PERIOD:	GPM
Current Required Peak Day Demand	3,496	Projected Required Peak Day Demand	6,419
Fire Flow	1,500	Fire Flow	3,000
Total Current System Design Flow from Storage	**4,996**	**Total Projected System Design Flow from Storage**	**9,419**

Source: PER p. 31 and Appendix A

EXCESS CAPACITY

The City currently has a surplus of water rights equated to 13,172 gallons per minute (gpm). Over the next 20 years, the excess in expected to decline slightly to 11,157 gpm.

TABLE 4.5: WATER RIGHTS EXCESS CAPACITY

SUMMARY	EXISTING		PROJECTED (20 YEARS)	
	EDUs	GPM	PROJECTED EDUs	GPM
Residential Use				
Indoor	1,910	856	3,273	1,466
Outdoor	1,210	646	2,573	1,375
Commercial Use				
Indoor	705	316	1,048	470
Additional Commercial Summer Use	705	464	1,048	691
Industrial Use				
Industrial Use	162	73	430	193
Large Green Areas				
Large Green Areas (Schools, Golf Course, Parks, & Cemetery)		438		614
Leased to Irrigation Company				
Leased to Irrigation Company (Data Supplied by City from the Culinary Water Master Plan)		1,057		1,057
Total		**3,850**		**5,865**
Estimated Surplus		**13,172**		**11,157**
Source: PER pp. 14-15 and Appendix A				

The City has a source deficiency of 122 gpm which is expected to grow to 3,148 over the next 20 years. Further, the City is deficient in storage capacity by 1,020,914 gallons (gal), as shown in **Table 4.7**.

TABLE 4.6: SOURCE EXCESS CAPACITY

SUMMARY	EXISTING		PROJECTED (20 YEARS)	
	EDUs	GPM	PROJECTED EDUs	GPM
Residential Use				
Indoor	1,910	1,061	3,273	1,818
Outdoor	1,210	1,369	2,573	2,911
Commercial Use				
Indoor	705	392	1,048	582
Additional Commercial Summer Use	705	584	1,048	868
Industrial Use				
Industrial Use	162	90	430	239
Large Green Areas				
Large Green Areas (Schools, Golf Course, Parks, & Cemetery	818	926	1,149	1,300
Total	**5,510**	**4,422**	**9,521**	**7,718**
Existing Source Capacity		**4,300**		
Existing Source Capacity Surplus		**(122)**		**(3,418)**
Source: PER pp. 18-19 and Appendix A				

TABLE 4.7: STORAGE EXCESS CAPACITY

SUMMARY	EXISTING		PROJECTED (20 YEARS)	
	EDUs	gpm	Projected EDUs	gpm
Residential Use				
Indoor	1,910	764,000	3,273	1,309,200
Outdoor	1,210	984,594	2,573	2,093,687
Commercial Use				
Indoor	705	281,988	1,048	419,252
Additional Commercial Summer Use	705	841,029	1,048	1,250,419
Industrial Use				
Industrial Use	162	64,800	430	171,934

SUMMARY	EXISTING		PROJECTED (20 YEARS)	
	EDUs	gpm	Projected EDUs	gpm
Large Green Areas				
Large Green Areas (Schools, Golf Course, Parks, & Cemetery		504,503		-
Fire Protection				
Fire Protection		180,000		360,000
Total	**4,692**	**3,620,914**	**8,372**	**5,604,492**
Existing Storage Capacity		**2,600,000**		
Existing storage Capacity Surplus		**(1,020,914)**		**(3,004,492)**
Source: PER pp. 27-28 and Appendix A, Assumes Large Green Areas (LGA) are supplied by culinary Well transmission lines.				

MANNER OF FINANCING EXISTING PUBLIC FACILITIES

The City's existing power infrastructure has been funded through a combination of utility rate revenues and other governmental funds. Based on the analysis above, no excess capacity is included in this analysis.

FUTURE CAPITAL FACILITIES 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. See **Appendix A** for detail of the proposed system improvements.

TABLE 4.8: SUMMARY OF CAPITAL IMPROVEMENTS

Rehabilitate Firehouse Well	$2,250,355
Distribution Improvements	$8,933,333
Storage Improvements (2 tanks)	$3,459,800
Lower Bradley Spring Rehabilitation & Piping Revision	$138,040
Construction Costs	**$14,78528**
10% Contingency	$1,460,972
Subtotal Construction Costs	**$16,242,500**
Non-Construction Services	$2,964,500
Total	**$19,207,000**
Source: PER pp. 19-24, 30, 32-35 and Appendix F: Per Alternative 4	

TABLE 4.9: ALLOCATION OF CAPITAL IMPROVEMENTS BY COMPONENT

	Capital Improvements	% To Component	10% Contingency	Non-Construction Services	Total
Source	$2,388,395	16.2%	$236,063	$479,003	$3,103,461
Storage	$3,459,800	23.4%	$341,959	$693,878	$4,495,637
Distribution	$8,933,333	60.4%	$882,950	$1,791,619	$11,607,902
Totals	**$14,781,528**	**100.0%**	**$1,460,972**	**$2,964,500**	**$19,207,000**

Over the next three years, the City plans to cure the existing deficiencies and create additional capacity within the system to address the City's projected needs through 2036. The City's CIP includes rehabilitation of the firehouse well, distribution improvements, two new storage tanks and rehabilitation of the Lower Bradley Spring along with piping revisions. In addition to curing deficiencies in the system, the CIP will address the City's needs for the next 20 years. The percentage of cost attributed to each improvement is detailed in **Tables 4.10-4.12**.

TABLE 4.10: SOURCE IMPROVEMENTS

	GPM ADDED	% TO GROWTH	NOTES
Well Improvement (Firehouse)	2,200		
New Well	1,200		
Total added capacity	**3,400**		Source: PER p.44
Existing Deficiency	(122)	4%	See Table 4.2
Remaining Added Capacity	3,278	96%	3,400 gpm -122 gpm = 3,278

TABLE 4.11: STORAGE IMPROVEMENTS

	GPM ADDED	% TO GROWTH	NOTES
Tank 1	1,500,000		
Tank 2	1,500,000		
Total	**3,000,000**		Source: PER p.44
Existing Deficiency	(1,020,914)	34%	See Table 4.3
Remaining Added Capacity	1,979,086	66%	3,000,000 – 1,020,914 = 1,979,086

According to the Engineering Report, many of the City's existing pipelines will need to be replaced. A large portion of the residential distribution system consists of four-inch cast iron pipelines with lead joints. There are also larger cast iron lead joint pipelines in the system. Most pipelines in the culinary system are over 70 years old. As a result, this analysis apportions future costs over the total projected system design flow, allocating cost to both existing and future residents. Based on the water demand modeling, 47 percent of the system design is anticipated to come from new development.

TABLE 4.12: DISTRIBUTION IMPROVEMENTS

EXISTING DISTRIBUTION REQUIREMENT	GPM	NOTES
Current Required Peak Day Demand	3,496	
Fire Flow	1,500	
Total Current System Design Flow	**4,996**	Source: PER Appendix A p.6
PROJECTED DISTRIBUTION REQUIREMENT 20 YEAR PLANNING PERIOD:	**GPM**	
Projected Required Peak Day Demand	6,419	
Fire Flow	3,000	
Total Projected System Design Flow	**9,419**	Source: PER Appendix A p.6
Added Distribution Flow	4,423	9,419 gpm - 4,996 gpm = 4,423 gpm
Percent of Projected System Design	47%	4,423 / 9,419 = 47%
Source: PER p. 31-35 and Appendix A p.6		

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.[5] 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.[6] To the extent possible, this analysis only includes the costs of system improvements related to new growth within the proportionate share analysis.

FINANCING STRATEGY & CONSIDERATION OF ALL REVENUE RESOURCES

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.[7] 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.[8] The City is anticipating impact fees will be needed to repay the growth-related portions of proposed improvements and the associated financing costs.

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.

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.

- **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.

[5] 11-36a-102(21)
[6] 11-36a-102(14)
[7] 11-36a-302(2)
[8] 11-36a-302(3)

- **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:** The City's water infrastructure will be funded through a combination of USDA loans, utility rate revenues and impact fee revenues. The City issued the USDA Loan 1 and USDA Loan 2 to fund, in part, the rehabilitation of the firehouse well, distribution improvements, two new capacity tanks and the Lower Bradley Spring rehabilitation and piping revisions. The interest rates on the USDA loans are 1.875 percent on two loans worth $14,290,000 combined, and 3.125 percent on a loan of $781,000. The loans have a repayment schedule of 40 years. A total of $6,621,208 of interest expense has been evaluated as part of this analysis. The interest associated with these bonds is allocated based on the proportionate capital improvements for each component of the system and based on the proportion to new growth, as shown below.

TABLE 4.13: ALLOCATION OF DEBT SERVICE INTEREST EXPENSE

	% TO COMPONENT	COST TO COMPONENT	% WITHIN IFFP	COST TO IFFP
Source	16.2%	**$1,069,853**	96.4%	**$1,031,464**
Storage	23.4%	**$1,549,776**	66.0%	**$1,022,380**
Distribution	60.4%	**$4,001,579**	47.0%	**$1,879,073**
Totals	100.0%	**$6,621,208**		**$3,932,917**

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.[9] 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.

[9] 11-36a-402(2)

PROPOSED WATER IMPACT FEE

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.

WATER 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 LOS 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 water 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 per unit is **$6,067** per EDU.

TABLE 4.14: WATER IMPACT FEE PER UNIT

	TOTAL COST	% TO GROWTH	COST TO GROWTH	EDUS SERVED	EDUS IN IFFP PLANNING HORIZON	% OF EDUS SERVED	COST TO IFFP	COST PER EDU
Future Facilities								
Source	$3,103,461	96.4%	$2,992,102	4,085	896	22%	$656,307	$732
Interest Expense	$1,069,853	96.4%	$1,031,464	4,085	896	22%	$226,248	$253
Storage	$4,495,637	66.0%	$2,965,750	2,956	896	30%	$898,845	$1,003
Interest Expense	$1,549,776	66.0%	$1,022,380	2,956	896	30%	$309,858	$346
Distribution	$11,607,902	47.0%	$5,450,871	1,974	896	45%	$2,474,154	$2,761
Interest Expense	$4,001,579	47.0%	$1,879,073	1,974	896	45%	$852,912	$952
Other								
Professional Expense	$9,925	100.0%	$9,925	505	505	100%	$9,925	$20
Total	**$25,838,133**	**59.4%**	**$15,351,565**					**$6,067**

NON-STANDARD IMPACT FEE

The proposed fees are based upon population growth. The City 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 park facilities.[10] This adjustment could result in a different impact fee if the City determines that a particular user may create a different impact than what is standard for its land use. The City may also decrease the impact fee if the developer can provide documentation, evidence, or other credible analysis that the proposed impact will be lower than what is proposed in this analysis. The formula for determining a non-standard impact fee is found below.

FORMULA FOR NON-STANDARD WATER IMPACT FEES:

Number of EDUs x $6,067 = Impact Fee per Unit

[10] 11-36a-402(1)(c)

SECTION 5: POWER IFFP AND IFA

The purpose of this section is to address the power IFFP, with supporting IFA and to help the City plan for the necessary capital improvements for future growth. This section will address the future power infrastructure needed to serve the City through the next 10 years, as well as address the appropriate impact fees the City may charge to new growth to maintain the existing LOS.

LEVEL OF SERVICE

Impact fees cannot be used to finance an increase in the level of service to current or future users of capital improvements. Therefore, it is important to identify the power level of service within the service area to ensure that the new capacities of projects financed through impact fees do not exceed the established standard. The power level of service is 5.97 kilowatts (kWs) per EDU based on a current peak load of 17,500 kWs.

TABLE 5.1: LEVEL OF SERVICE

	MEGAWATTS	UNITS
Peak Electrical Load	17.5	17,500 kW
Substation Load Capacity	20.0	20,000 kW
Existing EDUs (2018)	2,929	2,929 EDUs
Per EDU		**5.97 kW/EU**

EXISTING FACILITY INVENTORY

In order to quantify the demands placed upon existing public facilities by new development activity, the IFFP provides an inventory of the City's existing 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.

Nephi City Power has a peak capacity electrical load of 17.5 Mega Watts (MW). The city operates a 46kV sub-transmission line and a 12.5 kV distribution system. Nephi City Power delivers power to all the homes and businesses in Nephi. The power utility is responsible for all power lines within the City, including overhead, underground, distribution, and transmission. The City owns and operates two hydroelectric power plants with a total generation capacity of 1.2 MW. The city owns one 46kV to 12.5kV substation with a capacity of 20 MW.[11] The City maintains approximately 2,500 electric meters and 4.5 miles of 46 kV transmission line. The 20 MW substation owned by the City has had the capability of switching the load from one transformer to another for service and reliability purposes. Nephi's also has Power Purchase Agreements (PPA) with Utah Municipal Power Agency. Based on current demand, the system is at capacity.

MANNER OF FINANCING EXISTING PUBLIC FACILITIES

The City's existing power infrastructure has been funded through a combination of utility rate revenues and other governmental funds.

EXCESS CAPACITY

Based on the analysis above, no excess capacity is included in this analysis.

FUTURE CAPITAL FACILITIES ANALYSIS

The planned development within the City has caused the City's current substation to reach its capacity. This change in growth has made it necessary and imminent to construct another substation. The new substation is being located at the south end of the City, where there is open space in the City limits for new growth as well as existing electrical loads. The placement of this substation was strategic for new growth, as well as addressing line loss voltage problems that some of the customers have been experiencing recently due to the added growth on the existing substation transformers. The new substation is designed for 15 MW, with a footprint to double the capacity in the future as needed, for a total of 30 MW. The City plans to shift approximately 5 MW of the electrical load off the existing substation to the new substation right away and be in place for several new developments planned for the near future.

The City has identified the growth-related projects needed within the next ten years related to transmission and a new substation. Capital projects related to curing existing deficiencies were not included in the calculation of the impact fees. Total future projects applicable to new development are shown below.

TABLE 5.2: POWER CAPITAL IMPROVEMENTS

PROJECT #	YEAR	NAME	IMPACT FEE ELIGIBLE	COST	TOTAL IMPACT FEE FUNDING
5	2018	Mt. Shadows Transformers	0%	$40,000	-
6	2018	Substation #2	100%	$1,500,000	$1,500,000

[11] The City also serves one customer at 46 kV to a substation the customer owns.

PROJECT #	YEAR	NAME	IMPACT FEE ELIGIBLE	COST	TOTAL IMPACT FEE FUNDING
7	2018	Distribution Lines for Substation #2	100%	$500,000	$500,000
8	2018	Substation #1 URD	0%	$200,000	-
9	2019	Main Street Lights	0%	$100,000	-
10	2019	Circuit #114	0%	$150,000	-
11	2019	Voltage Reg - Substation #1 - 2019	0%	$80,000	-
12	2019	Canyon Overhead Line	0%	$200,000	-
13	2019	Electric Service to Jones Well	0%	$25,000	-
14	2019	Service Truck - 2019	0%	$80,000	-
15	2020	Underground Puller	0%	$50,000	-
16	2020	600 N 600 E Three Phase	100%	$225,000	$225,000
17	2020	Trouble Truck	0%	$180,000	-
18	2020	600 E Rebuild	100%	$200,000	$200,000
19	2020	Electric Building Addition	100%	$250,000	$250,000
20	2021	High School Complex	100%	$130,000	$130,000
21	2021	Big Bucket Truck - 2021	0%	$200,000	-
22	2022	Main Street Lighting - 2022	0%	$1,500,000	-
23	2022	Industrial Loop Continuation	100%	$150,000	$150,000
24	2022	South Interchange URD	0%	$80,000	-
25	2020	Substation #2	100%	$1,500,000	$1,500,000
26	2020	Distribution Lines for Substation #2	100%	$500,000	$500,000
27			0%	-	-
28			0%	-	-
29			0%	-	-
Total				**$7,840,000**	**$4,955,000**
				Transmission	**$955,000**
				Substation	**$4,000,000**

SYSTEM VS. PROJECT IMPROVEMENTS

System improvements are defined as existing and future public facilities that are intended to provide services to service areas within the community at large.[12] 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.[13] The Impact Fee Analysis may only include the costs of impacts on system improvements related to new growth within the proportionate share analysis. The improvements in this analysis serve the community at large and are considered system improvements.

FINANCING STRATEGY & CONSIDERATION OF ALL REVENUE RESOURCES

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.[14] 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.[15]

Revenues from other government agencies, grants or developer contributions have been identified within the IFFP to help offset future capital costs. The City anticipates other some grant monies will be received to fund future facilities. If these revenues change in the future, the impact fee analysis should be revised.

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.

- **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.

[12] UC 11-36a-102(20)
[13] UC 11-36a102(13)
[14] 11-36a-302(2)
[15] 11-36a-302(3)

- **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:** The City's power infrastructure will be funded through a combination of bonding, utility rate revenues impact fee revenues and other governmental funds. The City issued the Electric Revenue Bond, Series 2018, to fund construction of the City's electric substation and related improvements. The PAR amount of the bonds is $1,730,000, with payments scheduled over 15 years. The bonds carry a 3.30 percent interest rate, for a total of $484,645 of interest expense included in this analysis. The information related to these bonds can be found in the Electric Revenue Bonds, Series 2018 Closing Documents.

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.[16] 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.

PROPOSED POWER IMPACT FEE

Based on the total cost and demand the impact fee per kW is $347 as shown in **TABLE 5.3,** with a fee per EDU of $2,075.

TABLE 5.3: POWER IMPACT FEE PER UNIT

	TOTAL COST	% TO GROWTH	COST TO GROWTH	KWS SERVED	KWS IN IFFP PLANNING HORIZON	% OF KWS SERVED	COST TO IFFP	COST PER KW
Future Facilities								
Transmission	$955,000	100.0%	$955,000	5,353	5,353	100.0%	$955,000	$178
Substations	$4,000,000	83.3%	$3,333,333	25,000	5,353	21.4%	$713,782	$133
Interest Expense	$484,645	100.0%	$484,645	15,000	5,353	35.7%	$172,965	$32
Other								
Professional Expense	$9,925	100.0%	$9,925	3,017	3,017	100.0%	$9,925	$3
Total	**$5,449,570**	**87.8%**	**$4,782,904**					**$347**
							Fee per EDU (Based on 5.97 kW per EDU)	**$2,075**

NON-STANDARD IMPACT FEE

The proposed fees are based upon population growth. The City 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 park facilities.[17] This adjustment could result in a different impact fee if the City determines that a particular user may create a different impact than what is standard for its land use.

[16] 11-36a-402(2)
[17] 11-36a-402(1)(c)

The City may also decrease the impact fee if the developer can provide documentation, evidence, or other credible analysis that the proposed impact will be lower than what is proposed in this analysis. The formula for determining a non-standard impact fee is found below.

FORMULA FOR NON-STANDARD POWER IMPACT FEES:

Estimate of kWs per Unit x $347 = Impact Fee per Unit

APPENDIX A: WATER SYSTEM CAPITAL IMPROVEMENTS

The following tables detail the water system capital improvements included in this analysis. Details can be found in Appendix F of the Nephi City Rural Development Preliminary Engineering Report (PER) prepared by Sunrise Engineering.

TABLE A.1: WELL IMPROVEMENTS

#	ITEM	QTY.	UNITS	UNIT COST	AMOUNT
1	Mobilization	1	L.S.	107,000	107,000
2	Inspect & Evaluate Fire House Well for Rehabilitation	1	L.S.	25,000	25,000
3	26" Well Hole Drilling and Well Log Preparation	400	Ln Ft	290	116,000
4	20" Diameter Carbon Steel Well Casing	205	Ln Ft	150	30,750
5	20" SS Well Screen	200	Ln Ft	600	120,000
6	Gravel Pack	60	Cu. Yd.	1,200	72,000
7	2" Gravel Pack Carbon Steel Refill Tremie Pipe	400	Ln Ft	14	5,600
8	1.5 Inch Dia. 304 SS Screened Inst. Well Outside of Well Casing	360	Ln Ft	13	4,500
9	Sanitary Grout Seal ± 120' feet	25	Cu. Yd.	1,040	26,000
10	Furnish and Install Test Pump and Power Unit Equipment	1	L.S.	15,000	15,000
11	Development Pumping & Surging	180	Hour	300	54,000
12	Test Pumping	32	Hour	300	9,600
13	Disinfection and Capping	1	L.S.	4,000	4,000
14	Aquifer Water Sample	1	L.S.	2,000	2,000
15	Site Work and Grading	1	L.S.	5,000	5,000
16	Untreated Road Base Course	600	Ton	15	9,000
17	Well Site Chain Link Fence (Inc. 20' double leaf and 3' Man Gate)	840	Ln Ft	22	18,480
18	Concrete Building	1	Each	85,000	85,000
19	Turbine Line Shaft Pump System	1	Each	90,000	90,000
20	Well Pump Control Panel with VFD	1	Each	50,000	50,000
21	Well Building Pipe Valves and Fittings	1	Each	50,000	50,000
22	Ultrasonic Flowmeter 12"	1	Each	9,000	9,000
23	Well Building Unit Heater	1	Each	2,000	2,000
24	16" C900 PVC Pipe and Fittings to Blue Tank	12500	Ln Ft	55	687,500
25	16" Butterfly Valve	6	Each	4,400	26,400
26	3" Bituminous Surfacing for Street Crossings	5800	SQ.YD.	28	162,400
27	Chlorination Equipment	1	L.S.	30,000	30,000
28	12" C900 PVC Pipe and Fittings (Worwood Well to New Tank)	5200	Ln Ft	32	166,400
29	12" Gate Valve Assembly	4	Each	2,800	11,200
30	Pipe Bedding	17700	Ln Ft	1	22,125
31	HY 28 Xing Directional Bore w/HDPE	60	Ln Ft	200	12,000
32	3" Combination Air Valve Assembly	6	Each	7,900	47,400
33	Back-up Generator	1	L.S.	125,000	125,000
34	Nephi Power Company Power (from South Tank to Worwood Well)	5000	Ln Ft	10	50,000
	Total Well Improvements				**$2,250,355**

TABLE A.2: DISTRIBUTION IMPROVEMENTS

#	ITEM	QTY.	UNITS	UNIT COST	AMOUNT
1	Mobilization	1	LS	425,000	425,000
2	Pre-Construction Video	1	LS	1,500	1,500
3	Traffic Control	1	LS	30,000	30,000
4	Subsurface Investigation	300	Hour	200	60,000

#	ITEM	QTY.	UNITS	UNIT COST	AMOUNT
5	16" AWWA C900 PVC SDR 18 Pipe and Fittings	10700	Ln.Ft.	55	588,500
6	16" Butterfly Valve Assembly	11	Each	4,400	48,400
7	12" AWWA C900 PVS SDR 18 Pipe and Fittings	7200	Ln.Ft.	32	230,400
8	12" Gate Valve Assembly	14	Each	2,800	39,200
9	10" AWWA C900 PVS SDR 18 Pipe and Fittings	15700	Ln.Ft	24	376,800
10	10" Gate Valve Assembly	16	Each	2,400	38,400
11	8" AWWA C900 PVS SDR 18 Pipe and Fittings	52500	Ln.Ft.	19	971,250
12	8" Gate Valve Assembly	142	Each	1,500	213,000
13	8" AWWA C900 PURPLE PVS SDR 18 Pipe and Fittings	5000	Ln.Ft.	19	92,500
14	8" PURPLE Gate Valve Assembly	20	Each	1,500	30,000
15	6" AWWA C900 PVC SDR 18 Pipe and Fittings	28550	Ln.Ft.	13	371,150
16	6" Gate Valve Assembly	116	Each	1,200	139,200
17	Pipe Bedding	155917	Ln.Ft.	1	155,917
18	Untreated Base Course	10500	Ton	16	168,000
19	HY 132 & Main St. Xing Directional Bore w/ Various HDPE	1800	Ln.Ft.	200	360,000
20	Pavement Cutting Surface Street and UDOT Highway	254300	Ln.Ft.	1	127,150
21	8" Bituminous Surfacing for UDOT Highway	12000	Sq.Yd.	65	780,000
22	3" Bituminous Surfacing for Street Crossings	60761	Sq.Yd.	24	1,458,264
23	RR Crossing Boring and Jacking 24 Inch Casing Pipe	500	Ln.Ft.	300	150,000
24	New Fire Hydrant Assembly	139	Each	3,800	528,200
25	Reconnect Existing Fire Hydrant	47	Each	2,000	94,000
26	Service Connection Assembly (New or Reconnect 1")	1079	Each	450	485,550
27	1" Meter Connection Assembly	1079	Each	250	269,750
28	1" IPS Plyethylene Service Lateral Tubing	35607	Ln.Ft.	6	213,642
29	Carson Heavy Wall Max Series Meter Box for 1" Meters	1079	Each	120	129,480
30	Rings and Lid for 1" Meter Box	300	Each	150	45,000
31	Service Connection Assembly (New or Reconnect 2")	20	Each	900	18,000
32	2" Dual Check Meter Setter Assembly	20	Each	430	8,600
33	2" IPS Polyethylene Service Lateral Tubing	660	Ln.Ft.	8	5,280
34	2" Meter Box	20	Each	1,200	24,000
35	Ring and Lid for 2" Meter Box	10	Each	300	3,000
36	3" Combination Air Valve Assembly	6	Each	7,900	47,400
37	2" Combination Air Valve Assembly	4	Each	4,200	16,800
38	1" Combination Air Valve Assembly	6	Each	3,000	18,000
39	New Flow Meters for Well and Springs	4	Each	7,500	30,000
40	SCADA RTU Tanks/Chlorinator Bldg	4	Each	12,000	48,000
41	SCADA RTU Well	4	Each	18,000	72,000
42	SCADA HMI City Office	1	Each	22,000	22,000
	Total Distribution				**$8,933,333**

TABLE A.3: STORAGE IMPROVEMENTS

#	ITEM	QTY.	UNITS	UNIT COST	AMOUNT
1	Mobilization	1	L.S.	170,000	170,000
2	Tank Site Earthwork, Subgrade, and Foundation	2	Each	90,000	180,000
3	New 1,500,000 Gallon Concrete Storage Tank	2	Each	1,300,000	2,600,000
4	Tank Piping and Appurtenances	2	Each	40,000	80,000
5	Chain link Fence and Gate	2400	Ln.Ft.	22	52,800
6	Nephi Power Company to New South Tank	4200	Ln.Ft.	10	42,000

#	ITEM	QTY.	UNITS	UNIT COST	AMOUNT
7	Replace Existing Chlorination Building and Components	1	L.S.	105,000	105,000
8	Sand Blast & Recoat Blue Tank Interior	1	L.S.	230,000	230,000
	Total Tank Project				**$3,459,800**

TABLE A.4: LOWER BRADLEY SPRING REHABILITATION AND PIPING REVISIONS

#	ITEM	QTY.	UNITS	UNIT COST	AMOUNT
1	Mobilization	1	L.S.	64,000	64,000
2	New Lower Bradley Spring Collection and Control Box	2	Each	10,000	20,000
3	New Powerhouse Head Box at Lower Bradley Elevation	1	L.S.	30,000	30,000
4	12" AWWA C900 PVC SDR 18 Pipe and Fittings	200	Ln.Ft.	32	6,400
5	12" Gate Valve	2	Each	2,800	5,600
6	Import Pipe Bedding	200	Ln.Ft.	1	240
7	Altitude Control Valve for Park Tank in Manhole	1	Each	9,000	9,000
8	Untreated Base Course	50	Ton	16	800
9	Cut and Cap Old Spring Line in Existing Marsh Springs Vault	1	L.S.	2,000	2,000
	Subtotal Spring Line Improvements				**$138,040**

TABLE A.5: SUMMARY OF CONSTRUCTION COSTS

	Subtotal Construction Costs				**14,781,528**
	10% Contingency				**1,460,972**
	Total Construction Costs				**$16,242,500**

TABLE A.6: NON-CONSTRUCTION SERVICES

#	ITEM	QTY.	UNITS	UNIT COST	AMOUNT
a.	Administration	1	L.S.	30,000	30,000
b.	Design Engineering	1	L.S.	899,700	899,700
c.	Construction Administration and Quality Control Observation	Proj. Duration	Hourly	1,285,800	1,285,800
d.	Survey and Mapping	1	L.S.	20,000	20,000
e.	Preliminary Evaluation Report (PER) & Well Specification	1	L.S.	10,000	10,000
f.	Water Rights Services	1	L.S.	50,000	50,000
g.	PER and Environmental for RD Funding	1	L.S.	48,000	48,000
h.	Environmental Cultural and Other Surveys	1	L.S.	16,000	16,000
i.	Purchase and Equp Worwood 1,200 gpm Well	1	L.S.	400,000	400,000
j.	Source Protection Plan Worwood Well	1	L.S.	5,000	5,000
k.	Land and Easement Acquisitions	1	L.S.	100,000	100,000
l.	Legal, Fiscal, and Interim Financing	1	L.S.	100,000	100,000
	Total Non-Construction Services				**$2,964,500**

TABLE A.7: TOTAL PROJECT COSTS

	Total Project Cost				**$19,207,000**