

**CHAPTER 11**  
**PROJECT FINANCING**

# CHAPTER 11

## PROJECT FINANCING

Financing of the improvements is evaluated in this chapter including an assessment of current annual costs, projected cost increases to account for inflation, and an estimate of the rate impacts. Existing annual costs are summarized and these provide the base cost for wastewater services. Financing costs are added to the base cost to provide information on the likely impact on sewer user fees.

### EXISTING COSTS

Wastewater services are provided by the City of Lebanon through an enterprise fund whereby the cost of services is recovered from users through a service charge. Existing operation and maintenance costs include labor, contract services for plant operations, materials and services, minor capital outlays, equipment replacement, and several minor costs for citywide services. Historical costs for these are summarized in Table 11-1.

**Table 11-1. Operation and Maintenance Costs**

Description	Fiscal Year						
	1998 Actual	1999 Actual	2000 Actual	2001 Actual	2002 Actual	2003 Actual	2004 Adopted
Personal Services	285,226	359,659	371,935	419,871	414,073	439,555	537,656
Operations and Environmental Materials and Services	461,094	452,839	573,463	753,159	888,495	756,961	850,637
Capital Outlays	186,318	146,330	203,875	183,875	207,981	421,513	532,911
GIS	101,255	172,910	256,078	73,083	113,190	60,074	236,587
Information System Service	20,400	20,400	20,400	25,500	95,880	69,500	40,442
Equipment Replacement Fund	0	21,756	23,141	23,253	18,563	31,051	43,923
	30,770	37,530	48,180	31,900	31,760	32,830	89,780
<b>Total Operation and Maintenance Cost</b>	<b>1,085,063</b>	<b>1,211,424</b>	<b>1,497,072</b>	<b>1,510,641</b>	<b>1,769,941</b>	<b>1,811,484</b>	<b>2,331,936</b>

In addition to the operation and maintenance costs, capital costs are incurred for payment of outstanding indebtedness. Historical capital costs are summarized in Table 11-2. Total annual costs are summarized in Table 11-3.

**Table 11-2. Capital Costs**

Description	Fiscal Year						
	1998 Actual	1999 Actual	2000 Actual	2001 Actual	2002 Actual	2003 Actual	2004 Adopted
Existing Bond Debt Service	372,106	374,624	348,481	482,729	551,025	640,875	656,770
SELP Loan	3,216	3,216	3,216	3,216	3,216	3,216	3,216
City Hall Repair	2,760	3,196	2,445	2,771	2,872	1,246	2,974
Total Capital Cost	378,082	381,036	354,142	488,716	557,113	645,337	662,960

**Table 11-3. Annual Cost Summary**

Description	Fiscal Year						
	1998 Actual	1999 Actual	2000 Actual	2001 Actual	2002 Actual	2003 Actual	2004 Adopted
Operation and Maintenance	1,085,063	1,211,424	1,497,072	1,510,641	1,769,941	1,811,484	2,331,936
Capital Costs	378,082	381,036	354,142	488,716	557,113	645,337	662,960
Total Annual Costs	1,463,145	1,592,460	1,851,214	1,999,357	2,327,054	2,456,821	2,994,896

**PROJECTED ANNUAL COSTS**

Projected annual costs include a provision for inflation but do not anticipate increases due to treatment process changes. Inflation is included at a rate of three percent. Table 11-4 presents the projected annual costs for operation and maintenance. Capital costs are primarily based on existing indebtedness and are presented in Table 11-5. The bond debt service for the 1993 series was refinanced for a preferable rate. Both capital and operation and maintenance costs are summarized in Table 11-6.

**CAPITAL IMPROVEMENTS**

The recommended improvements shown in Chapter 10 provide the necessary facilities for a twenty year planning period. Most of the improvements for the facility plan are required in the first ten years. Improvements to the West Side Interceptor are spread-out over the course of the whole twenty-year period. Thus, the financing plan provides for funding of the projects scheduled for all the twenty years which includes all of the improvements shown for Phases 1, 2, 3 and 4.

Capital costs shown in Chapter 10 are presented in current cost levels. For financing projections, some level of inflation needs to be considered; otherwise the financing will not be adequate at the time of implementation. Accordingly, Table 11-7 presents the capital improvements including an annual rate of inflation of 3-percent. A total of \$40 million dollars will be required to fund the proposed improvements.

**Table 11-4. Projected Capital Costs**

Description	Fiscal Years										
	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15
Personal Services	553,786	570,399	587,511	605,137	623,291	641,989	661,249	681,087	701,519	722,565	744,242
Operations and Environmental Materials and Services	876,156	902,441	929,514	957,399	986,121	1,015,705	1,046,176	1,077,562	1,109,888	1,143,185	1,177,481
Capital Outlays	342,898	353,185	363,781	374,694	385,935	397,513	409,439	421,722	434,373	447,405	460,827
GIS	243,685	250,995	258,525	266,281	274,269	282,497	290,972	299,701	308,692	317,953	327,492
Information System Service	41,655	42,905	44,192	45,518	46,883	48,290	49,739	51,231	52,768	54,351	55,981
Equipment Replacement Fund	45,241	46,598	47,996	49,436	50,919	52,446	54,020	55,640	57,310	59,029	60,800
Total Operation and Maintenance Cost	92,473	95,248	98,105	101,048	104,080	107,202	110,418	113,731	117,143	120,657	124,277
	2,195,894	2,261,771	2,329,624	2,399,513	2,471,498	2,545,643	2,622,012	2,700,673	2,781,693	2,865,144	2,951,098

**Table 11-5. Projected Capital Costs**

Description	Fiscal Year										
	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15
Existing Bond Debt Service											
2000 Series	286,893	285,643	284,143	287,325	284,930	287,205	283,885	285,223	285,948	286,050	285,520
1993 Series	296,104	292,504	293,904	290,204	291,041	295,816	299,816	293,329	296,294	293,319	295,163
SELP Loan	3,216	3,216	3,216	3,216	3,216	3,216	3,216	3,216	3,216	3,216	3,216
City Hall Repair	2,974	2,974	2,974	2,974	2,974	2,974	2,974	2,974	2,974	2,974	2,974
Total Capital Cost	589,186	584,336	584,236	583,719	582,161	589,211	589,891	584,741	588,431	585,559	586,873

**Table 11-6. Projected Annual Cost Summary**

Description	Fiscal Year										
	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15
Operation and Maintenance	2,195,894	2,261,771	2,329,624	2,399,513	2,471,498	2,545,643	2,622,012	2,700,673	2,781,693	2,865,144	2,951,098
Capital Costs	589,186	584,336	584,236	583,719	582,161	589,211	589,891	584,741	588,431	585,559	586,873
Total Annual Costs	2,785,080	2,846,107	2,913,860	2,983,232	3,053,659	3,134,854	3,211,904	3,285,414	3,370,124	3,450,702	3,537,971

**Table 11-7. Recommended Capital Improvement Program**

Project Description	Fiscal Year										Total
	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	
Subsurface Discharge Program	838	2,833									3,671
Dechlorination System	68	350									418
Aerobic Digester Surface Aerator		14	71								85
Dewatered Sludge Storage System		530	2,730								3,260
Odor Control – Buffer Land Acquisition				338			369		391		1,098
I/I Removal and Rehabilitation		825	708			786					2,319
Headworks Renovation				129	670						799
Aeration Basin Equipment Replacement				120	620						741
Aeration Basin Sludge Reaeration Modifications				65	335						400
Secondary Clarifier				648	3,339						3,987
Chlorination Improvements				20	104						125
Holding Tank and Septic Receiving Station						44	228				272
Administration Building Expansion/Renovation								317			317
Facility Plan Update										134	--
West Side Interceptor		2,593			2,543			3,166			--
Old Influent Pump Station VFDs and Controls								365			--
<b>Total</b>	<b>906</b>	<b>7,145</b>	<b>3,509</b>	<b>1,321</b>	<b>7,611</b>	<b>830</b>	<b>596</b>	<b>3,847</b>	<b>391</b>	<b>134</b>	<b>--</b>
Project Description	Fiscal Year (continued)										Total
	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Facility Plan Update										181	315
West Side Interceptor	5,106			3,050			5,249				21,707
Old Influent Pump Station VFDs and Controls											365
<b>Total</b>	<b>5,106</b>	<b>0</b>	<b>0</b>	<b>3,050</b>	<b>0</b>	<b>0</b>	<b>5,249</b>	<b>0</b>	<b>0</b>	<b>181</b>	<b>39,878</b>

## FINANCING

Financing of the improvements can be accomplished through either pay-as-you-go or through borrowing. Few grants are available for municipalities and are only provided to low income communities that have sewer rates in excess of \$40 per month for a single family dwelling. Should some grant money become available, Lebanon could reduce the amount of financing from other sources.

Based on the CIP improvements shown in the Wastewater Utility Enterprise Fund, \$1.7 million dollars are estimated to be available for funding projects included in Table 11-7.

### Pay-As-You-Go

Pay-as-you-go financing is the least cost financing option since no interest costs are incurred. Communities with high growth rates and modest expenditures have successfully financed improvements with pay-as-you-go through a combination of system development charges and user fees. For the City of Lebanon, capital requirements for the next ten years are very high compared to the available user base. The City has approximately 6,520 equivalent single-family users.

Given the capital requirements shown in Table 11-7, user fee increases to fund improvements on a pay-as-you-go basis are shown in Table 11-8. Rates would need to increase to \$90 per month for an average single-family dwelling. Once facilities are in place, rates could be reduced to approximately \$45 per month.

**Table 11-8. Pay-As-You-Go Rates**

Fiscal Year	Monthly Rate, \$/EDU
2004-2005	75.00
2005-2006	80.00
2006-2007	85.00
2007-2008	90.00
2008-2009	90.00
2009-2010	85.00
2010-2011	70.00
2011-2012	65.00
2012-2013	60.00
2013-2014	60.00
2014-2015	60.00

## **Debt Financing**

Several alternative debt financing options are available to the City including bonds and the State Revolving Fund (SRF). The City could issue either general obligation bonds or revenue bonds to fund the improvements. Because the wastewater management program is operated as an enterprise fund, use of revenue bonds is the most convenient if the City elects to sell bonds.

Interest rates have been most favorable for communities like the City of Lebanon if they are qualified for SRF loans. The rating of state issued bonds has been excellent which has resulted in lower interest rates than can be obtained by smaller communities. The City of Lebanon is on the State's priority list for funds and is ranked 64<sup>th</sup> or near the middle of all projects in Oregon.

Table 11-9 shows the cash flow requirements and the corresponding debt service for financing the improvements with debt service. Annual debt service costs are based on an interest rate of five percent and a 20-year term.

## **Recommended Financing**

Based on the analysis of pay-as-you-go financing, the dramatic rate increases that would be required are not desirable and debt financing is recommended. Although grants are not likely, the City should approach the State to review funding options. Low interest funds may be available through the State which would be worthwhile for the City to pursue. To be adequately conservative for the purpose of estimating future user fees, it is assumed that the City will sell revenue bonds to pay for the necessary improvements.

## **USER FEES**

The full cost for the City's wastewater utility is recovered from user fees which are summarized in Table 11-10. Rates shown need to be implemented to allow financing of the required improvements. Currently, a typical residential user pays \$28.50 per month. Given the existing mix of residential, commercial, and industrial use, the City collects revenue for the equivalent of 6,520 single family units. Current rates are not adequate to cover current costs. A 33 percent increase is needed to fund costs anticipated for fiscal year 2004-05 which does not include additional debt service.

As additional debt service costs are incurred, the projected annual costs are shown in Table 11-11. User fees will need to be increased to meet the revenue requirements as estimated in Table 11-12. These rates include an annual allowance for inflation of 3-percent.

User fees shown in Table 11-12 will pay for the full cost of the bonds required to fund the capital improvements. At an annual growth rate of one percent, 754 new users will be connected in the ten year period which will generate system development revenue. However, the user fee system needs to be set to generate adequate revenue for the revenue bonds repayment.

**Table 11-9. Financing Costs**

Fiscal Year	Cost, \$ 1000				
	Capital Cost	Bond Sale	Debt Service		
			Interest	Principal	Total
2004-2005	906		0	0	0
2005-2006	7,145	6,500	325	197	522
2006-2007	3,509	6,000	615	388	1,003
2007-2008	1,321		596	407	1,003
2008-2009	7,611	7,500	950	654	1,605
2009-2010	830	5,000	1,168	838	2,006
2010-2011	596		1,126	880	2,006
2011-2012	3,847		1,082	924	2,006
2012-2013	391		1,036	971	2,006
2013-2014	134		987	1,019	2,006
2014-2015	5,106	5,000	1,186	1,221	2,407
2015-2016	0		1,125	1,282	2,407
2016-2017	0		1,061	1,346	2,407
2017-2018	3,050	3,000	1,144	1,504	2,648
2018-2019	0		1,068	1,580	2,648
2019-2020	0		989	1,659	2,648
2020-2021	5,249	5,200	1,166	1,899	3,065
2021-2022	0		1,071	1,994	3,065
2022-2023	0		972	2,093	3,065
2023-2024	181		867	2,198	3,065



**Table 11-10. User Fees for Wastewater Service  
Fiscal year 2003-2004**

Description	Base Rate \$/month	Volumetric \$/100 cubic feet
Residential – Low Income	10.05	2.88
Residential	11.18	3.20
Commercial – Meter Size, inches		
3/4	16.47	3.20
1	25.22	3.20
1.5	63.84	3.20
2	112.78	3.20
3	254.37	3.20
4	615.42	3.20
Schools – Per Student		
Middle and High Schools	1.15	
Elementary Schools	0.71	
Industrial – Meter Size, inches		
3/4	16.47	3.20
1	25.22	3.20
1.5	63.84	3.20
2	112.78	3.20
3	254.37	3.20
4	615.42	3.20
Per pound of TSS, \$/month	0.38	
Per pound of BOD, \$/month	1.59	

### 11-11. Projected Annual Cost Summary

Description	Fiscal Year											
	2004	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15
Operation and Maintenance	2,131,936	2,195,894	2,261,771	2,329,624	2,399,513	2,471,498	2,545,643	2,622,012	2,700,673	2,781,693	2,865,144	2,951,098
Capital Costs	662,960	589,186	584,336	584,236	583,719	582,161	589,211	589,891	584,741	588,431	585,559	586,873
New Debt Service		0	521,577	1,003,032	1,003,032	1,604,852	2,006,065	2,006,065	2,006,065	2,006,065	2,006,065	2,407,278
<b>Total Annual Costs</b>	<b>2,794,896</b>	<b>2,785,080</b>	<b>3,367,684</b>	<b>3,916,893</b>	<b>3,986,264</b>	<b>4,658,511</b>	<b>5,140,919</b>	<b>5,217,968</b>	<b>5,291,479</b>	<b>5,376,189</b>	<b>5,456,767</b>	<b>5,945,248</b>

**Table 11-12. Rates**

Fiscal Year	Monthly Rate \$/EDU	% Increase per year
2004-2005	35.20	23.5%
2005-2006	42.20	19.9%
2006-2007	48.60	15.2%
2007-2008	49.00	0.8%
2008-2009	56.70	15.7%
2009-2010	61.90	9.2%
2010-2011	62.20	0.5%
2011-2012	62.50	0.5%
2012-2013	62.80	0.5%
2013-2014	63.10	0.5%
2014-2015	68.10	7.9%