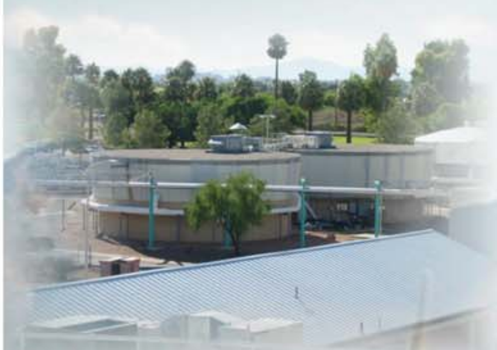
# Chapter 9 Funding



## CHAPTER OVERVIEW

Chapter 9 details the various funding sources for Pima County Wastewater Management Department (PCWMD) to perform routine operation and maintenance on the existing system and build future facilities. PCWMD was established as an enterprise fund in Pima County's financial structure – a utility operation funded by the revenue it generates from fees charged for its services. Revenues are collected and transferred to Pima County's Finance Department where they are organized and allocated according to the flow of funds adopted in the Board of Supervisors Resolution 1991-138. Major capital improvements to the system are generally funded by Sewer Revenue Bonds through Bond Sales or Water Infrastructure Finance Authority (WIFA) loan following authorization by the voters.

The principal sources of revenue are Sewer User Fees and Sewer Connection Fees paid by customers of the system as established and modified by ordinances authorized by the Board of Supervisors. Preliminary benchmarking reports indicate some common factors regarding PCWMD's fees:

- **User Fee Rates:** Pima County's user fees are consistently among the lowest in any of the surveys for agencies of similar size and mission in all surveys nationwide.
- **Connection Fee Rates:** Pima County collects a reasonable amount of funding from the development industry for growth related expenses.

# CHAPTER 9.0 FUNDING

Pima County Wastewater Management Department is accounted for as an enterprise fund of Pima County, and is responsible for the management and operation of all liquid waste programs in Pima County. An administrator appointed by the Pima County Board of Supervisors directs PCWMD's management. However, ultimate financial accountability for the Department remains with Pima County. PCWMD's accounts are maintained in accordance with the principles of fund accounting to ensure that limitations and restrictions on PCWMD's available resources are observed. The principles of fund accounting require resources be classified for accounting and reporting purposes into funds in accordance with activities or objectives specified for those resources. A fund is considered a separate accounting entity, and its operations are accounted for in a separate set of self-balancing accounts comprising its assets, liabilities, net assets, revenues and expenses.

PCWMD's financial transactions are recorded and reported as an enterprise fund because its operations are financed and operated in a manner similar to private business enterprises, in which the intent is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

The Board of Supervisors Resolution 1991-138 sets the flow of funds for PCWMD. All revenues generated by the enterprise, whether operating or non-operating, must be deposited in the Revenue Fund. Once available for current uses they pay for the operations and maintenance of the sewerage system, bond/loan principal and interest expenses, reserve fund guaranties, reserve requirements of parity bonds, arbitrage rebate expenses and finally flow through to the System Development Fund (SDF), in that order. System Development Funds may then be used to: provide funding for sewerage system extensions or betterments and unbudgeted operating and maintenance expenses, to redeem bonds subject to redemption (if rates are favorable), to pay general obligation bonds issued by Pima County for acquisition of the system or for construction of additions or improvements to the system and to make loans to Pima County to be used for any lawful purpose under equitable terms prescribed by the Board or used for any lawful purpose.

## Revenue Sources

The principal source of operating revenues is Sewer User Fees. Sewer User Fees are the monthly charges billed to existing customers to cover the expense of administration, system operation and system maintenance. Other operating revenues include fees for engineering review of plans and inspections of physical improvements, permits and fines as well as sanitation fees charged for the dumping of septic waste at a treatment facility. Sewer User Fees generate approximately 97 percent of all operating revenues with the remainder being generated by the sources previously mentioned. Non-operating revenues include Sewer Connection Fees, grant revenue, interest income and other miscellaneous sources of revenues. Sewer Connection Fees are the charges levied upon new customers to cover the cost of conveyance system extensions and increased treatment capacity necessary to serve new connections to the sewerage system. Connection Fee revenues account for the majority of all non-operating revenues.

PCWMD reviews its revenues and expenses annually and presents recommendations, in conjunction with the Wastewater Management Advisory Committee, for adjustments to these fees and expenses (budget) to the Board of Supervisors in the Department's annual Financial Plan and proposed budget.

As stated earlier, Board of Supervisor's Resolution 1991-138 dictates for what purposes and in what order Pima County must use PCWMD's revenues to satisfy its obligations to the ratepayers and bondholders as follows:

- Revenue Fund: Depository Fund all revenues flow into.
- Operations and Maintenance Fund: Operational expenses only.
- Bond Fund: Principal and interest expenses.
- Reimbursement Fund: Policy costs to pay reserve Fund guarantors.
- Reserve Fund: Reserve requirements rebated to parity bonds.
- Rebate Fund: Arbitrage rebate expenses.
- System Development Fund: system extensions or betterments, unbudgeted operations and maintenance (O&M) expenses, redemption of bonds.

Most revenues are used for the daily payment of operating and maintenance expenses. PCWMD also utilizes a portion of its revenues in an un-leveraged manner for a Pay-As-You-Go capital construction program through the SDF, which are the funds remaining after all mandatory payments required by Resolution 1991-138 are made.

However, revenues used to pay the debt service for the Sewer Revenue Bonds and WIFA loans are used as leveraged revenues (similar to a multi-year mortgage or car payment). The principle theory for leveraging future revenues to finance the acquisition, construction, addition to or major repair of capital assets is these expenses are intended to benefit not only the current users of the sewerage system but future users as well.

In addition, PCWMD receives developer contributions of capital improvements to the sewerage system. All capital improvements (i.e. on and off-site sewer lines) are required to be constructed to public standards and provide a bill of sale to Pima County in order for the new construction to be accepted and maintained as part of the regional system. This allows the Department to obtain off-site, flow-through and over-sized sewer construction at minimal cost, thus leaving existing revenues available for other capital projects.

### Current and Recent Financial Results

Table 9.1, compiled from financial data from the last five fiscal years provides the highlights of PCWMD's current and recent financial status.

Another key indicator of the Department's current and recent financial results is the Debt Service Rate Covenant. Pima County Resolution 1991-138 requires PCWMD "establish and maintain rates, fees and other charges for all services supplied by the System to provide revenues fully sufficient, after making reasonable allowance for contingencies and errors in estimates, to pay all Operating Expenses and produce aggregate Net Revenues in each Fiscal Year equal to at least 120 percent of the principal and interest requirements on all Outstanding Bonds for the corresponding Bond Year." As noted in the proceeding Comparative Statements of System Revenues, Expenditures and Net Revenues Available for Debt Service Schedule the lowest Debt Service Coverage Ratio in the last five-year period was 1.36 and in three of the past five fiscal years the ratio has exceeded 2.0 percent.

In terms of historical trends compared to recent events, it should be noted, the impact of the Northwest Outfall/Speedway Sinkhole event in FY2002/03 and an increase in funding necessary to complete the Randolph Park WRF resulted in a severe reduction in available O&M and capital spending. Even though the revenue stream remained constant, as all available revenues for the next 18 months were applied to the resulting financial obligations until all had been repaid. Since repayment, PCWMD is pursuing an enhanced rehabilitation program starting in FY2005/06 and has increased the CIP from $6 million dollars in FY2004/05 to $28 million dollars in FY2005/06.

*Table 9.1.1 PCWMD Compiled Financial Data*

| | 2000-2001 | 2001-2002 | 2002-2003 | 2003-2004 | 2004-2005 |
|---|---|---|---|---|---|
| REVENUES | | | | | |
| Sewer Utility Service | $40,837,314 | $40,935,336 | $45,318,741 | $47,685,465 | $50,393,306 |
| Sewer Connection Revenue | 16,768,587 | 17,479,915 | 20,279,607 | 29,404,130 | 36,906,421 |
| Engineering Review & Inspection Fees | 15,064 | 61,564 | 245,820 | 104,062 | 171,914 |
| Other Income [1] | 4,513,271 | 2,367,825 | 2,530,600 | 2,334,645 | 1,295,589 |
| Gross Revenues | 62,134,236 | 60,844,640 | 68,374,768 | 79,528,302 | 88,767,230 |
| MAINTENANCE AND OPERATIONS COSTS | | | | | |
| Employee Compensation | 17,962,678 | 20,350,669 | 23,290,692 | 25,367,949 | 24,730,566 |
| Consultants/Outside Services | 2,929,587 | 2,918,701 | 2,523,079 | 2,510,706 | 3,112,112 |
| Treatment Supplies and Chemicals | 6,671,822 | 6,069,710 | 7,276,779 | 6,375,637 | 4,712,606 |
| Repair & Maintenance | 1,726,453 | 3,204,525 | 4,699,452 | 1,430,383 | 2,603,772 |
| General and Administrative | 6,081,183 | 6,102,213 | 8,320,189 | 8,749,542 | 6,438,499 |
| Capital Expenses | 4,270,845 | 3,925,136 | 827,240 | 132,247 | 147,116 |
| Maintenance and Operation Cost | 39,642,568 | 42,570,954 | 46,937,431 | 44,566,464 | 41,744,681 |
| NET REVENUE | 22,491,668 | 18,273,686 | 21,437,337 | 34,961,838 | 47,522,549 |
| REVENUE BONDED DEBT SERVICE | | | | | |
| Principal | 5,006,080 | 7,661,855 | 8,886,774 | 7,979,721 | 4,705,000 |
| Interest | 4,531,118 | 5,782,368 | 5,912,681 | 5,377,763 | 2,276,249 |
| Total Debt Service Payments | 9,537,198 | 13,444,223 | 14,799,455 | 13,357,484 | 6,981,249 |
| Debt Service Coverage | 2.36X | 1.36X | 1.45X | 2.62X | 2.38X |
| NET REVENUES REMAINING AFTER DEBT SERVICE | 12,954,470 | 4,829,463 | 6,637,882 | 21,604,354 | 22,228,452 |

1. Other income includes revenue generated from licenses, permits and fines, sanitation fees, net interest income, and other miscellaneous income.

Source: For fiscal years 1999-00 through 2003-04 prepared by the Department from its audited financial statements, excluding all grant activities.

### Benchmarking – Comparisons With Other Agencies

Financial and rate comparisons among wastewater agencies, regionally and nationally, are difficult due to the wide ranges in governance structure (cities, districts and regional authorities), rate structures, size and geography, composition of customers and utility function (retail, wholesale or combination). A number of industry surveys are compiled and published periodically to assist utility managers and governing Boards review of these issues from a wider perspective. PCWMD has used the surveys by the Association of Metropolitan Sewerage Agencies (AMSA), the City of Phoenix, and the “Water and Wastewater Survey” by Raftelis Financial Consulting, a nationally recognized authority on water and wastewater financing. Raftelis Financial Consulting is the Financial Consultant to PCWMD for the Facility Plan and has extensively discussed these topics with staff since the initiation of the Facility Plan Study. In addition, the recent audit of PCWMD by Black & Veatch conducted a benchmarking assessment of PCWMD against other agencies they selected for this purpose.

### Benchmarking Observations

Some of the common factors noted in these reports regarding the Department fees were:

- **User Fee Rates:** Pima County's User Fees are consistently among the lowest in any of the surveys for agencies of similar size and mission nationwide.
- **Connection Fee Rates:** Pima County collects a reasonable amount of funding from the development industry for growth related expenses.

Some pertinent observations from the 2002 Raftelis survey are:

- The Water and Wastewater Survey categorizes the participating utilities into three groups, A, B and C, dependent upon size. PCWMD is in group A (large) with the following comparisons to others in this group of 35.
- PCWMD user fee of $17.52 (2005/06) per month for the typical (10Ccf) customer billing and the average connection fee of $4,050 for a typical residence as well as the Pima County data contained in the survey were discussed.
- The PCWMD rate structure (Administrative Fee plus Service Charge) was found to be among the lowest nationwide:
  - ✓ PCWMD Administrative Fee of $5.72 versus a nationwide average of $5.74.
  - ✓ Median Monthly User Fee charges for group A was $20.11 (10 Ccf) in the 2002 survey, compared to $11.80 for PCWMD customers in 2005.
  - ✓ PCWMD Average Monthly Bill was ranked lower than the average monthly bill for Group A which was $21.79.

### Association of Metropolitan Sewerage Agencies 2002 Survey

- PCWMD's cost for O&M were 25 percent higher than the average, but has a conveyance system length 220 percent greater than the average.
- PCWMD's O&M costs were $3,215 per sewer mile compared to the national average of $5,681 per sewer mile. This is approximately 43 percent less than the average for all reporting agencies on a cost per mile basis.
- PCWMD devotes one FTE for every 32 miles of maintained sewer main, while the national average is one FTE for every 23 miles of sewer main. Therefore, PCWMD maintained 39 percent more system miles per FTE than the national average within a sewer service area that is geographically 36 percent greater than the average.
- Pima County's average residential customer bill is $17.52 compared to the national average of $21.79 per month. Therefore, Pima County's average bill is only 80 percent of the average reported.
- Pima County's Biosolids Management cost per Dry Ton is $96.28 as compared to 63 other agencies that reported an average of $219.85 per Dry Ton.
- The Department's debt principal at the end of FY2003/04 is $149 million compared to an average outstanding debt of $460 million for the 72 agencies responding.
- Influent heavy metal concentration evaluation of pretreatment trends reveals the national average was higher than Pima County's experience for cadmium, chromium, lead, nickel, silver and zinc, but slightly lower for copper and mercury.
- The total suspended solids removal efficiency for Pima County was greater than the average. In fact, PCWMD's removal efficiency for conventional pollutants was comparable to national averages.

### Other Potential Revenue Mechanisms

While the current Pima County user fee and connection fee systems have accomplished their goal of generating revenue for the utility while having an equity basis that is generally supported by the community, it is worthwhile to look at other systems briefly to have a suitable context for evaluating these revenue mechanisms.  It should be noted, all communities are required by the Clean Water Act to have a user fee allocating the O&M costs of the system equitably across all classes of sewer users, but the collection of fees for capital improvement financing has no formal structure required in the Clean Water Act.

#### User Fee Structures of Other Public Wastewater Utilities

The City of Phoenix has developed an environmental fee specified in their rate ordinance that addresses environmental concerns. Phoenix also adds the environmental fee to wastewater services it wholesales to other municipalities that are participants in its wastewater treatment facilities through a Sub-Regional Operating Group (SROG).

Many utilities have uncoupled their current rehabilitation costs from their general user fees and have a special notation on the bills for a separate charge for these expenditures. In this manner, utilities with older systems can reflect necessary rehabilitation and replacement costs associated with aging infrastructure more accurately in their billing.

Charlotte, North Carolina has added a nitrogen assessment to their fees. Thus costs associated with wastewater processing to meet the ever more restrictive allowable nitrogen discharge levels are clearly identified.

Many utilities are anticipating the necessity to increase revenues to cover the costs associated with the government mandated Capacity, Management, Operations and Maintenance (CMOM) Program. Further, some utilities have allocated conveyance system costs with classes of users.

PCWMD does not directly bill customers for sewer service but enters into Intergovernmental Agreements (IGA) with water service providers (Tucson Water, Metropolitan Water, Oro Valley, etc.) to bill their customers.  This will limit the Departments ability to add "line items" to sewer bills reflecting government-mandated programs; however, based on the *Sewer User Fee Billing Evaluation Study* (June 2001), performed by Black & Veatch, the practice of billing for sewer services through the use of IGAs with water providers was deemed to be the least costly.

#### Capital Improvement Revenue Mechanisms of other Public Wastewater Utilities

The Connection Fee revenue mechanisms present the greatest funding challenges.  The areas below represent the full range of urbanization from completely rural to urban margin with different utility services in place. PCWMD currently uses low-interest Sewer Revenue Bond funding and/or WIFA loans (State of Arizona sewer revenue bond pools).  The debt service, principal and interest, related to these financing alternatives are paid for with user fees  (rehabilitation projects) and connection fees (new capacity projects).

Revenue mechanisms used by other wastewater agencies and their governing bodies include:

- **Zoning Taxes:** Each parcel within a service area would be assessed a specific portion of the cost of wastewater utility development based upon the type of zoning and intensity of intended use. The assessment would be a fixed sum, paid for a specified number of years or paid in total upon filing of development plans, that once paid would entitle that parcel of land to connect to the system without further charges. Comment: The assessment would increase the value of the land so the owner of the land should ultimately recover their costs, plus inflation, upon sale of the land. Any change in zoning or use would cause a rebate or additional charge. This would insulate PCWMD should housing starts drop.

- **Incentives for prepayment of connection fees:** Self-explanatory. Comment: This would require a discounting of future revenue streams as this specifically relates to the time value of money, and would only become an option should no other sources be available for capital funding.
- **Sewer Capacity Development Fees:** These fees would be essentially the same as our present connection fees, if paid at the time of development. Comment: This concept does have some appeal, if the fees were assessed at the time of rezoning as a non-refundable charge for incorporating the capacity needs of the development into our facility and regional planning – perhaps calculated as 10 percent of the potential connection fees from the development.
- **Developer Participation in Expansions:** This has been a highly useful tool for conveyance. Comment: PSWMD's connection fee ordinance has recently been amended to explicitly authorize its use in providing treatment facilities. This concept has been actively pursued in the Marana and Corona de Tucson areas, which were especially suited for it, due to the size of the developments being proposed along with their timing. However, this is a less viable option for assistance in the Avra Valley area, as many of the developments and developers involved in these efforts are too small to provide sufficient capital to construct a treatment facility.
- **Impact Fees:** Pima County impact fees are regulated by Arizona State statute, which place significant restrictions on their assessment, timing and use. Comment: The connection fee, regulated by Pima County, is far more versatile and manageable.
- **Collection of Fees at an earlier stage of development:** Self-explanatory. Comment: See capacity fee above. Otherwise, it's a simple transfer of future revenue to present revenue, which may be good in the short term, but long-term neutral.
- **A "Mileage Charge:"** Connection Fees would be based upon the distance to available treatment. Comment: Difficult to assess and administer, but intriguing.
- **Special Taxing District:** Used in Peoria, Arizona whereby all wastewater infrastructure within the district was installed from taxes specifically leveled on the land within the service area. Comment: This is the traditional "Sanitary District" concept.

## Future Revenue Requirements

### Future Operations and Maintenance Requirements

In recent years PCWMD, as have wastewater agencies throughout the United States, has been mandated to treat wastewater to ever-increasing levels of purity by Federal and State environmental agencies and reduce the occurrences of system malfunctions. These demands have caused the Department to forecast O&M expenses increasing at a rate beyond inflation and the "normal" expense increases of past years. The anticipated O&M expenses to reduce conveyance system accidental discharges and to increase the quality of liquid and solid residuals of the treatment process will require significant increases in either existing user and connection fees or the development of alternate fees more descriptive of their causes. Since these expenses have to do with the ongoing operations of the system, they are typically considered expenses that should be allocated to existing users. The quantification of these expenses is not yet clear from an O&M standpoint, but our best estimates, at this time are contained in Table 9.1. In addition, Black & Veatch (2005 Audit Report and 2005 Rate Study) and others, have noted that user fees should carry more of the debt service expense for capital projects that benefit existing users and increased O&M and regulatory expenses.

### Future Capital Requirements: Growth, Regulatory and Rehabilitation

Pima County has experienced significant population increases since the turn of the century, and anticipates this growth to go forward in the next decade. The population predictions were relatively accurate in magnitude; however, the prediction of the location of population growth has been less reliable. Several factors, such as the variations in the sale of the large parcels of State land which surround the Metropolitan Area, endangered species listing of plants and animals and the commitment of communities to planned growth, caused developers to change focus from previously anticipated areas to new areas. This resulted in unexpected stress on all utilities serving the community, but especially the wastewater system with its large project cost factors and time commitments for permitting and facility development.

The 2006 Pima County Metropolitan Area Facility Plan (Facility Plan) has identified fast-growing areas in both the Metropolitan and Outlying Treatment Facilities such as:

- The Town of Marana north of the Lambert Lane/Avra Valley Alignment.
- The Houghton Road Area from Irvington Road to Sahuarita Road.
- The area tributary to Corona de Tucson WWTF.
- The area south of Hughes Access Road to Coronado Forest boundary and from Old Nogales Highway east to Sonoita Highway.
- The area tributary to the Avra Valley WWTF.
- The Rincon Valley.
- The Vail Area.

The Facility Plan Capital Improvement Plan (CIP) has identified major improvements for these areas in order to provide sewer capacity in a timely manner. Many of these improvements will be made directly by the developments requiring this capacity, but others will require bond issuances to be paid by developers through their connections fees.

The 20-year CIP makes it clear that a significant number and dollar amount of capital projects must be bond-funded during this next planning period. Towards this end, all new growth projects must be funded either through direct developer contributions or bond debt service paid by connection fees. These would include expansions to treatment facilities and sewer interceptors for new growth areas.

#### *Regulatory*

A number of regulatory projects are identified. Some, like the Ina Road WPCF Nitrification/Denitrification Project, are included in the 2004 Bond Authorization, but the bonds must be issued and user fees must rise to initiate the projects. Others, like the improvements to biosolids processing will require new bond authorizations. The funding for these projects relate both to user and connection fees and an engineering estimate for percentage of funding from each source will be required.

#### *Rehabilitation*

The capital rehabilitation projects mentioned previously will begin to have a more significant impact on PCWMD capital needs in the years ahead. The principal policy question for these projects is, how the capital rehabilitation expenses should be covered (i.e., with unleveraged revenues on a pay as you go basis or through the use of bonding to leverage the annual revenues against a loan or bond for all or some of these capital projects). The question then becomes how much of the future user fee revenue-generating capability should fund these expenses, directly, and how much should be applied to cover the expenses and obligations of bond funding. In FY2004/05, the Department's depreciation expense was $17 million, so the depreciation value each year can be used as a surrogate for the capital rehabilitation needed.

The proposed Capital Projects for growth, regulatory and rehabilitation purposes are discussed and shown on spreadsheets in Chapter 8.

### Financial Policies and Benchmarks

From PMCWD's perspective in looking at appropriate levels of funding and appropriate use of revenue mechanisms for capital project financing, several industry financial standards for municipal utility funding are of interest:

- Working Capital should equal 30 percent of one year non-bond Capital Expenses.
- Capital Reserves should equal one years non bond Capital Expenses.
- Working Capital (Working Reserve) should equal 12.5 percent of Total Yearly Revenues.
- Stabilization Fund should equal 12.5 percent of Total Reserve.
- Debt Service can consume 25 to 40 percent of Total Revenue.
- Debt Service coverage 120 percent (minimum, more if possible).
- Emergency Reserve Funding could be 15 percent of Operating Expenses.

As the 20-year CIP indicates, PCMWD is entering a period of extensive capital construction for growth, regulatory and rehabilitation demands. Currently, the voters of Pima County approved a $150 million Wastewater Bond Program in May 2004. Prior to this, PCWMD was authorized to issue $105 million in bonds in 1997 and $54 million in 1986.

From the data presented, it is clear to meet all the needs evidenced in the Facility Plan, will need more frequent bond/loan authorizations at higher dollar values than in the past. In that regard, it is important to note, the current Connection Fee income could support much more debt; the application of User Fees to pay the debt for rehabilitation projects would augment the funds available for debt service with an even more reliable source of the funds.

The financial policies of PCWMD should include the requirement that depreciation is primarily funded from the User Fees. These fees could be leveraged and applied to the bond debt service for capital rehabilitation, thus enabling significantly more capital infrastructure to be replaced and rehabilitated.

### Conclusions and Recommendations

#### Revenue Sources/Structure

- User and Connection Fees should continue to provide the majority of PCWMD's revenue.
- Other fees and charges should be considered to augment revenue streams.

#### Revenue Policies

- Accounting/fund structure should be transparent to source and uses of funds.
- User Fees should be allocated to pay the majority of the debt service for rehabilitation capital projects.
- Contingency plans should be developed for Connection Fee shortfalls in the event of a housing start slowdown.
- Raftelis Financial Benchmarks, as modified by PCWMD staff, should be adopted as part of the Department's financial goals.

- Financial goals and forecasts (Capital and O&M) should be incorporated in PCWMD's business plan going forward.
- Automation and cost-saving capital construction and treatment process concepts should be an important part of the business plan.

**Future Capital**

- Bond authorizations are projected for 2008 ($245 to $355 million), 2012 ($225 to $275 million) and 2016/20 ($325 to $400 million) for a total of $795 to $1,030 million. In addition, $400 to $600 million in SDF funds will be required for capital projects.
- An increased emphasis on capital replacement and rehabilitation will drive approximately 37 percent of the $1.4 billion 20-year Capital Improvement Program.
- Regulatory upgrades will generate approximtely 22 percent of the total expenditures.
- Treatment and conveyance capacity increases will account for approximately 41 percent of the remaining expenditures.

A detailed estimate of the 20-year CIP is provided in Table 8.5.