7. Project Costs, Operating Costs, Revenue and Funding (Business Plan)

7.1. Introduction and Purpose

Lewis & Clark prepared a Feasibility Study for the project in 1993. The 1993 Feasibility Study subsequently became the basis for the Federal authorizing legislation. The 1993 Feasibility Study documented a total system reserved capacity of 23.469 MGD (million gallons per day) for the 22 Lewis & Clark member systems. The Federal authorizing legislation defines the level of Federal grant participation authorized for the project.

The state legislatures for the three states in the project area have also passed legislation authorizing the project and state grant participation in the cost of the project. Since the project was authorized, Lewis & Clark provided an opportunity for additional water systems to participate in the project and an opportunity for the original membership to make changes to the capacity reserved on the system and the point of delivery for the water.

The purpose of this chapter includes:

- Adjustment of the original project budget and establish a method of cost indexing to account for inflation;
- Summarize the current estimates of project costs and the anticipated sources of funding for the project;
- Summarize the project schedule and anticipated revenues when portions of the project become operational;
- Summarize the anticipated water rate billing rate necessary to sustain the system once construction is complete; and
- Finally; Summarize project funding sources, needs and timing.

7.2. Project Cost Indexing

Construction of the Lewis & Clark project will span several years and indexing of the project budget is required to account for inflation. The Federal authorizing legislation for the Lewis & Clark project includes a provision for adjustment of the level of Federal grant participation on the basis of construction cost index adjustments. The level of grant participation listed in the authorizing legislation was based on the project scope and cost described in the 1993 Feasibility Study and subsequent annual adjustment using construction

cost indices. Reclamation has the responsibility to determine the official construction cost ceiling annually in accordance with the Cooperative Agreement.

The Cooperative Agreement (Cooperative Agreement No. 01-FC-60-1519) between Lewis & Clark and Reclamation permits the use of Reclamation's "Construction Cost Trend" or other appropriate engineering indices as the basis for computation of adjustments to the grant ceiling for the project. The selected cost index system is Reclamation's "Construction Cost Trend" index.

Index numbers were taken from construction cost trends (CCT) that is available through Reclamation's web site. The various project components were distributed to the construction index categories shown in Table 7.2-1, as appropriate. Certain miscellaneous items in Lewis and Clark's opinion of probable construction cost were separated from the estimate and are prorated using the combined weighted index. Reclamation's CCT categories do not have indices for several components of rural water systems. Therefore, some adaptation and assumptions were necessary to select the appropriate index category. The Lewis & Clark opinion of probable construction cost entries and index categories are shown in Table 7.2-1.

Table 7.2-1
Construction Index and Cost Categories

CCT Index Category	Lewis & Clark Components
Steel Pipelines (>=24")	Pipe >=24" diameter Casing pipe, regardless of size River crossings >=24"
Laterals and Drains (<24")	Pipe <24" diameter River crossings <24"
Pumping Plants	Booster pump stations Reservoirs Water teatment plant Collector well system and pump stations
Pumping Plant Accessories	Service connection buildings and equipment
Land and ROWs	Easements and land purchases

The index for land and ROW's for South Dakota was used for the project since Reclamation does not have an index for Iowa and Minnesota.

Reclamation provides CCT indices on a quarterly basis (January, April, July and October). The original opinion of probable construction cost was developed in 1993 in the Feasibility Study. It is assumed the original opinion of probable construction cost for the Lewis & Clark Project to be effective for October

1993. Therefore, the construction cost numbers will be indexed from October 1993 to October 2001. Copies of Reclamation's published CCT indices for 1993 and 2001 are included in Appendix A-7.

Table 7.2-2 is a break out of the opinion of probable construction costs excerpted from the 1993 Feasibility Study for the original system, as authorized. These costs are distributed to the various CCT index categories as listed in Table 7.2-1. The opinion of probable construction cost showing the distribution of categories used to generate the subtotals shown in Table 7.2-2 is included in Appendix A-7 for the original 1993 Feasibility Study.

Table 7.2-3 is a listing of the various project components, the CCT categories and the index numbers for each category in October 1993 and October 2001. A combined weighted index was calculated to index the 1993 Feasibility Study opinion of probable construction cost using this index. The resulting index number is 1.292559 for this period based on the composition of the Lewis & Clark Project. The average annual index is 1.032598 (compounded) if October 1993 = 1.0 and October 2001 = 1.292559.

Table 7.2-4 shows the adjustment used to index the funding contributions from the various sources of funding for the project. State and local funding is also be indexed in the same manner as the Federal funding.

The capacity of the system, as listed in Table 7.2-2 through 7.2-4, and as detailed in the 1993 Feasibility Study is approximately 23.5 MGD. As mentioned earlier, these funds are based on the scope of the project as envisioned in 1993. Some member systems have increased their reserved capacity since the 1993 Feasibility Study. The incremental cost for system changes (increases in capacity) is the difference between the present estimate of project costs and the adjusted cost for the original project scope. The funding sources for the added incremental costs will come from sources separate from the Federal grant authorized for the project.

The same construction cost index adjustment will be used for annual adjustments of project budget for the current scope of work on the project. As the project continues through the construction phase, the index will be re-calculated on an annual basis and the index applied to the remaining funding after expenditures have been deducted.

Table 7.2-2
Opinion of Probable Construction Costs (1993)
Construction Cost Index Categories for Base Construction Appropriation Ceiling

Construction Cost Index Categories	Raw Water System	Water Treatment Plant	Treated Water System	Total
Steel Pipelines (>=24")	$ 13,793,000	$ -	$ 82,170,000	$ 95,963,000
Laterals and Drains (<24")	$ -	$ -	$ 52,387,000	$ 52,387,000
Pumping Plants	$ 8,580,000	$ 25,681,000	$ 13,533,000	$ 47,794,000
Pumping Plant Accessories	$ -	$ -	$ 3,080,000	$ 3,080,000
Land and ROWs	$ 287,000	$ 500,000	$ 6,613,000	$ 7,400,000
Subtotal 1	$ 22,660,000	$ 26,181,000	$ 157,783,000	$ 206,624,000
Miscellaneous Items (prorated):				
Traffic Control	$ 53,000	$ -	$ 509,000	$ 562,000
Rock Excavation	$ 56,000	$ -	$ 543,000	$ 599,000
Unlisted Items	$ 417,000	$ -	$ 4,567,000	$ 4,984,000
Construction Contingencies	$ -	$ -	$ 24,449,000	$ 24,449,000
Engineering	$ -	$ -	$ 26,013,000	$ 26,013,000
Legal & Administrative	$ -	$ -	$ 7,169,000	$ 7,169,000
Environmental Mitigation	$ -	$ -	$ 2,400,000	$ 2,400,000
Subtotal 2	$ 526,000	$ -	$ 65,650,000	$ 66,176,000
TOTALS	$ 23,186,000	$ 26,181,000	$ 223,433,000	$ 272,800,000

Note:
These costs are from the 1993 Feasibility Study and do not reflect the current opinion of probable construction costs based on revisions to the Lewis & Clark project in the intervening time period.

Table 7.2-3
Construction Appropriation Ceiling Adjustment
Index from 10-93 (Base) to 10-01

Construction Cost Index Categories	Project Component	Percent of Total Project	Base 10-93 Index	Actual 10-01 Index
Steel Pipelines (>=24")	$95,963,000	46.44%	202	257
Laterals and Drains (<24")	$52,387,000	25.35%	176	243
Pumping Plants	$47,794,000	23.13%	192	235
Pumping Plant Accessories	$3,080,000	1.49%	203	240
Land and ROWs	$7,400,000	3.58%	145	206
To Be Prorated between all items	$66,176,000	100.00%		
Total	$272,800,000			
Less Prorated	($66,176,000)			
Costs to be Indexed	$206,624,000			

Construction Cost Index Categories	Percent of Total Project	Index Adjustment from 10-93 (Base) to 10-01		Combined Weighted Index
Steel Pipelines (>=24")	46.44%	x	257/202	59.0888%
Laterals and Drains (<24")	25.35%	x	243/176	35.0055%
Pumping Plants	23.13%	x	235/192	28.3113%
Pumping Plant Accessories	1.49%	x	240/203	1.7623%
Land and ROWs	3.58%	x	206/145	5.0880%
Index Factor 10-01				129.2559%

Note:
These costs are from the 1993 Feasibility Study and do not reflect the current opinion of probable construction costs based on revisions to the Lewis & Clark project in the intervening time period.

Table 7.2-4
Adjusted Funding Ceilings Indexed to October 2001

Total Project Index	129.2559%	x	$ 272,800,000	=	$ 352,610,035

Source of Funding	Index Factor 10-93 to 10-01		Original Level of Funding in 1993		Level of Funding Indexed to 10-01
Federal	129.2559%	x	$ 213,887,700	=	$ 276,462,395
State	129.2559%	x	$ 27,280,140	=	$ 35,261,004
Local	129.2559%	x	$ 31,632,160	=	$ 40,886,636
Total			$ 272,800,000		$ 352,610,035

Note:
These costs are from the 1993 Feasibility Study and do not reflect the current opinion of probable construction costs based on revisions to the Lewis & Clark project in the intervening time period.

7.3. Cost Factors Addressed

The construction contracts for the project will be prepared and administered under the terms outlined in the Cooperative Agreement. The general provisions of the agreement stipulate that Lewis & Clark will follow the principles of OMB Circular A-110 for procurement procedures. Cost principles shall be in accordance with OMB Circular A-122 "Cost Principals for Non-Profit Organizations".

Various factors must be addressed in the development of an opinion of the total project budget. The total project cost includes construction cost and other associated costs required for design, project administration and related costs. These costs and factors are discussed briefly in the following paragraphs. The following estimated costs are included in the total project cost and described in the following sections:

- Contingencies;
- Legal and administrative costs (including Federal agency oversight);
- Engineering costs;
- Land costs (land purchase, easements, rights-of way and staff); and
- Environmental mitigations costs.

7.3.1. Contingencies

The opinion of probable costs of the project includes an allowance for construction contingencies amounting to 12% of the estimated construction cost for the project. The construction cost estimates for the project are based on current (last quarter, 2001) prices for construction materials and recent bids for construction projects of similar size and complexity. This allowance is assumed to include contingencies for unforeseen conditions that may occur during the construction phase.

7.3.2. Legal and Administrative Costs

The project budget for the Lewis & Clark Project includes a 3.5% allowance for legal and administrative costs, including Federal agency oversight. The project is somewhat unique in the fact that it involves construction for public entities in three states, grant funds from the Federal government, three state governments and water systems owned by non-profit corporations as well as municipalities. This unique set of circumstances makes it necessary to conduct certain legal research and form legal opinions regarding a number of organizational and jurisdictional issues affecting the project. The legal services for the project are provided under the direction of Dorsey and Whitney, LLP. The budget for those services was included in the original 1993 Feasibility Study.

The authorizing legislation for the project identifies Reclamation as the lead Federal agency to oversee project administration, design and construction. Reclamation works with project sponsors in developing and evaluating both the technical and engineering documents and environmental assessment and NEPA compliance documents associated with the project. The roles of Lewis & Clark and Reclamation are documented in the Cooperative Agreement for the project. This agreement establishes administrative and technical requirements associated with project design, construction and OM&R (operation, maintenance and replacement). The Cooperative Agreement also serves as the vehicle by which appropriated funds can be transferred to the project sponsors.

Reclamation will provide technical review, comment, approval and/or concurrence of Final Engineering Reports, National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) compliance documents, design reports, final plans and specifications, construction management plans, start-up plans, OM&R plans, and water conservation programs. In summary, Reclamation's principal role following project authorization is to see that appropriated funds are responsibly and efficiently managed and utilized to design and construct a water system that will meet the needs of the identified users, in accordance with the project authorization.

Reclamation's cost to administer these duties is estimated to be 1% of the total construction costs of the project. This 1% amount is included in the 3.5% of the total construction costs allocated to legal and administrative costs. If Reclamation is asked to perform additional duties beyond the normal oversight role, the costs associated with these tasks will come from funds budgeted for the specific tasks within the project cost estimate. Any substantial cost changes will require a review of the Cooperative Agreement and an amendment of that agreement by both parties.

7.3.3. Engineering Costs

Considerable effort will be required to provide engineering and other professional services during the planning, design and construction phases of the project. The cost to provide engineering and related services is estimated to be approximately 12.6% of the total construction costs of the project. This percentage represents the rates used for the development of total project budgets for each phase of the project. Fees for engineering and other services would be negotiated. The following sections describe these services.

7.3.3.1. Surveys and Other Field Data Acquisition

Survey information and other data will be required for use during the final design phases. Survey information will be required to develop a control network; establish coordinates for aerial photography (if required); develop topographic survey information and maps for designs and site grading; surveys to locate existing property corners, rights-of-ways and easements; and other survey information as may be required. A significant amount of survey information is needed for the pipelines for route location and vertical control.

7.3.3.2. Geotechnical Investigations

Field investigations and laboratory testing will be undertaken to evaluate subsurface soils and foundation conditions for buildings, water tanks, pipelines, wells, bored crossings (highways and rivers) and other project facilities. The geotechnical investigation may also include evaluation for borrow materials. The evaluation will also include an assessment of the need for cathodic protection and stray current interference for the water transmission lines.

7.3.3.3. Design Engineering

This category is for the preparation of designs for the various facilities required for this project. The main goal is the preparation of plans, specifications, bidding and contract documents for the solicitation of bids from construction contractors. Completion of this project will require multiple construction contracts, due to funding and logical phasing of construction activities. Also, multiple construction contracts will encourage competition between bidders and provide opportunities for more contractors.

7.3.3.4. Construction Engineering (Administration and Observation)

Costs are included for engineering services and administering the numerous construction contracts and monitoring construction activities required for this project. Construction administration includes coordination with the contractors and project owner; review of shop drawings; review of pay requests; negotiation and preparation of change orders; final inspections and preparation of punch lists; final contract close-outs; record drawing preparation; project start-up; and other related tasks. Monitoring of construction activities and limited materials testing is also included under this budget item.

7.3.3.5. Cultural Resources Preservation

Clearance from the State Historical Preservation Officer (SHPO) in each state is required before ground disturbing activities occur in that state. Tribal Cultural Resource Offices will be advised of the project scope and status as appropriate. A programmatic agreement is being developed jointly between Reclamation, Lewis & Clark and the State Historic Preservation Offices in each of the three states. In general terms, the agreement requires the project to conduct a literature search for all affected project areas and a pedestrian evaluation of the final pipeline route and locations for structures. If an area is identified as an area with high probability for culturally significant resources, feature relocation, site mitigation and/or construction monitoring may be required.

The literature search for the affected project area has been conducted as a part of the preparation of the Final Engineering Report and Environmental Assessment. The results of the literature search are included in *Draft Environmental Assessment for the Lewis and Clark Rural Water System, South Dakota, Minnesota and Iowa* prepared by TRC Mariah for Reclamation. The costs for services related to cultural resources preservation activities are included under engineering costs.

7.3.4. Easements and Land Acquisition

This project will require significant effort and funds to acquire land and easements for construction, operation and maintenance of the various project facilities. The costs associated with land acquisition and easements are difficult to estimate at this level of project development. Costs associated with land acquisition and easements include: costs of legal surveys and preparation of plats and exhibits; legal and administrative costs; staff costs and land agent costs; appraisals; title insurance and costs to compensate landowners.

The majority of land costs for the project will be for obtaining easements for pipeline construction. Table 3.3-5 provides a preliminary estimate of the width of temporary and permanent easements for pipeline construction for varying pipe diameters. Construction of the pipeline will require a larger area than will be required for operation and maintenance of the pipeline facility. Various methods of compensation are available to pay the affected landowner for the easements. A preliminary estimate of easement and land costs for pipeline construction is summarized in Table 7.3-1 for the raw and treated water pipelines. Permanent easement cost is based on a percentage of the fair market value of the easement. The percentage is based on pipe size range. No separate payment will be made for temporary easement, but a separate payment will be made for crop damage. It must be noted the costs shown in Table 7.3-1 are preliminary.

Table 7.3-1
Preliminary Estimate of Pipeline Land and Easement Costs

	Estimated Cost
Permanent Easement Cost	$ 3,556,000
Payment for Crop Damage	$ 1,584,000
Land Purchase for Pumps, Reservoirs, Connections	$ 160,000
Subtotal	$ 5,300,000
Legal, Administrative and Staff Costs (25%)	$ 1,325,000
Engineering, Surveying, Exhibits (10%)	$ 530,000
Other Expenses (10%)	$ 530,000
Subtotal	$ 7,685,000
Contingency	$ 1,263,000
Total	$ 8,948,000

Crop damages will be paid for appropriate periods with respect to any damage to crops in the temporary construction easement area or any other area of the landowner's land outside the easement

areas which is damaged during construction, and with respect to any damage to crops in the permanent easement following initial construction which is caused by maintenance or repair or similar activities. Whether crop damages are paid with respect to initial construction activities in the permanent easement will depend on the purchase price paid for the easement. Crop damages will be calculated on actual average yields for the parcel in question less harvesting costs. The USDA Farm Service Agency has minimum commodity prices (loan rates) which would be used to calculate the return per acre. Crop production yields are also available from state agencies.

Other land costs will involve land purchases for the water treatment plant, some of the well sites (plus protected areas around the wells), pump station sites, reservoir sites and service connection building sites. Table 7.3-2 provides a summary of land costs and associated expenses for obtaining lands for construction and operation of the Lewis & Clark project, including the pipeline land and easement acquisition costs listed in Table 7.3-1.

Table 7.3-2
Summary of Estimated Land Costs for the Lewis & Clark Project

	Pipelines	Water Treatment Plant	Wells
Easement Costs	$ 5,140,000	$ -	$ -
Land Acquisition Costs	$ 160,000	$ 400,000	$ 55,000
Subtotal	$ 5,300,000	$ 400,000	$ 55,000
Legal, Administrative and Staff Costs (Varies)	$ 1,325,000	$ 25,000	$ 12,000
Engineering, Surveying, Exhibits (Varies)	$ 530,000	$ 8,000	$ 6,000
Other Expenses (Varies)	$ 530,000	$ 10,000	$ 6,000
Subtotal	$ 7,685,000	$ 443,000	$ 79,000
Contingency	$ 1,263,000	$ 37,000	$ 11,000
Total	$ 8,948,000	$ 480,000	$ 90,000
Total Costs		$ 9,518,000	

An appraisal of each fee site which Lewis & Clarks intends to acquire will be obtained for each parcel. Periodically, as determined to be necessary or appropriate, Lewis & Clark will obtain appraisals of a representative sample of easement parcels. Each appraisal will be conducted by a qualified, certified

and licensed appraiser. The appraisals will be used as a basis for negotiating the purchase price of the fee sites and easements.

7.3.5. Environmental Mitigation

Project construction activities may cause the need for temporary and permanent environmental mitigation. The project design and pipeline routes have been planned to minimize the effect on various resources, however some effects may be unavoidable. Costs for the environmental mitigation activities were included in the project budget ($2,000,000) in the 1993 Feasibility Evaluation and are one of the eligible expenses for the project financing package and subject to indexing.

7.4. Opinions of Probable Cost

Opinions of probable cost have been developed for the construction of the various project components and OM&R of the project. These cost opinions are based on review of bid tabulations of similar rural water systems in South Dakota and the region, bid tabulations for similar projects in the region, cost estimating guides and contacts with suppliers. OM&R costs are based on estimates of potential water processed through the Lewis & Clark project, prices of chemicals, power, labor costs and other miscellaneous costs.

Payment of taxes and fees will include 4% sales and use tax in South Dakota, 5% sales and use tax in Iowa, 6.5% sales and use tax in Minnesota, and a 2% contractor's excise tax in South Dakota. The taxes will be accrued to the state in which the construction is physically located. In addition to the state taxes, there may be building permits required by local zoning authorities for fee sites on which permanent structures are to be constructed. The applicable taxes and fees are included in the construction cost estimates for the project and are not listed separately in the project budget.

7.4.1. Probable Costs for Construction and Related Activities

The opinion of probable construction costs for the Lewis & Clark Rural Water System includes construction costs, contingencies, engineering, legal and administrative costs, land costs, and costs for environmental mitigation. The total project opinion of probable construction cost is summarized in Table 7.4-1.

Table 7.4-1
Total Project Opinion of Probable Construction Costs (2001)

Project Component	Construction Cost	Land Cost	Total Cost	Pecent of Total
Collector Well System (6 Sites)	$ 8,701,000	$ 90,000	$ 8,791,000	3.10%
Raw Water Pipeline System	$ 17,312,000	$ 322,000	$ 17,634,000	6.22%
Water Treatment Plant	$ 36,134,000	$ 480,000	$ 36,614,000	12.92%
Treated Water Pipeline System	$ 211,695,000	$ 8,626,000	$ 220,321,000	77.75%
Totals	$ 273,842,000	$ 9,518,000	$ 283,360,000	100.00%

Construction Costs	$ 273,842,000		
Construction Contingencies	$ 32,861,000	12.0%	
Engineering	$ 34,504,000	12.6%	
Legal/Administration	$ 9,584,000	3.5%	
Land	$ 9,518,000		
Environmental Mitigation	$ 2,585,000	$2,000,000 (1993) indexed to 2001	
Total Project Cost (2001)	***$ 362,894,000***		

The opinion of probable construction cost should be adjusted periodically as the project continues through construction. The opinion of probable construction cost (work remaining) will be updated annually to account for inflation using Reclamation's CCT indexing method. Detailed worksheets for the various project components including the wells, treatment plant and pipeline systems are included in Chapters 4 and 5.

7.4.2. Probable Costs for OM&R of System When Fully Operational

The opinion of probable annual costs for OM&R is important in order to budget funds, set water rates and generate revenue to properly keep the system functioning and maintained so the system can provide a reliable water supply. The projections of OM&R also include provisions for recurring repair and replacement (R&R) parts and equipment for the system. The R&R account listed herein is not necessarily intended to fund total depreciation of the system (long-term replacement costs).

The OM&R cost projections were developed on the basis of present costs for energy, chemicals, labor, R&R costs and other miscellaneous costs. Annual cost projections should be adjusted periodically as the project approaches completion. Interim annual cost projections will be required after the project is operational but not fully completed (only serving a portion of the total membership). The adjustments to OM&R cost estimates can be based on labor cost trends for the region. Adjustments to chemical costs and energy costs can be made on the basis of current market trends at the time the budget update is made. The projected OM&R costs for the Lewis & Clark system are listed in Table 7.4-2.

Table 7.4-2
Opinion of Probable Annual OM&R Costs (2001) - System Fully Operational

Cost Component	Estimated Annual Cost			
	Raw Water Collector & Pipeline System	Water Treatment Plant	Treated Water Pipeline System	Cost Component Total
Power	$ 630,000	$ 1,436,000	$ 700,000	$ 2,766,000
Chemical	$ -	$ 994,000	$ 50,000	$ 1,044,000
Labor [1]	$ 29,000	$ 1,456,000	$ 233,000	$ 1,718,000
R&R Account	$ 90,000	$ 251,000	$ 350,000	$ 691,000
Miscellaneous	$ 20,000	$ 346,000	$ 200,000	$ 566,000
Totals	$ 769,000	$ 4,483,000	$ 1,533,000	$ 6,785,000

[1] Labor cost assumes 0.5 FTE (full-time employee) for Raw Water System, 25 FTE's for Water Treatment Plant and 4 FTE's for Treated Water Pipeline System. This does not include administrative staff.

The assumed annual average day demand is estimated to be 22 to 23 MGD when the system is fully operational at full development. The estimated annual cost of $6,785,000 represents a cost of $0.81 to $0.84 per 1,000 gallons sold. The cost per 1,000 gallons may vary during the early phases of the project from $0.89 to $1.07 per 1,000 gallons sold to recover OM&R costs.

7.4.3. Member System Cost Responsibilities

The OM&R costs shown in Table 7.4-2 apply to the Lewis & Clark system only. Lewis & Clark will deliver water to its member systems at their service connection. Lewis & Clark will monitor a number of conditions at the service connection, including: pressure, member system reservoir level (if

appropriate), flow rate, total chlorine residual and other inputs as may be required. Lewis & Clark will provide supplemental chemical feed equipment to provide an adequate chlorine residual at the service connection. Lewis & Clark will also provide other supplemental chemical feed equipment to address re-equilibrium/blending issues, as required (see Section 5.5).
Chemical costs at member service connections will be allocated between the member system and Lewis & Clark. Lewis & Clark will provide chlorination chemicals required to provide adequate total chlorine residual at the point of delivery. The receiving member system will be responsible to provide chemicals required to address re-equilibrium/blending issues for their system, as may be required.

Lewis & Clark will provide maintenance and pay for operating costs of all service and pumping stations. Member systems will be responsible for maintaining chemical feed systems at their point of delivery. Arrangements may be made with individual member systems to provide additional services regarding maintenance and monitoring of service connections and pump stations close to their community or system.

Lewis & Clark's responsibility will end at its delivery point. Each member system will continue to be responsible for water quality and OM&R costs within their transmission, storage and distribution systems. Member systems will be responsible for 100% of the OM&R costs within their systems, including water quality monitoring and reporting.

7.4.4. Estimate of System Administrative Costs When Fully Operational

Lewis & Clark will also have on-going administrative costs that will continue through the construction period and during the operational phase. These administrative costs are in addition to the personnel costs listed in Section 7.4.2. These administrative costs will have to be included in the billing cost per 1,000 gallons.

Lewis & Clark's administrative costs include staff costs, office expenses and expenses related to the Board of Directors. Administrative costs should not be appreciably different after the system is fully operational. Table 7.4-3 is an estimate of administrative costs.

Table 7.4-3
Estimated Administrative Costs When System is Fully Operational (2001$)

Cost Item	Estimated Cost
Staff Salaries & Benefits	$ 240,000
Board of Directors Expenses and Meeting Costs	$ 25,000
Travel Costs	$ 40,000
Office Expenses (including office rental)	$ 75,000
Insurance	$ 100,000
Professional and Service Fees (Audits, Engineering, etc)	$ 20,000
Total	$ 500,000

The estimated annual cost of $500,000 represents a cost of approximately $0.06 per 1,000 gallons sold when the system is fully operational at full development. During the construction phase, some of the above costs would be an eligible expense under the construction funding package as legal and administrative costs and are included in the project opinion of probable construction costs.

7.5. Projected Revenue for System Operation

Projections of anticipated project revenue are needed to off-set project OM&R costs and generate sufficient funds for long-term system repairs and replacement (depreciation fund). The following sections provide a projection of income from system operation – from early operations to full development of the system.

7.5.1. Water Use Projections

Water use projections are provided in Table 2.4-3 and 2.4-4 for annual average day use and peak month average day use for the years 2000 and 2030. The annual average day demand will be used to compute annual revenues.

7.5.2. Revenue Estimate by Construction Phase

The goal of the Lewis & Clark system is to begin delivery of water to a portion of its members beginning in 2009 through the partially completed water system. After 2009, additional systems will be connected to Lewis & Clark through the completion of construction in 2014. It is important to note that

the completion of the project is heavily influenced by the level of funding approved by the various funding sources and can affect the flow of project revenues.

Based on the project schedule, it is envisioned systems would come on line as outlined in Table 7.5-1. Section 6.3 provides a description of project phasing and when systems will be connected to Lewis & Clark. Estimates have been made of expenses using the same categories shown in Table 7.4-2 for each year during the construction period. Expenses during the construction period will be less due to lower pumping costs, lower chemical costs and other factors. Table 7.5-2 is a summary of projected quarterly demand, expense and income during the construction phase. Table 7.5-2 is based on an annual average daily demand of 19.59 MGD, the year 2000 demand. Detailed worksheets used to generate Table 7.5-2 are included in Appendix A-7.

Estimates of administrative costs for the fully operational system are shown in Table 7.4-3. It is difficult at this time to estimate the split between Lewis & Clark's administrative costs, and project eligible legal and administrative costs. Those costs that are associated exclusively with the construction of the project are eligible costs for the Federal grant funding on this project. It is assumed approximately ? of the costs shown in Table 7.4-3 (excluding Board costs and professional services cost) would be project eligible expenses. The other ? of the cost would be considered a Lewis & Clark administrative cost that would not be capitalized.

The revenue shown in Table 7.5-2 is based on a billing charge of $1.15 per 1,000 gallons as metered at the point of delivery. The range of potential billing charges of $1.10 to $1.25 has been presented to the Lewis & Clark membership to consider in their planning and budgeting forecasts. The billing rate of $1.15 per 1,000 gallons was selected in order to generate a positive revenue stream starting with initial delivery of water in 2009.

The cost to produce water is projected to range from approximately $0.92 to $1.11 per 1,000 gallons sold during the early phases of the project during construction – this includes OM&R and administrative costs. The actual billing rate is subject to review and approval by the Lewis & Clark Board of Directors. Other charges may also be included to account for a long-term depreciation fund and "meter" charges.

Table 7.5-1
Schedule of Member System Connections and Projected Water Demands

Member Entity	Reserved Capactiy (MGD)	2000 Average Annual Daily Demand (MGD)	Annual Cumulative Total (MGD)
Connections Done by 10/1/09			
Centerville	0.22	0.14	
Lennox	0.40	0.17	
Parker	0.49	0.17	
South Lincoln RWS	0.25	0.18	
Tea	1.00	0.13	
MCWC (west)	1.00	0.45	
Sioux Falls	10.00	10.00	
Beresford	0.80	0.26	
Totals this Year	14.16	11.49	11.49
Connections Done by 12/31/10			
Lincoln County RWS	1.40	0.66	
Harrisburg	0.40	0.09	
MCWC (east)	1.00	0.45	
Totals this Year	2.80	1.20	12.69
Connections Done by 12/31/11			
Rock Rapids	0.30	0.21	
Rock County RWS (west)	0.15	0.11	
Sioux Center	0.60	0.42	
Rural Water No. 1 (west)	1.00	0.70	
Hull	0.30	0.15	
Totals this Year	2.35	1.58	14.27
Connections Done by 12/31/12			
Luverne	0.75	0.75	
Boyden	0.10	0.06	
Rural Water No. 1 (east)	0.00	0.00	
Sheldon	1.00	0.70	
Rock County RWS (east)	0.15	0.11	
Lincoln - Pipestone RWS	1.00	0.70	
Totals this Year	3.00	2.32	16.59
Connections Done by 12/31/13			
Worthington	1.73	1.73	
Sibley	0.65	0.34	
Clay Regional RWS (west)	1.00	0.48	
Totals this Year	3.38	2.55	19.14
Connections Done by 12/31/14			
Madison	1.50	0.45	
Clay Regional RWS (north)	0.00	0.00	
Totals this Year	1.50	0.45	19.59

Table 7.5-2
Summary of Projected Income and Expenses During Construction Phase

Federal Fiscal Year		Quarter 1 (Oct - Dec)	Quarter 2 (Jan - Mar)	Quarter 3 (Apr - Jun)	Quarter 4 (Jul - Sep)	Total Net Income
2010	Avg Demand (MGD)	11.49	11.49	11.49	11.49	
	Quarterly Income	$ 1,205,847	$ 1,205,847	$ 1,205,847	$ 1,205,847	
	Quarterly Expense	$ 1,119,195	$ 1,119,195	$ 1,119,195	$ 1,119,195	$ 187,000
	Administrative Costs	$ 40,000	$ 40,000	$ 40,000	$ 40,000	
	Net Income	$ 46,652	$ 46,652	$ 46,652	$ 46,652	
2011	Avg Demand (MGD)	11.49	12.69	12.69	12.69	
	Quarterly Income	$ 1,205,847	$ 1,331,583	$ 1,331,583	$ 1,331,583	
	Quarterly Expense	$ 1,119,195	$ 1,168,498	$ 1,168,498	$ 1,168,498	$ 416,000
	Administrative Costs	$ 40,000	$ 40,000	$ 40,000	$ 40,000	
	Net Income	$ 46,652	$ 123,086	$ 123,086	$ 123,086	
2012	Avg Demand (MGD)	12.69	14.27	14.27	14.27	
	Quarterly Income	$ 1,331,583	$ 1,497,647	$ 1,497,647	$ 1,497,647	
	Quarterly Expense	$ 1,168,498	$ 1,269,748	$ 1,269,748	$ 1,269,748	$ 687,000
	Administrative Costs	$ 40,000	$ 40,000	$ 40,000	$ 40,000	
	Net Income	$ 123,086	$ 187,900	$ 187,900	$ 187,900	
2013	Avg Demand (MGD)	14.27	16.59	16.59	16.59	
	Quarterly Income	$ 1,497,647	$ 1,740,913	$ 1,740,913	$ 1,740,913	
	Quarterly Expense	$ 1,269,748	$ 1,418,992	$ 1,418,992	$ 1,418,992	$ 1,034,000
	Administrative Costs	$ 40,000	$ 40,000	$ 40,000	$ 40,000	
	Net Income	$ 187,900	$ 281,921	$ 281,921	$ 281,921	
2014	Avg Demand (MGD)	16.59	19.14	19.14	19.14	
	Quarterly Income	$ 1,740,913	$ 2,008,714	$ 2,008,714	$ 2,008,714	
	Quarterly Expense	$ 1,418,992	$ 1,553,029	$ 1,553,029	$ 1,553,029	$ 1,529,000
	Administrative Costs	$ 40,000	$ 40,000	$ 40,000	$ 40,000	
	Net Income	$ 281,921	$ 415,685	$ 415,685	$ 415,685	
2015	Avg Demand (MGD)	19.14	19.59	19.59	19.59	
	Quarterly Income	$ 2,008,714	$ 2,055,610	$ 2,055,610	$ 2,055,610	
	Quarterly Expense	$ 1,553,029	$ 1,596,301	$ 1,596,301	$ 1,596,301	$ 1,549,000
	Administrative Costs	$ 40,000	$ 40,000	$ 80,000	$ 125,000	
	Net Income	$ 415,685	$ 419,309	$ 379,309	$ 334,309	

Assumed billing rate per 1000 gallons = $1.15

Note:
The billing rate is subject to change and will be reviewed and approved by the Lewis & Clark Board of Directors. The billing rate does not include other potential billing charges that may be developed, such as a "meter" fee and long-term depreciation fund.

7.5.3. Revenue Estimate for Fully Operational System

Table 7.5-3 summarizes the system in a fully operational mode at an annual average day demand of 19.56 MGD (projected year 2000 demand) and 22.1 MGD (projected year 2030 demand).

Table 7.5-3
Summary of Projected Income and Expenses During Fully Operational Phase

Year 2000 Average Daily Demand (MGD)		
Average Annual Daily Demand (MGD)	19.59	
Annual Income	$	8,222,735
Annual Expense	$	6,385,205
Annual Administrative Costs	$	500,000
Net Annual Income	$	1,337,530

Year 2030 Average Daily Demand (MGD)		
Average Annual Daily Demand (MGD)	22.08	
Annual Income	$	9,269,087
Annual Expense	$	6,785,000
Annual Administrative Costs	$	500,000
Net Annual Income	$	1,984,087

Assumed billing rate per 1000 gallons = $1.15

Note:
The billing rate is subject to change and will be reviewed and approved by the Lewis & Clark Board of Directors. The billing rate does not include other potential billing charges that may be developed, such as a "meter" fee or long-term depreciation fund.

The Lewis & Clark Board of Directors will need to consider the actual billing rate and other charges for water supply. The current estimate of $1.15 per 1,000 gallons includes funding for recurring R&R. Depreciation is the loss-in-service value not restored by current maintenance. Additional funding will probably be required for long-term replacement of system components. This is typically handled as a depreciation expense to the system. A major portion of the difference in the billing rate and the system's expenses can be designated for the depreciation fund. Additional effort will be required prior to system operation to further define the various billing components of the Lewis & Clark system.

7.6. Funding Sources for Construction of the System

Funding for construction of the Lewis & Clark system will come from a Federal grant, state grants, and fees paid by the membership. The mechanism for receiving Federal grant funds for the project was established in the project authorizing legislation and Cooperative Agreement. State grant funds for the project were established in the authorizing legislation passed by the state legislatures in each of the three participating states. The balance of the funds required for construction will come from fees paid by the member systems.

The amount of funding, anticipated schedule for disbursement, and matching requirements for each of the funding sources for the project are described in more detail in the following paragraphs.

7.6.1. Federal Grant Funds

The Federal grant funds for construction of the project were authorized in Public Law 106-246, The Lewis and Clark Rural Water System Act. This Act authorized Federal grant funds in the amount of $213,887,700 indexed to FFY (Federal fiscal year) 1993. The grant funds provided in this Act represent 80% of the project costs for 21 of the 22 participating members and 50% of the incremental cost to increase the project size to serve the City of Sioux Falls as identified in the 1993 Feasibility Study. The cost share agreement is defined in Section 4108 of the Act.

The baseline for the total Federal cost share amount, as established by the Act, will be reflected in appropriate engineering cost indices after September 1, 1993. The Federal grant ceiling is adjusted for inflation on an annual basis using Reclamation's Construction Cost Trend Index. The adjustment is made to the ceiling generally in accordance with the following procedure: (values used below are for illustration only):

Grant Ceiling Balance at beginning of Fiscal Year	$150,000,000
Less Funds expended during Fiscal Year	($15,000,000)
Grant Ceiling Balance at end of Fiscal Year	$135,000,000
Plus Construction Cost Trend adjustment (+3%)	$ 4,050,000
Grant Ceiling Balance for beginning of next FY	$139,050,000

The terms and conditions of the grant agreement between Reclamation and Lewis & Clark are defined in Cooperative Agreement No. 01-FC-60-1519 signed on June 29, 2001.

Changes in project scope and capacity resulting in higher project costs may occur. The authorizing legislation and Cooperative Agreement provide a commitment of Federal grant funds for the project scope as defined in the 1993 Feasibility Study. Grant funds for added costs due to changes in scope and increases in capacity are not included in the Federal funding plan, thus the costs for the changes will be borne by the membership and participating state agencies unless a change in the authorized Federal grant ceiling is made.

The projected Federal funding outlays for the next several years are summarized in Table 7.6-1. The funding schedule shown in Table 7.6-1 is only a projection. Federal funding amounts in any given year are subject to approval of Congress and cannot be guaranteed.

Matching funds for the Federal grant must be demonstrated at the end of the project but not necessarily on a concurrent basis at the time of each quarterly outlay of Federal funds. State and local funds may be invested in the project in advance of the matching Federal grant funds in order to accelerate construction and reduce the costs of inflation to the membership and states.

Table 7.6-1
Federal Cost Share Contribution Projections

Federal Fiscal Year	Amount
Through 2001	$ 1,499,000 [1]
2002	$ 1,868,000 [1]
2003	$ 12,000,000
2004	$ 30,000,000
2005	$ 30,000,000
2006	$ 30,000,000
2007	$ 30,000,000
2008	$ 30,000,000
2009	$ 30,000,000
2010	$ 30,000,000
2011	$ 30,000,000
2012	$ 30,000,000
2013	$ 30,000,000
2014	$ 24,835,648 [2]

[1] FFY 2000 grant was $600,000, FFY 2001 was $1,000,000 and FFY 2002 was $2,000,000. These levels of funding have been adjusted to account for under funding and rescission.

[2] Funding for the final years of construction will need to be adjusted - see Section 7.6.6

7.6.2. State Grant Funds

The project funding for the scope of work defined in the 1993 Feasibility Study included state grants of up to 50% of the non-Federal share of the project costs. The state legislature in each of the states

included in the project area passed legislation authorizing the use of state grant funds for the project and designating a state agency to work with the project.

The state grant funds will be indexed in a manner similar to the method used for adjusting the Federal grant ceiling for the project. The state grant amounts and funding arrangements made are summarized separately for each state in the following paragraphs. The state grants funding amounts in any given year are subject to approval of the state legislature in that year and cannot be guaranteed. The grant program described represents the plan that is currently in place for the disbursement of the funds subject to annual review and approval through the legislative and budgeting process.

At the conclusion of each Federal fiscal year, an adjustment for construction cost inflation will be made for each state's share. The remaining state cost share for the project will be adjusted annually for construction cost inflation in the same manner and using the same cost indices as the adjustment to the Federal grant ceiling described earlier. It should also be noted that the states have varying fiscal years that may or may not correspond to the Federal fiscal year.

7.6.2.1. South Dakota

The State of South Dakota authorized funding for Lewis & Clark through Section 41 of HB1353 in 1993. The funds authorized will be disbursed through the State Water Resources Management System (SWRMS) program administered by the South Dakota Department of Environment and Natural Resources. The legislation authorized state grant funds in the amount of 50% of the non-Federal share of the project costs for the South Dakota membership as identified in the 1993 Feasibility Study of Lewis & Clark. Using the project scope and capacity defined in the 1993 Feasibility Study, the South Dakota state cost share for the project was $18,585,540 in 1993 dollars. The projected funding outlays for the next several years are summarized in Table 7.6-2.

Table 7.6-2
State Cost Share Contribution Projections
South Dakota

Federal Fiscal Year	Amount	
1990-1999	$ 900,000	
2000	$ 200,000	
2001	$ 200,000	
2002	$ 750,000	[1]
2003	$ 2,000,000	[2]
2004	$ 3,000,000	[2]
2005	$ 3,000,000	[2]
2006	$ 3,000,000	[2]
2007	$ 3,000,000	[2]

[1] Approved by South Dakota Legislature, February 2002

[2] Level of funding that will be requested in subsequent legislative sessions

7.6.2.2. Iowa

The State of Iowa authorized funding for Lewis & Clark through House File 133 in 1993. Annual appropriations are subject to an express appropriation made by the General Assembly. The funds may be disbursed over a period of ten or fewer years. The funds authorized will be disbursed through a state agency designated by the Governor.[1] In subsequent actions, the Governor's office has designated the Iowa Department of Natural Resources as the lead state agency for the project.

The legislation authorized state grant funds in the amount of up to 25% of the project costs for the Iowa portion of the project as identified in the 1993 Feasibility Study. In an effort to be consistent among states and members, the Lewis & Clark project funding package is using a funding formula based on 80% Federal grant, 10% state grant and 10% local match for the Iowa members included in the 1993 Feasibility Study. Using the project scope and capacity defined in the 1993 Feasibility Study, the Iowa state cost share for the project was $5,405,100 in 1993 dollars. The projected funding outlays for the next several years are summarized in Table 7.6-3.

[1] Excerpts from House File 133 text dated April 20, 1993, signed into law by Governor Terry Branstad.

Table 7.6-3
State Cost Share Contribution Projections
Iowa

Federal Fiscal Year	Amount	
1990-1999	$	203,919
2000	$	60,000
2001	$	60,000
2002	$	-
2003	$	281,400 [1]
2004	$	1,500,000 [1]
2005	$	2,450,000 [1]
2006	$	2,500,000 [1]

[1] Iowa state match funding as listed in Infrastructure Appropriations Bill, March 2002

7.6.2.3. Minnesota

The State of Minnesota authorized funding for Lewis & Clark through Chapter 172 of SF 1570 (appropriation of funds for the 1993 Feasibility Study) and Chapter 192, SF No. 1620 (establishing reporting requirements for the Legislative Water Commission analysis of the project). The funds authorized for project construction activities will be disbursed through the Minnesota Department of Natural Resources. In subsequent actions the Legislature authorized the use of state general funds and state bonding agency funds for Minnesota's state share of the project cost. Using the project scope and capacity defined in the 1993 Feasibility Study, the Minnesota state cost share for the project was $3,289,500 in 1993 dollars. The projected funding outlays for the next several years are summarized in Table 7.6-4.

Table 7.6-4
State Cost Share Contribution Projections
Minnesota

Federal Fiscal Year	Amount	
1990-1999	$	92,295
2000	$	-
2001	$	34,000
2002	$	180,000 [1]
2003	$	200,000 [2]
2004	$	200,000 [2]
2005	$	210,000 [2]

[1] Minnesota General Fund appropriation for Lewis & Clark in FFY 2002

[2] Minnesota State Bonding Fund appropriation for Lewis & Clark in FFY 2003-2005

7.6.2.4. Summary of State Funding and Projected Requirements

The previous sections have outlined the funding provided by the states and also listed funding that is currently envisioned for the next few years. The cash flow shown in the previous sections does not include the total funding required to completely meet each state's share. Table 7.6-5 provides a summary of possible funding flows to completely fund the state shares to generate a present worth of each state's share in 2001 dollars. It must be emphasized this table is only a projection for planning purposes. Each state legislature will determine the levels and timing of funding to meet their share.

7.6.3. Local Funding

The financing package for the project includes local funds as well as Federal and state grant funds as described in the previous sections. The Federal and state grant funding levels were established on the basis of the membership, system capacity and configuration described in the 1993 Feasibility Study.

Table 7.6-5
Potential Funding to Meet State Shares

Federal Fiscal Year	South Dakota		Iowa		Minnesota		Total Proposed
	Current	Proposed	Current	Proposed	Current	Proposed	
1990-1999	$ 900,000	$ 900,000	$ 203,919	$ 203,919	$ 92,295	$ 92,295	$ 1,196,214
2000	$ 200,000	$ 200,000	$ 60,000	$ 60,000	$ -	$ -	$ 260,000
2001	$ 200,000	$ 200,000	$ 60,000	$ 60,000	$ 34,000	$ 34,000	$ 294,000
2002	$ 750,000	$ 750,000	$ -	$ -	$ 180,000	$ 180,000	$ 930,000
2003	$ 2,000,000	$ 2,000,000	$ 281,400	$ 281,400	$ 200,000	$ 200,000	$ 2,481,400
2004	$ 3,000,000	$ 3,000,000	$ 1,500,000	$ 1,500,000	$ 200,000	$ 200,000	$ 4,700,000
2005	$ 3,000,000	$ 3,000,000	$ 2,450,000	$ 2,450,000	$ 210,000	$ 210,000	$ 5,660,000
2006	$ 3,000,000	$ 3,000,000	$ 2,500,000	$ 2,500,000		$ 700,000	$ 6,200,000
2007	$ 3,000,000	$ 3,000,000		$ 656,244		$ 700,000	$ 4,356,244
2008		$ 3,000,000		$ -		$ 700,000	$ 3,700,000
2009		$ 3,000,000		$ -		$ 700,000	$ 3,700,000
2010		$ 3,000,000		$ -		$ 700,000	$ 3,700,000
2011		$ 2,817,440		$ -		$ 645,283	$ 3,462,723
2012		$ -		$ -		$ -	$ -
2013		$ -		$ -		$ -	$ -
2014		$ -		$ -		$ -	$ -
Totals	$16,050,000	$27,867,440	$ 7,055,319	$ 7,711,563	$ 916,295	$ 5,061,578	$40,640,581
PW [1]	$14,719,365	$24,022,670	$ 6,427,388	$ 6,986,384	$ 878,286	$ 4,251,950	$35,261,004

Present Worth (PW) of State Funding (2001)				
State	South Dakota	Iowa	Minnesota	Total
Target Amount	$24,022,670	$6,986,384	$4,251,950	$35,261,004

[1] Assumed index rate is 3.2598%. Funding for years 1990-2001 are added to the 2002-2014 cash flow in the present worth calculation.

After the project was authorized in 2000, several of the members requested changes to the delivery capacity they had reserved on the system and some members also changed the location or requirements at their point of connection to Lewis & Clark. The changes to total project budget associated with capacity changes are increases that are not included in the grant ceilings in the Federal authorizing legislation. The increased costs associated with those changes will result in an increase in the non-Federal share of the project costs. The increases in costs due to changes in capacity were allocated uniformly on the basis of the additional capacity reserved on the system. The increases in cost due to change in delivery point were allocated to the specific member making the request.

The grant agreements for the state cost share of the project require a one-for-one local match. At the present time the state grant agreements require the one-for-one match to be made on a concurrent basis. The projected schedule for receipt of the funds from the states will deliver the state match funds at a rate faster than required for matching the Federal funds. This set of circumstances will require relatively high annual contributions to the project from local matching funds over the next several years.

For example, the total state participation in 2004 is projected to be in the range of about $5,000,000, or more. The local matching funds for each member as calculated on the basis of the capacity reserved in the 1993 Feasibility Study is summarized in Table 7.6-6. The costs listed in the table represent the cost that would be incurred by the member in 2004 to meet a concurrent grant match requirement for the projected state grant funds in that year. The member can make the payment from reserves, revenues or by other means that is appropriate for that member.

In addition to the local match for the state grants, members that have increased their reserved capacity on the system will be obligated to pay a proportionate share of the construction costs for the added capacity. The combined total cost may result in some high cash flow requirements for certain members. Lewis & Clark is considering alternatives to distribute the costs over a longer time frame. One option under consideration is a request to permit the members to match the state grant funds over the period of construction of the project rather than on a concurrent basis. A second option under consideration is issuance of debt by Lewis & Clark on behalf of its members. If Lewis & Clark were to issue debt and recover the debt service costs through the water rates charged to the individual members using the service, the debt payments could be distributed over a longer term. The benefits of this approach include; reduced annual payments in the early years of construction, uniform series of payments, and payments will be made by those directly receiving benefit from the project. Lewis & Clark has engaged a team of financial advisors to develop alternatives for local share financing.

Table 7.6-6
Example Calculation of Local Match for State Grants - 2004
(Based on original funding structure and does not include costs for additional capacity)

Member System	Reserved Capacity 1993 - MGD	Local Grant Match Percentage 1993	Local Funding Match
Beresford	0.25	0.92%	$45,934
Centerville	0.22	0.81%	$40,421
Harrisburg	0.25	0.92%	$45,934
Lennox	0.40	1.47%	$73,493
Madison	1.00	3.67%	$183,733
Parker	0.49	1.80%	$90,030
Sioux Falls	10.00	50.51%	$2,525,291
Tea	0.329	1.21%	$60,448
Lincoln County RWS	0.90	3.31%	$165,361
Minnehaha CWC	2.00	7.35%	$367,467
South Lincoln RWS	0.15	0.55%	$27,560
South Dakota Subtotal	15.99	72.51%	$3,625,672
Luverne	0.50	1.84%	$91,866
Worthington	1.73	6.36%	$317,860
Rock County RWS	0.30	1.10%	$55,121
Lincoln - Pipestone RWS	0.30	1.10%	$55,121
Minnesota Subtotal	2.83	10.40%	$519,968
Boyden	0.10	0.37%	$18,374
Hull	0.30	1.10%	$55,121
Sheldon	1.00	3.67%	$183,733
Sibley	0.65	2.39%	$119,427
Sioux Center	0.60	2.20%	$110,240
Clay Regional RWS	1.00	3.67%	$183,733
Rural Water No. 1	1.00	3.67%	$183,733
Rock Rapids	---	0.00%	$0
Iowa Subtotal	4.65	17.09%	$854,360
Project Total	23.469	100.00%	$5,000,000

7.6.3.1. Original Capacity Charges

Based on the original funding, the local cost share for each of the original 22 member systems was calculated. The total local cost share is $31,632,320 in 1993 dollars and $40,886,640 indexed to 2001.

The Federal grant funds provided in authorizing legislation represents 80% of the project costs for 21 of the 22 original participating members and 50% of the incremental cost to increase the project size to serve the City of Sioux Falls as identified in the 1993 Feasibility Study. Table 7.6-7 provides a listing of the original local cost share for each of the member systems based on the original system in 1993 and indexed to 2001 dollars.

7.6.3.2. Additional Capacity Charges

After project authorization in 2000, several of the existing member systems requested an increase in their reserved capacity. Rock Rapids, Iowa has requested to become a member system of Lewis & Clark. Also, the City of Sioux Falls requires its point of delivery be relocated to convey its reserved capacity to its water purification plant (see Section 4.5.1.4).

Estimates were developed to determine the incremental cost to increase system capacity to accommodate these added demands and the cost of revising Sioux Falls point of delivery. These incremental costs are:

- Estimate of added cost for Sioux Falls - $1,457,000
- Estimate of added cost for increased capacity - $8,826,965

These costs are not included in the funding packages established by Federal and state authorizing legislation. These costs have been assigned to the systems responsible for the added cost. The revised cost shares for each of the member systems, including these added costs are listed in Table 7.6-7. The total local share, including these added costs, is $51,170,605 in 2001 dollars.

Table 7.6-7
Summary of Local Cost Shares by Member System

Member System	Notes	1993 Original Reserved Capacity (MGD)	% of Original Cost	Original Local Cost Share		2001 Revised Reserved Capacity (MGD)	Added Capacity (MGD)	Cost for Added Capacity 2001	Revised Total Local Cost Share 2001
				1993	Indexed to 2001				
Beresford, SD	1	0.250	1.07%	$ 290,600	$ 375,618	0.800	0.550	$1,304,711	$1,680,329
Centerville, SD		0.220	0.94%	$ 255,720	$ 330,533	0.220	0.000	$0	$330,533
Harrisburg, SD	1	0.250	1.07%	$ 290,600	$ 375,618	0.400	0.150	$355,830	$731,448
Lennox, SD		0.400	1.70%	$ 464,950	$ 600,975	0.400	0.000	$0	$600,975
Madison, SD	1	1.000	4.26%	$ 1,162,380	$ 1,502,445	1.500	0.500	$1,186,101	$2,688,546
Parker, SD		0.490	2.09%	$ 569,570	$ 736,203	0.490	0.000	$0	$736,203
Sioux Falls, SD	2	10.000	42.61%	$15,976,160	$20,650,129	10.000	0.000	$1,457,000	$22,107,129
Tea, SD	1	0.329	1.40%	$ 382,420	$ 494,300	1.000	0.671	$1,591,748	$2,086,048
Lincoln County RWS, SD	1	0.900	3.83%	$ 1,046,150	$ 1,352,211	1.400	0.500	$1,186,101	$2,538,312
Minnehaha CWC, SD		2.000	8.52%	$ 2,324,770	$ 3,004,902	2.000	0.000	$0	$3,004,902
South Lincoln RWS, SD	1	0.150	0.64%	$ 174,360	$ 225,371	0.250	0.100	$237,220	$462,591
Luverne, MN	1	0.500	2.13%	$ 581,190	$ 751,222	0.750	0.250	$593,051	$1,344,273
Worthington, MN		1.730	7.37%	$ 2,010,930	$ 2,599,246	1.730	0.000	$0	$2,599,246
Rock County RWS, MN		0.300	1.28%	$ 348,720	$ 450,741	0.300	0.000	$0	$450,741
Lincoln-Pipestone RWS, MN	1	0.300	1.28%	$ 348,720	$ 450,741	1.000	0.700	$1,660,542	$2,111,283
Boyden, IA		0.100	0.43%	$ 116,240	$ 150,247	0.100	0.000	$0	$150,247
Hull, IA		0.300	1.28%	$ 348,720	$ 450,741	0.300	0.000	$0	$450,741
Sheldon, IA		1.000	4.26%	$ 1,162,380	$ 1,502,445	1.000	0.000	$0	$1,502,445
Sibley, IA		0.650	2.77%	$ 755,550	$ 976,593	0.650	0.000	$0	$976,593
Sioux Center, IA		0.600	2.56%	$ 697,430	$ 901,469	0.600	0.000	$0	$901,469
Clay Regional RWS, IA		1.000	4.26%	$ 1,162,380	$ 1,502,445	1.000	0.000	$0	$1,502,445
RWS #1, IA		1.000	4.26%	$ 1,162,380	$ 1,502,445	1.000	0.000	$0	$1,502,445
Rock Rapids, IA	3	0.000	0.00%	$ -	$ -	0.300	0.300	$711,661	$711,661
TOTALS		23.469	100.00%	$31,632,320	$40,886,640	27.190	3.721	$10,283,965	$51,170,605

Estimate of added cost for Sioux Falls	$ 1,457,000
Estimate of added cost for increased capacity	$ 8,826,965
Estimate of total added cost	$10,283,965

Notes:

[1] Increased reserved capacity

[2] Changed connection, added cost

[3] New member system

It is important to note the affect of the cost for additional capacity on the local cost share. Based on the original funding, 21 of the 22 member systems pay the same amount on a per MGD basis (Sioux Falls is an exception). For example, Clay Regional RWS and Madison would have paid $1,502,445 for their local share in 2001 dollars for 1.0 MGD.

As described above, the cost of added capacity will be borne by the member making the increase. The cost per MGD is not necessarily the same for all members now – the larger the increase, the higher the amount of the increased cost. For example:

- Tea increased its reserved capacity from 0.329 to 1.0 MGD, its local cost share increased from $494,300 to $2,086,048;
- Lincoln-Pipestone RWS increased its reserved capacity from 0.3 to 1.0 MGD, its local cost share increased from $348,720 to $2,111,283; and
- Clay Regional RWS did not change its reserved capacity and its local share for 1.0 MGD remains at $1,502,445.

Member systems that did not change reserved capacity or make a significant change in its point of delivery will not experience a change in its local cost share (other than for cost indexing).

7.6.3.3. Summary of Local Funding and Projected Requirements

In summary, the total amount of local funding to be provided is summarized in Table 7.6-7. Table 7.6-7 includes funding for the originally envisioned system in 1993 plus added costs to increase system demand and to revise Sioux Falls point of delivery. It is important to note that if a system did not have a change, no additional costs (other than for inflation) are accrued to that member.

Tables showing the projected contribution, by individual members, are shown in Appendix A-7. The cost to each system is based on that system's percentage of the total share of the revised total local share (original local cost share plus cost for added capacity) as listed in Table 7.6-7. Various cash flow and funding scenarios are possible – in all situations the local cost share goal (based on the original capacity) should be equal to, or exceed the state contribution for that fiscal year.

7.6.4. Summary of Total Project Funding

The Lewis & Clark project will receive funding from Federal and state grants and funding from local sources. Table 7.6-8 is a summary of funding from all sources and is distributed by member system.

7.6.5. Projected Construction Schedule and Spending Forecast

Elements of a preliminary construction schedule were discussed in Section 6.3. An estimate of the individual components of the various construction phases was made to generate a construction cash flow of these project components. This break out of tasks may or may not reflect the actual composition of construction packages that will be bid during the next several years. These individual project components were indexed to project the future construction cost in order to provide a future construction funding stream.

One of the major considerations driving the schedule and levels of funding is the need to deliver water to Sioux Falls between 2009 and 2012 to meet the city's growing demand. Also, other member systems need a reliable water supply as soon as possible, including Boyden, Sheldon, Sibley, Luverne and Lincoln-Pipestone RWS.

The preliminary construction schedule, including estimated indexed cash flow is shown on Figure 7.6-1. The schedule shown in Figure 7.6-1 is based on the assumption approximately $39.4 million will be available on an annual basis starting in FFY 2004 through the completion of construction. This is based on the assumption the Federal grant portion of the funding will be $30,000,000 annually. Figure 7.6-1 shows some years after FFY 2004 where construction needs are less than $39.4 million and other years are greater. The actual level of funding for each year will be based on available funding.

7.6.6. Cash Flow Requirements for Construction

As discussed in Chapter 6, the pace of construction activity will depend upon the availability of funding. The project will be split into discrete phases and will be based on a logical progression of work. The duration of the project is expected to extend over a ten to fifteen year period based on the experience of similar projects in the State of South Dakota. If possible, Lewis & Clark wants to construct the project over a 12-year period extending from FFY 2003 through 2014.

Table 7.6-8
Summary of Total Project Funding by Source

Member System	Notes	1993 Original Reserved Capacity (MGD)	% of Original Cost	Original Capacity System Costs - 1993 Dollars			2001 Revised Reserved Capacity (MGD)	Added Capacity (MGD)	Cost with Added System Capacity - Year 2001 Dollars				
				Original Local Cost Share	State Cost Share	Federal Cost Share			Cost for Added Capacity	Local Cost Share for Original System	Revised Total Local Cost Share	State Cost Share	Federal Cost Share
Beresford, SD	1	0.250	1.07%	$ 290,600	$ 290,600	$ 2,324,800	0.800	0.550	$1,304,711	$375,618	$1,680,329	$ 375,618	$ 3,004,941
Centerville, SD		0.220	0.94%	$ 255,720	$ 255,720	$ 2,045,760	0.220	0.000	$0	$330,533	$330,533	$ 330,533	$ 2,644,265
Harrisburg, SD	1	0.250	1.07%	$ 290,600	$ 290,600	$ 2,324,800	0.400	0.150	$355,830	$375,618	$731,448	$ 375,618	$ 3,004,941
Lennox, SD		0.400	1.70%	$ 464,950	$ 464,950	$ 3,719,600	0.400	0.000	$0	$600,975	$600,975	$ 600,975	$ 4,807,802
Madison, SD	1	1.000	4.26%	$ 1,162,380	$ 1,162,380	$ 9,299,040	1.500	0.500	$1,186,101	$1,502,444	$2,688,546	$ 1,502,444	$ 12,019,556
Parker, SD		0.490	2.09%	$ 569,570	$ 569,570	$ 4,556,560	0.490	0.000	$0	$736,203	$736,203	$ 736,203	$ 5,889,622
Sioux Falls, SD	2	10.000	42.61%	$ 15,976,160	$ 11,623,840	$ 88,638,400	10.000	0.000	$1,457,000	$20,650,129	$22,107,129	$ 15,024,496	$ 114,570,339
Tea, SD	1	0.329	1.40%	$ 382,420	$ 382,420	$ 3,059,360	1.000	0.671	$1,591,748	$494,300	$2,086,048	$ 494,300	$ 3,954,403
Lincoln County RWS, SD	1	0.900	3.83%	$ 1,046,150	$ 1,046,150	$ 8,369,200	1.400	0.500	$1,186,101	$1,352,210	$2,538,312	$ 1,352,210	$ 10,817,683
Minnehaha CWC, SD		2.000	8.52%	$ 2,324,770	$ 2,324,770	$ 18,598,160	2.000	0.000	$0	$3,004,902	$3,004,902	$ 3,004,902	$ 24,039,215
South Lincoln RWS, SD	1	0.150	0.64%	$ 174,360	$ 174,360	$ 1,394,880	0.250	0.100	$237,220	$225,371	$462,591	$ 225,371	$ 1,802,964
Luverne, MN	1	0.500	2.13%	$ 581,190	$ 581,190	$ 4,649,520	0.750	0.250	$593,051	$751,222	$1,344,273	$ 751,222	$ 6,009,778
Worthington, MN		1.730	7.37%	$ 2,010,930	$ 2,010,930	$ 16,087,440	1.730	0.000	$0	$2,599,245	$2,599,245	$ 2,599,245	$ 20,793,962
Rock County RWS, MN		0.300	1.28%	$ 348,720	$ 348,720	$ 2,789,760	0.300	0.000	$0	$450,741	$450,741	$ 450,741	$ 3,605,929
Linc-Pipestone RWS, MN	1	0.300	1.28%	$ 348,720	$ 348,720	$ 2,789,760	1.000	0.700	$1,660,542	$450,741	$2,111,283	$ 450,741	$ 3,605,929
Boyden, IA		0.100	0.43%	$ 116,240	$ 116,240	$ 929,920	0.100	0.000	$0	$150,247	$150,247	$ 150,247	$ 1,201,976
Hull, IA		0.300	1.28%	$ 348,720	$ 348,720	$ 2,789,760	0.300	0.000	$0	$450,741	$450,741	$ 450,741	$ 3,605,929
Sheldon, IA		1.000	4.26%	$ 1,162,380	$ 1,162,380	$ 9,299,040	1.000	0.000	$0	$1,502,444	$1,502,444	$ 1,502,444	$ 12,019,556
Sibley, IA		0.650	2.77%	$ 755,550	$ 755,550	$ 6,044,400	0.650	0.000	$0	$976,593	$976,593	$ 976,593	$ 7,812,742
Sioux Center, IA		0.600	2.56%	$ 697,430	$ 697,430	$ 5,579,440	0.600	0.000	$0	$901,469	$901,469	$ 901,469	$ 7,211,754
Clay Regional RWS, IA		1.000	4.26%	$ 1,162,380	$ 1,162,380	$ 9,299,040	1.000	0.000	$0	$1,502,444	$1,502,444	$ 1,502,444	$ 12,019,556
RWS #1, IA		1.000	4.26%	$ 1,162,380	$ 1,162,380	$ 9,299,040	1.000	0.000	$0	$1,502,444	$1,502,444	$ 1,502,444	$ 12,019,556
Rock Rapids, IA	3	0.000	0.00%	$ -	$ -	$ -	0.300	0.300	$711,661	$0	$711,661	$ -	$ -
TOTALS		23.469	100%	$ 31,632,320	$ 27,280,000	$ 213,887,680	27.190	3.721	$10,283,965	$40,886,636	$51,170,601	$ 35,261,004	$ 276,462,395
Notes:				$272,800,000							$362,894,000		
[1] Increased reserved capacity				11.60%	10.00%	78.40%					14.10%	9.72%	76.18%
[2] Changed connection, added cost													
[3] New member system													

		FFY 2000	FFY 2001	FFY 2002	FFY 2003	FFY 2004	FFY 2005	FFY 2006	FFY 2007	FFY 2008	FFY 2009	FFY 2010	FFY 2011	FFY 2012	FFY 2013	FFY 2014	FFY 2015
Projected Annual Construction Phase Spending				$ 1,862,800	$ 14,215,077	$ 37,912,362	$ 38,964,821	$ 40,314,731	$ 36,018,357	$ 40,182,217	$ 40,782,517	$ 41,235,617	$ 43,874,067	$ 39,952,467	$ 39,564,650	$ 25,084,333	$ -
	Cost (2001$)	CY2000	CY2001	CY2002	CY2003	CY2004	CY2005	CY2006	CY2007	CY2008	CY2009	CY2010	CY2011	CY2012	CY2013	CY2014	CY2015
PRELIMINARY STUDIES																	
Final Engineering Report	$ 1,000,000																
Environmental/Biological Assessment																	
PURCHASE LAND AND EASEMENTS	$ 9,518,000																
PHASE 1 PROJECTS																	
Raw Water #1 (Wells - Sites B, C & D)	$ 8,327,033																
Raw Water #1 (Pipeline - Mulberry Point to WTP)	$ 17,640,542																
WTP to Beresford Jct	$ 39,664,075																
Beresford Jct to Centerville	$ 5,627,045																
Total - Phase 1	$ 71,258,695																
PHASE 2 PROJECTS																	
Water Treatment Plant	$ 46,155,702																
Centerville Service Line and Connection	$ 857,480																
Centerville to Lennox (includes Lennox Service)	$ 32,280,727																
Lennox to Parker Jct	$ 5,639,922																
Parker Jct to Parker (includes Parker Service)	$ 3,223,267																
South Lincoln County RWS Service Line	$ 965,099																
Parker Jct to Tea (includes Tea Service)	$ 5,192,669																
Tea to Sioux Falls Jct	$ 9,624,740																
Sioux Falls Jct to Reservoirs	$ 11,858,739																
Reservoirs to MCWC-1 (includes MCWC-1 Service)	$ 4,159,708																
MCWC-1 to Benson Road (includes Sioux Falls Service)	$ 7,408,420																
Beresford Jct to Beresford (includes Beresford Service)	$ 3,116,059																
Total - Phase 2	$ 130,482,534																
PHASE 3 PROJECTS																	
Raw Water #2 (Wells - Sites J, U & W)	$ 2,787,174																
Raw Water #2 (Pipeline - Sites J, U & W to WTP)	$ 4,471,848																
Sioux Falls Jct to LCRWS (includes LCRWS Service)	$ 5,316,013																
LCRWS to Harrisburg (includes Harrisburg Service)	$ 2,466,052																
Harrisburg to Schindler Jct (includes MCWC-2 Service)	$ 4,694,666																
Schindler Jct to Rock Rapids Jct (incl RR Svc Connection)	$ 13,029,473																
Rock Rapids Jct to RCRWS-1 (includes RCRWS-1 Service)	$ 4,645,686																
RCRWS-1 to Luverne (includes Luverne Service)	$ 11,081,824																
Beresford to Sioux Center Jct	$ 20,744,774																
Sioux Center Jct to Sioux Center (includes SC Service)	$ 883,416																
Sioux Center to RWS#1-1 (includes RWS#1-1 Service)	$ 833,337																
Sioux Center Jct to Hull (includes Hull Service)	$ 5,649,885																
Hull to Boyden (includes Boyden Service)	$ 5,932,344																
Boyden to RWS#1-2 (includes RWS#1-2 Service)	$ 3,086,985																
RWS#1-2 to Sheldon (includes Sheldon Service)	$ 1,492,565																
Total - Phase 3	$ 87,116,042																
PHASE 4 PROJECTS																	
Luverne to RCRWS-2 (includes RCRWS-2 Service)	$ 4,495,241																
RCRWS-2 to LPRWS (includes LPRWS Service)	$ 6,904,691																
LPRWS to Sibley Jct	$ 2,635,101																
Sibley Jct to Worthington (includes Worthington Service)	$ 6,322,747																
Sibley Jct to Sibley (includes Sibley Service)	$ 4,856,940																
Sheldon to CRWS-1 (includes CRWS-1 Service)	$ 11,418,278																
Total - Phase 4	$ 36,632,998																
PHASE 5 PROJECTS																	
Benson Road to Madison (includes Madison Service)	$ 17,333,894																
CRWS-1 to CRWS-2 (includes CRWS-2 Service)	$ 9,551,838																
Total - Phase 5	$ 26,885,732																
Total - Project	$ 362,894,000																

LEGEND

- Planning
- Design
- Land
- Review
- Construction

Banner Associates, Inc. **HDR Engineering, Inc.** **TRC Mariah Associates Inc.**	**EXECUTIVE SUMMARY** **LEWIS AND CLARK RURAL WATER SYSTEM**	**FIGURE 7.6-1** **Preliminary Project Construction Schedule and Annual Funding Requirements** **Subject to Revision**

Construction sequencing is based on a five phase approach, as described in Chapter 6. In general, the progression of pipeline construction will radiate from the water treatment plant.

There are countless alternatives and levels of funding that could be considered. However, based on discussions by Lewis & Clark and its financial advisor group, two basic scenarios have been considered. Many variations may evolve, however it is important to provide a conceptual cash flow to provide a basis for the orderly development and funding of the project.

The following scenarios have been developed to provide an approximation of the funding stream required to construct the project in a 12-year period:

- **Option 1 (Pay as You Go)** – State and local funding match (based on approximately 76.2% Federal, 9.7% state, and 14.1% local funding percentages) is paced to Federal funding; assume Federal funding is $30,000,000 per year starting in FFY 2004 through completion, and
- **Option 2** – Accelerated state and local funding (staged financing), but keep Federal funding at $30,000,000 per year starting in FFY 2004 through completion.

Lewis & Clark has not decided on either Option 1 or Option 2 for local funding at the time this Final Engineering Report is issued. There are many legal, financial and administrative considerations to be addressed before a decision is made. The following discussion provides a basic description and estimate of funding for two funding options.

7.6.6.1. Option 1 Funding - State and Local Sources Pace Federal Share Percentages (Pay as You Go)

Option 1 reflects the originally conceived financing during the early planning phases of the Lewis & Clark project. Table 7.6-9 presents a projected cash flow based on Federal funding of $30,000,000 per year (beginning in FFY 2004) with state and local funding pacing the Federal grant, or pay as you go.

State and local funds have been allocated to the Lewis & Clark project since the early 1990's. Federal funding began after authorization in 2000. Approximately $4.2 million have been allocated from Federal, state and local sources through the end of FFY 2001. These funds are project eligible and count toward the cost allocation ceiling for the project.

Table 7.6-9
Construction Cash Flow - Option 1
State and Local Sources Pacing Federal Funding Share Percentages (Pay as You Go)

Funding by Source				
	Federal	State	Local	Total
Total (2001)	$ 276,462,395	$ 35,261,004	$ 51,170,601	$ 362,894,000
% of Funding	76.18%	9.72%	14.10%	100.00%

Funds Allocated to Lewis & Clark Through 2001				
	$ 1,499,000	$ 1,750,214	$ 950,667	$ 4,199,881

Balance of Funding Required After 2001				
	$ 274,963,395	$ 33,510,790	$ 50,219,934	$ 358,694,119

Required Cash Flow by Source - Option 1				
FFY	Federal	State	Local	Total
2002	$ 1,868,000	$ 238,251	$ 345,749	$ 2,452,001
2003	$ 12,000,000	$ 1,530,523	$ 2,221,088	$ 15,751,611
2004	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2005	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2006	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2007	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2008	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2009	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2010	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2011	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2012	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2013	$ 30,000,000	$ 3,826,307	$ 5,552,719	$ 39,379,027
2014	$ 24,835,648	$ 876,609	$ 3,607,541	$ 29,319,798
2015	$ -	$ -	$ -	$ -
Total [1]	$ 338,703,648	$ 40,908,457	$ 61,701,570	$ 441,313,675

Present Worth (2001) of the above Funding at 3.2598% [2]			
$ 274,963,395	$ 33,510,790	$ 50,219,934	

Notes:
1 Does not include funding 1990 through 2001.
2 Assumes inflation is 3.2598% (matches Reclamation's index 1993 = 1.0; 2002 = 1.292559)

Table 7.6-9 shows the total funding required from each source in 2001 dollars. The funds allocated through 2001 are subtracted and the total balance of funding remaining is calculated. The state and local funding stream shown in Table 7.6-9 is based on keeping pace with the Federal grant using the percent funding from each source. A present worth, in 2001 dollars, for each of the three funding streams is calculated in order to equal the calculated total balance of funding remaining at the end of 2001. The funding stream percentages for the Federal and local shares in FFY 2014 vary since state and local funding sources have contributed higher percentages of the total funding through 2001.

The funding stream for each member is shown on a table in Appendix A-7 for Option 1. The shaded areas in this table indicate the time period when the member system will be receiving water from Lewis & Clark.

7.6.6.2. Option 2 Funding – Accelerated State and Staged Financing Local Funding

Option 2 reflects an alternative funding package for the project based on funding acceleration by the states and local membership. Table 7.6-10 presents a projected cash flow based on Federal funding of $30,000,000 per year (beginning in FFY 2004) with accelerated state and local funding (accelerated state funding is summarized in Table 7.6-5). Computation methods for Option 2 are similar to the discussion for Option 1.

As shown in Table 7.6-6, the high levels of state funding could greatly impact the local membership. If these high levels of funding are passed on to consumers, water rates could rise significantly. Typically, water projects are funded for periods of 10 to 50 years, depending on the size of the project, funding agency requirements and other factors. The longer financing period helps to even out the impact of infrastructure improvements to individual consumers.

Based upon input from Lewis & Clark's financial advisor group, a series of "staged" financing over the construction period are being evaluated for the local funding.[2] The "staged" financing would accomplish the following:

[2] Source is information provided by Dougherty & Company, LLC

Table 7.6-10
Construction Cash Flow - Option 2
Accelerated State and Staged Financing Local Funding Share

Funding by Source				
	Federal	State	Local	Total
Total (2001)	$ 276,462,395	$ 35,261,004	$ 51,170,601	$ 362,894,000
% of Funding	76.18%	9.72%	14.10%	100.00%

Funds Allocated to Lewis & Clark Through 2001				
	$ 1,499,000	$ 1,750,214	$ 950,667	$ 4,199,881

Balance of Funding Required After 2001				
	$ 274,963,395	$ 33,510,790	$ 50,219,934	$ 358,694,119

Required Cash Flow by Source - Option 2				
FFY	Federal	State	Local	Total
2002	$ 1,868,000	$ 930,000	$ 367,759	$ 3,165,759
2003	$ 12,000,000	$ 2,481,400	$ 15,000,000	$ 29,481,400
2004	$ 30,000,000	$ 4,700,000	$ -	$ 34,700,000
2005	$ 30,000,000	$ 5,660,000	$ -	$ 35,660,000
2006	$ 30,000,000	$ 6,200,000	$ 20,000,000	$ 56,200,000
2007	$ 30,000,000	$ 4,356,244	$ -	$ 34,356,244
2008	$ 30,000,000	$ 3,700,000	$ -	$ 33,700,000
2009	$ 30,000,000	$ 3,700,000	$ 22,198,764	$ 55,898,764
2010	$ 30,000,000	$ 3,700,000	$ -	$ 33,700,000
2011	$ 30,000,000	$ 3,462,723	$ -	$ 33,462,723
2012	$ 30,000,000	$ -	$ -	$ 30,000,000
2013	$ 30,000,000	$ -	$ -	$ 30,000,000
2014	$ 24,835,648	$ -	$ -	$ 24,835,648
2015	$ -	$ -	$ -	$ -
Total [1]	$ 338,703,648	$ 38,890,367	$ 57,566,523	$ 435,160,538

Present Worth (2001) of the above Funding at 3.2598% [2]			
$ 274,963,395	$ 33,510,790	$ 50,219,934	

Notes:
1 Does not include funding 1990 through 2001.
2 Assumes inflation is 3.2598% (matches Reclamation's index 1993 = 1.0; 2002 = 1.292559)

- Allows gradual absorption of project costs into member's rate base;
- More closely matches local share to state and Federal share
- Flexibility
  - Changing market conditions
  - Utilization of existing funds by members
- May reduce interest rate risk
- Inflation rate less than cost of capital in current environment
- "Negative arbitrage" exists today – investment of bond proceeds during construction period less than cost of capital.

The funding streams in Table 7.6-10 assume local funding in three financings beginning in FFY 2003. The financing would each have a 30-year financing period at current market interest rates. The aggregate annual debt service for these financings would be less than local funding shown in Option 1. This funding stream, except for FFY 2002, equals or exceeds state funding on a year-by-year basis.

The funding stream for each member is shown on a table in Appendix A-7 for Option 2. The funding stream shown in the appendix is simplified and is based on a straight amortization of the loans over a 30-year period with constant interest and constant payments. The shaded areas in this table indicate the time period when the member system will be receiving water from Lewis & Clark.

It is important to note the future indexed rate (3.2598%) and the interest rate used in the tables in Appendix A-7 are based on recent rate history. The index rate reflects the low inflation period of the 1990's. The interest rates also reflect a period of low interest loans. Higher inflation and higher interest rates will impact these projections.