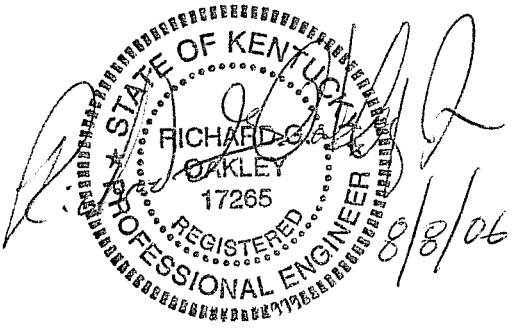
PRELIMINARY ENGINEERING REPORT

FOR

BARKLEY LAKE WATER DISTRICT

AUGUST 2006



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FOR

BARKLEY LAKE WATER DISTRICT

OFFICIALS

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AUGUST 2006

JOB NUMBER 3448

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I. INTRODUCTION

The Barkley Lake Water District (BLWD) was established on July 21, 1965, for the purpose of serving the residents and commercial establishments in Trigg County (outside the City of Cadiz) with a safe and reliable supply of potable water. Actual production and operation began in the late 1960's upon completion of construction of a 1 MG water treatment plant and the initial water distribution lines. The water district has grown steadily since that time and now serves almost all of Trigg County along with a few customers in Christian and Lyon Counties. The Lake Barkley State Resort Park is also served by the BLWD.

The purpose of this Preliminary Engineering Report is to evaluate and present the requirements for the BLWD facilities to continue to provide the expected level of service for their customers and to continue meeting the current drinking water regulations in a reliable and efficient manner.

II. PROJECT PLANNING AREA

A. Location

Trigg County is located in the southwestern portion of Kentucky on the eastern side of Barkley Lake (Cumberland River). BLWD serves all areas of the county except for the City of Cadiz and portions taken by Land Between the Lakes and the Fort Campbell Military Reservation. Barkley Lake Water District also provides water for areas of Christian County and Lyon County. Major transportation facilities include I-24 and U.S. Hwy. 68/80.

B. Environmental Resources

A major portion of Trigg County is part of the Land Between the Lakes area and the Fort Campbell Military Reservation. The Lake Barkley State Resort Park is also located in Trigg County. With the Land Between the Lakes, Barkley Lake, Kentucky Lake, and Barkley Lake State Resort Park all located in or bordering Trigg County, environmental and recreational resources abound in the area. The proposed funding agencies require

clearinghouse review and a detailed environmental review for this project, which will identify any environmental resources which might be present in the project area.

The impact this project will have on these resources should be minimal since any proposed facilities follow the route of, or are immediately adjacent to, existing highways, roadways, the proposed Hwy. 68/80 relocation project, or on the site of existing BLWD facilities. Any important resources identified during the environmental review will be accounted for in the final design.

C. Population Trends

The historical population data and projections for Trigg County are shown in Table 1. The data was supplied by the Pennyrile Area Development District with the projection source being the University of Louisville, Urban Studies Center, State Data Center.

TABLE 1
POPULATION DATA
TRIGG COUNTY, KENTUCKY

YEAR	POPULATION	% CHANGE (10 YRS.)
1970	8,620	
1980	9,384	8.9%
1990	10,361	10.4%
2000	12,597	21.6%
2010	13,249 (projected)	5.2%
2020	13,949 (projected)	5.3%

Many other methods of projecting population growth are available since so many factors can affect the actual growth. Using the same growth pattern for the next 20 years as has occurred in the last 20 years yields a projected population of approximately 16,900 in 2020. This indicates the projections by University of Louisville to be very conservative. This seems to be reinforced since the 2004 population is currently estimated at 13,249 (the 2010 projection).

Other factors in Trigg County are the abundant recreational activities associated with the Land Between the Lakes and Barkley Lake which impact the number of vacation homes and rental units that will not show up in population figures but will impact the demands on the potable water systems in the area. Some roads in the BLWD service area are still unserved with water lines. Thus the demand for water will grow as line extensions are made and new dwelling units are constructed even if the population does not increase.

From 1990 to 2000, BLWD's customer base increased from 2,850 to almost 5,000. Annual new meter settings indicate the trend is continuing at a similar rate of numerical growth. This rate of growth is much larger than would be anticipated by population statistics alone.

III. EXISTING FACILITIES

A. Location Map

The existing water service area for the BLWD includes all of Trigg County except for the City of Cadiz, the Land Between the Lakes and Fort Campbell Military Reservation. BLWD has the potential to sell potable water, in limited quantities, to the City of Cadiz, Christian County Water District, Lyon County Water District, and the North Stewart (in Tennessee) Utility District on a wholesale basis. Water sales to these entities beyond fairly limited quantities will require close examination of the hydraulic conditions and will require improvements in the system's distribution system to maintain an acceptable level of service to BLWD's existing customers. Each request will require evaluation.

B. History

The Barkley Lake Water District (BLWD) was established on July 21, 1965, for the purpose of serving the residents and commercial establishments in Trigg County (outside the City of Cadiz) with a safe and reliable supply of potable water. Actual production and operation began in the late 1960's upon completion of construction of a 1 MG water treatment plant, raw water intake, and the initial water distribution lines. The water district has grown steadily since that time and now serves almost all of Trigg County along with a few customers in Christian and Lyon Counties. The Lake Barkley State

Resort Park is also served by the BLWD. The intake and WTP were expanded to 2 MGD capacity in 1989. The treatment processes are conventional surface water treatment units consisting of flash mixing, flocculation, sedimentation, dual media gravity filtration, and chlorine disinfection.

C. Condition of Facilities

1. Water Treatment Facilities: The existing BLWD facilities are in reasonably good condition, but are in need of some updating and upgrading even if the system customer base was not increasing. Examples of improvements needed are chemical feed equipment, reworking of two oldest filters, filter pipe gallery modifications for the addition of rewash capabilities, replacement of filter controls and filter valve operators, and other miscellaneous items. Utilization of these facilities for the steadily increasing customer base and as a potentially increasing regional supplier will require more extensive upgrades as well as expansion of capacity at some date. All upgraded facilities will be designed to be in compliance with the Safe Drinking Water Act and applicable State requirements.

Operations for finished water leaving the plant are not efficient. Filtered water is pumped into an above ground clearwell and then pumped into the plant water tank at overflow of 620 feet. Finished water must be pumped twice before it leaves the plant. The primary pressure zone is 702 feet and is controlled by the Pete Light Water Tank. Because this pressure zone is 82 feet higher than the plant tank, water is pumped by the Pete Light Springs Booster Pump (3rd time water is pumped) to the controlling Pete Light Water Tank. The Pete Light Tank is a 200,000-gallon standpipe with very limited useful storage.

2. Raw Water Supply and Intake: The source of the BLWD Water Treatment Plant (WTP) is Lake Barkley (the Cumberland River at approximately River Mile 62.5). The flow of the river at this point is approximately 7,742 MGD (80 % of the time), which does not include lake storage capacity. Thus, the lake can be considered an unlimited

supply in terms of any current or future needs of the Water District. The raw water intake has been adequate but will need upgrading for continued service.

3. Distribution System: The water distribution system lines are normally located along the main roadways throughout Trigg County. Because the general topography elevations vary from 350 feet to 695 feet above sea level, the water system has both low- and high-pressure problems in certain areas.

In general the existing distribution system consists of over 371 miles of water main ranging in size from 3" to 16". Table 2 shows the approximate mileage of pipe according to size. Table 3 shows the pumping stations and their capacities. The system was placed into operation beginning in 1968 and consists of asbestos cement, cast iron, and PVC pipe installed starting in 1968 and continuing to present. The distribution system is reported to be generally in good condition with some known problems, but will require some renovations of the distribution system to meet existing and future demands. Barkley Lake Water District is not unlike other rural utilities and they continually deal with water loss issues. The staff and management strive to minimize water loss.

4. Storage Facilities: The existing water storage facilities consist of six storage tanks with a total capacity of 1,650,000 gallons. Total storage volume would appear to be adequate at this time; however, 900,000 gallons of the storage is in standpipes with only a small percentage of these three tanks being useful storage. Water level drops of only a few feet result in marginal water pressures to some customers during peak demand periods and do not allow for the most efficient operation of the existing water treatment plant and pumping stations. The existing Pete Light and Water Plant high service tanks are the primary tanks for the water system and fall into this category.

TABLE 2
DISTRIBUTION SYSTEM – LINES

Pipe Size	Installed Quantity
16"	2 miles
12"	5 miles
10"	6 miles
8"	46 miles
6"	128 miles
4"	113 miles
3" & smaller	71 miles

TABLE 3
DISTRIBUTION SYSTEM - PUMPS

Location	G.P.M.
Pete Light	900
McUpton	350
Cerulean	150
Hwy. 139 South Rd.	280
Gresham	300

D. Financial Status of Any Operating Central Facilities

The attached RD Summary Addendum provides information on the rate schedules, annual operating and maintenance costs, tabulation of users by monthly usage categories, and a summary of the existing debts. Annual audit reports will be provided to any funding agencies if required.

IV. NEED FOR PROJECT

A. Health and Safety

The BLWD has utilized Lake Barkley as its raw water source since the creation of the district in the mid 1960's. The source has proven to be more than adequate with quantity of available water being essentially unlimited. The intake structure is in need of modifications to provide more effective screening of leaves and debris, and will require more extensive modifications to accommodate an expansion of capacity. The water treatment plant has proven adequate over the years. The capacity was expanded from 1 MGD to 2 MGD in 1989. The treatment facility is in reasonably good condition but is in need of certain improvements even if it continues in service only for the needs of BLWD. Examples of needed improvements are chemical feed capabilities and equipment replacement, reworking of the oldest filters, filter pipe gallery modifications for the addition of rewash capabilities, replacement of filter controls and filter valve operators, and other miscellaneous items.

The main concern with meeting current drinking water regulations has been associated with total trihalomethanes (TTHM's) and haloacetic acids (HAA5), which fall into the category of disinfection by-products. In March of 2003, BLWD was issued a Notice of Violation for exceeding the maximum contaminant level for HAA5 on 1/10/03. A copy of the Notice of Violation is included in Appendix A.

B. System O & M

The BLWD treatment facilities seem to be of adequate capacity to meet the needs of their customer base but are in need of some modifications and improvements (as previously discussed in paragraph A above) to continue as a reliable and efficient treatment facility. Upgrades required for improved and more efficient operation of the treatment facilities will allow for an easy and cost-effective expansion of the WTP from 2.0 MGD to 3.0 MGD, thus providing sufficient capacity to efficiently serve both BLWD and potential wholesale customers. Improving the efficiency of the clearwell and high service pumping facilities and the distribution system water storage capabilities is an important aspect of any recommended improvements and will serve to control, and possibly reduce, the operating costs associated with the distribution system.

KY DOW and USEPA personnel conducted a "Comprehensive Performance Evaluation" at the BLWD treatment facility in December 2001. A copy of the evaluation report is included in Appendix B. The report generally concluded that the majority of facility upgrade requirements were associated with the filters, such as filter media and bottoms in the two oldest filters, filter valve operators, filter rewash capabilities in the two oldest filters, etc.

C. Growth

The average daily demand of the BLWD system should be in the range of 1.1 MGD with peak period demands of approximately 1.6 MGD. As previously discussed in Paragraph II. C., the official population for Trigg County is for slightly more than 5% growth. However, BLWD has been experiencing much greater water demand increases in their water system or in the number of customers being added. The system is expecting

growth closer to 50% over the next 10 to 20 years rather than the much lower growth the population projection would indicate.

The proposed capacity of the treatment facility should be more than adequate to meet both the average daily demands of the system and the peak period demands and allow for consideration of furnishing water on a wholesale basis to surrounding areas. However, the primary purpose of any expanded capacity will be to improve the operating efficiency of the existing system.

The average water pumped into the BLWD system for years 2001, 2002, and 2003 was approximately 1,137,000 gallons per day.

V. ALTERNATIVES CONSIDERED

A. Description of Alternatives

1. Alternative 1

Alternative 1 has three main components – 1) WTP and Intake Improvements, 2) Transmission Main Replacement, and 3) New 1.5 MG Elevated Water Storage Tank.

The WTP/Intake work consists of upgrading the treatment facilities to meet current treatment and reliability standards but not expanding the capacity. Improvements recommended include upgrading of the existing raw water intake to provide better screening capabilities. The filters will be renovated. Renovations include replacing: underdrains in Filters 1 and 2; media in all four filters; control valves (and piping as necessary); and controls. A new clearwell and high service pumping arrangement will be included in the initial upgrade to allow for an improvement in operating efficiencies. The goal is to improve WTP operations and to increase the efficiency and the reliability to distribute water to customers. Since the capacity of the WTP is not increased with this project, it is important to know that these improvements will remain useful through future plant expansion projects. Major WTP improvements will include:

a. Addition of Screens to the Raw Water Intake,

b. Renovations existing filters (underdrains, media, valving, piping, and controls),
c. Improvements to the chemical feed system, and
d. New clearwell and high service pump building.

The other two components of this alternative are associated with the distribution system. One is construction a 1.5 MG elevated water storage tank to replace the existing 200,000-gallon Pete Light standpipe. The proposed tank will have an overflow elevation of approximately 735 and be 33 feet higher than the existing standpipe. The existing standpipe has very limited storage (top 4 to 6 feet) and BLWD depends on this tank to serve a large portion of the District. The top 6 feet of volume, from 702 feet to 696 feet, equates to 16,000 gallons of useful storage. Because of the small storage volume, the Pete Light Springs Booster Pump runs nearly 24 hours a day replenishing or trying to maintain the tank level to provide adequate service to all customers.

The proposed elevated tank will have the desired effect of creating a reliable master tank with useful storage to feed the distribution system. The equivalent storage in the new tank will nearly be the entire volume of the tank because all storage is elevated. This larger volume of useful water will allow for the WTP to be shut down for extended periods (at least one shift) without sacrificing service to the customers.

The final component associated with this alternative is construction of 20,000 LF of 16-inch water line from the WTP to the existing Pete Light Springs Booster Pumping Station. This line will link the proposed High Service Pump Building with the proposed 1.5 MG Water Tank. 13,000 LF of the proposed line will be ductile iron and rated for the pressures anticipated from the pumps. 7,000 LF will be PVC and will replace existing 10-inch asbestos cement pipe currently a bottleneck to good distribution in the transmission main.

Benefits resulting from completion of this Alternative are:

a. Water can be pumped directly from the WTP to the Pete Light Tank.
b. Eliminate the Pete Light Springs BPS and the Gresham Road BPS. Currently both stations operate 24 hours per day.

c. The line improvements eliminate existing bottlenecks in the main transmission lines improving service to large portions of the system.
d. The new elevation of the tank will improve pressures in the Pete Light service area by 12 to 15 psi.
e. The higher elevation will also improve the pump discharge capability of the South Road Booster Pump Station.
f. The new transmission main from the WTP to the tank will be pressure rated for the new pressures and will replace a main that has a history of line breaks.

2. Alternative 2

It is anticipated that growth over the next 10 years will create the need to increase the Water Treatment Plant Capacity. Alternative 2 expands on the foundation presented as Alternative 1 and increases the Water Treatment Plant from 2.0 MGD to 3.0 MGD.

Major improvements at the WTP associated with this alternative include:

a. raw water *screening*[1] and pumping,
b. new 12-inch raw water line,
c. new flocculation basin and existing settling basin modifications,
d. reworking existing filters (underdrains, media, valving, piping, and controls)
e. *new clearwell and high service pump building, and*
f. *chemical feed system improvements.*

To increase the WTP capacity, pumps at the intake will need to be replaced, and a the high service pump building will consist of three pumps, two being able to pump 3.0 MGD with the third as stand-by. A new flocculation basin and the addition of tube settlers in the settling basin and high rating the filters will increase the treatment capacity to 3.0 MGD.

[1] Italics identifies work that is described in Alternative 1. Alternative 1 can be generally considered Phase 1 of a two-phase project. Phase 1 includes treatment improvements and improved efficiency and reliability. Phase 2 increases the capacity from 2.0 MGD to 3.0 MGD. Alternative 2 incorporates all work of Alternative 1 into a single Phase.

3. Alternative 3

Alternative 3 includes upgrading the existing WTP capacity to 3 MGD using membrane treatment technology. The addition of membranes to the treatment facilities will eliminate any need for improvements and upgrades to the filter piping, media, controls, etc., and will allow the District to be more assured of meeting current and future regulations pertaining to removal of certain size particles beyond what standard filters are capable of providing an absolute barrier to remove.

This alternative also includes new clearwell and high service pump arrangement previously described and the same distribution system improvements recommended in Alternative 1.

The present worth analysis for this alternative will account for replacement of the membranes in approximately 10 years as a capital expense instead of as an increased O&M cost.

B. Design Criteria

The project will be designed to conform with the requirements of the Kentucky Division of Water and the Federal SDWA. Alternatives being evaluated meet the design parameters of the governing authorities with proposed materials meeting applicable AWWA or ASTM standards. Leakage testing for the proposed piping will be required to meet the AWWA and KDOW requirements. The design capacity of the proposed facilities are proposed to meet the anticipated 20 year demand of the service area under reasonable growth patterns. Any need for further expansion of treatment capacity will require evaluation at periodic intervals.

Since BLWD will be installing new transmission mains to replace some of the existing undersized and older lines, water losses should be reduced. The District will need to continue addressing the issue of water loss and operating efficiency in the system by continuing the program of replacing their water meters with automatic radio read meters and replacement of known problem lines.

C. Map

A schematic layout of the proposed facilities is shown in Figures 1 and 2.

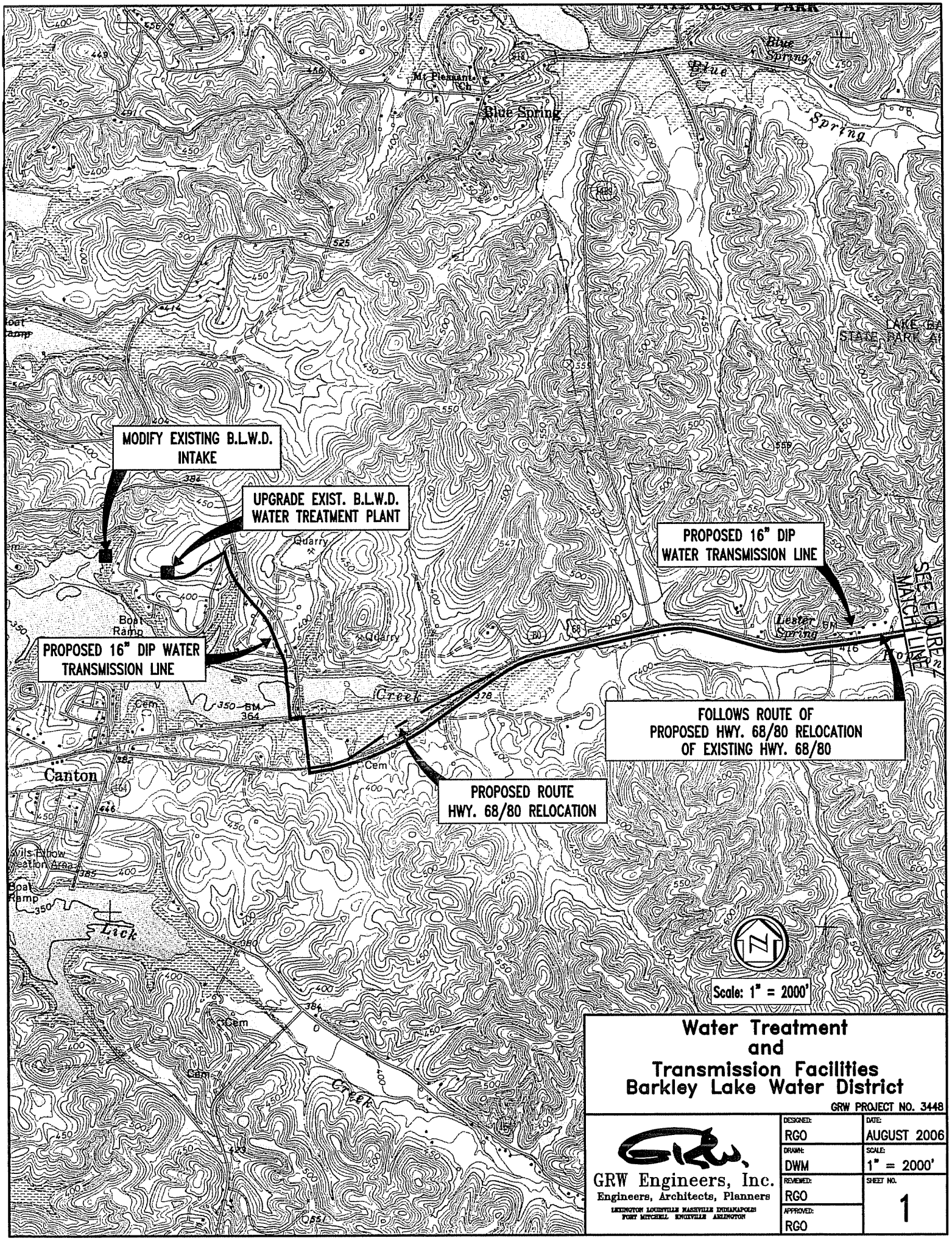
D. Environmental Impacts

An environmental assessment is a part of any funding agency's requirements prior to approval of the project. This report will not attempt to address the many parameters which will be involved in any assessment, but will only address in general terms the impact of this project.

The proposed project will have minimal environmental impact for the following reasons.

1. No new service areas or expansion of customer base is proposed; this project is to serve existing entities.
2. The proposed intake will be an upgrade of an existing structure; minimal disturbance will occur.
3. The proposed water treatment capacity is 3 MGD, which is only slightly more than the existing capacity. The amount of water withdrawn will not increase since no new customers are being proposed. Energy usage should decrease due to the improved operating efficiencies of the system.
4. The proposed treatment facilities will be an upgrade of an existing WTP and will not require disturbance of an additional site.
5. The proposed new transmission lines follow the route of existing roads and lines. Practically all areas will have been previously disturbed.
6. The proposed water storage tank is immediately adjacent to an existing water storage tank.

The environmental impacts of each of the alternatives are very similar and are primarily related to temporary issues during the construction process.

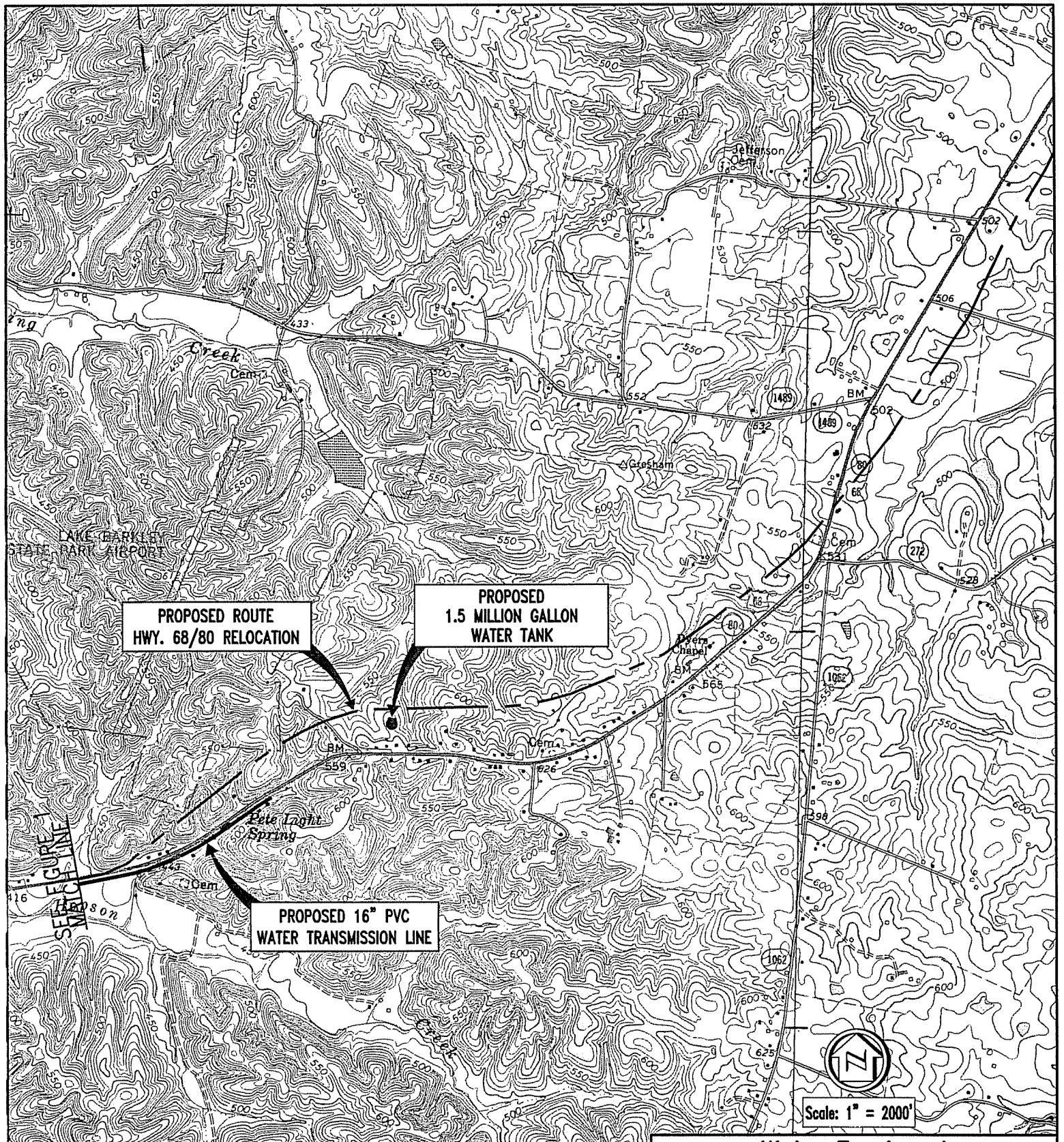


Water Treatment and Transmission Facilities Barkley Lake Water District

GRW PROJECT NO. 3448

GRW Engineers, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE NASHVILLE INDIANAPOLIS
FORT MITCHELL KNOXVILLE ARLINGTON

DESIGNED:	DATE:
RGO	AUGUST 2006
DRAWN:	SCALE:
DWM	1" = 2000'
REVIEWED:	SHEET NO.
RGO	1
APPROVED:	
RGO	



Water Treatment and Transmission Facilities Barkley Lake Water District

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LEXINGTON LOUISVILLE NASHVILLE INDIANAPOLIS
FORT MITCHELL KNOXVILLE ARLINGTON

DESIGNED: RGO	DATE: AUGUST 2006
DRAWN: DWM	SCALE: 1" = 2000'
REVIEWED: RGO	SHEET NO. 2
APPROVED: RGO	

E. Land Requirements

1. Alternative 1

This alternative will involve upgrades at the existing BLWD raw water intake and WTP facilities; no additional property will be required for these upgrades to take place. The proposed elevated water storage tank will be constructed on a site adjacent to an existing BLWD water tank; the site is on property already owned by the District. The water transmission lines may require that easements be obtained.

2. Alternative 2

The land and site requirements will be the same as described in Alternative 1.

3. Alternative 3

The land and site requirements will be the same as described in Alternative 1.

F. Construction Problems

1. Alternatives 1, 2, or 3

No construction problems are anticipated.

G. Cost Estimates

1. Construction Cost Estimates

Construction Cost Estimates are provided in detail in Tables 4, 5 and 6 for each respective alternative. Alternatives 2 and 3 both involve expansion of treatment and pumping capabilities from 2.0 to 3.0 MGD. With a pumping rate of 1.2 MGD, a 2.0 MGD plant is at 60 percent capacity. A 3.0 MGD plant is at 40 percent capacity. It is assumed that two shifts will operate at the WTP with any of the Alternatives. Pumping times could be as short as 9.6 hours per day at a 1.2 MGD pump rate for the 3.0 MGD Alternatives and 14.4 hours per day for the 2.0 MGD Alternative. With this assumption, labor costs will be the same for any of the Alternatives.

Table 4 shows the estimated construction costs for Alternative 1 to be approximately $4,700,000. This equates to approximately $2.70/gallon of treatment capability and

$3.92/gallon pumped per average day. Table 5 shows the estimated construction costs for Alternative 2 to be approximately $6,000,000. This equates to approximately $2.00/gallon of treatment capability and $5.00/gallon pumped per average day. Table 6 shows the estimated construction costs for Alternative 3 to be approximately $7,750,000. This equates to $2.58/gallon of treatment capability and $6.45/gallon pumped per average day.

2. Non-Construction and Other Project Costs

For purposes of alternative comparisons, project development costs include: estimated administrative, legal, engineering, inspection, and interest during construction. Contingencies will be assumed to be approximately 10% of the estimated construction costs.

TABLE 4
OPINION OF PROBABLE CONSTRUCTION COSTS
ALTERNATIVE 1 – WTP AND DISTRIBUTION SYSTEM IMPROVEMENTS
(2.0 MGD WTP RATING)

CONSTRUCTION COST		
Addition of Screens to Raw Water Intake	$ 200,000	
Filter Renovations	$ 500,000	
New Clearwell and High Service Pump Building	$1,500,000	
13,000 L.F. 16" DIP WL @ $60/L.F.	$ 780,000	
7,100 L.F. 16" PVC WL @ $45/L.F.	$ 320,000	
1,500,000 Gallon Elevated Water Tank	$1,400,000	
TOTAL CONSTRUCTION		$4,700,000
WORK REQUIRED IN 10 YEARS – PHASE 2 (PRESENT DAY COSTS)		
Expand WTP from 2.0 to 3.0 MGD	$ 500,000	
Expand capacity of Raw Water Intake & New Raw Water Line	$ 800,000	
TOTAL 10 YEAR CONSTRUCTION COSTS		$1,300,000
TOTAL PRESENT WORTH CONSTRUCTION COSTS		$6,000,000

TABLE 5
OPINION OF PROBABLE CONSTRUCTION COSTS
ALTERNATIVE 2 – WTP AND DISTRIBUTION SYSTEM IMPROVEMENTS
(3.0 MGD WTP RATING)

CONSTRUCTION COST

Improvements to RW Intake – Pumps, Screens and 12" RW Line	$1,000,000	
New Flocculation Basin – Tube Settlers in Basins 3 and 4	$ 400,000	
Filter Renovations	$ 500,000	
New Clearwell and High Service Pump Building	$1,600,000	
13,000 L.F. 16" DIP WL @ $60/L.F.	$ 780,000	
7,100 L.F. 16" PVC WL @ $45/L.F.	$ 320,000	
1,500,000 Gallon Elevated Water Tank	$1,400,000	
TOTAL INITIAL CONSTRUCTION		$6,000,000

Note: Present Worth Construction Cost is the same for Alternatives 1 and 2 and the facilities will be identical after the work done in 10 years associated with Alternative 1 is complete.

TABLE 6
OPINION OF PROBABLE CONSTRUCTION COSTS
ALTERNATIVE 3 - UPGRADE & EXPAND WTP MEMBRANE TECHNOLOGY
(3.0 MGD RATING)

CONSTRUCTION COST

Improvements to RW Intake – Pumps, Screens and 12" RW Line	$1,000,000	
Upgrade & expand WTP to 3 MGD using membrane technology	$4,250,000	
13,000 L.F. 16" DIP WL @ $60/L.F.	$ 780,000	
7,100 L.F. 16" PVC WL @ $45/L.F.	$ 320,000	
1,500,000 Gallon Elevated Water Tank	$1,400,000	
TOTAL CONSTRUCTION COST		$7,750,000

WORK REQUIRED IN 10 YEARS (PRESENT DAY COSTS):

Replace Membranes:	$ 500,000	
TOTAL 10 YEAR CONSTRUCTION COSTS:		$ 500,000
TOTAL PRESENT WORTH CONSTRUCTION COSTS		$8,250,000

3. Annual Operation and Maintenance Costs

For comparison purposes, an assumption will be made that the WTP facilities can be operated and maintained for approximately the same costs regardless of the WTP capacity. Because BLWD will operate a minimum of two (2) plant shifts, and two shifts is greater than the operating hours for the 2.0 MGD plant, labor costs are deemed equal for any alternative. The comparison will be based on an average daily production of 1.2 MGD during this time period.

For Alternative 3, note that the membrane replacement is included as a capital expense and is not part of the O & M costs.

4. Present Worth Analysis

The present worth analysis for capital expenditures will use the assumptions that inflation (increased costs for future construction) and the discount rate (cost of money) will essentially cancel each other out; thus, the present worth value of future construction will be considered to be the same as current estimates.

The present worth value of the alternatives are as follows:

Alternative 1

P.W. Total Project Costs:		
Construction Costs:	$4,700,000	
Development Costs:	$1,230,000	
INITIAL PRESENT WORTH:		$5,930,000
P.W. 10-Year Construction Costs:	$1,300,000	
P.W. 10 Year Development Costs:	$ 360,000	
FINAL PRESENT WORTH:		$7,590,000

Alternative 2

P.W. Total Initial Construction Costs:	$6,000,000	
P.W. Initial Development Costs:	$1,500,000	
TOTAL PRESENT WORTH:		$7,500,000

Alternative 3

P.W. Total Initial Construction Costs:	$7,750,000
P.W. Initial Development Costs:	$1,865,000
P.W. 10 Year Construction Costs:	$ 500,000
P.W. 10 Year Development Costs:	$ 160,000
TOTAL PRESENT WORTH:	$10,275,000

H. Advantages/Disadvantages

The advantages and disadvantages of each alternative can be best addressed by a comparative ranking system in several different categories. Table 7 shows each alternative's relative ranking in eight different categories.

TABLE 7
ALTERNATIVE RANKING OF ALTERNATIVES

Evaluation Category	Alt. 1	Alt. 2	Alt. 3
Initial Capital Costs	1	2	3
Long Term Capital Costs	1	1	3
Present Worth Costs	2	1	3
Least Initial Impact on User Rates	1	2	3
Compliance w/Regulations	2	2	1
O & M Costs	1	1	2
Least Impact on Environment	2	1	1
Public Acceptance	1	2	3
Implementability	1	1	2
Total Ranking Score:	12	13	19
Avg. Ranking/Category:	1.33	1.44	2.11

Table 7 shows that Alternative 1 is the highest rated alternative. It is in essence Alternative 2 constructed in phases – and the increased capacity phase being constructed when needed.

VI. PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

A. Project Design

1. Water Supply

The raw water supply for the recommended BLWD facilities remains from Barkley Lake, an impoundment of the Cumberland River. This source has been utilized by the BLWD since its formation in the mid 1960's. The source is essentially unlimited in capacity when compared to the needs of Trigg County.

The existing BLWD raw water intake will be utilized with improvements being made to provide more effective screening of leaves and debris and to allow for future expanded pumping capacity to 3 MGD.

2. Treatment

The existing BLWD WTP will be upgraded but the 2.0 MGD existing capacity will remain unchanged. The existing sand and anthracite conventional filter media will be replaced in all filters; the oldest two filters will also be upgraded with new underdrains and rewash capabilities. Filter controls and valves will also be upgraded.

Other additions and improvements to the WTP will include improved chemical feed capabilities, and a new clearwell and high service pumping arrangement. Electrical and control components will be upgraded as required.

Since the existing BLWD facility is being utilized, no new site is required. The existing water withdrawal permit will be modified if necessary, but the improvements do not result in any additional water being withdrawn from the source. The existing process wastes discharge permit for BLWD should be sufficient for the upgraded facility. All improvements described herein will be compatible with a future plant capacity expansion anticipated in approximately 10 years. Figure 3 shows the proposed plant improvements. Phase 1 is work planned immediately. Phase 2 is the work planned in approximately 10 years. At the time Phase 2 is completed the WTP facilities will correspond to the description of WTP work proposed in Alternate 2.

3. Storage

A 1,500,000 gallon elevated water storage tank is proposed to be located on a site immediately adjacent to an existing BLWD water standpipe, which will be abandoned. The locations of all proposed facilities are shown on Figures 1, 2, and 3. The tank overflow is proposed to be at elevation 735. Construction of this tank, in combination with the distribution system line size upgrades, will greatly improve the efficiency and reliability of the BLWD system.

4. Pumping Stations

The high service pumps at the WTP will be designed to fill the proposed water storage tank. No additional pumping stations are needed. The existing Pete Light BPS and the Gresham Road BPS will be abandoned.

5. Distribution Layout

The proposed water transmission lines from the WTP to the tank and from the tank to the other points in the system are shown on Figures 1 and 2. The lines generally consist of approximately 20,000 LF of 16" water line – 13,000 LF being ductile iron and 7,000 LF being polyvinyl chloride. Valves, air release valves, etc., will be placed to allow for proper control and operation of the system.

6. Hydraulic Calculations

Detailed hydraulic design of the WTP's high service pumps and transmission mains will be developed during the preparation of the facilities design. All parameters will be designed to meet both the requirements of RUS and the Kentucky DOW. The tank overflow elevation and transmission main sizes are being proposed to meet the peak demand conditions and provide increased efficiency and reliability for the BLWD system.

B. Cost Estimate

An itemized estimate of the proposed project's construction cost was presented in Table 4. The project costs estimate is shown in Table 8 as $5,930,000, which includes all anticipated costs associated with the project.

TABLE 8
OPINION OF PROBABLE PROJECT COSTS-PROPOSED PROJECT

PROJECT COSTS			
Construction			$4,700,000
Administrative			$ 40,000
Legal			$ 35,000
Local Attorney	$11,000		
Bond Attorney	$24,000		
Engineering			$ 532,000
PER/Summary Addendum/Funding Assistance	$22,000		
Design	$256,000		
GE During Construction	$63,500		
Inspection	$167,500		
PSC Requirements	$7,000		
SWPPP (Erosion Control Plan)	$6,000		
Geotechnical @ WTP	$10,000		
Interest During Construction			$ 153,000
Contingencies			$ 470,000
TOTAL PROJECT COSTS			$5,930,000

C. Annual Operating Budget

1. Income

The income from existing operations and projections for the BLWD system after the proposed project is completed are shown in the Summary Addendum attached to the end of this Report.

2. Operations and Maintenance Costs

Projected O & M costs are shown in the Summary Addendum attached to the end of this Report.

3. Capital Improvements

Once the proposed facilities are constructed and placed into operation, the need for additional capital improvements should be greatly diminished. However, the District will need to continue evaluating the need for replacement of existing deteriorated and undersized lines, extensions of lines to unserved areas (this need should be minimal since most of service area is covered), continued replacement of water meters with AMR meters, etc. Any request(s) for wholesale water sales at extremities of the distribution system will require evaluation on a case-by-case basis to determine the feasibility, both hydraulically and financially.

4. Debt Payments and Reserves

The major step remaining toward implementation of this project is the securing of sufficient funding for development and construction of the project facilities. A total of $1,028,100 is available and committed toward design and construction of the recommended project. Based on current estimates and fund allocations, an additional $4,901,900 in funding commitments are needed. RD loan and grant funds will be requested and direct allocations of State and Federal funds through the legislatures will be sought. Rural Development's participation in the project with a $1,000,000 grant leaves $3,900,000 as RD loan and an annual debt repayment of $216,000/year. Adding this new debt to existing debt creates a total annual debt of $544,000. Setting aside an additional 20 percent, or $109,000 per year, is recommended for a reserve account. Together, these costs are the only major increases to the users. The impact on rates will be in the range of $0.50 per 1,000 gallons of water sold based on sales of 0.8 MGD (292,000 x 1,000 gpyr) and the minimum bill will increase from $17.22 to $18.22 per month. A 4,500 gallon per month user can anticipate a monthly bill of $33.52. Refer to the Summary Addendum for exact details.

Without Rural Development grant funding, the cost per 1,000 gallons must increase approximately $0.70. The minimum bill would be $18.83 per month and a 4,500 gallon user could anticipate a bill of $34.63 per month.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

Components of the Barkley Lake Water District water system are in need of upgrades and improvements. A project has been proposed and is described in detail in Section VI hereinbefore, and is the least cost and most beneficial alternative for the BLWD customers. Implementation of the proposed project will provide much needed upgrades to the BLWD WTP, distribution and in-system water storage facilities. The improvements will provide for a more reliable, higher quality, and more efficient supply of potable water to the District's customers.

A total of $1,028,100 is available and committed toward design and construction of the recommended project. The sources of these funds are grants of $487,500 TDF KIA(2003) and $240,600 EPA(2005) and most recently $300,000 KIA in May 2006.

The proposed project is estimated to cost $5,930,000.

Current Water Rates are insufficient to absorb the cost of the proposed project.

The Water District can improve plant capacity by reducing water losses.

B. Recommendations

Make application to Rural Development for funding the recommended project.

The Board should plan to raise water rates approximately $0.50/1,000 gallons to pay for the proposed project. The following table describes recommended rate changes.

TABLE 9

OPINION OF PROBABLE WATER RATE CHANGES-PROPOSED

			Existing		Increase	Proposed
First	2,000	Gal. @	$17.22	Minimum.	$1.00	$18.22
Next	98,000	Gal. @	$5.62	per 1,000 Gal	$0.50	$6.12
Next	400,000	Gal. @	$4.37	per 1,000 Gal.	$0.50	$4.87
All Over	500,000	Gal. @	$3.12	per 1,000 Ga.	$0.28	$3.40

Submit appropriate documents for Environmental and Clearinghouse Review.

The Board should recognize that this project will be readily expandable from 2.0 MGD to 3.0 MGD when needed. Expansion to 3.0 MGD in the future will be at a reduced cost because BLWD will have already set in place the major components to make the expansion relatively easy. The Board should be prepared to expand when demands warrant the expansion. The capacity expansion can be delayed with significant reductions in water losses.

Once funding is secured, preparation of design plans and specifications can be initiated.

APPENDIX

SUMMARY ADDENDUM (KY GUIDE 7)

KENTUCKY GUIDE 7
MAY 1998

SUMMARY ADDENDUM

TO

PRELIMINARY ENGINEERING REPORT

DATED 8/3/2006

FOR

Barkley Lake Water District, Trigg Co., KY,
Water Treatment Plant and Distribution System Improvements
(Name of Project)

APPLICANT CONTACT PERSON Terry Goins, General Manager

APPLICANT PHONE NUMBER 270-522-8425

APPLICANT TAX IDENTIFICATION NUMBER (TIN) 61-0678683

ITEMS IN BOLD ITALIC PRINT ARE APPLICABLE TO SEWER SYSTEMS.

In order to avoid unnecessary delays in application processing, the applicant and its consulting engineer should prepare a summary of the preliminary report in accordance with this Guide.

Please complete the applicable sections of the Summary Addendum. ***Please note, if water and sewer revenue will <u>both</u> be taken as security for the loan, all user information and characteristics of <u>both</u> utility systems will be needed even though the project will benefit only <u>one</u> utility.***

Feasibility reviews and <u>grant determinations</u> may be processed more accurately and more rapidly if the Summary/Addendum is submitted simultaneously with the preliminary engineering report, or as soon thereafter as possible.

I. GENERAL

A. Proposed Project: Provide a brief description of the proposed project. In addition to this summary, the applicant/engineer should submit a project map of the service area.

The proposed project consists of improvements to the Water Treatment Plant and the Distribution System with the focus on improving water treatment capabilities and improving distribution of water from the Treatment Plant to the District customers. The project cost is estimated at $5,930,000. The WTP Improvements consist of:

1) Addition of screens at the Intake

2) Renovation of the Filters

3) Upgrade Chemical Feed Systems

4) New Clearwell and High Service Pump Building

Distribution System Improvements include:

1) 20,000 LF of 16-in transmission main from the WTP to the existing **Pete Lgt BPS**

2) New 1.5 MG Elevated Water Storage Tank

3) Abandoning the Pete Light Springs BPS and the Gresham Road BPS

II. FACILITY CHARACTERISTICS OF EXISTING SEWER SYSTEM

A. Sewage Treatment: N/A

1. Type _____

2. Method of Sludge Disposal _____

_____

3. Cost per 1,000 gallons if sewage treatment is contracted:

$0.00

4. Date Contructed _____

B. Treatment Capacity of Sewage Treatment Plant N/A

C. Type of Sewage Collector System (Describe) N/A

_____

_____

D. Number and Capacity of Sewage Lift Stations N/A

E. Sewage Collection System: N/A

Lineal Feet of Collector Lines, by size *6"* _____ *8"* _____

10" _____ *12"* _____ *Larger* _____

Date(s) Constructed _____

F. Conditions of Existing System: Briefly describe the conditions and suitability for continued use of facility now owned by the applicant. Include any major renovation that will be needed within five to ten years. N/A

III. FACILITY CHARACTERISTICS OF EXISTING WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

The Raw Water Source is Lake Barkley (The Cumberland River) at approximate River Mile 62.5. The flow of the River at this point is approximately 7,742 MGD (80% of time) which does not include lake storage capacity. The existing WTP is rated at 2.0 MGD.

If the applicant purchases water: N/A

Seller(s):

1. _____
2. _____
3. _____

Price/1,000 gallons:

1. _____
2. _____
3. _____

Present Estimated Market Value of Existing System $10,434,090

B. Water Storage:

Type: Ground Storage Tank:	1	Elevated Tank	2
Standpipe	3	Other	
Number of Storage Structures	6		
Total Storage Volume Capacity	1,650,000		
Date Storage Tank(s) Constructed	1968, 1977, 1985, 1992, 2005		

C. Water Distribution System:

Pipe Material	Asbestos Cement (AC), PVC, Ductile Iron, Cast Iron		
Lineal Feet of Pipe: 3" Diameter	374,880	4"	596,640
6"	675,840	8"	242,880
10"	31,680	>=12"	36,960

Date(s) Water Lines Constructed: 1968, 1978, 1985, 1988, 1992-1994, 1996, 2002-2005

Number and Capacity of Pump Station(s): Five (5): Pete Lgt 900 gpm; McUpton 300 gpm, Cerulean 150 gpm; So. Rd. 280 gpm; Gresham Rd. 200 gpm

D. Condition of Existing Water System:

Briefly describe the condition and suitability for continued use of facility now owned by the applicant. Include any major renovation that will be needed within five to ten years.

The system is in satisfactory condition with future renovations of the distribution system needed to maintain and meet present and future demands. The proposed project described in the PER will improve the condition of the System.

E. Percentage of Water Loss Existing System: 38%

IV. EXISTING LONG-TERM INDEBTEDNESS

A. List of Bonds and Notes: *Principal Balance as of 12/31/05*

Date of Issue	Bond/ Note Holder	Principal Balance	Payment Date	Bond Type Water / Sewer*		Amount on Deposit in Reserve Account
1969 Issue	EDA	$173,000	11/1/06	100%	0%	%
1976 Issue	RECD	$51,000	11/1/06	100%	0%	%
1993 Issue	RECD	$1,835,000	11/1/06	100%	0%	%
1998 Issue	Individ	$1,559,000	11/1/06	100%	0%	%
2005 Issue	RECD	$1,185,000	11/1/06	100%	0%	%

*If a combined issue, show attributable portion to each system.

B. Principal and Interest Payments: (Begin with Next Fiscal Year Payment)

		Payment Year 2007		Payment Year 2008		Payment Year 2009	
Date of Issue	Bond/ Note Holder	Principal Payment	Interest Payment	Principal Payment	Interest Payment	Principal Payment	Interest Payment
1969 Issue	EDA						
1976 Issue	RECD						
1993 Issue	RECD						
1998 Issue	Individ						
2005 Issue	RECD	$0	$51,844	$12,500	$51,844	$13,000	$51,297
	Combined	$ 118,000	$ 223,857	$ 106,500	$ 218,324	$ 115,000	$ 213,222

V. EXISTING LONG-TERM INDEBTEDNESS

A. List of All Short Term Debts: (Do Not Show Any Debt Listed in Paragraph IV Above)

Lender or Lessor	Date of Issue (Month & Year)	Principal Balance	Purpose (Water and/ or Sewer)	Payment Date	Principal & Interest (Payment (P&I)	Date to Be Paid In Full
		$0.00				
		$0.00				
		$0.00				
		$0.00				
		$0.00				
		$0.00				

VI. LAND AND RIGHTS - EXISTING SYSTEM(S)

Number of Treatment Plant Sites:	Water	1	***Sewer***	N/A
Number of Storage Tank Sites:	Water	7	***Sewer***	N/A
Number of Pump Stations:	Water	6	***Sewer***	N/A
Total Acreage:	Water	+/-6 Acres	***Sewer***	Acres
Purchase Price:	Water	Unknown	***Sewer***	N/A

VII. NUMBER OF EXISTING USERS

	Water	***Sewer***
Residential (In Town)*	N/A	N/A
Residential (Out of Town)*	4,761	N/A
Non-Residential (In Town)	N/A	N/A
Non-Residential (Out of Town)	187	N/A
Total	4,948	N/A
Number to Total Potential Users Living in the Service Area	5,200	N/A

* Note: Residential Users: Classify by type of user regardless of quantity of water used. This classification should include those meters serving individual rural residence.

VIII. CURRENT WATER AND SEWER CONNECTION FEES FOR EACH SIZE WATER METER CONNECTION

Meter Size	Water Connection Fee	*Sewer Connection Fee*
5/8" x 3/4"	$450.00	N/A
1-Inch	at cost	N/A

IX. ***SEWER RATES - EXISTING SYSTEM*** N/A

Percentage of Water Bill ____ % ***Minimum Charge*** ***$0.00***

Other: (If Charge Not Based on Water Bill) ____

Date This Rate Went Into Effect ____

X. WATER RATES - EXISTING SYSTEM

Existing Rate Schedule:

First	2,000	Gallons @	$17.22	Minimum.
Next	98,000	Gallons @	$5.62	Per 1,000 Gallons.
Next	400,000	Gallons @	$4.37	Per 1,000 Gallons.
Next		Gallons @	$0.00	Per 1,000 Gallons.
Next		Gallons @	$0.00	Per 1,000 Gallons.
Next		Gallons @	$0.00	Per 1,000 Gallons.
All Over	500,000	Gallons @	$3.12	Per 1,000 Gallons.

Date This Rate Went into Effect Feb-05

If More Than One Rate Schedule, Please Include All Schedules.

XI. ***ANALYSIS OF ACTUAL SEWER USAGE - EXISTING SYSTEM - 12 MONTH PERIOD***

For Period _____ *to* N/A

All Meter Sizes	*Monthly Sewer Usage*	*Average*	*Residential*		*Non-Residential*	
			No. of Users	*Usage (1000)*	*No. of Users*	*Usage (1000)*
	0 - 2,000 Gallons	*1,000*		*0*		*0*
	2,000 - 3,000 Gallons	*2,500*		*0*		*0*
	3,000 - 4000 Gallons	*3,500*		*0*		*0*
	4,000 - 5,000 Gallons	*4,500*		*0*		*0*
	5,000 - 6,000 Gallons	*5,500*		*0*		*0*
	6,000 - 7,000 Gallons	*6,500*		*0*		*0*
	7,000 - 8,000 Gallons	*7,500*		*0*		*0*
	8,000 - 9,000 Gallons	*8,500*		*0*		*0*
	9,000 - 10,000 Gallons	*9,500*		*0*		*0*
	10,000 - 11,000 Gallons	*10,500*		*0*		*0*
	11,000 - 12,000 Gallons	*11,500*		*0*		*0*
	12,000 - 13,000 Gallons	*12,500*		*0*		*0*
	13,000 - 14,000 Gallons	*13,500*		*0*		*0*
	14,000 - 15,000 Gallons	*14,500*		*0*		*0*
	15,000 - 16,000 Gallons	*15,500*		*0*		*0*
	16,000 - 17,000 Gallons	*16,500*		*0*		*0*
	17,000 - 18,000 Gallons	*17,500*		*0*		*0*
	18,000 - 19,000 Gallons	*18,500*		*0*		*0*
	19,000 - 20,000 Gallons	*19,500*		*0*		*0*
	Gallons					
	Gallons					
	Gallons					
		Total	*0*	*( )*	*0*	*( )*
		Average Usage		*0*		*0*

XII. ANALYSIS OF ACTUAL WATER USAGE - EXISTING SYSTEM - 12 MONTH PERIOD

For Period Jan. 05 to Dec. 05

All Meter Sizes	Monthly Water Usage	Average	Residential		Non-Residential	
			No. of Users	Usage (1000)	No. of Users	Usage (1000)
	0 - 2,000 Gallons	1,000	1,345	1,345,000	10	10,000
	2,000 - 3,000 Gallons	2,500	925	2,312,500	23	57,500
	3,000 - 4000 Gallons	3,500	911	3,188,500	21	73,500
	4,000 - 5,000 Gallons	4,500	559	2,515,500	4	18,000
	5,000 - 6,000 Gallons	5,500	357	1,963,500	6	33,000
	6,000 - 7,000 Gallons	6,500	208	1,352,000	1	6,500
	7,000 - 8,000 Gallons	7,500	134	1,005,000	6	45,000
	8,000 - 9,000 Gallons	8,500	107	909,500	5 *	42,500
	9,000 - 10,000 Gallons	9,500	71	674,500	5 *	47,500
	10,000 - 11,000 Gallons	10,500	50	525,000	1	10,500
	11,000 - 12,000 Gallons	11,500	24	276,000	43 *	494,500
	12,000 - 13,000 Gallons	12,500	20	250,000	43 *	537,500
	13,000 - 14,000 Gallons	13,500	14	189,000	1	13,500
	14,000 - 15,000 Gallons	14,500	10	145,000	-	-
	15,000 - 16,000 Gallons	15,500	6	93,000	1	15,500
	16,000 - 17,000 Gallons	16,500	7	115,500	-	-
	17,000 - 18,000 Gallons	17,500	6	105,000	-	-
	18,000 - 19,000 Gallons	18,500	3	55,500	1	18,500
	19,000 - 20,000 Gallons	19,500	4	78,000	-	-
	20,000 - 100,000 Gallons	35,000			12 *	420,000
	100,000 - 500,000 Gallons	460,000			4 *	1,840,000
	Gallons					
		Total	4,761	17,098,000	187	3,683,500
		Average Usage		3,591		19,698

Total Water Purchased and/or Produced 33,965,000 gal/month

Total Water Sold 20,781,500 gal/month

* 1-inch meters = 86 @ 12,000 gpmo
1 1/2-inch meters = 10 @ 9,000 gpmo
2-inch meters = 12 @ 35,000 gpmo
4-inch meters = 4 @ 460,000 gpmo

XIII. FACILITY CHARACTERISTICS OF PROPOSED SEWER SYSTEM N/A

A. Sewage Treatment:

1. Type _____

2. Method of Sludge Disposal _____

_____

3. Cost per 1,000 gallons if sewage treatment is contracted:

$0.00

B. Treatment Capacity of Sewage Treatment Plant _____

_____

C. Type of Sewage Collector System (Describe) _____

_____

_____

D. Number and Capacity of Sewage Lift Stations _____

_____

E. Sewage Collection System:

Lineal Feet of Collector Lines, by size 6" _____ *8"* _____

10" _____ *12"* _____ *Larger* _____

XIV. LAND AND RIGHTS - PROPOSED SEWER SYSTEM

Number of Treatment Plant Sites _____

Number of Pump Sites _____

Number of Other Sites _____

Total Acreage _____ *Acres*

Purchase Price *$0.00*

XV. FACILITY CHARACTERISTICS OF PROPOSED WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity, and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

The Raw Water Source is Lake Barkley (The Cumberland River) at approx. River Mile 62.5. The flow of the River at this point is approx. 7,742 MGD (80% of time) which does not include lake storage capacity. This is essentially an unlimited source. The RW Intake is capable of drawing 2.0 MGD from the lake. It needs screens to prevent leaves, trash and debris from entering the WTP. The WTP is rated at 2.0 MGD and current pumping averages 1.14 MGD. Filter renovations are necessary. Chemical feed improvements are necessary. A new clearwell will improve CTs and a new High Service Pump Building will improve operations and distribution efficiency.

B. Water Storage:

Type:	Ground Storage Tank		Elevated Tank X
	Standpipe		Other
Number of Storage Structures		1	
Total Storage Volume Capacity		1,500,000 gallons	

C. Water Distribution System:

Pipe Material		13,000 LF Ductile Iron; 7,000 LF PVC		
Lineal Feet of Pipe:	3" Diameter		4"	
	6"		8"	
	10"		16"	20,000
Number and Capacity of Pump Station(s)		No (0) pump stations proposed		

XVI. LAND AND RIGHTS - PROPOSED WATER SYSTEM

Number of Treatment Plant Sites	N/A - All work on existing WTP Site
Number of Pump Sites	N/A - No Pump Sites
Number of Other Sites	1 - Water Tank Site (Transferred for Cadiz-Trigg Reg WA)
Total Acreage	1 Acres
Purchase Price	

XVII. NUMBER OF NEW SEWER USERS N/A

*Residential (In Town)** _____

*Residential (Out of Town)** _____

Non-Residential (In Town) _____

Non-Residential (Out of Town) _____

Total _____

Number to Total Potential Users Living in the Service Area _____

***Note: Residential Users:** Classify by type of user regardless of quantity of water used. This classification should include those meters serving individual rural residences.*

XVIII. PROPOSED SEWER CONNECTION FEES FOR EACH SIZE WATER METER CONNECTION N/A

Meter Size	Connection Fee
5/8" x 3/4"	
1 - Inch	
1-1/2 Inch	
2 - Inch	
3 - Inch	
4 - Inch	
5 - Inch	
6 - Inch	

XIX. NUMBER OF NEW WATER USERS

Residential (In Town)*	N/A
Residential (Out of Town)*	N/A
Non-Residential (In Town)	N/A
Non-Residential (Out of Town)	N/A
Total	No Additional Customers are proposed in this infrastructure improvements projects
Number to Total Potential Users Living in the Service Area	N/A

*Note: Residential Users: Classify by type of user regardless of quantity of water used. This classification should include those meters serving individual rural residences.

XX. PROPOSED WATER CONNECTION FEES FOR EACH SIZE WATER METER CONNECTION:

Meter Size	Connection Fee
5/8" x 3/4"	$450.00
1 - Inch	At Cost
1-1/2 Inch	At Cost
2 - Inch	At Cost
3 - Inch	At Cost
4 - Inch	At Cost
5 - Inch	At Cost
6 - Inch	At Cost

XXI. ***SEWER RATES - PROPOSED*** N/A

A. Proposed Rate Schedule without RUS Grant:

Percentage of Water Bill _____ *%* *Minimum Charge* *$0.00*

Other: If Charge Not Based on Water Bill _____

Proposed Rate Schedule: (Without RUS Grant)

First	_____	*Gallons @* _____	*Minimum.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
All Over	_____	*Gallons @* _____	*per 1,000 Gallons.*

The above proposed rate, without RUS grant, must be completed for each grant. If the applicant/engineer desires, there is no objection to recommending a proposed rate with an estimated RUS grant in the Table below. However, the preparer should remember that the Table (A) above must be completed prior to Table (B).

B. Recommended Rate Schedule with RUS Grant: N/A

Percentage of Water Bill _____ *%* *Minimum Charge* _____

Other: If Charge Not Based on Water Bill _____

Recommended Rate Schedule: (With RUS Grant)

First	_____	*Gallons @* _____	*Minimum.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
Next	_____	*Gallons @* _____	*per 1,000 Gallons.*
All Over	_____	*Gallons @* _____	*per 1,000 Gallons.*

If more than one rate, use additional sheets.

XXII. WATER RATES - PROPOSED

A. Proposed Rate Schedule without RUS Grant:

First	2,000	Gallons @	$18.83	Minimum.
Next	98,000	Gallons @	$6.33	per 1,000 Gallons.
Next	400,000	Gallons @	$5.03	per 1,000 Gallons.
Next		Gallons @	$0.00	per 1,000 Gallons.
Next		Gallons @	$0.00	per 1,000 Gallons.
Next		Gallons @	$0.00	per 1,000 Gallons.
All Over	500,000	Gallons @	$3.51	per 1,000 Gallons.

The above proposed rate, without RUS grant, must be completed for each grant. If the applicant/engineer desires, there is no objection to recommending a proposed rate with an estimated RUS grant in the Table below. However, the preparer should remember that the Table (A) above must be completed prior to Table (B).

B. Recommended Rate Schedule with RUS Grant:

First	2,000	Gallons @	$18.22	Minimum.
Next	98,000	Gallons @	$6.12	per 1,000 Gallons.
Next	400,000	Gallons @	$4.87	per 1,000 Gallons.
Next		Gallons @	$0.00	per 1,000 Gallons.
Next		Gallons @	$0.00	per 1,000 Gallons.
Next		Gallons @	$0.00	per 1,000 Gallons.
All Over	500,000	Gallons @	$3.40	per 1,000 Gallons.

If more than one rate, use additional sheets.

XXIII. FORECAST OF ACTUAL SEWER USAGE -INCOME - EXISTING SYSTEM - EXISTING USERS

N/A

Meter Size*	Monthly Sewer Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users **	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	0 - 2,000 Gallons	1,000				$0.00			$0.00
	2,000 - 3,000 Gallons	2,500				$0.00			$0.00
	3,000 - 4000 Gallons	3,500				$0.00			$0.00
	4,000 - 5,000 Gallons	4,500				$0.00			$0.00
	5,000 - 6,000 Gallons	5,500				$0.00			$0.00
	6,000 - 7,000 Gallons	6,500				$0.00			$0.00
	7,000 - 8,000 Gallons	7,500				$0.00			$0.00
	8,000 - 9,000 Gallons	8,500				$0.00			$0.00
	9,000 - 10,000 Gallons	9,500				$0.00			$0.00
5/8	10,000 - 11,000 Gallons	10,500				$0.00			$0.00
x	11,000 - 12,000 Gallons	11,500				$0.00			$0.00
3/4	12,000 - 13,000 Gallons	12,500				$0.00			$0.00
Inch	13,000 - 14,000 Gallons	13,500				$0.00			$0.00
	14,000 - 15,000 Gallons	14,500				$0.00			$0.00
	15,000 - 16,000 Gallons	15,500				$0.00			$0.00
	16,000 - 17,000 Gallons	16,500				$0.00			$0.00
	17,000 - 18,000 Gallons	17,500				$0.00			$0.00
	18,000 - 19,000 Gallons	18,500				$0.00			$0.00
	19,000 - 20,000 Gallons	19,500				$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Average Monthly Rate		( )						
	Average Monthly Usage				( )			( )	

** Breakdown of meter size usage is not required unless different sewer rates are charged based on size of water meter.*

*** Number of users should reflect the actual number of "meter settings".*

Meter Size*	Monthly Sewer Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
1-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
1-1/2	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
2-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
3-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
4-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00

** Breakdown of meter size usage is <u>not</u> required unless different sewer rates are charged based on size of water meter.*

*** Number of users should reflect the actual number of "meter settings".*

Meter Size*	Monthly Sewer Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
5-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
6-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	TOTALS			( )	( )	( )	( )	( )	( )

MULTI-FAMILY AND APARTMENT USER ANALYSIS

If billed as a typical user, the information should be included in the residential information above. If not billed as a typical residential user, please explain below.

Name of Unit	Number of Units	Number of Meters	Revenue Calculations

** Breakdown of meter size usage is <u>not</u> required unless different sewer rates are charged based on size of water meter.*

*** Number of users should reflect the actual number of "meter settings".*

XXIV. FORECAST OF SEWER USAGE -INCOME - NEW USERS - EXTENSION ONLY N/A

Meter Size*	Monthly Sewer Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	0 - 2,000 Gallons	1,000				$0.00			$0.00
	2,000 - 3,000 Gallons	2,500				$0.00			$0.00
	3,000 - 4000 Gallons	3,500				$0.00			$0.00
	4,000 - 5,000 Gallons	4,500				$0.00			$0.00
	5,000 - 6,000 Gallons	5,500				$0.00			$0.00
	6,000 - 7,000 Gallons	6,500				$0.00			$0.00
	7,000 - 8,000 Gallons	7,500				$0.00			$0.00
	8,000 - 9,000 Gallons	8,500				$0.00			$0.00
	9,000 - 10,000 Gallons	9,500				$0.00			$0.00
5/8	10,000 - 11,000 Gallons	10,500				$0.00			$0.00
x	11,000 - 12,000 Gallons	11,500				$0.00			$0.00
3/4	12,000 - 13,000 Gallons	12,500				$0.00			$0.00
Inch	13,000 - 14,000 Gallons	13,500				$0.00			$0.00
	14,000 - 15,000 Gallons	14,500				$0.00			$0.00
	15,000 - 16,000 Gallons	15,500				$0.00			$0.00
	16,000 - 17,000 Gallons	16,500				$0.00			$0.00
	17,000 - 18,000 Gallons	17,500				$0.00			$0.00
	18,000 - 19,000 Gallons	18,500				$0.00			$0.00
	19,000 - 20,000 Gallons	19,500				$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Average Monthly Rate		( )						
	Average Monthly Usage				( )			( )	

** Breakdown of meter size usage is not required unless different sewer rates are charged based on size of water meter.*

*** Number of users should reflect the actual number of "meter settings".*

Meter Size*	Monthly Sewer Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	Gallons					$0.00			$0.00
1-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
1-1/2	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	( )	( )	( )	( )
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
2-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
3-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
4-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00

** Breakdown of meter size usage is <u>not</u> required unless different sewer rates are charged based on size of water meter.*

*** Number of users should reflect the actual number of "meter settings".*

Meter Size*	Monthly Sewer Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	Gallons					$0.00			$0.00
5-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
6-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	TOTALS			( )	( )	( )	( )	( )	( )

MULTI-FAMILY AND APARTMENT USER ANALYSIS

If billed as a typical user, the information should be included in the residential information above. If not billed as a typical residential user, please explain below.

Name of Unit	Number of Units	Number of Meters	Revenue Calculations

** Breakdown of meter size usage is not required unless different sewer rates are charged based on size of water meter.*

*** Number of users should reflect the actual number of "meter settings".*

XXV. FORECAST OF WATER USAGE -INCOME - EXISTING SYSTEM - EXISTING USERS
EXISTING RATES

Meter Size*	Monthly Water Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	0 - 2,000 Gallons	1,000	17.22	1345	1,345,000	$23,161	10	10,000	$172
	2,000 - 3,000 Gallons	2,500	20.03	925	2,312,500	$18,528	23	57,500	$461
	3,000 - 4000 Gallons	3,500	25.65	911	3,188,500	$23,367	21	73,500	$539
	4,000 - 5,000 Gallons	4,500	31.27	559	2,515,500	$17,480	4	18,000	$125
	5,000 - 6,000 Gallons	5,500	36.89	357	1,963,500	$13,170	6	33,000	$221
	6,000 - 7,000 Gallons	6,500	42.51	208	1,352,000	$8,842	1	6,500	$43
	7,000 - 8,000 Gallons	7,500	48.13	134	1,005,000	$6,449	6	45,000	$289
	8,000 - 9,000 Gallons	8,500	53.75	107	909,500	$5,751	0	-	$0
	9,000 - 10,000 Gallons	9,500	59.37	71	674,500	$4,215	0	-	$0
5/8	10,000 - 11,000 Gallons	10,500	64.99	50	525,000	$3,250	1	10,500	$65
x	11,000 - 12,000 Gallons	11,500	70.61	24	276,000	$1,695	0	-	$0
3/4	12,000 - 13,000 Gallons	12,500	76.23	20	250,000	$1,525	0	-	$0
Inch	13,000 - 14,000 Gallons	13,500	81.85	14	189,000	$1,146	1	13,500	$82
	14,000 - 15,000 Gallons	14,500	87.47	10	145,000	$875	0	-	$0
	15,000 - 16,000 Gallons	15,500	93.09	6	93,000	$559	1	15,500	$93
	16,000 - 17,000 Gallons	16,500	98.71	7	115,500	$691	0	-	$0
	17,000 - 18,000 Gallons	17,500	104.33	6	105,000	$626	0	-	$0
	18,000 - 19,000 Gallons	18,500	109.95	3	55,500	$330	1	18,500	$110
	19,000 - 20,000 Gallons	19,500	115.57	4	78,000	$462	0	0	$0
	Gallons					$0			$0
	Gallons					$0			$0
	Gallons					$0			$0
	Sub- Total			4,761	17,098,000	$132,120	75	301,500	$2,199
	Average Monthly Rate		$ 27.77						
	Average Monthly Usage				3,591			4,020	

* Breakdown of meter size usage is not required unless different water rates are charged based on size of water meter.

** Number of users should reflect the actual number of "meter settings".

Meter Size*	Monthly Water Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
1-Inch	0 - 4,000 Gallons	2,000	$31.27		0	$0.00	0	0	$0.00
	4,000 - 100,000 Gallons	12,000	$76.23			$0.00	86	1,032,000	$6,556
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$6,556
1-1/2 Inch	0 - 8,000 Gallons	4,000	$58.49			$0.00			$0.00
	8,000 - 100,000 Gallons	8,800	$62.99			$0.00	8	70,400	$504
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$504
2-Inch	0 - 15,000 Gallons	7,500	$107.19			$0.00			$0.00
	15,000 - 100,000 Gallons	35,000	$219.59			$0.00	12	420,000	$2,635
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$2,635
4-Inch	0 - 25,000 Gallons		$191.70			$0.00			$0.00
	25,000 - 100,000 Gallons	100,000	$613.20			$0.00			$0.00
	25,000 - 100,000 Gallons	460,000	$2,378.10			$0.00	4	1,840,000	$9,512
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$9,512
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00

* Breakdown of meter size usage is <u>not</u> required unless different water rates are charged based on size of water meter.

** Number of users should reflect the actual number of "meter settings".

Meter Size*	Monthly Water Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	TOTALS			( )	( )	$0.00	( )	( )	$0.00

MULTI-FAMILY AND APARTMENT USER ANALYSIS

If billed as a typical user, the information should be included in the residential information above. If not billed as a typical residential user, please explain below.

Name of Unit	Number of Units	Number of Meters	Revenue Calculations

* Breakdown of meter size usage is not required unless different water rates are charged based on size of water meter.

** Number of users should reflect the actual number of "meter settings".

XXVI. FORECAST OF WATER USAGE -INCOME - ~~NEW USERS - EXTENSION ONLY~~
EXISTING USERS - NEW PROJECT/NEW RATES

Meter Size*	Monthly Water Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	0 - 2,000 Gallons	1,000	18.22	1345	1,345,000	$24,506	10	10,000	$182
	2,000 - 3,000 Gallons	2,500	21.28	925	2,312,500	$19,684	23	57,500	$489
	3,000 - 4000 Gallons	3,500	27.4	911	3,188,500	$24,961	21	73,500	$575
	4,000 - 5,000 Gallons	4,500	33.52	559	2,515,500	$18,738	4	18,000	$134
	5,000 - 6,000 Gallons	5,500	39.64	357	1,963,500	$14,151	6	33,000	$238
	6,000 - 7,000 Gallons	6,500	45.76	208	1,352,000	$9,518	1	6,500	$46
	7,000 - 8,000 Gallons	7,500	51.88	134	1,005,000	$6,952	6	45,000	$311
	8,000 - 9,000 Gallons	8,500	58	107	909,500	$6,206	0	-	$0
	9,000 - 10,000 Gallons	9,500	64.12	71	674,500	$4,553	0	-	$0
5/8	10,000 - 11,000 Gallons	10,500	70.24	50	525,000	$3,512	1	10,500	$70
x	11,000 - 12,000 Gallons	11,500	76.36	24	276,000	$1,833	0	-	$0
3/4	12,000 - 13,000 Gallons	12,500	82.48	20	250,000	$1,650	0	-	$0
Inch	13,000 - 14,000 Gallons	13,500	88.6	14	189,000	$1,240	1	13,500	$89
	14,000 - 15,000 Gallons	14,500	94.72	10	145,000	$947	0	-	$0
	15,000 - 16,000 Gallons	15,500	100.84	6	93,000	$605	1	15,500	$101
	16,000 - 17,000 Gallons	16,500	106.96	7	115,500	$749	0	-	$0
	17,000 - 18,000 Gallons	17,500	113.08	6	105,000	$678	0	-	$0
	18,000 - 19,000 Gallons	18,500	119.2	3	55,500	$358	1	18,500	$119
	19,000 - 20,000 Gallons	19,500	125.32	4	78,000	$501	0	0	$0
	Gallons					$0			$0
	Gallons					$0			$0
	Gallons					$0			$0
	Sub- Total			4,761	17,098,000	$141,342	75	301,500	$2,355
	Average Monthly Rate		$ 29.71						
	Average Monthly Usage				3,591			4,020	

* Breakdown of meter size usage is not required unless different sewer rates are charged based on size of water meter.

** Number of users should reflect the actual number of "meter settings".

Meter Size*	Monthly Water Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	of User	Usage (1000)	Income
	0 - 4,000 Gallons	2,000	$33.27		0	$0.00	0	0	$0.00
1-	4,000 - 100,000 Gal.	12,000	$82.23			$0.00	86	1,032,000	$7,072
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	(	( )	$7,072
1-1/2	0 - 8,000 Gallons	4,000	$62.49			$0.00			$0.00
Inch	8,000 - 100,000 Gal.	8,800	$67.39			$0.00	8	70,400	$539
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	(	( )	$539
2-	0 - 15,000 Gallons	7,500	$114.69			$0.00			$0.00
Inch	15,000 - 100,000 Gal.	35,000	$237.09			$0.00	12	420,000	$2,845
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	(	( )	$2,845
4-	0 - 25,000 Gallons		$204.20			$0.00			$0.00
Inch	25,000 - 100,000 Gal.	100,000	$663.20			$0.00			$0.00
	25,000 - 100,000 Gal.	460,000	$2,620.60			$0.00	4	1,840,000	$10,482
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	(	( )	$10,482
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	(	( )	$0.00

* Breakdown of meter size usage is <u>not</u> required unless different sewer rates are charged based on size of water meter.

** Number of users should reflect the actual number of "meter settings".

Meter Size*	Monthly Water Usage	Average	Average Rate	Residential			Non-Residential		
				No. of Users**	Usage (1000)	Income	No. of Users	Usage (1000)	Income
	Gallons					$0.00			$0.00
5-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
6-	Gallons					$0.00			$0.00
Inch	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Gallons					$0.00			$0.00
	Sub- Total			( )	( )	$0.00	( )	( )	$0.00
	TOTALS			( )	( )	$0.00	( )	( )	$0.00

MULTI-FAMILY AND APARTMENT USER ANALYSIS

If billed as a typical user, the information should be included in the residential information above. If not billed as a typical residential user, please explain below.

Name of Unit	Number of Units	Number of Meters	Revenue Calculations

* Breakdown of meter size usage is not required unless different sewer rates are charged based on size of water meter.

** Number of users should reflect the actual number of "meter settings".

XXVII. ***CURRENT OPERATING BUDGET - (SEWER SYSTEM)*** N/A

(As of the last full operating year.)

A. Operating Income:

Sewer Revenue	*$0.00*
Late Charge Fees	*$0.00*
Other (Describe)	*$0.00*
Less Allowances and Deductions	*$0.00*
Total Operating Income	*$0.00*

B. Operation and Maintenance Expenses:

(Based on Uniform Systems of Accounts prescribed by National Association of Regulatory Utility Commissioners)

Operation Expense	*$0.00*
Maintenance Expense	*$0.00*
Customer Accounts Expense	*$0.00*
Administrative and General Expense	*$0.00*
Total Operating and Maintenance Expenses	*$0.00*
Net Operating Income	*$0.00*

C. Non-Operating Income:

Interest on Deposits	*$0.00*
Other (Identify)	*$0.00*
Total Non-Operating Income	*$0.00*

D. Net Income *$0.00*

E. Debt Repayment:

RUS Interest	*$0.00*
RUS Principal	*$0.00*
Non-RUS Interest	*$0.00*
Non-RUS Principal	*$0.00*
Total Debt Repayment	*$0.00*

F. Balance Available for Coverage *$0.00*

XXVIII. ***PROPOSED OPERATING BUDGET - (SEWER SYSTEM) - EXISTING SYSTEM AND NEW USERS*** *1st Full Year of Operation) Year Ending* N/A

A.	*Operating Income:*	
	Sewer Revenue	*$0.00*
	Late Charge Fees	*$0.00*
	Other (Describe)	*$0.00*
	Less Allowances and Deductions	( )
	Total Operating Income	*$0.00*
B.	*Operation and Maintenance Expenses:* *(Based on Uniform Systems of Accounts prescribed by National Association of Regulatory Utility Commissioners)*	
	Operation Expense	*$0.00*
	Maintenance Expense	*$0.00*
	Customer Accounts Expense	*$0.00*
	Administrative and General Expense	*$0.00*
	Total Operating and Maintenance Expenses	*$0.00*
	Net Operating Income	*$0.00*
C.	*Non-Operating Income:*	
	Interest on Deposits	*$0.00*
	Other (Identify)	*$0.00*
	Total Non-Operating Income	*$0.00*
D.	*Net Income*	*$0.00*
E.	*Debt Repayment:*	
	RUS Interest	*$0.00*
	RUS Principal	*$0.00*
	Non-RUS Interest	*$0.00*
	Non-RUS Principal	*$0.00*
	Total Debt Repayment	*$0.00*
F.	*Balance Available for Coverage*	*$0.00*

XXIX. ***PROPOSED OPERATING BUDGET - (SEWER SYSTEM) - NEW USERS - EXTENSION ONLY*** *(1st Full Year of Operation) Year Ending* N/A

A.	*Operating Income:*	
	Sewer Revenue	*$0.00*
	Late Charge Fees	*$0.00*
	Other (Describe)	*$0.00*
	Less Allowances and Deductions	*$0.00*
	Total Operating Income	*$0.00*
B.	*Operation and Maintenance Expenses:* *(Based on Uniform Systems of Accounts prescribed by National Association of Regulatory Utility Commissioners)*	
	Operation Expense	*$0.00*
	Maintenance Expense	*$0.00*
	Customer Accounts Expense	*$0.00*
	Administrative and General Expense	*$0.00*
	Total Operating and Maintenance Expenses	*$0.00*
	Net Operating Income	*$0.00*
C.	*Non-Operating Income:*	
	Interest on Deposits	*$0.00*
	Other (Identify)	*$0.00*
	Total Non-Operating Income	*$0.00*
D.	*Net Income*	*$0.00*
E.	*Debt Repayment:*	
	RUS Interest	*$0.00*
	RUS Principal	*$0.00*
	Non-RUS Interest	*$0.00*
	Non-RUS Principal	*$0.00*
	Total Debt Repayment	*$0.00*
F.	*Balance Available for Coverage*	*$0.00*

XXX. CURRENT OPERATING BUDGET - (WATER SYSTEM)
(As of the last full operating year.)

A. Operating Income:

Water Sales		$1,790,292.00
Disconnect/Reconnect/Late Charge Fees		$31,962.00
Other (Describe)		$0.00
Less Allowances and Deductions	Taxes other than income	($44,346.00)
Total Operating Income		$1,777,908.00

B. Operation and Maintenance Expenses:
(Based on Uniform Systems of Accounts prescribed by National Association of Regulatory Utility Commissioners)

Source of Supply Expense	incl Pumping Exp	$212,300.00
Pumping Expense		$0.00
Water Treatment Expense		$293,203.00
Transmission and Distribution Expense		$258,908.00
Customer Accounts Expense		$196,781.00
Administrative and General Expense		$275,961.00
Total Operating Expenses		$1,237,153.00
Net Operating Income		$540,755.00

C. Non-Operating Income:

Interest on Deposits		$30,936.00
Other (Identify)	Miscellaneous Receipts	$20,666.00
Total Non-Operating Income		$51,602.00

D. Net Income $592,357.00

E. Debt Repayment:

RUS Interest	Does not include $51,844 for 2005 Issue	$100,814.00
RUS Principal		$70,000.00
Non-RUS Interest		$80,284.00
Non-RUS Principal		$38,000.00
Total Debt Repayment		$289,098.00

F. Balance Available for Coverage $303,259.00

XXXI. PROPOSED OPERATING BUDGET - (WATER SYSTEM) - EXISTING SYSTEM ~~AND NEW USERS~~ (1st Full Year of Operation) Year Ending 2009
(PROJECTED 2009 INCOME/PROJECTED 2009 EXPENSES WITHOUT PROJECT)

A.	Operating Income:		
	Water Sales	Increase Sales at 1.0%/yr	$1,844,539.64
	Disconnect/Reconnect/Late Charge Fees		$10,000.00
	Other (Describe)		$0.00
	Less Allowances and Deductions		($44,346.00)
	Total Operating Income		$1,810,193.64
B.	Operation and Maintenance Expenses: (Based on Uniform Systems of Accounts prescribed by National Association of Regulatory Utility Commissioners)	Each Expense Increased at 2.5%/yr	
	Source of Supply Expense		$228,623.88
	Pumping Expense		$0.00
	Water Treatment Expense		$315,747.56
	Transmission and Distribution Expense		$278,815.60
	Customer Accounts Expense		$211,911.61
	Administrative and General Expense		$297,179.81
	Total Operating Expenses		$1,332,278.47
	Net Operating Income		$477,915.17
C.	Non-Operating Income:		
	Interest on Deposits		$30,936.00
	Other (Identify)	Miscellaneous Receipts	$10,000.00
	Total Non-Operating Income		$40,936.00
D.	Net Income		$518,851.17
E.	Debt Repayment:		
	RUS Interest	Series 2005 Issue	$51,297.00
	RUS Principal	Series 2005 Issue	$13,000.00
	RUS Interest	Estimated	$88,950.00
	RUS Principal	Estimated	$55,000.00
	Non-RUS Interest	Estimated	$72,975.00
	Non-RUS Principal	Estimated	$47,000.00
	Total Debt Repayment		$328,222.00
F.	Balance Available for Coverage		$190,629.17

XXXII. PROPOSED OPERATING BUDGET - (WATER SYSTEM) - ~~NEW USERS - EXTENSION ONLY~~ (1st Full Year of Operation) Year Ending 2009

SYSTEM IMPROVEMENTS COMPLETE - NEW RATES IN EFFECT

A. Operating Income:

Water Sales Increase at 1.0%/yr + New Rates	$1,979,539.64
Disconnect/Reconnect/Late Charge Fees	$10,000.00
Other (Describe)	$0.00
Less Allowances and Deductions	($44,346.00)
Total Operating Income	$1,945,193.64

B. Operation and Maintenance Expenses: Each Expense Increased at 2.5%/yr

(Based on Uniform Systems of Accounts prescribed by National Association of Regulatory Utility Commissioners)

Source of Supply Expense	$228,623.88
Pumping Expense	$0.00
Water Treatment Expense	$315,747.56
Transmission and Distribution Expense	$278,815.60
Customer Accounts Expense	$211,911.61
Administrative and General Expense	$297,179.81
Total Operating Expenses	$1,332,278.47
Net Operating Income	$612,915.17

C. Non-Operating Income:

Interest on Deposits	$30,936.00
Other (Identify) Miscellaneous Receipts	$10,000.00
Total Non-Operating Income	$40,936.00

D. Net Income $653,851.17

E. Debt Repayment:

RUS Interest	$315,747.00
RUS Principal	$108,567.00
Non-RUS Interest	$72,975.00
Non-RUS Principal	$47,000.00
Total Debt Repayment	$544,289.00

F. Balance Available for Coverage $109,562.17

XXXIII. ***ESTIMATED PROJECT COST - SEWER*** **N/A**

(Round to nearest $100)

	Collection	*Treatment*	*Total*
Development	*$0.00*	*$0.00*	*$0.00*
Land and Rights	*$0.00*	*$0.00*	*$0.00*
Legal	*$0.00*	*$0.00*	*$0.00*
Engineering	*$0.00*	*$0.00*	*$0.00*
Interest	*$0.00*	*$0.00*	*$0.00*
Contingencies	*$0.00*	*$0.00*	*$0.00*
Initial Operating and Maintenance	*$0.00*	*$0.00*	*$0.00*
Other	*$0.00*	*$0.00*	*$0.00*
TOTAL	*$0.00*	*$0.00*	*$0.00*

XXXIV. ***PROPOSED PROJECT FUNDING - SEWER***

	Collection	*Treatment*	*Total*
Applicant - User Contribution Fees	*$0.00*	*$0.00*	*$0.00*
Other - Applicant Contribution	*$0.00*	*$0.00*	*$0.00*
RUS Loan	*$0.00*	*$0.00*	*$0.00*
RUS Grant	*$0.00*	*$0.00*	*$0.00*
ARC Grant (If applicable)	*$0.00*	*$0.00*	*$0.00*
CDBG (If applicable)	*$0.00*	*$0.00*	*$0.00*
Other (Specify)	*$0.00*	*$0.00*	*$0.00*
Other (Specify)	*$0.00*	*$0.00*	*$0.00*

XXXV. ESTIMATED PROJECT COST - WATER

Development	$4,700,000.00
Land and Rights	$0.00
Legal	$35,000.00
Engineering	$532,000.00
Interest	$153,000.00
Contingencies	$470,000.00
Initial Operating and Maintenance	$0.00
Other Administrative	$40,000.00
TOTAL	$5,930,000.00

XXXVI. PROPOSED PROJECT FUNDING

Applicant - User Connection Fees	
Other Applicant Contribution	$0.00
RUS Loan	$3,901,900.00
RUS Grant	$1,000,000.00
ARC Grant (If applicable)	$0.00
CDBG (If applicable)	$0.00
Other (Specify) KIA (2003, 2006)	$787,500.00
Other (Specify) EPA (2005)	$240,600.00
TOTAL	$5,930,000.00