

# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 • (606)269-2386 • Fax (606)268-6327

Date:October 12, 1999 BP 99-01 Project No. 10901

#### KENTUCKY-AMERICAN WATER COMPANY CANCEL 1999 CAPITAL INVESTMENT PROJECT 99-01 NORTH BROADWAY REPLACEMENT PROJECT

**Reference:** 1998 Strategic Business Plan, 1997 Strategic Business Plan,

1996 Strategic Business Plan, 1995 Strategic Business Plan

#### **ESTIMATED COST**

Approved Estimated Cost	\$1,300,000
Budgeted 1999 Expenditure	\$300,000
Budgeted 2000 Expenditure	\$1,000,000
D : 17 . 10 .	<b>#</b> 5 <b>7</b> 000
Revised Total Cost	\$57,000
Budgeted 1999 Expenditure	\$57,000 \$57,000

#### DISCUSSION

This Investment Project is being canceled for the following reasons:

- 1: Construction Bids for the proposed work were significantly higher than original estimates. The revised cost of the project increased the project from \$1,300,000 to \$1,800,000. During the final phase of design, daylighting determined that a variety of surfaces lie underneath the current asphalt roadway. Courses of paving brick, gravel, flat rock and cement, and railroad ties complicated planned excavations. Another cause for the higher than expected cost relates to construction demand. The State and developers have stepped up construction significantly, placing greater demands on construction companies. As a result, contractors were reluctant to respond to our bid letting. Only two contractors submitted bids.
- 2: The company is currently in the process of completing its Integrated Resource Plan (IRP) and is re-evaluating the status of all construction projects. After completing the IRP, all projects will be re-prioritized based on new cost benefit analysis

Nick O. Rowe

Vice-President – Operations

NOR/JST/dm



### Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502

606-269-2386

October 27, 1999 IP 00-01 Project No. 11003

#### KENTUCKY-AMERICAN WATER COMPANY PROPOSED 2000 INVESTMENT PROJECT 00-01 IMPROVEMENTS TO FILTERS 5 & 6- KENTUCKY RIVER STATION

Reference:

Filter Inspection Report - Kentucky River Station - July 10, 1998.

#### SUBJECT OF STUDY:

Complete renovation of filters 5 & 6, which includes repairs to the filter underdrains, surface wash nozzles, wash water weirs and installation of new gravel, garnet, sand and anthracite.

#### **RECOMMENDATION:**

It is recommended that funds be authorized for improvements to filters 5 & 6 at the Kentucky River Station to improve filter run times and performance.

#### **ESTIMATED COST:**

Total Estimated Cost

\$ 212,000

Proposed 2000 Expenditure

\$ 212,000

#### **ADEQUACY:**

The proposed investment project funds are adequate to perform all Improvements to filters 5 & 6 in 2000.

INVESTM	ENT PROJECT REVIEW
DEPARTMENT	BY DATE
ENGINEERING	John V. Juny 1 10.27.99
WATER QUALITY	Juhand 10/20/99
INFO. SYSTEMS _	
OTHERS	
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#### DISCUSSION

For the past several months **filters** 5 and 6 have been experiencing reduced filter run times and have been unable to operate at 100% of capacity. The two units have only been able to operate at 50 – 60% of their design capacity.

Roberts Services, Inc., a unit of the Roberts Filter Group, a nationally recognized manufacturer of filtration equipment and media was retained to determine the condition of the filters. Between June 29 and July 1, 1998, Roberts Services, Inc. was on site at the Kentucky River Station to determine the condition of the **filter** portion of **Aldrich** Units 1 through 8. The media beds and wheeler bottom underdrains of units 1 through 8 were inspected. Filters 9 and 10 were not inspected because they had been recently renovated and had not been experiencing any problems. A report entitled "Filter Inspection Report, Kentucky American Water Company, Kentucky River Station, Lexington, KY" dated July 10, 1998, was submitted upon completion of the work.

In summary, the report by Roberts Services, Inc. recommended that Filters 5 & 6 be completely renovated. The project must be performed in the spring of 2000 to insure that the filters will be ready for the summer demands. The peak usage at the Kentucky River Station during the past couple of years has been 40 MGD or 100% of plant capacity. This project will provide funds to perform the filter improvement work discussed above and will increase the performance of filters 5 & 6 to their original design specifications.

Nick O. Rowe

Vice President – **Operations** 

NOR/JAH/rcs

# KENTUCKY-AMERICAN WATER COMPANY PROPOSED 2000 CAPITAL INVESTMENT PLAN PROJECT 00-01 IMPROVEMENTS TO FILTERS 5 & 6 ~ KENTUCKY RIVER STATION

ITEM	RESPONSIBLE ENTITY	TOTAL MATED COST
Media Removal	Contractor	\$ 22,000
Material	Contractor	\$ 130,000
Labor	Contractor	\$ 44,000
Company Labor	KAWC	\$ 4,000
	Sub-Total	\$ 200,000
O&C (3%)		\$ 6,000
Engineering Overhead (2%)		\$ 4,000
	Sub-Total	\$ 21.0,000
AFUDC		\$ 1,575
	Total	\$ 211,575

#### **KENTUCKY-AMERICANWATER COMPANY**

Proposed 2000 Capital Investment Plan Project 00-01

#### IMPROVEMENTS TO FILTERS 5 & 6 - KENTUCKY RIVER STATION

DESCRIPTION	ENTITY							2000						TOTAL
OF ACTIVITY	RESPONSIBLE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	1999
Media Removal	Contractor													\$ 22,000
Material	Contractor													\$ 130,000
Labor	Contractor												<b></b>	\$ 44,000
Company Labor	KAWC													\$ 4,000
SUB-TOTAL				\$130,000	\$47,000	\$23,000								\$ 200,000
O&C (3%)				\$ 3,900	\$ 1,410	\$ 690								\$ 6,000
Overhead (2%)			•	\$ 2,600	\$ 940	\$ 460	:	<u>.</u>	<u>.</u>		,	L	<u>.</u>	\$ 4,000
AFUDC				1,023.75	370.13	181.13								\$ 1,575
CASH FORECAST				\$137,524	\$49,720	\$24,331								\$ 211,575

# KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL IMPROVEMENTS TO FILTERS 5 & 6 - KENTUCKY RIVER STATION

Determination of Revenue Requiremen	t				
Authorized Rate of Return on Common	Equity				11.00%
Federal Income Tax Rate					35.00%
Return on Common Equity before FIT					16.92%
State Income Tax Rate					8.25%
Required Rate of Return on CE for Proj	ect				18.44%
Common Equity Ratio for Project					40.00%
Weighted Cost of Common Equity before	re Tax				7.38%
Long Term Debt Ratio for Project					60.00%
Estimated Cost Rate for New Debt					7.00%
Weighted Cost of Debt				-	4.20%
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Total Pre-Tax Cost of Capital					11.58%
Total Estimated Cost of Project				\$	211,575
Investment by Others				•	0
Net Investment Financed by Company				\$	211,575
New Common Equity	\$ 84,630				
New Long Term Debt	126,945				
	,				
Total Revenue Requirement			<u>Amount</u>		<u>Rate</u>
Required Pre-Tax Operating Income		\$	24,500		11.58%
Depreciation Rate	1.180%		2,497		1.18%
Property Tax Rate	0.6990%		1,479		0.70%
Change in Operation & Maint. Expense			0		0.00%
Revenue from New Customers			0		0.00%
Total Net Revenue Requirement		\$	28,476		13.46%
Revenue Tax Rate	0.14537%		41		0.02%
Total Revenue Requirement		\$	28,517		13.48%
Latest 12 Months Revenue - 051301199	9	\$	38,184,069		
Required Price Increase	<b>-</b>	<u>Ψ</u>	0.07%	≣	
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Approved BOD 12/15/99



### Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502

606-269-2386

10/29/1999 IP 00-02 Project No. 20004 10908

#### KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 00-02 PARIS PIKE (U.S. 27) RELOCATION AND REPLACEMENT PROJECT

#### SUBJECT OF STUDY:

Water main relocations impacted by Kentucky Transportation Cabinet (KTC) plans for widening Paris Pike (U.S. 27) from 1-75 near Lexington to the City of Paris.

#### **RECOMMENDATION:**

The KTC plans to widen Paris Pike from Lexington to Paris. The existing mains provide an important feed to the area. Therefore, it is recommended that engineering services be performed that will include design of main relocations and associated surveying tasks for development and review of easements along Paris Pike (U.S. 27).

#### **ESTIMATED COST:**

**Total Estimated Cost** \$ 50,000 Proposed 2000 Expenditure \$ 50,000

#### **ADEQUACY:**

The funds for this proposed budget project will be adequate to complete the engineering design, surveying and easement development services to properly relocate impacted mains.

> INVESTMENT PROJECT REVIEW **DEPARTMENT ENGINEERING** WATER QUALITY **ACCOUNTING** OTHER RECOMMENDED FOR APPROVAL:

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**Equal Opportunity Employer** 

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10/29/1999 IP 00-02 Project No. 20004 Page Two

#### **DISCUSSION**

The Kentucky Transportation Cabinet (KTC) plans to widen and realign Paris Pike, which is a major arterial road, from a two-lane roadway to a four-lane profile. The population growth in this area of northern Fayette County and Southern Bourbon County, along with safety concerns, has pushed the KTC to upgrade the infrastructure in this area.

Based on preliminary reviews by KAWC, there will be significant impacts on existing facilities currently located in the right-of-way. Easements will be required and negotiated during the first two quarters of 2000. Construction will begin in 2001, concurrent with roadway construction. KAWC proposes to incorporate relocation work into the State's roadway construction contract. In doing so, KAWC will defer major capital expenditures associated with the relocations until the State is fully committed to the project.

The proposed 2000 capital expenditures for engineering design and easement services that are presented in this memorandum exclude construction costs. Preliminary construction cost estimates for year 2001 capital expenditures are estimated to be \$1,000,000. This cost includes an inflation factor of 6% and a cost contingency factor of 20% to allow for uncertainty of final KTC pavement and roadway design.

The existing mains serving the Paris Pike area are also undersized and were installed between 1917 and 1958. The lack of adequate mains diverts flow from Briar Hill Road during peak periods. Therefore, design efforts will include an evaluation of the size of main needed.

Nick O. Rowe

Vice President – Operations

NOR/dm

# KENTUCKY-AMERICAN WATER COMPANY PROPOSED DESIGN INVESTMENT PLAN PROJECT 00-02 PARIS PIKE (US 27) RELOCATION PROJECT

ITEM	RESPONSIBLE ENTITY	ESTIM	TOTAL ATED COST
Dualization and 9 Final	Consultant	\$	00.000
Preliminary & Final	Consulant	Φ	20,000
Easement Research & Development	Consultant	\$	15,000
Administration	KAWC	\$	10,000
	Sub-Total	\$	45,000_
O&C (5%)		\$	2,250
Engineering Overhead (2%)		\$	900
	Sub-Total	\$	48,150
AFUDC		\$	1,661
	Total	\$	49,811

DESCRIPTION ENTITY OF ACTIVITY RESPONSIBLE Design Consultant Easements Consultant Administration KAWC	L Selection of the sel	NAN	<u>α</u>	Proposed 2000 Capital Investment Plan Project $00 { ilde 0}2$												
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O&C (5%)				\$ 20	\$ 20	<b>₽</b>	S COE	vve	\$ 300	\$ 550	\$ 300	\$ 300	\$ 0	\$ 20	20	\$ 2,250
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AFUDC				8	11.25		OSILE	OSZQ	127.50	191.25	255.00	300.00	$\perp$	326.25	326.25	1,661
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CASH FORECAST				\$ 1,074	1,081	\$	6,458 \$	6,503	\$ 6,548	\$ 11,961	\$ 6,675	\$ 6,720	69	1,396 \$	1,396	\$ 49,811

## KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL

## PARIS PIKE (US 27) RELOCATION PROJECT

Determination of Revenue Requiremen	<u>nt</u>				
Authorized Rate of Return on Common	Equity				11.00%
Federal Income Tax Rate					35.00%
Return on Common Equity before FIT					16.92%
State Income Tax Rate					8.25%
Required Rate of Return on CE for Pro	ject				18.44%
Common Equity Ratio for Project					40.00%
Weighted Cost of Common Equity befo	re Tax				7.38%
Long Term Debt Ratio for Project					60.00%
Estimated Cost Rate for New Debt					7.00%
Weighted Cost of Debt					4.20%
Total Pre-Tax Cost of Capital					11.58%
Total Estimated Cost of Project				\$	49,811
Total Estimated Cost of Project				φ	49,011
Investment by Others  Net Investment Financed by Company				\$	49,811
	\$ 19.925			Ψ	49,011
New Common Equity	,				
New Long Term Debt	29,887				
Total Revenue Requirement		A	<u>Amount</u>		Rate
Required Pre-Tax Operating Income		\$	5,768		11.58%
Depreciation Rate	1.180%		588		1.18%
Property Tax Rate	0.6990%		348		0.70%
Change in Operation & Maint. Expense	)		0		0.00%
Revenue from New Customers			0		0.00%
Total Net Revenue Requirement		\$	6,704		13.46%
Revenue Tax Rate	0.14537%		10		0.02%
Total Revenue Requirement		\$	6,714		13.48%
Latest 12 Months Revenue - 05/30/199	9	\$ 3	8,184,069	:	
Required Price Increase			0.02%		
				8	

ParisPikecashflow.xls 00- 10/29/99 10:03 AM Page 1 of 1.



### Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 606-269-2386

Date:October 12, 1999 IP 00- 03

Project No. 20004

11004

KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 00-03 HARRODSBURG ROAD (US 68) REPLACEMENT PROJECT

#### **SUBJECT OF STUDY:**

Water main relocations impacted by Kentucky Transportation Cabinet plans for widening Harrodsburg Road (US 68) from Man-0-War Boulevard to the Jessamine County line.

#### RECOMMENDATION

Perform engineering services that will include design of main relocations and associated surveying tasks for development and review of easements along Harrodsburg Road (US 68) from Man-0-War Boulevard to the Jessamine County line.

#### **ESTIMATED COST**

Total Estimated Cost	\$100,000
Prior Expenditure	30,000
Proposed 2000 Expenditure	70,000
Proposed 2000 Reimbursement (by KTC)	(42,000)

#### **ADEQUACY**

The funds for this proposed budget project will be adequate to complete the engineering design, surveying, and easement development services to properly relocate impacted mains.

INVESTMENT	PROJECT REVIEW,
DEPARTMENT	BY DATE
ENGINEERING	Jih V. Jang 10:28.99
WATER QUALITY	(M/A DX )
INFORMATION SYSTEMS	<u> </u>
RECOMMENDED FOR APPA	OVAL:
Joy WM un S President	4- 11/18/99
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KAWC Proposed 2000 IP 00-03 Harrodsburg Replacement Project October 12, 1999

#### **DISCUSSION**

The Kentucky Transportation Cabinet (KTC) plans to widen (from 2-lane roadway to a 4-lane profile) and re-align a segment of Harrodsburg Road, which is a major arterial road. The population growth in this area of southern Fayette County and northern Jessamine County has required the KTC to upgrade the infrastructure in this area.

Based on preliminary line and grade drawings provided by the KTC, impact to our existing facilities will be significant. Because portions of 16-inch and 12-inch main being relocated for this project lay within private easements, the KTC will contribute about 45% of the project cost.

Preliminary design work initiated in 1999 will be completed in 2000. Easements will be required and negotiated during the first quarters of 2000. Construction will begin in 2001, concurrent with roadway construction. Kentucky-American proposes to construct the proposed relocation work concurrent with the State's Roadway construction as a measure to avoid delays and reduce capital expenditures. In doing so, Kentucky-American also postpones utility relocation work until the State actually implements the project. The cash forecast is based on a Transportation Cabinet's construction letting date of October 21, 2000.

The proposed 2000 capital expenditures for engineering design and easement services that are presented in this memorandum exclude construction costs. Preliminary construction cost estimates for year 2001 capital expenditures are estimated to be \$1,650,000, of which \$740,000 (45%) will be reimbursed by the KTC. This cost includes an inflation factor of 6% and a cost contingency factor of 20% to allow for uncertainty of final KTC pavement and roadway design.

Nick O. Rowe Vice-President

# KENTUCKY-AMERICAN WATER COMPANY PROPOSED DESIGN INVESTMENT PLAN PROJECT 00-03 HARRODSBURG ROAD (US 68) RELOCATION PROJECT

ITEM	RESPONSIBLE ENTITY	ESTIM	TOTAL IATED COST
Preliminary & Final	Consultant	\$	30,000
Easement Research & Development Consultant  Sub-  O&C (5%)	Consultant	\$	30,000
	Sub-Total	\$	60,000
O&C (5%)		\$	3,000
Engineering Overhead (2%)		\$	1,200
	Sub-Total	\$	64,200
AFUDC		\$	2,753
	Total	\$	66,953

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				Proposed	sed 2000 Capital Investment Plan Project 00- $03$	oital In	vestme	ent Plan	Project	<b>00-</b> 03						
			HA	HARRODSB	SBURG ROAD (US 68) RELOCATION PROJECT	AD (U	S 68) R	ELOC/	TION P	ROJEC	<b> </b>					
DESCRIPTION	ENTITY							2000	_							TOTAL
OF ACTIVITY	RESPONSIBLE	JAN	FEB	MAR	APR		MAY	N O O	705	AUG	SEPT	130	ž	AON	DEC	1999
Design	Consultant												-	+		\$ 30,000
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Easements	Consultant															\$ 30,000
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SUB-TOTAL			\$ 6,000	\$ 6,000	\$ 10,000	<b>\$</b>	10,000	\$ 10,000	\$ 10,000	\$ 5,000	\$ 3,000	\$	es.	69		\$ 60,000
0.80. (5%)			300	300	6	500	200	500	\$ 500	250	150	<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	ď	6	,	9 000
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Overhead (2%)			\$ 120	\$ 120	ક્ક	200 \$	200	\$ 200	\$ 200	\$ 100	\$	s	69	9	,	\$ 1,200
AFUDC			\$ 23	\$ 23	82.50	0	157.50	232.50	307.50	363.75	393.75	405.00		405.00	360.00	\$ 2,753
			1													
CASH FORECAST			\$ 6,443	\$ 6,443	\$ 10,783	မှာ	10,858	\$ 10,933	\$ 11,008	\$ 5,714	\$ 3,604	မှာ	405 \$	405 \$	360	\$ 66,953

### KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL HARRODSBURG ROAD (US 68) RELOCATION PROJECT

Return on Common Equity before FIT   16.92%   16.92%   16.92%   16.92%   16.92%   16.92%   16.92%   16.92%   16.92%   18.44%   18.45%   18.44%	Authorized Date of Deturn on Common E					
Return on Common Equity before FIT       16.92%         State Income Tax Rate       8.25%         Required Rate of Return on CE for Project       18.44%         Common Equity Ratio for Project       40.00%         Weighted Cost of Common Equity before Tax       7.38%         Long Term Debt Ratio for Project       60.00%         Estimated Cost Rate for New Debt       7.00%         Weighted Cost of Debt       4.20%         Total Pre-Tax Cost of Capital       11.58%         Total Estimated Cost of Project       \$ 66,953         Investment by Others       0         Net Investment Financed by Company       \$ 66,953         New Common Equity       \$ 26,781         New Long Term Debt       40,172         Total Revenue Reauirement       Amount       Rate         Required Pre-Tax Operating Income       \$ 7,753       11.58%         Depreciation Rate       1.180%       790       1.18%         Property Tax Rate       0.6990%       468       0.70%         Change in Operation & Maint. Expense       0       0.00%		quity				11.00%
State Income Tax Rate         8.25%           Required Rate of Return on CE for Project         18.44%           Common Equity Ratio for Project         40.00%           Weighted Cost of Common Equity before Tax         7.38%           Long Term Debt Ratio for Project         60.00%           Estimated Cost Rate for New Debt         7.00%           Weighted Cost of Debt         4.20%           Total Pre-Tax Cost of Capital         11.58%           Total Estimated Cost of Project         \$ 66,953           Investment by Others         0           Net Investment Financed by Company         \$ 66,953           New Common Equity         \$ 26,781           New Long Term Debt         40,172           Total Revenue Reauirement         Amount         Rate           Required Pre-Tax Operating Income         7,753         11.58%           Depreciation Rate         1.180%         790         1.18%           Property Tax Rate         0.6990%         468         0.70%           Change in Operation & Maint. Expense         0         0.00%						 
Required Rate of Return on CE for Project       18.44%         Common Equity Ratio for Project       40.00%         Weighted Cost of Common Equity before Tax       7.38%         Long Term Debt Ratio for Project       60.00%         Estimated Cost Rate for New Debt       7.00%         Weighted Cost of Debt       4.20%         Total Pre-Tax Cost of Capital       11.58%         Total Estimated Cost of Project       \$ 66,953         Investment by Others       0         Net Investment Financed by Company       \$ 66,953         New Common Equity       \$ 26,781         New Long Term Debt       40,172         Total Revenue Reauirement       Amount       Rate         Required Pre-Tax Operating Income       \$ 7,753       11.58%         Depreciation Rate       1.180%       790       1.18%         Property Tax Rate       0.6990%       468       0.70%         Change in Operation & Maint. Expense       0       0.00%						
Common Equity Ratio for Project       40.00%         Weighted Cost of Common Equity before Tax       7.38%         Long Term Debt Ratio for Project       60.00%         Estimated Cost Rate for New Debt       7.00%         Weighted Cost of Debt       4.20%         Total Pre-Tax Cost of Capital       11.58%         Total Estimated Cost of Project       \$ 66,953         Investment by Others       0         Net Investment Financed by Company       \$ 66,953         New Common Equity       \$ 26,781         New Long Term Debt       40,172         Total Revenue Reauirement       Amount       Rate         Required Pre-Tax Operating Income       \$ 7,753       11.58%         Depreciation Rate       1.180%       790       1.18%         Property Tax Rate       0.6990%       468       0.70%         Change in Operation & Maint. Expense       0       0.00%						 
Weighted Cost of Common Equity before Tax         7.38%           Long Term Debt Ratio for Project         60.00%           Estimated Cost Rate for New Debt         7.00%           Weighted Cost of Debt         4.20%           Total Pre-Tax Cost of Capital         11.58%           Total Estimated Cost of Project         \$ 66,953           Investment by Others         0           Net Investment Financed by Company         \$ 66,953           New Common Equity         \$ 26,781           New Long Term Debt         40,172           Total Revenue Reauirement         Amount         Rate           Required Pre-Tax Operating Income         \$ 7,753         11.58%           Depreciation Rate         1.180%         790         1.18%           Property Tax Rate         0.6990%         468         0.70%           Change in Operation & Maint. Expense         0         0.00%	•	ct				
Long Term Debt Ratio for Project       60.00%         Estimated Cost Rate for New Debt       7.00%         Weighted Cost of Debt       4.20%         Total Pre-Tax Cost of Capital       11.58%         Total Estimated Cost of Project       \$ 66,953         Investment by Others       0         Net Investment Financed by Company       \$ 66,953         New Common Equity       \$ 26,781         New Long Term Debt       40,172         Total Revenue Reauirement       Rate         Required Pre-Tax Operating Income       \$ 7,753       11.58%         Depreciation Rate       1.180%       790       1.18%         Property Tax Rate       0.6990%       468       0.70%         Change in Operation & Maint. Expense       0       0.00%		_				 
Total Pre-Tax Cost of Capital   11.58%	Weighted Cost of Common Equity before	lax				7.38%
Weighted Cost of Debt         4.20%           Total Pre-Tax Cost of Capital         11.58%           Total Estimated Cost of Project Investment by Others         \$ 66,953           Investment Financed by Company         \$ 66,953           New Common Equity         \$ 26,781           New Long Term Debt         40,172           Total Revenue Reauirement Required Pre-Tax Operating Income Depreciation Rate         \$ 7,753         11.58%           Property Tax Rate         0.6990%         468         0.70%           Change in Operation & Maint. Expense         0         0.00%	Long Term Debt Ratio for Project					60.00%
Total Pre-Tax Cost of Capital  Total Estimated Cost of Project Investment by Others Net Investment Financed by Company New Common Equity New Long Term Debt  Total Revenue Reauirement Required Pre-Tax Operating Income Depreciation Rate Property Tax Rate Change in Operation & Maint. Expense  11.58%  \$ 66,953  \$ 66,953  \$ 66,953  \$ 468,953  \$ 7,753  \$ 11.58%  \$ 7,753  \$ 11.58%  \$ 7,753  \$ 11.58%  \$ 7,753  \$ 11.58%  \$ 7,753  \$ 11.58%  \$ 0.6990% \$ 468  \$ 0.70%  \$ 0.00%	Estimated Cost Rate for New Debt					7.00%
Total Estimated Cost of Project Investment by Others Net Investment Financed by Company New Common Equity New Long Term Debt  Total Revenue Reauirement Required Pre-Tax Operating Income Depreciation Rate Property Tax Rate Change in Operation & Maint. Expense  \$ 66,953  \$ 66,953  Amount \$ Amount \$ 7,753  11.58%  790 1.18%  0.6990%  468 0.70%  0.00%	Weighted Cost of Debt					4.20%
Total Estimated Cost of Project Investment by Others Net Investment Financed by Company New Common Equity New Long Term Debt  Total Revenue Reauirement Required Pre-Tax Operating Income Depreciation Rate Property Tax Rate Change in Operation & Maint. Expense  \$ 66,953  \$ 66,953  Amount \$ Amount \$ 7,753  11.58%  790 1.18%  0.6990%  468 0.70%  0.00%	Total Pre-Tax Cost of Capital					11.58%
Investment by Others Net Investment Financed by Company New Common Equity New Long Term Debt  **Total Revenue Reauirement* Required Pre-Tax Operating Income Depreciation Rate Property Tax Rate Change in Operation & Maint. Expense  **Total Revenue Reauirement* **Total Revenue R	retain to ran occitor capital					
Investment by Others Net Investment Financed by Company New Common Equity New Long Term Debt  **Total Revenue Reauirement* Required Pre-Tax Operating Income Depreciation Rate Property Tax Rate Change in Operation & Maint. Expense  **Maint Bate*  **Amount* **Amount* **Amount* **Amount* **Total Revenue Reauirement* **T,753* **11.58% **O.6990% **O	Total Estimated Cost of Project					\$ 66,953
Net Investment Financed by Company         \$ 66,953           New Common Equity         \$ 26,781           New Long Term Debt         40,172           Total Revenue Reauirement         Amount         Rate           Required Pre-Tax Operating Income         \$ 7,753         11.58%           Depreciation Rate         1.180%         790         1.18%           Property Tax Rate         0.6990%         468         0.70%           Change in Operation & Maint. Expense         0         0.00%	•					, 0
New Long Term Debt         40,172           Total Revenue Requirement         Amount         Rate           Required Pre-Tax Operating Income         \$ 7,753         11.58%           Depreciation Rate         1.180%         790         1.18%           Property Tax Rate         0.6990%         468         0.70%           Change in Operation & Maint. Expense         0         0.00%						\$ 66,953
Total Revenue Reauirement         Amount         Rate           Required Pre-Tax Operating Income         \$ 7,753         11.58%           Depreciation Rate         1.180%         790         1.18%           Property Tax Rate         0.6990%         468         0.70%           Change in Operation & Maint. Expense         0         0.00%	New Common Equity	\$	26,781			
Required Pre-Tax Operating Income       \$ 7,753       11.58%         Depreciation Rate       1.180%       790       1.18%         Property Tax Rate       0.6990%       468       0.70%         Change in Operation & Maint. Expense       0       0.00%	New Long Term Debt		40,172			
Required Pre-Tax Operating Income       \$ 7,753       11.58%         Depreciation Rate       1.180%       790       1.18%         Property Tax Rate       0.6990%       468       0.70%         Change in Operation & Maint. Expense       0       0.00%	Total Revenue Requirement				Amount	Rate
Depreciation Rate         1.180%         790         1.18%           Property Tax Rate         0.6990%         468         0.70%           Change in Operation & Maint. Expense         0         0.00%				\$		11.58%
Property Tax Rate 0.6990% 468 0.70% Change in Operation & Maint. Expense 0 0.00%			1.180%	·	•	1.18%
Change in Operation & Maint. Expense 0 0.00%	•				468	0.70%
· · · · · · · · · · · · · · · · · · ·					0	0.00%
Revenue from New Customers 0 0.00%	Revenue from New Customers				0	0.00%
Total Net Revenue Requirement \$ 9,011 13.46%	Total Net Revenue Requirement			\$	9,011	 13.46%
Revenue Tax Rate 0.14537% 13 0.02%	Revenue Tax Rate	(	0.14537%		13	0.02%
Total Revenue Requirement \$ 9,024 13.48%	Total Revenue Requirement			\$	9,024	13.48%
Latest 12 Months Revenue - 05/30/1999 \$ 38,184,069				_	00 404 000	
Required Price Increase 0.02%	Latest 12 Months Revenue - 05/30/1999			\$	38,18 <del>4</del> .069	

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# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502

606-269-2386

October 26, 1999 File No. 380-8362 Project D 11005

#### KENTUCKY-AMERICAN WATER COMPANY PROPOSED DESIGN INVESTMENT PLAN PROJECT 00-04 RICHMOND ROAD (US 25) RELOCATION PROJECT

#### SUBJECT OF STUDY:

Water main relocations impacted by Kentucky Transportation Cabinet plans for widening the Richmond Road (US 25) corridor between New Circle Road and Eagle Creek Drive.

#### **RECOMMENDATION:**

It is recommended to perform engineering services that will include design of main relocations and associated surveying tasks for development/review of easements along Richmond Road (US 25) between New Circle Road and Eagle Creek Drive.

#### **ESTIMATED COST:**

Total Estimated Cost \$ 94,000 Proposed 2000 Expenditure \$ 94,000

#### **ADEQUACY:**

The proposed investment project funds are adequate for engineering design, survey, and easement development services to properly relocate mains impacted by roadway widening.

DEPARTMENT PROJECT REVIEW

DEPARTMENT BY DATE

ENGINEERING M. 10.26.99

WATER QUALITY MA 954

INFO. SYSTEMS

OTHERS

RECOMMENDED FOR APPROVAL:
PRESIDENT 11/18/99

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Printed on Recycled Paper

Kentucky-American Water Company Richmond Road Main Relocation Proposed 2000 IP-04 October 15, 1999

#### DISCUSSION

Over the past ten years the Lexington urban service area has been experiencing significant increases in residential, commercial, and industrial development along most of its major arterial roadways. One of these routes, Richmond Road (U.S. 25), has seen traffic volume capacities stressed by unprecedented commercial development densification along it's primary and sub-primary corridors from New Circle Road (S.R. 4) to Eagle Creek Drive. Due to impacts of reduced traffic flow efficiencies as well as increased congestion along Richmond Road, the Kentucky Transportation Cabinet (KTC) has included its plans to widen this section in their planning document known as the <u>Six Year Highway Plan</u> (<u>FY 1999 – FY 2004</u>). As a result of the proposed improvements that include removal of existing medians and modifications of roadway shoulders, utility infrastructure, which occupy existing state right-of-way, will require consideration for relocation in order to accommodate lane additions and enhancements. According to the recently completed KTC's *Right-of-way Plans for Utilities*, KAWC's thirty (30) inch reinforced concrete and twenty-four (24) inch ductile iron high service mains are among the major utilities that will be significantly impacted by the proposed improvements.

Due to the size and complexity of the potential relocation of water mains along Richmond Road, it is recommended to begin preliminary engineering design in early spring of 2000. This would entail negotiations with KTC engineers on how to modify roadway designs in order to minimize required subsequent KAWC capital expenditures for construction. In order to accommodate KTC scheduling to begin roadway improvements in the fourth quarter of 2001, it will be necessary to begin easement research and development in late spring of 2000 with final relocation design to occur during the last two quarters of 2000. Preliminary construction cost estimates for year 2001 capital expenditures are estimated to be \$1,250,000. This cost figure includes an inflation factor of 6% and a cost contingency factor of 20 % to allow for uncertainty of final KTC pavement and roadway design at the writing of this memorandum.

Nick O. Rowe

Vice President – Operations

NOR/KWK/kk

# KENTUCKY-AMERICAN WATER COMPANY PROPOSED DESIGN INVESTMENT PLAN PROJECT 00-04 RICHMOND ROAD (US 25) RELOCATION PROJECT

ITEM	RESPONSIBLE ENTITY	TOTAL ATED COST
		•••
Preliminary & Final	Consultant	\$ 80,000
Administration	KAWC	\$ 5,000
	Sub-Total	\$ 85,000
O&C (5%)		\$ 4,250
Engineering Overhead (2%)		\$ 1,700
	Sub-Total	\$ 90,950
AFUDC		\$ 3,079
	Total	\$ 94,029

				KE	TUC	KENTUCKY-AMERICAN WATER COMPANY	ERICAL	WAT	ER CC	MPAN	≽			13			
			ш	Propos•	3d 200	Proposed 2000 Capital Investment Plan Project 00-04	alInves	stment	Plan F	roject (	20-04						
			ш	SICHM	JOND F	RICHMOND ROAD (US 25) RELOCATION PROJECT	JS 25)	RELO	CATIO	NPRO	JECT						
DESCRIPTION	ENTITY								2000								TOTAL
OF ACTIVITY	RESPONSIBLE	JAN	FEB	MAR		APR	MAY	H	NOS	JUL	AUG	SEPT	OCT	ž	NOV	DEC	1999
Design	Consultant																\$ 80,000
																	1 1
Administration	KAWC																\$ 5,000
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					+			+	+					$\frac{1}{1}$			
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					$\frac{ \cdot }{ \cdot }$			$\frac{1}{1}$	$\prod$					$\prod$			
SUB-TOTAL				\$ 4,	4,500 \$	6,500	\$ 10,600		\$ 20,700	\$ 20,800	\$ 7,900	\$ 3,500	\$ 5,500	s	5,000		\$ 85,000
O&C (5%)				€.	225 \$	325	65	530	1035	1 040	395	\$ 175	€.	\$ 275	250		\$ 4250
								·	_					-			
Overhead (2%)				69	<b>\$</b>	130	\$ 2	212 \$	414	\$ 416	\$ 158	\$ 70	s	110 \$	9		\$ 1,700
AFUDC				69	17	58.13	122.25	Ш	239.63	395.25	502.88	545.63	579.38		618.75		\$ 3,079
CASH FORECAST				4	4 R32	7.013	11 464		\$ 22 380	\$ 22 651	\$ 056	4 201	\$ 6.464	4	5 060		\$ 04.020
CAST I STALL ST		1		1		2121	,		_	_		9	•	•	2,505		

# KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL RICHMOND ROAD (US 25) RELOCATION PROJECT

Determination of Revenue Requirement Authorized Rate of Return on Common Ed Federal Income Tax Rate Return on Common Equity before FIT State Income Tax Rate Required Rate of Return on CE for Project Common Equity Ratio for Project Weighted Cost of Common Equity before	rt				11.00% 35.00% 16.92% 8.25% 18.44% 40.00% 7.38%
Long Term Debt Ratio for Project Estimated Cost Rate for New Debt Weighted Cost of Debt					60.00% 7.00% 4.20%
Total Pre-Tax Cost of Capital					11.58%
Total Estimated Cost of Project Investment by Others Net Investment Financed by Company New Common Equity New Long Term Debt	37,612 56,417			\$ 	94,029 0 94,029
Total Revenue Requirement Required Pre-Tax Operating Income Depreciation Rate Property Tax Rate Change in Operation & Maint. Expense Revenue from New Customers Total Net Revenue Requirement Revenue Tax Rate Total Revenue Requirement	■.180% 0.6990% 0.14537%	\$ \$ \$	Amount 10,889 1,110 657 0 0 12,656 18 12,674		Rate 11.58% 1.18% 0.70% 0.00% 0.00% 13.46% 0.02% 13.48%
Latest 12 Months Revenue - 05/30/1999 Required Price Increase		<u>\$</u>	38,184,069 0.03%	=	

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Board of Directors Meetin October 11, 2000



2300 Richmond Road • Lexington, Kentucky 40502 • (606)269-2386 • Fax (606)268-6327
August 28,2000
Proposed IP 00-05
Project No. 11006

# KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 00-05 12-INCH DUCTILE IRON MAIN EXTENSION FOR BULK WATER SALES TO HARRISON COUNTY WATER ASSOCIATION

#### **SUBJECT**

The request to sell 100,000 gallons per day to the Harrison County Water Association

#### RECOMMENDATION

Extend a 12-inch ductile iron main in southern Harrison County to serve the Harrison County Water Association.

#### **ESTIMATED COST**

Total Estimated Cost \$ 120,000 Proposed 2000 Expenditure \$ 120,000

#### **ADEQUACY**

The proposed investment project finds are adequate for design, easement acquisition, and construction.

INVESTMENT PROJECT REV	TEW
DEPARTMENT BY	DATE
ENGINEERING John V. Juny	9.11.00
WATER QUALITY ( M/A (V)	- <del></del>
INFO. SYSTEMS	
OTHERS	
RECOMMENDED FOR APPROVAL:	9/14/00
	/_/_

 $F: \verb|\Engineering| 00-05 (Harrison County) \verb|\HarrisonCoExtension.doc| \\$ 

Kentucky-American Water Company Proposed IP 00-05 Main Extension for Harrison County Water Association August 28,2000 Page 2

#### DISCUSSION

Kentucky-American Water Company has recently negotiated an agreement with the Harrison County Water Association (HCWA). The purpose of this agreement is to sell approximately 100,000 gallons of water per day to serve a portion of the HCWA system. HCWA currently receives all of its water from the City of Cynthiana, which uses the Licking River as its source of supply. The source has been unreliable during recent drought years, and the system has been required to restrict usage even more than other area systems. Further, the City of Cynthiana has recently raised its rates.

Harrison County Water Association has asked Kentucky-American Water Company to extend its facilities an additional 3,500 feet into southern Harrison County. This extension will be made from a recently relocated 12" ductile iron main along U.S. 62. The pressure and flow are adequate due to the proximity of the Muddy Ford elevated storage tank. Kentucky-American will also construct the meter vault.

HCWA estimates that by isolating a portion of their .system to receive water from KAWC, the required demand will be approximately 100,000 gallons per day. Anticipated sales will provide revenue at current rates to support the necessary investment. The construction will take place in 2000. The estimated total project cost is with an accuracy of plus/minus ten percent.

John A. Hill, Jr., P.E.

Operations Engineer

Nick O. Rowe

Vice President \ Operations

# KENTUCKY-AMERICAN WATER COMPANY PROPOSED DESIGN INVESTMENT PLAN PROJECT 00-05 HARRISON COUNTY MAIN EXTENSION

ITEM	RESPONSIBLE ENTITY		TOTAL MATED COST
Administration	KAWC	\$	5,000
Materials	KAWC	\$	35,000
Inspection	KAWC	\$	10,000
Construction	Contractor	\$	60,000
	Sub-Total	\$	110,000
O&C (5%)		\$	5,500
Engineering Overhead (2%)		\$	2,200
	Sub-Total	\$	117,700
AFUDC		\$	881
	Total	\$	118,581
	Estim	nate \$	120,000

				KENT	KENTUCKY-AMERICAN WATER COMPANY	ERICAN V	WATER (	COMPA						
,			PRO	POSED D	PROPOSED DESIGN INVESTMENT PLAN PROJECT 00-05	VESTME	NT PLA	V PROJE	€CT 00-C	5				
				HAR	HARRISON COUNTY MAIN EXTENSION	JUNTY M.	AIN EXT	ENSION	_					
DESCRIPTION	ENTITY						2000	0						TOTAL
OF ACTIVITY	RESPONSIBLE	NAC	FEB	MAR	APR	MAY	NOS	701	AUG	SEPT	130	NON .	മ	2000
Administration	KAWC											\$ .72,500	\$ 2,500 \$ 2,500	\$ 5,000
Materials	KAWC		4-7-4-6									\$ 25,000	\$ 25,000 \$ 10,000	\$ 35,000
Inspection	KAWC											\$ 5,000	\$ 5,000 \$ 5,000	\$ 10,000
Construction	Contractor											\$ 30,000	\$ 30,000 \$ 430,000	\$ 60,000
		i												
SUB-TOTAL												\$ 62.500	\$ 47.500	\$ 110.000
												1 1	1	
O&C (5%)												\$ 3,125	\$ 2,375	\$ 5,500
Overhead (2%)												\$ 1,250	\$ 950	\$ 2,200
AFUDC												234	647	\$ 881
1000														
CASH FORECASI												\$ 67,109	\$ 51,472	\$ 118,581

### KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL <u>SPENDING PROPOSAL</u> HARRISON COUNTY **MAIN** EXTENSION

Determination of Revenue Requiremen	<u>nt</u>					
Authorized Rate of Return on Common	- Equity	,				11.00%
Federal Income Tax Rate	, ,					35.00%
Return on Common Equity before FIT						16.92%
State Income Tax Rate						8.25%
Required Rate of Return on CE for Proj	iect					18.44%
Common Equity Ratio for Project	•					40.00%
Weighted Cost of Common Equity before	re Tax					7.38%
η, γ						
Long Term Debt Ratio for Project						60.00%
Estimated Cost Rate for New Debt						8.00%
Weighted Cost of Debt						4.80%
g						
Total Pre-Tax Cost of Capital						12.18%
Total Estimated Cost of Project					\$	120,000
Investment by Others						0
Net Investment Financed by Company					\$	120,000
New Common Equity	\$	48,000				
New Long Term Debt		72,000				
Total Davanua Daguirament				∧ mount		<u>Rate</u>
Total Revenue Requirement			\$	Amount		·
Required Pre-Tax Operating Income		4.4000/	Φ	14,616		12.18%
Depreciation Rate		1.180%		1,416		1.18%
Property Tax Rate		0.7037%		844		0.70%
Change in Operation & Maint. Expense	)			0		0.00%
Revenue from New Customers			_	(65,000)		-54.17%
Total Net Revenue Requirement	_		\$	(48,124)		-40.11%
Revenue Tax Rate	(	).14537%	_	(70)		-0.06%
Total Revenue Requirement				(48,194)		-40.17%
Latest 12 Months Revenue - 06/30/200	ın		\$	39,128,658		
			<u> </u>	-0.12%	•	
Required Price Increase				-U.12%	=	

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