

WAUFORD

J. R. Wauford & Company, Consulting Engineers, Inc.
www.jrwauford.com

November 27, 2017

Tim Begley, Director of Engineering
City of Crossville
392 North Main Street
Crossville, TN 38555

RE: Meadow Park Lake Water and Sewer System
Improvements
City of Crossville, Tennessee
Wauford Project No. 4638

Dear Mr. Begley,

Attached you will find preliminary cost estimates for the subject project for your review and comment. We separated the project into one water system alternative and two sewer system alternatives with Sewer System Alternative No. 1 consisting of a cross country route and Alternative No. 2 consisting of routing along City Lake/Lantana Road.

The water system work consists of approximately 6,000 L.F. of 10-inch water line and appurtenances estimated to cost \$380,000 as indicated on Cost Estimate No. W-1 and depicted on both exhibits.

Alternate No. 1 for the low pressure sewer line consists of approximately 15,930 linear feet of 4-inch low pressure sewer paralleling the proposed water line and extending to a new connection with the Brown School Sewer Line at the intersection of Spruce Loop and Lincolnshire Drive with an estimated construction cost of \$850,000 as indicated on Cost Estimate No. S-1. Alternate No. 2 for the low pressure sewer line consists of approximately 15,800 linear feet of 4-inch low pressure sewer running along City Lake Road and then with Lantana Road to include 2 service connections with South Cumberland Elementary School and Lantana Road Baptist Church along Lantana Road and tying into the Brown School Sewer Line where it crosses Lantana Road, with an estimated construction cost of \$880,000 as indicated on Cost Estimate No. S-2.

A summary cost estimate for each alternative including the water line and engineering costs is attached.

We appreciate the opportunity to provide engineering services for the City of Crossville. If you have questions or comments, do not hesitate to contact the undersigned.

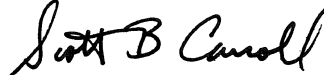
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Yours very truly,

J. R. WAUFORD & COMPANY,
CONSULTING ENGINEERS, INC.



Scott B. Carroll, P.E.
East Tennessee Office Manager

Enclosures

cc: Greg Davenport, P.E., President, Wauford
Work File
Letter File

COST ESTIMATE NO. W-1
WATER SYSTEM IMPROVEMENTS
MEADOW PARK LAKE WATER LINE
CITY OF CROSSVILLE, TENNESSEE
WAUFORD PROJECT NO. 4638

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Cost</u>
1.	2 E.A.	Connection to Existing Water Line	\$ 5,000/E.A.	\$10,000
2.	5,940 L.F.	Install 10-inch PVC Water, Open Cut	\$ 45/L.F.	\$267,300
3.	2 E.A.	New Fire Hydrant Assembly	\$ 7,500/E.A.	\$15,000
4.	2 E.A.	New Air Release Valve Assembly	\$ 8,000/E.A.	\$16,000
5.	1 E.A.	New Blow-Off Assembly	\$ 5,000/E.A.	\$5,000
6.	6,000 L.F.	Roadway and Easement Repair	\$ 3/L.F.	<u>\$18,000</u>
		ESTIMATED CONSTRUCTION COST		\$331,300
		CONSTRUCTION CONTINGENCIES (15%)		<u>\$48,700</u>
		BUDGETED FOR CONSTRUCTION		<u>\$380,000</u>

ENR CONSTRUCTION COST INDEX – 10870 (November 2017)

COST ESTIMATE NO. S-1
MEADOW PARK LAKE LOW PRESSURE SEWER LINE
ALTERNATE NO. 1 CROSS COUNTRY ROUTE
CITY OF CROSSVILLE, TENNESSEE
WAUFORD PROJECT NO. 4638

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Cost</u>
1.	1 E.A.	Connection to Existing Sewage Force Main	\$ 5,000/E.A.	\$5,000
2.	15,930 L.F.	Install 4-inch PVC Force Main, Open Cut	\$ 30/L.F.	\$477,900
3.	Lump Sum	New Sludge Pumping Station at WTP	\$100,000/L.S.	\$100,000
4.	5 E.A.	New Air Release Valve Assembly	\$ 8,000/E.A.	\$40,000
5.	16,000 L.F.	Roadway and Easement Repair	\$ 3/L.F.	\$48,000
6.	36 E.A.	Removal and Replacement of Driveways	\$ 2,000/E.A.	<u>\$72,000</u>
		ESTIMATED CONSTRUCTION COST		\$742,900
		CONSTRUCTION CONTINGENCIES (15%)		<u>\$107,100</u>
		BUDGETED FOR CONSTRUCTION		<u>\$850,000</u>

ENR CONSTRUCTION COST INDEX – 10870 (November 2017)

COST ESTIMATE NO. S-2
MEADOW PARK LAKE LOW PRESSURE SEWER LINE
ALTERNATE NO. 2 CITY LAKE/LANTANA ROAD ROUTE
CITY OF CROSSVILLE, TENNESSEE
WAUFORD PROJECT NO. 4638

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Cost</u>
1.	1 E.A.	Connection to Existing Sewage Force Main	\$ 5,000/E.A.	\$5,000
2.	100 L.F.	10-inch Bored Highway Crossing	\$ 350/L.F.	\$35,000
3.	15,800 L.F.	Install 4-inch PVC Force Main, Open Cut	\$ 30/L.F.	\$474,000
4.	Lump Sum	New Sludge Pumping Station at WTP	\$100,000/L.S.	\$100,000
5.	3 E.A.	New Air Release Valve Assembly	\$ 8,000/E.A.	\$24,000
6.	16,000 L.F.	Roadway and Easement Repair	\$ 3/L.F.	\$48,000
7.	2 E.A.	Sewer Service Connections	\$ 4,500/E.A.	\$9,000
8.	35 E.A.	Removal and Replacement of Driveways	\$ 2,000/E.A.	<u>\$70,000</u>
		ESTIMATED CONSTRUCTION COST		\$765,000
		CONSTRUCTION CONTINGENCIES (15%)		<u>\$115,000</u>
		BUDGETED FOR CONSTRUCTION		<u>\$880,000</u>

ENR CONSTRUCTION COST INDEX – 10870 (November 2017)

COST ESTIMATE SUMMARY
MEADOWPARK LAKE WATER AND SEWER SYSTEM IMPROVEMENTS
CITY OF CROSSVILLE, TENNESSEE
WAUFORD PROJECT NO. 4638
NOVEMBER 2017

Alternate No. 1 – New 10-inch Cross Country Water Line and New 4-inch Cross Country Low Pressure Sewer Line		
<u>Description</u>	<u>Cost Estimate No.</u>	<u>Estimated Cost</u>
10-inch Cross Country Water Line	W-1	\$380,000
4-inch Cross Country Low Pressure Sewer	S-1	<u>\$850,000</u>
1. Budgeted for Construction		<u>\$1,230,000</u>
2. Engineering:	Design	\$95,000
	Bidding and Award	\$6,000
	During Construction (120 Days)	\$124,000
TOTAL ESTIMATED PROJECT COST		<u>\$1,455,000</u>

Alternate No. 2 – New 10-inch Cross Country Water Line and New 4-inch City Lake/Lantana Road Route Low Pressure Sewer Line		
<u>Description</u>	<u>Cost Estimate No.</u>	<u>Estimated Cost</u>
10-inch Cross Country Water Line	W-1	\$380,000
4-inch City Lake/Lantana Road Route Low Pressure Sewer	S-2	<u>\$880,000</u>
1. Budgeted for Construction		<u>\$1,260,000</u>
2. Engineering:	Design	\$98,000
	Bidding and Award	\$6,000
	During Construction (120 Days)	\$124,000
TOTAL ESTIMATED PROJECT COST		<u>\$1,488,000</u>