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**HARRIMAN UTILITY BOARD**  
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Mike Scott - Project Manager  
Tennessee Valley Authority  
400 W. Summit Hill Dr.  
Knoxville, TN 37902-1499

December 21, 2009

Dear Sir,

The Harriman Utility Board (HUB) service area is located adjacent to the TVA Fossil Plant in Kingston, Tennessee. HUB serves utilities to ~15,000 homes in Morgan and Roane counties.

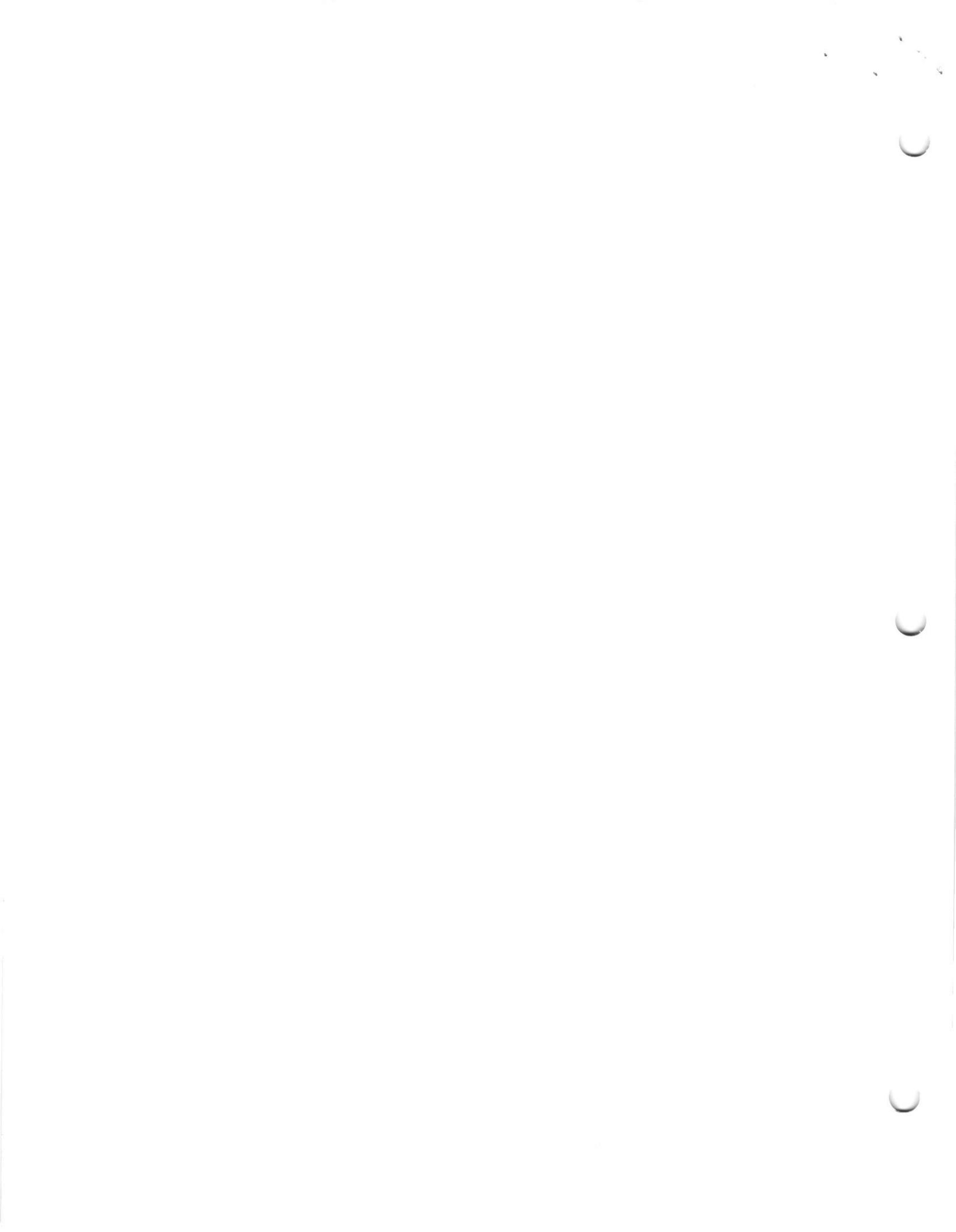
On December 22, 2008 our sewer plant discharge pipe which passes the TVA Fossil Plant was destroyed. During normal operations our waste water treatment plant discharges treated water to the Tennessee River near Kingston. Since the December accident, we were forced to discharge to the Emory River which is adjacent to the treatment plant.

The HUB waste water treatment plant is not designed for discharge to the Emory River, thus certain problems have occurred in operations. The current Emory River discharge system is an "overflow system" which is used if pumps fail; when water rises in the basins and wet-well above 12 feet, water flows by gravity to the Emory River.

The operational problem in our overflow system is that sediment forms in the basins and wet wells. These sediments are a natural part of treatment and occur in low concentrations (typically 0.2 milligrams per liter) and are below the permitted allowable limit (1.0 milligrams per liter).

Our treatment plant discharges 20 to 50 million gallons in a month (75,700,000 to 189,250,000 liters in a month). Because of the large water volumes over time, the very small amount of sediment dropping out of the treated water becomes a sizable build-up in our basins and wet wells.

As sediments accumulate they become biologically active and we have observed the byproduct of septic (anaerobic) activities in the basin. During normal operations these sediments pass through, are dispersed in low concentrations into the river system, and become part of that natural ecosystem.



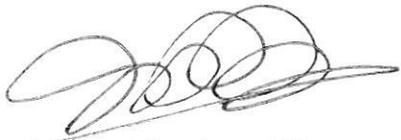
Discharging treated water to the Emory River is a sound environmental practice if done properly. In fact we have requested that the TDEC allow us to institute this practice on a regular basis when we build the proper discharge infrastructure. The drawing attached to this letter is a design we are considering.

TDEC is considering allowing our request because of the overall positive impact. Our newly build treatment plant produces treated water that is much cleaner than the river itself - lower in contaminates, lower in sediments, and lower in E coli than the river. In addition to having a positive impact on the river ecology, discharging to the Emory River also conserves power consumption - the Tennessee River discharge involves pumping treated water 7.4 miles. Pumping to the Tennessee River costs in several ways: maintenance on the pumps, power consumption, and upkeep on the aging 7.4 miles of pipe (installed in the 1960s).

We would like to propose that in addition to re-building the effluent line adjacent to the Kingston Fossil Plan, that TVA consider funding this improved discharge system to the Emory River. This additional construction spending has a major payoff in environmental impact - conserving energy, improving the plant operations, and no overall change in water quality in the rivers. TVA funding of this project would prevent HUB having to raise sewer rates for it customers to pay for this work.

HUB and TVA are similar in that we both depend upon the rate-payers to finance operations. We have a fiduciary duty to spend those funds wisely and help the community. The alternative proposed herein is a way we can better serve the community and perform that duty.

Sincerely,

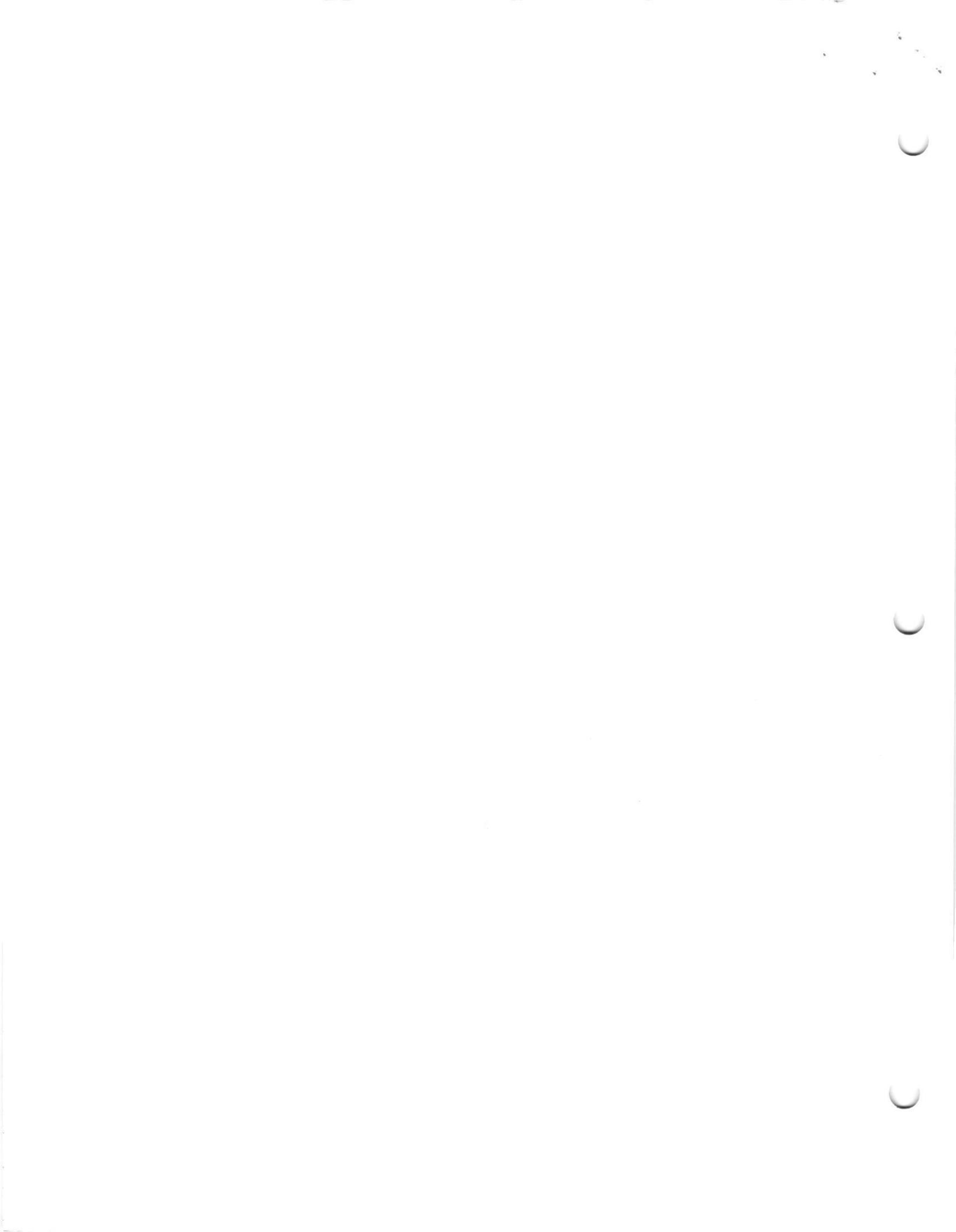


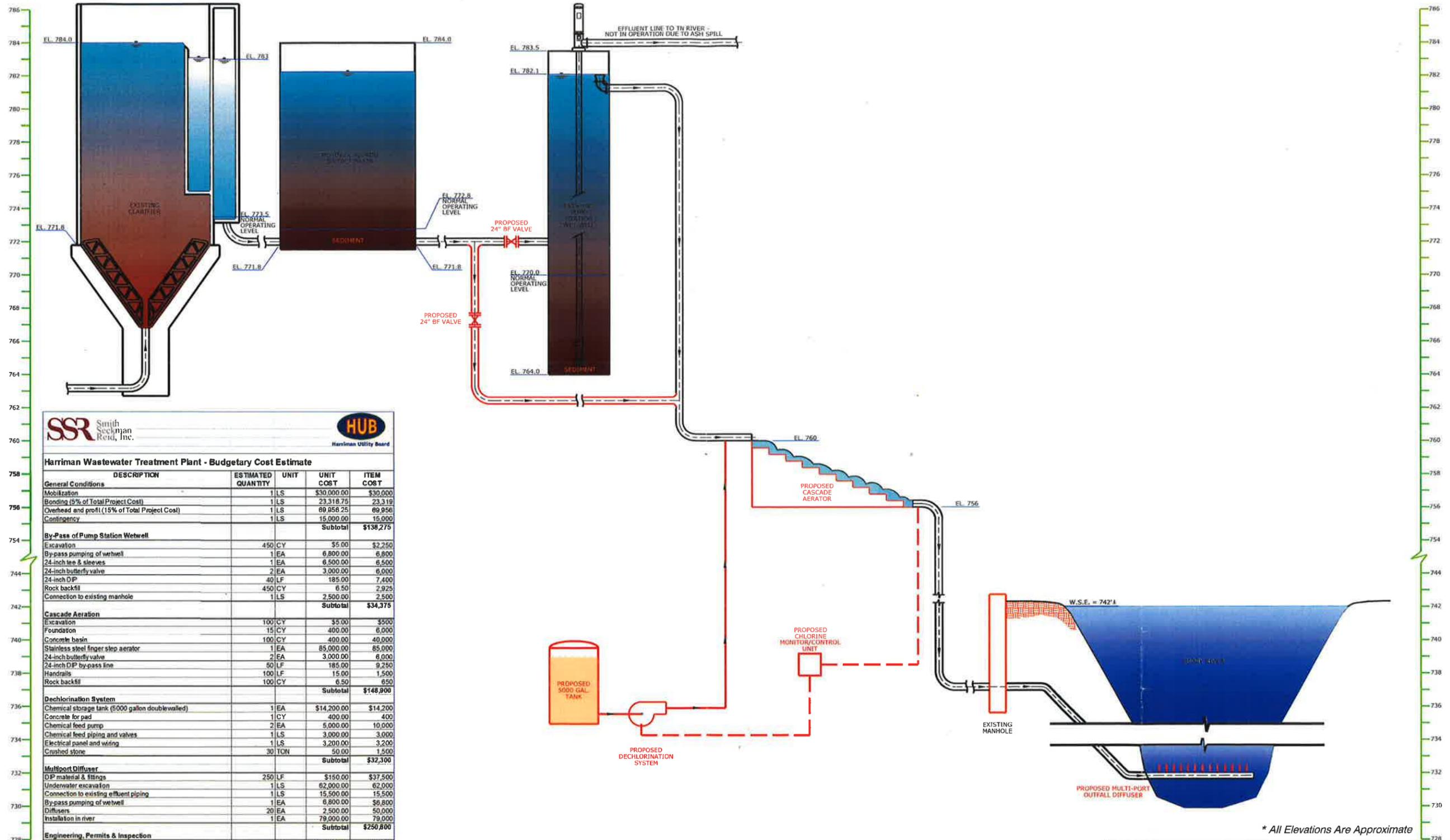
James Burnham, PE  
HUB Director of Engineering and Planning



Chuck Flora, CPE  
HUB General Manager

Cc: John West, TDEC - Knoxville field office; Paul Davis, Director TDEC; Robby Ansery, TVA - Utility Representative.





**Harriman Wastewater Treatment Plant - Budgetary Cost Estimate**

DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	ITEM COST
<b>General Conditions</b>				
Mobilization	1	LS	\$30,000.00	\$30,000
Bonding (5% of Total Project Cost)	1	LS	23,318.75	23,319
Overhead and profit (15% of Total Project Cost)	1	LS	89,858.25	89,858
Contingency	1	LS	15,000.00	15,000
			<b>Subtotal</b>	<b>\$138,275</b>
<b>By-Pass of Pump Station Wetwell</b>				
Excavation	450	CY	\$5.00	\$2,250
By-pass pumping of wetwell	1	EA	6,800.00	6,800
24-inch tee & sleeves	1	EA	6,500.00	6,500
24-inch butterfly valve	2	EA	3,000.00	6,000
24-inch DIP	40	LF	185.00	7,400
Rock backfill	450	CY	6.50	2,925
Connection to existing manhole	1	LS	2,500.00	2,500
			<b>Subtotal</b>	<b>\$34,375</b>
<b>Cascade Aeration</b>				
Excavation	100	CY	\$5.00	\$500
Foundation	15	CY	400.00	6,000
Concrete basin	100	CY	400.00	40,000
Stainless steel finger step aerator	1	EA	85,000.00	85,000
24-inch butterfly valve	2	EA	3,000.00	6,000
24-inch DIP by-pass line	50	LF	185.00	9,250
Handrails	100	LF	15.00	1,500
Rock backfill	100	CY	6.50	650
			<b>Subtotal</b>	<b>\$148,900</b>
<b>Dechlorination System</b>				
Chemical storage tank (5000 gallon double-walled)	1	EA	\$14,200.00	\$14,200
Concrete for pad	1	CY	400.00	400
Chemical feed pump	2	EA	5,000.00	10,000
Chemical feed piping and valves	1	LS	3,000.00	3,000
Electrical panel and wiring	1	LS	3,200.00	3,200
Crushed stone	30	TON	50.00	1,500
			<b>Subtotal</b>	<b>\$32,300</b>
<b>Multiport Diffuser</b>				
DIP material & fittings	250	LF	\$150.00	\$37,500
Underwater excavation	1	LS	62,000.00	62,000
Connection to existing effluent piping	1	LS	15,500.00	15,500
By-pass pumping of wetwell	1	EA	6,800.00	6,800
Diffusers	20	EA	2,500.00	50,000
Installation in river	1	EA	79,000.00	79,000
			<b>Subtotal</b>	<b>\$250,800</b>
<b>Engineering, Permits &amp; Inspection</b>				
Engineering design	1	LS	\$90,697.00	\$90,697
Geotechnical explorations (as required)	1	LS	13,000.00	13,000
Reimbursable costs	1	LS	7,200.00	7,200
Resident Project Representative	18	WK	3,000.00	54,000
Permit fees	1	LS	750.00	750
			<b>Subtotal</b>	<b>\$165,647</b>
<b>Total</b>				
General Conditions				\$138,275
By-Pass of Pump Station Wetwell				34,375
Cascade Aeration				148,900
Dechlorination System				32,300
Multiport Diffuser				250,800
Engineering & Permits				165,647
<b>Estimated Total Project Cost</b>				<b>\$ 770,297</b>

\* All Elevations Are Approximate

<b>HARRIMAN UTILITIES BOARD</b>	
<b>SSR</b> Smith Seckman Reid, Inc.	144-E Market Place Boulevard Knoxville, TN 37922 865.560.9622 Fax: 865.560.9623 www.ssr-tuc.com
DRAWN BY: BRN CHECKED BY: SLH JOB NO: 09470150	HARRIMAN WWTP OPTION A ISSUE DATE: DECEMBER 2009 DRAWING NO: A

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