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PUBLIC SERVICE
COMMISSION

**BEFORE THE
PUBLIC SERVICE COMMISSION OF KENTUCKY**

In the Matter of:

No. 2009-00494

Application of the
Louisville and Jefferson County Metropolitan Sewer District
For an Order Approving a Transfer of Ownership and Control

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PUBLIC SERVICE
COMMISSION

APPLICATION

Applicant, the Louisville and Jefferson County Metropolitan Sewer District ("MSD") hereby resubmits its application to the Kentucky Public Service Commission ("PSC") for (a) approval pursuant to KRS 278.020(5) of a transfer of ownership and control of a jurisdictional utility, and (b) any other approval necessary relating to the acquisition of the Shadowwood Wastewater Treatment Plant. In support of its request, MSD states as follows:

THE APPLICANT

1. MSD is a public body corporate created and organized pursuant to KRS Chapter 76 of the Kentucky Revised Statutes, whose address is 700 West Liberty Street, Louisville, Kentucky.
2. MSD's statutory responsibilities include the providing of sewage and drainage facilities to the public; the regulation of public and private sewers and drains and the discharge of waste and waters into the sewer system, and is authorized to provide for wastewater discharge permits and abatement of and liabilities and penalties for the violations of MSD's regulations and Metro Government ordinances.
3. In order to carry out these responsibilities MSD owns and operates wastewater treatment plants and pump stations which comprise part of the sanitary sewer system throughout Jefferson County.
4. Pursuant to KRS 76.070 and KRS 76.110, MSD has the legal authority to acquire land and existing facilities.
5. MSD is not a utility as defined by KRS 278.010(3)(f) and is not subject to Public Service Commission jurisdiction for the establishment of rates or subsequent approval of rate adjustments.

6. Copies of all orders, pleadings and other communications regarding this Application should be directed to:

Douglas Scott Porter
Louisville and Jefferson County
Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203-1911

THE TRANSACTION

7. MSD was created in 1946 as a public body corporate and subdivision of the Commonwealth of Kentucky. It has complete control, possession, and supervision of the sewer and drainage system within the City of Louisville and within large portions of Jefferson County that it has annexed into its service area. KRS Chapter 76 authorizes MSD to construct facilities within its service area and to recover the cost of its services in accordance with rate schedules adopted by its governing Board. Due to the merger of the City of Louisville and the Jefferson County Governments, MSD is now considered a component unit of the new Louisville Metro Government.
8. Shadowwood Waste Environmental, LLC (“Shadowwood”) is a Kentucky limited liability company whose mailing address was 13404 Creekwood Road, Prospect, Kentucky, 40059 who owned and operated the Shadowwood Wastewater Treatment Plant and collection system (“Shadowwood WTP”) which was located on property described in a deed recorded in Deed Book 8578, Page 950 in the Jefferson County Clerk’s Office.
9. Shadowwood meets the definition of a jurisdictional utility and was subject to regulation by the PSC.
10. Shadowwood WTP was originally acquired by a developer who initially acquired the plant because it was needed to provide sewer service for a condominium complex that the developer’s firm was constructing. Subsequently, MSD and Shadowwood entered into an agreement for MSD to operate the plant which contained a clause that gave MSD the right to purchase it and which also contained language that envisioned the

eventual decommissioning of the plant and its connection to the MSD collection and treatment system.

11. MSD operated the plant for approximately 2 years and decided to exercise the right to purchase it. By MSD exercising its option to purchase the WTP, the transaction will serve the public interest by enabling the continued operation of the facility without any interruption of service by a public utility with the manpower and resources to operate the plant in compliance with all environmental laws. Additionally, the merger is consistent with the State's environmental policy of regionalization and consolidation of sewer services and the elimination of private ownership of treatment plants and the elimination of a point source discharge. A copy of Operation Agreement between Shadowwood and MSD is attached as Exhibit A.
12. Through Bill of Sale and Transfer of Deed (collectively referred to as the "Agreement") executed on September 17, 2008, Shadowwood transferred to MSD, and MSD has acquired all the utility assets and liabilities of Shadowwood pursuant to an agreement between Shadowwood and MSD (hereinafter, "the Transaction").
13. The terms and conditions of the Transaction are set out in the Shadowwood Disposal Systems, LLC Wastewater Treatment Plant and System Bill of Sale and Deed of Transfer which comprise the purchase agreement. These documents are collectively referred to as "the Agreement" and are attached as Exhibit B.
14. Pursuant to Section 1B-1(a) of MSD's Procurement Code, because the acquisition was less than \$50,000, the purchase did not need to be approved by the MSD Board and the Executive Director is vested with the authority to execute the purchase agreement. On September 17, 2008, MSD's Executive Director executed the Agreement and had a check tendered to Shadowwood in the amount of \$45,000 to effectuate the transfer and acquisition of the Shadowwood.
15. On October 1, 2008, MSD submitted the necessary "Change in Ownership" information to the Division of Water, KPDES Branch of the Environment and Energy Cabinet. A copy of the change of ownership

form is attached as Exhibit C.

16. On November 6, 2008, MSD received notice from the PSC inquiring if the transfer of the Shadowwood WTP to MSD had been approved by the PSC.
17. MSD provided the PSC with information concerning the acquisition and on November 14, the PSC notified and informed MSD that, as per KRS 278.020(5), neither Shadowwood nor MSD had applied for or obtained the approval of the transfer from the PSC
18. On December 3, 2009, MSD tendered a formal appeal to the PSC requesting a ruling on the applicability of the KRS 278.020 to MSD since MSD is not a utility as defined by KRS 278.010(3)(f). A copy of MSD's letter is attached as Exhibit D.
19. On April 1, 2009, MSD received a response from the PSC setting forth its rationale behind the PSC's interpretation that the provisions of KRS 278.020 are applicable to the Transaction. A copy of the PSC's letter is attached as Exhibit E.
20. Upon receipt and review of the PSC's advisory letter, counsel for MSD contacted the Assistant General Counsel for the PSC and requested samples of the necessary forms to proceed with the approval process.
21. On May 21, 2009, the Assistant General Counsel for the PSC forwarded the necessary checklist along with sample applications to MSD counsel.
22. Although MSD is not a utility as defined by KRS 278.010(3)(f), Shadowwood and MSD did execute a purchase agreement, and even though Shadowwood was not a party to the application despite falling squarely under the jurisdiction of the PSC, MSD tendered an application on August 12, 2009 in order to secure final regulatory approval of the PSC. The original application included a full executed copy of the Agreement.
23. As is set forth in the Agreement, on September 17, 2008, Shadowwood transferred to MSD all properties owned and operated by Shadowwood that were used in the operation of the Shadowwood wastewater collection and treatment system. The properties transferred included the wastewater treatment plant and all sewer pipes, lines, man holes, force

mains, treatment plants, pumping and lift stations, easements, rights-of-ways, licenses, privileges, improvement and appurtenances necessary to the operation of the wastewater treatment plant and the attendant system. See Exhibit B.

24. On October 6, 2009, the PSC entered an Order which continued the application period for 60 days and directed MSD to provide additional information concerning the acquisition.
25. On October 21, 2009, MSD tendered a supplemental response in compliance with the PSC Order.
26. On November 9, 2009, the PSC entered an order naming Shadow Wood Environmental, LLC as a party to the application proceedings.
27. On November 10, 2009, an informal conference was held between the PSC and MSD to discuss various legal and factual issues relating to the acquisition and application process.
28. During this conference, issues were raised which required clarification. Accordingly, on November 18, 2009, MSD filed a motion requesting that it be allowed to withdraw its application in order to refile a supplemental application to clarify those issues as well to present additional financial and legal documents that MSD believes will be helpful to the PSC Commission.
29. On November 25, the PSC entered an order granting MSD until December 11, 2009 to refile a new application to submit additional information and to clarify certain issues.
30. An issue that the PSC asked for clarification concerned the construction of a specific term in the Operation Agreement signed in 2005 when MSD began contract operating the plant for Shadowwood Environmental. Paragraph 1.C on page 3 of the Operation Agreement states, "*FINAL DATE* shall be when MSD diverts the wastewater flow from Shadowwood WTP to MSD's comprehensive collection and treatment system. The term *FINAL DATE* is used throughout the agreement. The PSC asked MSD to clarify this term during the November 10, 2009 informal conference. MSD construes the term "*FINAL DATE*" to mean the actual date that MSD assumed ownership and title to the plant, thus allowing MSD to take on

Shadowwood's customers and to begin the process of studying, evaluating and implementing the procedures necessary to eventually take the plant off line and cease discharging via permit into the waters of the Commonwealth, specifically Harrods Creek. Once the plant is taken off line and ceases to exist, the Shadowwood system will ultimately be connected to the MSD collection and treatment system. As long as MSD continues to operate the plant and it remains in operation, it will continue to discharge wastewater via permit into Harrods Creek, and will be subject the regulations of the Division of Water and the federal consent decree entered into between MSD, the Environment and Energy Cabinet and the United States Environmental Protection Agency ("EPA").

KRS 278.020(5) Transfer Requirements

31. The Commission should approve the transfer by Shadowwood pursuant to KRS 278.020(5) even though MSD is neither a utility as defined by KRS 278.010(3)(f) nor "Person" as defined by KRS 278.010 (2), which includes natural persons, partnerships, corporations, and two or more persons having a joint or common interest. MSD is a political subdivision as per the terms of KRS 76.010, thus falling outside the statutory definition of "person", but which can satisfy the statutory criteria necessary for approval.
32. MSD has the financial, technical, and managerial abilities to continue to provide reasonable service to the customers as was done through prior agreement with Shadowwood and has been continuously doing since the Transaction. MSD currently has a workforce of over 600 employees. 73 are employed as certified wastewater treatment plant operators. Because MSD is a "public utility" and political subdivision specifically created by statute to manage and operate the sewer and drainage system in Jefferson County, MSD's workforce is trained to handle specialized job functions directly related to the operation of the sewer and drainage system. Additionally, MSD's employees are on-call 24 hours a day, 7 days a week to handle immediate emergencies and MSD has a an Emergency Response Unit in the event of crisis. Accordingly, since

MSD has the financial, technical, and managerial abilities to operate the Shadowwood facility, then as per KRS 278.020, the Commission shall grant its approval of the acquisition.

33. Since the transfer occurred on September 17, 2008, MSD has continued to operate the plant and has otherwise bore all regulatory and financial responsibility for the operation and maintenance of the facilities, and there has been no disruption of service. Attached as Exhibit F is a response to an Open Records request from the Division of Water documenting that since MSD acquired the plant, there have no Notices of Violations or Correction Notices issued by the state to MSD for any environmental violation at the facility.
34. Due to the terms of a federal consent decree between MSD, the Kentucky Department of Environmental Protection and the United States Environmental Protection Agency signed by Judge Simpson in the United States District Court for the Western District of Kentucky on August 12, 2005, MSD has been subject to additional standards that exceed Kentucky's regulatory criteria. A copy of the consent decree is attached as Exhibit G.
35. Because MSD now owns the Shadowwood plant, numerous provisions of the consent decree are specifically applicable to the Shadowwood facility and actually reference the facility. In addition to the regulatory standards already in place, the consent decree establishes more stringent criteria and standards. These provisions include:
 - (a) the development and implementation of Capacity, Management, Operation and Maintenance (CMOM) Programs designed to eliminate combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs);
 - (b) the development and implementation of Sewer Overflow Response Protocols (SORP) necessary to respond and abate CSOs and SSOs;
 - (c) the development of an elimination plan for the plant by March 31, 2009 and a deadline to eliminate the plant by December 15, 2009;

- (d) the installation and maintenance of equipment to necessary to monitor and remove phosphorous;
- (e) the establishment of a monthly average effluent limitation for Total Phosphorous of one milligram per liter (1mg/L);
- (f) MSD also is required to provide continuous flow monitoring data and must maintain records of such flow monitoring for a minimum of three (3) years;
- (g) in addition to normal permit reporting requirements, MSD must submit quarterly reports to the EPA which must include detailed reports of any bypasses;
- (h) failure to comply with the provisions of the consent decree subject MSD to stipulated penalties including \$2,000 for dry weather CSOs, \$500 for unauthorized discharges, \$1,000 for exceeding the phosphorous limit, \$1,000 for reporting violations, and \$3,000 for failing to submit a closure plan and an additional \$100 per day for failure to submit. These stipulated penalties are in addition to any possible penalties that could be assessed by the Division of Water.

36. The provisions of the consent decree combined with the applicable environmental laws of Kentucky impose sufficient regulatory requirements on MSD necessary to protect the environment and water quality of Kentucky. Additionally, by MSD being required to take wastewater treatment plants off line, a point source of potential pollution is going to be eliminated. Thus, by MSD taking ownership of the plant, Shadowwood customers benefit from MSD's expert management and the environment of Kentucky will continue to improve.

37. Prior to the transfer, although MSD was operating the plant pursuant to an agreement with Shadowwood Environmental, the facility was under the jurisdiction of the PSC. Shadowwood Environmental was ultimately responsible for compliance with all PSC regulations, including those which require the timely filing of any information, notice, or reports as well as environmental permitting and reporting requirements.

38. Since MSD took over ownership of the Shadowwood utility facilities on September 17, 2009, MSD has continued to receive all income and pay all expenses relating to the operation of the treatment plant, and otherwise, has borne all financial and staffing responsibility for the operation and maintenance of the facilities as well as assuming all legal environmental compliance and permitting and reporting responsibilities for the plant.
39. As demonstrated by its Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2008, attached as Exhibit H, and a copy of MSD's 2008 Annual Report, attached as Exhibit I, and its control and operation of the sewer and drainage system within the City of Louisville and portions of Jefferson County for more than 55 years, MSD has the financial, managerial, and technical abilities to provide reasonable service to the persons currently served by Shadowwood. The reports detail the various features of MSD's facilities and workforce which should illustrate the agency's expertise and financial capability in operating and managing, not only this plant, but the entire Jefferson County sewer and drainage system.
40. The merger is consistent with the Commonwealth's policy of regionalization and consolidation and the goal of enhancing and improving to overall water quality of the Commonwealth. The purchase will produce greater economies of scale, eliminate wasteful duplication of costs and efforts, result in a sounder and more businesslike degree of management, and produce a higher degree of service at a lesser cost in addition to improving the overall water quality of Kentucky.
41. Per paragraph 11 on page 8 of the Operation Agreement between Shadowwood and MSD attached as Exhibit A, Shadowwood Environmental agreed to provide notice to its customers, not less than fourteen (14) days prior to the Final Date, i.e. change of ownership, that all service is being transferred to MSD and that effective with the first full Louisville Water Company meter reading following the Final Date, that all charges will be paid to MSD as per MSD's regular rate schedule.

42. Since the merger, in 2009, Shadowwood customers have been subject to one rate increase of 6.5 %. This was not a special rate increase but was a standard rate increase assessed to all Jefferson County customers of MSD. Attached as Exhibits J and K are the effective wastewater service rate schedules that were in place for customers of Shadowwood once it was acquired by MSD.
43. Attached as Exhibit L is a document that reflects the calculations for the difference in rates for customers between the times Shadowwood Environmental operated the plant and for the period that MSD has operated the plant since the Final Date of the mid-September 2008 Transaction. Exhibit L reflects that the difference in rates has resulted in MSD collecting \$9,699.23 more in fees for the 13 months that MSD has operated the plant since acquiring it than customers would have paid to Shadowwood Environmental. Or on an individual basis, since there are 101 Shadowwood customers, each customer would have paid MSD a total of \$96.03 more than they would have paid Shadowwood Environmental. This works out to a little more than \$7 a month difference per customer.
44. However, since MSD began operating the plant and continuing since the transfer, MSD has done a significant amount of repairs and upgrades to the plant. These repairs and upgrades have helped the plant function more efficiently and in compliance with the environmental regulations, and improved the quality of service to the customers. Attached as Exhibit M is a spreadsheet documenting all work performed on the Shadowwood plant since MSD began operating it under agreement with Shadowwood Environmental. The document demonstrates that MSD has spent roughly \$111,836.42 on upgrades and repairs to the plant and \$16,746.77 since the mid-September 2008 Transaction.

45. Additional Shadowwood customers have benefitted from the Transaction as well. As per paragraph 5 on page 2-3 of the Operation Agreement attached as Exhibit A, 66 additional sewer taps to the system were permitted and MSD agreed to waive all a capacity charges and connection fees for these additional sewer taps.
46. As per the terms of the consent decree, MSD must decommission the plant by the established deadline of December 15, 2015 or face penalties. Attached as Exhibit N is a report and cost estimate concerning the decommissioning of the plant. It is estimated that it will cost in excess of \$290,000 just to take Shadowwood offline and close the plant in order to comply with the federal consent decree. Removing the plant will cease the permitted discharge into this location at Harrods Creek and will allow the flow to be diverted to the larger facility at Hite Creek thus eliminating a point source discharge into Harrods Creek.

Other Requirements

47. The Transaction does not include an acquisition within the meaning of KRS 278.020(5) or an acquisition of control as defined by KRS 278.020(6), because MSD is not subject to the jurisdiction of the Commission.
48. If the Commission nonetheless applies KRS 278.020(5) to the Transaction, the Commission should approve the acquisition by MSD of control of the utility assets of Shadowwood. As demonstrated by this Application, the Transaction is in accordance with law, for a proper purpose, and is consistent with the public interest. Therefore, the Commission should approve the acquisition by MSD of the utility assets of Shadowwood.
49. Through this Transaction, although Shadowwood has transferred all of its utility assets to MSD and ceased to be responsible for providing utility services after September 17, 2008, it is not abandoning the utility or its assets within the meaning of KRS 278.021. MSD was operating the plant prior to the Transaction and has provided continual service since the Transaction. The transfer was to MSD, a political subdivision and statutorily created entity specifically charged with providing sanitation

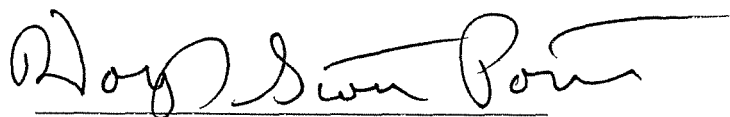
services and which has the capability to provide reasonable service and which is agreeing to take on the responsibility of providing service to the customers. MSD is under the regulatory jurisdiction of the Kentucky Environment and Energy Cabinet and EPA, and is operating plants such as Shadowwood subject to the provisions of a federal consent decree. However, if the Commission nonetheless applies the KRS 278.020(5) provisions relating to the Transaction, the Commission should approve Shadowwood's transfer of all of its utility assets to MSD and cessation of providing utility service.

CONCLUSION

WHEREFORE, Applicant MSD requests an Order of the Commission within 60 days of the filing of the Application which:

- a) Grants approval pursuant to KRS 278.020(5) for the transfer to MSD by Shadowwood of ownership and control of the Shadowwood utility assets in the Proposed Transaction; and .
- b) Declares that KRS 278.020(6) is inapplicable or, in the alternative, grants approval pursuant to KRS 278.020(6) for the acquisition by MSD of control of the Shadowwood utility assets in the Transaction; and
- c) Declares that no other Commission approvals are necessary for the Transaction or, in the alternative, grants any other approvals necessary.

Respectfully submitted,



Douglas Scott Porter
Louisville and Jefferson County
Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203-1911
Phone: (502) 540-6623
(Fax): (502) 540-6565

**SHADOWWOOD WASTE WASTEWATER COLLECTION AND TREATMENT
SYSTEM**

AGREEMENT

This AGREEMENT, made and entered into at Louisville, Kentucky, this 28th day of February, 2005, by and between SHADOWWOOD WASTE ENVIRONMENTAL, LLC, a Kentucky limited liability company with its principal office at 13404 Creekview Road, Louisville, KY 40059, (hereinafter referred to as "SHADOWWOOD WASTE") and the LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT, 700 West Liberty Street, Louisville, Kentucky 40203, a public body corporate and political subdivision organized pursuant to Chapter 76 of the Kentucky Revised Statutes (hereinafter referred to as "MSD").

Whereas, SHADOWWOOD WASTE owns and operates a wastewater treatment plant, specifically *Shadowwood Wastewater Treatment Plant* (hereinafter referred to as "SHADOWWOOD WTP") and

Whereas, SHADOWWOOD WASTE desires to grant additional sewer taps to one or more third parties prior to MSD's acquisition of the SHADOWWOOD WTP; and

Whereas, neither the Public Service Commission nor the Jefferson County Health Department will permit SHADOWWOOD WASTE to enlarge its customer base without first cleaning and upgrading its wastewater treatment lagoon; and

Whereas, SHADOWWOOD WASTE would like to avoid the costs associated with the cleaning and upgrade of its wastewater treatment lagoon; and

Whereas, MSD would like to manage the SHADOWWOOD WTP and prepare

EXHIBIT A

SHADOWWOOD WASTE's customers and facilities for the time when MSD's comprehensive collection and treatment system becomes available to the SHADOWWOOD WASTE Development; and

Whereas, in the interest of public health and safety SHADOWWOOD WASTE desires to have MSD operate the SHADOWWOOD WASTE SYSTEM while SHADOWWOOD WASTE maintains ownership of the SHADOWWOOD WASTE SYSTEM; and

Whereas, MSD is willing, under the conditions set forth in this AGREEMENT, to operate the SHADOWWOOD WASTE SYSTEM in the general interest of public health, safety and general welfare; and

Whereas, SHADOWWOOD WASTE and MSD have negotiated this AGREEMENT whereas ownership, maintenance and operations responsibilities for the SHADOWWOOD WASTE SYSTEM are clearly delineated and both parties are adequately compensated for their investments and responsibilities;

Now, therefore, in consideration of the mutual undertakings and obligations hereinafter set forth, SHADOWWOOD WASTE and MSD agree to the following:

1. The following definitions will apply throughout this AGREEMENT.

A. OPERATIONS DATE shall be the ^{1st}~~2nd~~ day of ^{March}~~February~~, 2005 and shall be the date on which MSD assumes operational and maintenance responsibilities for the SHADOWWOOD WASTE SYSTEM.

B. EXECUTION DATE shall be the date on which this AGREEMENT is fully executed by both parties.

C. FINAL DATE shall be when MSD diverts the wastewater flow from SHADOWWOOD WTP to MSD's comprehensive collection and treatment system.

D. SHADOWWOOD WASTE SYSTEM shall mean all properties, real, personal or mixed, which are owned and operated by SHADOWWOOD WASTE and which are used in the operation of the Shadowwood wastewater collection and treatment system that flows to SHADOWWOOD WTP, as of the EXECUTION DATE and subsequent thereto. This shall include all FACILITIES and the SHADOWWOOD WTP.

E. FACILITIES shall include sewer pipes, lines, force mains, pumping and lift stations, and all other real and/or personal property used in the collection and conveyance of sanitary sewerage to the SHADOWWOOD WTP.

2. SHADOWWOOD WASTE and MSD agree that as of the OPERATIONS DATE, MSD shall assume operation and maintenance responsibilities for the SHADOWWOOD WASTE SYSTEM. MSD's operations and maintenance responsibilities shall include the following

A. MSD shall provide an Operator, Class I or higher if appropriate for the design capacity of the SHADOWWOOD WTP. The MSD Operator, if below Class IV, shall be under the supervision of a Class IV Operator. The MSD Operator shall perform the following services:

- 1) Conduct a daily inspection of the SHADOWWOOD WTP.
- 2) Make adjustments to the chemical feed system and change out the chlorine and sulfur dioxide cylinders as needed.

- 3) Supervise the sludge wasting operations.
- 4) Maintain an on-site log of daily activities.
- 5) Collect samples as necessary.
- 6) Operate the SHADOWWOOD WTP in a good workman like fashion.

B. MSD shall operate the SHADOWWOOD WTP according to standards designed to consistently comply with Kentucky Pollutant Discharge Elimination System (KPDES) Permit requirements. MSD will strive to comply with all KPDES Permit limits, however MSD cannot guarantee that permit limits will not, on occasion, be exceeded.

C. MSD shall provide for the collection and analysis of samples necessary for the proper operation of the SHADOWWOOD WTP. MSD shall also perform those tasks necessary to meet the reporting requirements of the KPDES Permit.

D. MSD shall operate and maintain the SHADOWWOOD WASTE SYSTEM in a manner consistent with MSD's current practices in use throughout the MSD service area.

E. MSD shall be responsible for all costs associated with the operation and maintenance of the SHADOWWOOD WASTE SYSTEM, including but not limited to electricity, water, chemical, operators, reports, fees to the health department or any other applicable government agency, and capital improvements & repairs necessary to maintain the SHADOWWOOD WASTE SYSTEM in compliance with applicable government regulations. MSD shall oversee the project management of the Lagoon Clean up Contract for no additional project fee. MSD shall not be responsible for property taxes associated with the

SHADOWWOOD WASTE SYSTEM.

3. MSD and SHADOWWOOD WASTE agree that SHADOWWOOD WASTE shall retain ownership of the SHADOWWOOD WTP and all FACILITIES for the duration of this AGREEMENT.
4. On the OPERATIONS DATE, SHADOWWOOD WASTE shall provide MSD with a list of properties serviced by the SHADOWWOOD WTP and the amount charged for each property. SHADOWWOOD WASTE agrees to provide, in a timely manner, updated information for the aforementioned list as may be necessary. SHADOWWOOD WASTE shall be responsible for the collection of all billings for properties served by the SHADOWWOOD WTP until the FINAL DATE. Prior to the 10th day of the month, SHADOWWOOD WASTE shall tender to MSD; 1) a list of all billing received from the Louisville Water Company for the previous month, and 2) a check equal to the amount of billings received for the month minus a One Thousand Dollar retainage due SHADOWWOOD WASTE on a bi-monthly basis. SHADOWWOOD WASTE'S retainage amount shall be \$6,000 annually. All payments due MSD under this Agreement received after the 10th of the month shall be subject to a 7 ½% interest charge. In the event MSD does not receive payment by the 10th day, MSD shall notify SHADOWWOOD WASTE via the United State Postal Service. Payments not received by the 10th day of the following month shall constitute a material breach of this Agreement. MSD acknowledges that SHADOWWOOD WASTE has a contractual relationship with the Louisville Water Company for the collection of sewer bills. SHADOWWOOD WASTE shall take all actions that the Louisville Water Company may deem reasonably necessary for the collection of delinquent billings, including but not limited to the granting of permission to the Louisville Water Company to discontinue water service for delinquent bills.
5. MSD agrees that SHADOWWOOD WASTE may authorize one or more parties, at different times on or before the FINAL DATE, to connect sixty-six (66) sewer taps to the

SHADOWWOOD WASTE SYSTEM. MSD agrees to waive all capacity charges and connection fees for these additional sewer taps.

6. When MSD determines that the MSD comprehensive collection and treatment system is available to the SHADOWWOOD WTP, then SHADOWWOOD WASTE authorizes MSD to take such steps as MSD deems necessary to divert the wastewater flow from the SHADOWWOOD WTP to the MSD comprehensive collection and treatment system. MSD agrees to provide SHADOWWOOD WASTE with thirty (30) days notice prior to the diversion of flow. SHADOWWOOD WASTE agrees to provide, on or before the FINAL DATE, without charge, all third party perpetual easements then in SHADOWWOOD WASTE's possession, and all perpetual easements across the remaining lands of SHADOWWOOD WASTE, that MSD reasonably deems necessary for the diversion of wastewater from the SHADOWWOOD WTP to the MSD comprehensive collection and treatment system. SHADOWWOOD WASTE agrees to provide, on or before the FINAL DATE, without charge, all third party perpetual easements then in SHADOWWOOD WASTE's possession, and all perpetual easements across the remaining lands of SHADOWWOOD WASTE, that MSD reasonably deems necessary for the operation and maintenance of the SHADOWWOOD WASTE SYSTEM.

7. At any time on or after one year from the OPERATIONS DATE, SHADOWWOOD WASTE may, at its discretion and upon not less than ninety (90) days prior written notice to MSD, assign or terminate this AGREEMENT; provided that MSD, upon receipt of such notice of termination may elect to purchase the SHADOWWOOD WTP FOR \$45,000.00. If MSD makes such an election, MSD shall notify SHADOWWOOD WASTE of such election within thirty (30) days of MSD's receipt of SHADOWWOOD WASTE'S notice of termination. MSD shall thereafter close on the purchase within thirty (30) days of giving such notice to purchase. In the event of such a closing, the remaining provisions of this AGREEMENT which do not conflict with this section 7, regarding the parties' respective authority, obligations, and rights/obligations to

indemnify as of the FINAL DATE, shall remain in force. This is a material provision of the agreement.

8. Upon the diversion of wastewater flow, SHADOWWOOD WASTE shall tender to MSD all security deposits and credits, agreements and billing records which SHADOWWOOD WASTE may hold in consequence of the operation of the SHADOWWOOD WTP.
9. Upon the diversion of wastewater flow, SHADOWWOOD WASTE shall assume all responsibility for the SHADOWWOOD WTP, except as provided in this section. Following the diversion of wastewater flow, MSD shall either remove or neutralize all remaining waste material existing on the SHADOWWOOD WTP site, backfill the existing lagoons or depressions to allow for positive drainage, and demolish the SHADOWWOOD WTP structures at MSD's expense. The demolition shall consist of removing all structures to a depth of three (3) feet below rough grade. The bottoms of the structure will be cored to minimize ground water uplift and the void area backfilled. MSD will make reasonable efforts to return the site to its predevelopment condition, but due to the difficulties associated with removing and restoring to grade treatment plants of this nature and the future settling of backfill, MSD does not warrant that the site will be suitable for future development. SHADOWWOOD WASTE agrees that MSD shall be authorized to dispose of any and all equipment, material and fixtures located on the SHADOWWOOD WTP property in any manner MSD deems fit.
10. SHADOWWOOD WASTE agrees that if this Agreement remains effective as of the FINAL DATE, SHADOWWOOD WASTE shall not be entitled to any compensation for the diversion of wastewater from the SHADOWWOOD WTP to the MSD comprehensive collection and treatment system. SHADOWWOOD WASTE agrees that it is not entitled to any additional compensation from either MSD or MSD's customers, related to SHADOWWOOD WASTE continuing ownership of the SHADOWWOOD WASTE FACILITIES. SHADOWWOOD WASTE further agrees that it has not, and will not, bring legal action for the loss of customers, as a result of MSD's diversion of flow

from SHADOWWOOD WTP to MSD's comprehensive collection system or for the use of the SHADOWWOOD WASTE FACILITIES.

11. Prior to FINAL DATE, customers serviced by the SHADOWWOOD WTP shall be charged sewer service charges according to rates established by the Public Service Commission. All fees paid by customers serviced by the SHADOWWOOD WTP shall be paid directly to SHADOWWOOD WASTE or SHADOWWOOD WASTE designated agent SHADOWWOOD WASTE agrees to provide notice to all customers serviced by the SHADOWWOOD WTP that all service is being transferred to MSD not less than fourteen (14) days prior to the FINAL DATE. Effective with the first full Louisville Water Company meter reading period following FINAL DATE, MSD shall receive charges from all customers of the SHADOWWOOD WTP in accordance with MSD's regular schedule of rates, rentals and charges. SHADOWWOOD WASTE shall be paid all collections of billings for services rendered prior to and including the FINAL DATE. MSD shall receive all collections of billing rendered after the FINAL DATE.
12. Prior to the OPERATIONS DATE, SHADOWWOOD WASTE agrees to provide MSD with a copy of all flow, water quality, DMR's and any other relevant operating data on influent and effluent of the SHADOWWOOD WTP currently in the possession of SHADOWWOOD WASTE or its agents. In addition, SHADOWWOOD WASTE agrees to provide, if available, monthly records of digested sludge quantity removed from the SHADOWWOOD WTP for the past three years and all operating manuals which pertain to this plant. SHADOWWOOD WASTE agrees to provide MSD with any and all "As Built" drawings which SHADOWWOOD WASTE has in its possession.
13. All responsibilities and obligations incurred under this AGREEMENT shall be binding to the successors and assigns of the parties.
14. This AGREEMENT embodies the whole agreement of the parties. No other promises, terms, conditions or obligations shall be binding unless contained herein. This

AGREEMENT supersedes all previous communication, representation or agreements whether verbal or written between the parties.

15. To the fullest extent permitted by law, MSD shall indemnify, hold harmless, and defend SHADOWWOOD WASTE and its agents and employees from and against claims, damages, losses, and expenses, arising out of or resulting from performance of the services of this Agreement, including loss or expense attributable to bodily injury, sickness, disease, or death, to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by the negligent acts or omissions of MSD or anyone directly or indirectly employed by MSD or anyone for whose acts MSD may be liable. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnification which would otherwise exist as to a party or person described in this paragraph.
16. In claims against any person or entity indemnified under § 15 by an employee of MSD or anyone directly or indirectly employed by MSD or anyone for whose acts MSD may be liable, the indemnification obligation under § 15 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for MSD under worker's or workmen's compensation acts, disability benefits acts, or their employee benefits acts.
17. To the fullest extent permitted by law, SHADOWWOOD WASTE shall indemnify, hold harmless, and defend (with counsel subject to MSD's approval, which approval shall not be unreasonably withheld) MSD and its agents and employees from and against claims, damages, losses, and expenses, arising out of or resulting from performance of SHADOWWOOD WASTE's obligations under this Agreement, including loss or expense attributable to bodily injury, sickness, disease, or death, to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by the negligent acts or omissions of SHADOWWOOD WASTE or anyone directly or indirectly employed by SHADOWWOOD WASTE or

anyone for whose acts SHADOWWOOD WASTE may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by MSD. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnification, which would otherwise exist as to a party or person described in this paragraph.

18. In claims against any person or entity indemnified under § 17 by an employee of SHADOWWOOD WASTE or anyone directly or indirectly employed by SHADOWWOOD WASTE or anyone for whose acts SHADOWWOOD WASTE may be liable, the indemnification obligation under § 17 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for SHADOWWOOD WASTE under worker's or workmen's compensation acts, disability benefits acts, or their employee benefits acts.
19. SHADOWWOOD WASTE warrants that SHADOWWOOD WASTE has no knowledge that the SHADOWWOOD WASTE SYSTEM contains any hazardous or toxic materials other than those wastes associated with a residential waste disposal system. SHADOWWOOD WASTE acknowledges that it has not authorized or permitted, nor will it authorize or permit during the duration of this AGREEMENT, the disposal of waste other than that waste associated with normal residential waste disposal. SHADOWWOOD WASTE agrees that, should it gain knowledge that waste, other than that normally associated with normal residential waste disposal, is being disposed of in the SHADOWWOOD WASTE SYSTEM, then SHADOWWOOD WASTE shall notify MSD immediately.
20. Nonmaterial provisions of this AGREEMENT are severable. In the event that any nonmaterial provision of this AGREEMENT shall be held invalid or unenforceable by any court of competent jurisdiction, such finding shall not invalidate and render unenforceable any other provisions herein except to the extent required by law.

21. Material provisions of this AGREEMENT are nonseverable. In the event that any material provision of this AGREEMENT shall be held invalid or unenforceable by any court of competent jurisdiction, this Agreement shall terminate. However, if this AGREEMENT is terminated by operation of law, then the parties agree that MSD will continue to provide the services set out in § 2. MSD will continue to collect fees for its services for a period of not less than 180 days from the date of a court's ruling to allow time for the parties to re-negotiate this AGREEMENT. The parties acknowledge that the requirements of this provision of the AGREEMENT shall survive the termination of the AGREEMENT.
22. This Agreement shall be interpreted pursuant to the laws of the Commonwealth of Kentucky. The Jefferson Circuit Court, Jefferson County, Kentucky, shall have exclusive jurisdiction and venue to interpret the terms of this Agreement, to settle disputes arising under this Agreement, and to enforce this Agreement. The parties to this Agreement agree and hereby submit themselves to the jurisdiction of the Jefferson Circuit Court for these purposes.
23. MSD shall obtain any and all necessary approvals for this AGREEMENT from any applicable authority. SHADOWWOOD WASTE shall provide such assistance, as reasonably necessary, for MSD to gain the necessary approvals from the applicable authorities.
24. SHADOWWOOD WASTE shall obtain any and all necessary approvals for this AGREEMENT from any applicable authority. MSD shall provide such assistance, as reasonably necessary, for SHADOWWOOD WASTE to gain the necessary approval from the applicable authorities.
25. SHADOWWOOD WASTE and MSD agree that this AGREEMENT is contingent upon the Jefferson County Health Department, the Kentucky Division of Water, and all other agencies whose permission is required, permitting SHADOWWOOD WASTE to allow

up to sixty-six (66) sewer taps to one or more parties, at such times and under such circumstances as SHADOWWOOD WASTE shall determine, at such cost as SHADOWWOOD WASTE shall determine, prior to the FINAL DATE. Should SHADOWWOOD WASTE be prohibited from granting such additional sewer taps, then this AGREEMENT shall terminate.

26. Upon the diversion of flow from the SHADOWWOOD WASTE WTP to the MSD comprehensive collection and treatment system or upon material breach of this Agreement by SHADOWWOOD WASTE, MSD may remove any property that was installed at the SHADOWWOOD WTP as part of a capital improvement that MSD deemed necessary to maintain the SHADOWWOOD WASTE SYSTEM in compliance with applicable government regulations. MSD shall make available to SHADOWWOOD WASTE any original property removed from the SHADOWWOOD WASTE WTP as part of a capital improvement.
27. Upon the latter of the EXECUTION DATE or SHADOWWOOD WASTE's acquisition of the SHADOWWOOD WASTE SYSTEM, SHADOWWOOD WASTE agrees to permit MSD personnel or their agents to enter onto the property of SHADOWWOOD WASTE for the purpose of determining the condition and state of repair for the SHADOWWOOD WASTE WTP.

IN WITNESS THEREOF, MSD and SHADOWWOOD WASTE have executed this Agreement in their respective names, effective on the dates indicated.

LOUISVILLE AND JEFFERSON COUNTY
METROPOLITAN SEWER DISTRICT

By: 

2/28/05

SHADOWWOOD WASTE
ENVIRONMENTAL, LLC

By: 

Member

2/28/05

Executive Director

Member/Manager

STATE OF KENTUCKY)
)
COUNTY OF JEFFERSON)

I, the undersigned notary public within and for the state and county aforesaid, do hereby certify that the foregoing instrument was this day presented to me by Herbert J. Schardein, Jr., who, being by me first duly sworn, did acknowledge and declare that he signed the foregoing instrument as Executive Director of the Louisville and Jefferson County Metropolitan Sewer District, by authority and direction of its Board of Directors, as his free and authorized act and deed. Witness my hand this 28 day of February, 2005.

My commission expires: 5/10/07

Rebecca A. Burnett
NOTARY PUBLIC, State at Large, Kentucky

STATE OF KENTUCKY)
)
COUNTY OF JEFFERSON)

I, the undersigned notary public within and for the state and county aforesaid, do hereby certify that the foregoing instrument was this day presented to me by Leslie Tunnell, who, being by me first duly sworn, did acknowledge and declare that he/she signed the foregoing instrument as Member of SHADOWWOOD WASTE ENVIRONMENTAL, LLC, as his/her free and authorized act and deed. Witness my hand this 28 day February, 2005.

My commission expires: 1/18/2007

[Signature]
NOTARY PUBLIC, State at Large, Kentucky

This instrument was reviewed by:

Carolyn F. Shain
Attorney at Law
Louisville and Jefferson County
Metropolitan Sewer District
700 West Liberty Street
Louisville, KY 40203

BILL OF SALE

THIS BILL OF SALE, made and entered into this 17th day of September, 2008, by and between **SHADOWWOOD WASTE ENVIRONMENTAL, LLC**, a Kentucky Limited Liability Company, having an address of 13404 CREEKWOOD ROAD, Prospect, Kentucky 40059 ("GRANTOR"), and the **LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**, a public body corporate and political subdivision, 700 West Liberty Street, Louisville, Kentucky ("GRANTEE"),

WITNESSETH:

That for a valuable consideration, the receipt of which is hereby acknowledged, Grantor does hereby grant, bargain, sell, transfer and deliver unto the Grantee, all its right, title and interest in and to all of the fixtures and equipment used in connection with the operation and maintenance of the wastewater treatment plant known as SHADOWWOOD WASTEWATER TREATMENT PLANT, located on the property described in a deed recorded in Deed Book 8578, Page 950, in the office of the Clerk of Jefferson County, Kentucky, including, but not limited to, its improvements, sewers, manholes, fixtures, equipment, supplies, pumps, pumping stations, lines, appurtenances, and other personal property located at, connected to, a part of, or necessary to the ordinary operation of the SHADOWWOOD WASTEWATER TREATMENT PLANT and its related wastewater collection system.

The Grantor covenants and agrees that it is the lawful owner of all items herein conveyed, that it is free and clear of all encumbrances, that it has full right and power to sell and convey same, and that it will warrant and defend the title hereby conveyed against all claims and demands whatsoever against same.

IN TESTIMONY WHEREOF, Grantor has hereunto subscribed its signature by its duly authorized officer the date first above written.

SHADOWWOOD WASTE ENVIRONMENTAL, LLC
A Kentucky Limited Liability Company

By: 

Julie K. Tinnell, Member

EXHIBIT B

COMMONWEALTH OF KENTUCKY)
)SS:
COUNTY OF JEFFERSON)

The foregoing Deed was subscribed, sworn to and acknowledged before me this 17th day of September 2008, by Julie Tinnell, as a Member of Shadowwood Waste Environmental, LLC, a Kentucky limited liability company on behalf of the company.

My Commission expires: November 6, 2009

Glenn R. Jodovich
NOTARY PUBLIC

DEED

THIS DEED ("Deed") is made and entered into this 17th day of September, 2008, by and between (i) **SHADOWWOOD WASTE ENVIRONMENTAL, LLC**, a Kentucky limited liability company ("Grantor"), whose mailing address is 13404 Creekwood Road, Prospect, Kentucky 40059, and (ii) **LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT**, a public body corporate ("Grantee"), whose mailing address is 700 West Liberty Street, Louisville, Kentucky, 40203.

WITNESSETH:

For good and valuable consideration, including the payment by Grantee of Forty-Five Thousand Dollars (\$45,000.00), the receipt of which is hereby acknowledged, Grantor hereby grants and conveys, with covenant of GENERAL WARRANTY, to Grantee in fee simple, all of Grantor's right, title and interest in and to that certain real property located in Jefferson County, Kentucky and more particularly described as follows (the "Property"):

PARCEL 1:

BEGINNING at an iron post in the Southeast corner of Lot 45 of SHADOW WOOD SUBDIVISION as recorded in Plat Book 24, Page 25, in the Office of the Clerk of Jefferson County, Kentucky; thence North 66 degrees 10 minutes 25 seconds West 168.05 feet to an iron post; thence North 30 degrees 56 minutes 35 seconds East 75.08 feet to an iron post; thence North 31 degrees 00 minutes 00 seconds East 76.00 feet to an iron pin; thence North 54 degrees 34 minutes 29 seconds East 125.00 feet to an iron pin; thence South 66 degrees 10 minutes 25 seconds East 150.00 feet to an iron pin; thence South 54 degrees 34 minutes 29 seconds West 125.00 feet to an iron pin; thence South 23 degrees 49 minutes 35 seconds West 150.00 feet to the point of beginning. Containing 1.01 acre.

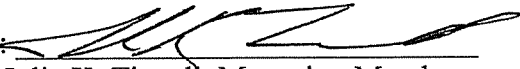
PARCEL 2:

BEING Lot No. 45 of SHADOW WOOD SUBDIVISION, plat of which is Recorded in Plat and Subdivision Book 24, Page 25, in the Office of the Clerk of the County Court of Jefferson County, Kentucky together with sewage collection system of Shadow Wood Subdivision, including appurtenances such as but not limited to effluent lines, pumping stations, manholes, etc., as constructed, and including all easements incident to the ownership and operation of said sewage collection system.

Being that same property acquired by Grantor by Deed dated February 28, 2005, of record in Deed Book 8578, Page 950, in the Office of the Clerk of Jefferson County, Kentucky;

This conveyance also includes all of the right, title and interest of the Grantor in and to all improvements located on the above described property, together with all of the right, title and interest of Grantor in and to the Shadowwood Wastewater Treatment System, including all easements, rights-of-way, licenses, privileges and all sewers, sewer lines, mains, manholes, and other appurtenances and connections connected to the sewer system and the wastewater treatment plant located at the above described property, and any other interest existing in the favor of Grantor for the passage or placement of the system and its appurtenances. This

**Shadowwood Waste Environmental, LLC,
a Kentucky limited liability company**

By: 
Julie K. Tinnell, Managing Member

The foregoing Mechanic's and Materialmen's Lien and Title Affidavit was sworn to and acknowledged before me a Notary in and for the State and County aforesaid, on this the 17th day of September —, 2008, by Julie K. Tinnell, as managing member of Shadowwood Waste Environmental, LLC, a Kentucky limited liability company, to be her act and deed on behalf of the said company.

My Commission expires: November 6, 2011



Notary Public

EXHIBIT A

PARCEL 1:

BEGINNING at an iron post in the Southeast corner of Lot 45 of SHADOW WOOD SUBDIVISION as recorded in Plat Book 24, Page 25, in the Office of the Clerk of Jefferson County, Kentucky; thence North 66 degrees 10 minutes 25 seconds West 168.05 feet to an iron post; thence North 30 degrees 56 minutes 35 seconds East 75.08 feet to an iron post; thence North 31 degrees 00 minutes 00 seconds East 76.00 feet to an iron pin; thence North 54 degrees 34 minutes 29 seconds East 125.00 feet to an iron pin; thence South 66 degrees 10 minutes 25 seconds East 150.00 feet to an iron pin; thence South 54 degrees 34 minutes 29 seconds West 125.00 feet to an iron pin; thence South 23 degrees 49 minutes 35 seconds West 150.00 feet to the point of beginning. Containing 1.01 acre.

PARCEL 2:

BEING Lot No. 45 of SHADOW WOOD SUBDIVISION, plat of which is Recorded in Plat and Subdivision Book 24, Page 25, in the Office of the Clerk of the County Court of Jefferson County, Kentucky together with sewage collection system of Shadow Wood Subdivision, including appurtenances such as but not limited to effluent lines, pumping stations, manholes, etc., as constructed, and including all easements incident to the ownership and operation of said sewage collection system.

Being that same property acquired by Grantor by Deed dated February 28, 2005, of record in Deed Book 8578, Page 950, in the Office of the Clerk of Jefferson County, Kentucky;

CHANGE IN OWNERSHIP CERTIFICATION

Facility Name	NPDES No.
Shadowwood Wastewater Treatment Plant	KY0031810
Previous Name (if changed)	County
	Jefferson

I hereby certify that I will assume ownership and all responsibility for meeting the permit conditions of the Commonwealth of Kentucky relating to water quality at the permitted facility listed above on the effective date indicated.

Name of New Owner or Authorized Representative	Louisville & Jefferson County Metropolitan Sewer District
Company Name	Louisville & Jefferson County Metropolitan Sewer District
Address of New Owner (Street, City, State, Zip Code)	700 West Liberty Street
Telephone No. of Owner/Authorized Representative	(502) 540 - 6000
Location Address of Facility	6523 River Road; Louisville, KY 40059
Effective Date of Transfer	9/17/08
Previous Owner Name	Shadowwood Waste Environmental, LLC

Indicate the address where the Discharge Monitoring Report (DMR) forms should be sent. **(Complete only if different from owner name and address listed above.)** These DMR forms are preprinted with permit limitations and mailed out each quarter (semi-annually for individual residences).

Alternate DMR Mailing Name	John Kessel
Alternate DMR Mailing Address	Hite Creek Wastewater Treatment Plant Attn: John Kessel 5512 Hitt Lane Louisville, KY 40241

Signature of New Owner or Authorized Representative	Date
<i>Maurice M. Lee</i>	10/1/08

Acknowledged before me this 1st day of OCTOBER, 2008

Notary Public JANICE L. COX Commission Expires: AUGUST 21, 2010
Janice L. Cox

Notary Seal

Questions on completing this form? Contact the KPDES Branch at (502) 564-3410.

Complete and return this form to: Division of Water, KPDES Branch
 Frankfort Office Park
 14 Reilly Road
 Frankfort, KY 40601



MSD

Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville Kentucky 40203-1911
502-540-6000
www.msdlouky.org

December 3, 2008

Mr. Gerald E. Wuetcher
Assistant General Counsel
Public Service Commission of Kentucky
211 Sower Boulevard
Frankfort, KY 40601

Subject: Shadowwood Wastewater Treatment Plant Acquisition

Dear Mr. Wuetcher:

I am writing on behalf of Louisville Metropolitan Sewer District (MSD) concerning the applicability of KRS 278.020 to the acquisition of the Shadowwood Wastewater Treatment Plant. Per your emails, the Public Service Commission (PSC) has no records that MSD approved the acquisition and transfer to MSD. I have had the opportunity to review the acquisition documents, and although, I have found the change of ownership forms which were submitted to the Kentucky Division of Water, I have not found any documents that were submitted to the PSC. However, it is the position of MSD that the Shadowwood transfer and acquisition was handled identically to all other MSD acquisitions of waste water treatment plant, and that these acquisitions by MSD are exempt from the requirements of KRS 278.020. The support for this position is set forth below.

The jurisdiction of the PSC is set forth in KRS 278.040 (2) which states as follows:

(2) The jurisdiction of the commission shall extend to all utilities in this state. The commission shall have exclusive jurisdiction over the regulation of rates and service of utilities, **but with that exception, nothing in this chapter is intended to limit or restrict the police jurisdiction, contract rights or powers of cities or political subdivisions.**

MSD is created under the terms of KRS Chapter 76. Specifically, KRS 76.010 establishes that MSD is a body corporate and a "political subdivision" of the state. As a political subdivision of the state, it is certainly arguable that MSD is excluded from the jurisdiction of the PSC under the terms of KRS 278.040 (2).

Upon review of the applicable definitions in KRS Chapter 278, it does not appear that the General Assembly specifically included metropolitan sewer districts such as MSD in the provisions of this chapter. "Utility", as defined by KRS 278.010(3), makes reference to sewage treatment facilities belonging to first class cities being excluded from the definition



Beneficial Use of Louisville's Biosolids
www.louisvillegreen.com

EXHIBIT D

of "Utility". This then, would suggest that a metro sewer agency, created by city/county governments would likewise be excluded.

This position is supported by authority of Attorney General's Opinions and case law. In OAG 77-140, the Office relied upon *McClelland v. Louisville Water Co.*, Ky., 351 S.W. 2d 197 (1961) and *City of Georgetown v. Public Service Commission*, Ky., 516 S.W.2d 842 (1974) to opine that the PSC has no jurisdiction or control over the operation or management of a municipally owned water system. Further the opinion did state that the term "Utility" does not include a city which owns controls and operates its own public utility. A year later, the Attorney General reaffirmed this holding in OAG 78-656. This authority certainly supports MSD's contention that it is exempt from the oversight of the PSC and the provisions of KRS Chapter 278.

Based upon a 1997 State Supreme Court opinion, there is even more support for MSD's position that it is excluded from the provisions of KRS Chapter 278. *Boone County Water & Sewer District v. Public Serv. Comm'n*, Ky., 949 S.W.2d 588 (1997). This case involved the appeal of PSC's decision requiring Boone County Water and Sewer District ("Boone") to refund unpublished fees. The Court did an analysis of PSC own review of whether it had jurisdiction over sanitation districts created under KRS Chapter 220. PSC concluded that it did not have jurisdiction over these statutory sanitation districts because they are specifically governed by KRS Chapter 220. The Court reiterated that PSC noted a significant difference between such sanitation districts and water districts when it made and published the following policy statement:

After reexamining KRS Chapter 278, the Commission concludes that the failure of the legislature to make specific reference to sanitation districts within Chapter 278 is persuasive evidence that the legislature intended to deny the Commission jurisdiction over sanitation districts. By comparison, KRS Chapter 278 has been amended to bring under Commission jurisdiction both water associations organized pursuant to KRS 273 (KRS 278.012), and water districts organized pursuant to KRS Chapter 74 (KRS 278.015). Based upon this analysis, the Commission has concluded that sanitation districts are not utilities within the meaning of KRS 278.010(3) (f), and are therefore exempt from regulation by the PSC. (Letter from Forest M. Skaggs, Executive Director the Public Service Commission, to all Sanitation Districts (April 5, 1988)). *Id. at 591.*

Accordingly, the Court concluded that Sanitation districts are excluded from the provisions of KRS Chapter 278 and consequent PSC regulation, not only by omission, but also by precise placement in another chapter of the Kentucky Revised Statutes. Therefore, a

sanitation district is not a utility within the context of KRS Chapter 278. *Id* at 591.

Although the General Assembly amended the definition of KRS 278.010 (3), it chose never to include or reference those metropolitan sewer districts, such as MSD, that were created and organized under KRS Chapter 76. Due to this omission, MSD relies upon on the exact rationale propounded by the Supreme Court in the *Boone Co.* case:

It is logical to conclude that the legislature did not mention collection and transmission of sewage because the legislature intended that these operations not be regulated by KRS Chapter 278. If the legislature had wanted activities pertaining to sewage collection and transportation to be regulated by the Public Service Commission, it would have specifically so stated in Chapter 278 of the Kentucky Revised Statutes. The legislature did not do so. *Id.* at 591.

In fact, when KRS 278.020 was amended, the General Assembly recognized the metropolitan sewer districts exist as separate entities. The current version of KRS 278.020 (3) (f) specifically excludes facilities “**not regulated by a metropolitan sewer district** or any other sanitation district created pursuant to KRS Chapter 220.” This statutory definition explicitly acknowledges the existence of metropolitan sewer districts. Accordingly, based upon the logic of the Supreme Court in *Boone Co.*, the failure to include sanitation districts created under KRS Chapter 76 demonstrates the General Assembly’s intent not to include Chapter 76 metropolitan sewer districts under the jurisdiction of the PSC.

The same argument could be made due to the statutory definition of “Person” contain in KRS 278.010 (2). “Person” is defined to include natural persons, partnerships, corporations, and two or more persons having a joint or common interest. As per the terms of KRS 76.010, MSD is a political subdivision and falls outside the statutory definition of “person”. Again, this evidences the intent of the General Assembly not to include metropolitan sewer districts created under KRS Chapter 76 within the jurisdiction of the PSC.

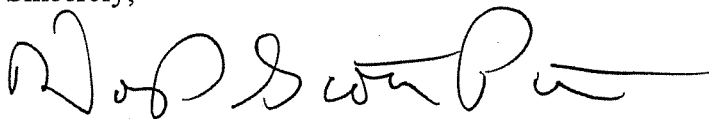
With the existence of three statutory chapters, KRS 76, 220 and 278, pertaining to the regulation of rates, services, construction, etc., it certainly appears that the General Assembly intended for these bodies to co-exist separately from each other. If the General Assembly would have wanted to vest sole jurisdiction upon one entity it certainly would have, and would have been legally mandated to, specifically stated so in KRS Chapter 278, as per the holding of *Boone Co.* It is the position of MSD that the General Assembly has thus far, not chosen to do so. This position is consistent with the rules of statutory construction. The enumeration of particular things means that other things not mentioned are **excluded**. *Smith v. Wedding, Ky.*, 303 S.W.2d 322 (1957).

Mr. Gerald E. Wuetcher
Public Service Comm. Kentucky
December 3, 2008
Page 4

Accordingly, for the reasons set forth above, MSD contends that it is neither a "Person" or a "Utility" under the terms of KRS Chapter 278. Therefore, it is the position of MSD that it did not violate KRS 278.020 (5) when it acquired the Shadowwood WWTP because it is exempt from KRS Chapter 278. After you have had the opportunity to review MSD's arguments, we would be happy to meet with you and discuss our position. IF necessary, perhaps MSD and the PSC could jointly request an opinion from the Attorney General's Office to reconcile these apparent differences in interpretations of statutes.

I look forward to your response. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas Scott Porter". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Douglas Scott Porter
MSD Environmental Counsel

cc: Paula Purifoy
Brian Bingham
Marion Gee
Dennis Thomasson



REC'D APR 01 2009

Steven L. Beshear
Governor

Leonard K. Peters
Secretary
Energy and Environment Cabinet

Commonwealth of Kentucky
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, Kentucky 40602-0615
Telephone: (502) 564-3940
Fax: (502) 564-3460
psc.ky.gov

David L. Armstrong
Chairman

James W. Gardner
Vice Chairman

John W. Clay
Commissioner

March 30, 2009

Douglas Scott Porter, Esq.
Louisville Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203-1911

Re: Shadowwood Wastewater Treatment Plant Acquisition

Dear Mr. Porter:

This letter responds to your letter of December 3, 2008 regarding the above-referenced matter. I apologize for the delay in responding.

In your letter, you state that "it is the position of MSD [Metropolitan Sewer District] that the Shadowwood transfer and acquisition was handled identically to all other MSD acquisitions of wastewater treatment plant, and that these acquisitions by MSD are exempt from the requirements of KRS 278.020."

This position is not supported by the facts or the law. Public Service Commission records indicate that, during the last 23 years, Public Service Commission approval of MSD's acquisition of the public sewer utility's assets was sought on at least 32 occasions. In most instances, MSD either jointly or individually applied for such approval. For your reference, I am enclosing a copy of the Public Service Commission's decision in these cases.

While MSD is not a utility as defined in KRS 278.010(3)(f) and is not subject to Public Service Commission jurisdiction, its status as a non-utility is irrelevant in the present circumstances. The applicable sections of KRS Chapter 278 do not limit the requirement for Commission approval solely to utilities. KRS 278.020(5) states:

No person shall acquire or transfer ownership of, or control, or the right to control, any utility under the jurisdiction of the commission by sale of assets, transfer of stock, or otherwise, or abandon the same, without prior approval by the commission. The commission shall grant its approval if the person acquiring the utility has the financial, technical, and managerial abilities to provide reasonable service.

KRS 278.020(6) in pertinent part states:

No individual, group, syndicate, general or limited partnership, association, corporation, joint stock company, trust, or other entity (an "acquirer"), whether or not organized under the laws of this state, shall acquire control, either directly or indirectly, of any utility furnishing utility service in this state, without having first obtained the approval of the commission. **Any acquisition of control without prior authorization shall be void and of no effect.** As used in this subsection, the term "control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a utility, whether through the ownership of voting securities, by effecting a change in the composition of the board of directors, by contract or otherwise.

KRS 278.010(2) defines a person as including "natural persons, partnerships, corporations, and two (2) or more persons having a joint or common interest." A "corporation" includes "private, quasipublic, and public corporations, and all boards, agencies, and instrumentalities thereof, associations, joint-stock companies, and business trusts." KRS 278.010(1).

As a municipal corporation, MSD clearly meets the definition of a "person" and is thus subject to the requirements of KRS 278.020(5).¹ KRS 278.020(6), moreover, refers only to an "entity," a term that would include a public corporation.

Please note that the Public Service Commission has not and does not assert any jurisdiction to regulate the rates and service of MSD. It does, however, assert that no person may acquire the assets of a public utility and thus remove the customers of such utility from the protections afforded by KRS Chapter 278 without following the procedures set forth in KRS Chapter 278. Furthermore, while the Public Service Commission lacks jurisdiction over the assets of MSD, the assets in question were not MSD assets at the time of the acquisition and, unless Public Service Commission approval is obtain, cannot legally become the assets of MSD.

The Public Service Commission respectfully declines MSD's invitation to jointly seek an opinion from the Attorney General. The law is well-settled on this point and requires no opinion. The Public Service Commission has consistently maintained the same position for more than 25 years. MSD, through its numerous applications to the Public Service Commission and through the representations of its previous general counsels, has long accepted this position. Its sister agency, Louisville Water Company, which has long been exempted from most Public Service Commission regulation as a

¹ See *Louisville-Jefferson County Metro Ethics Com'n v. Schardein*, 259 S.W.3d 510, 513 (Ky.App. 2008) ("the MSD is 'a public body corporate, and political subdivision"); *Fawbush v. Louisville-Jefferson County Metropolitan Sewer District*, 240 S.W.2d 622, 623 (Ky. 1951) (holding that MSD "is an independent public corporation").

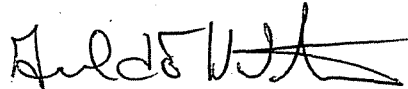
Douglas Scott Porter, Esq.
March 30, 2009
Page 3

municipal utility, has also recognized the statutory requirement for Public Service Commission approval of the acquisition of a public utility's assets and complied with it.²

Based upon the above, the Public Service Commission respectfully requests that MSD take the necessary actions to obtain approval of the acquisition of the assets of the Shadowwood Wastewater Treatment Plant. Please note that failure to obtain the required approval renders the purported acquisition void and may subject MSD to administrative sanctions.

If you have any questions regarding the approval process or require assistance in the preparation of an application, please contact me at (502) 564-3940, Extension 259.

Sincerely,



Gerald E. Wuetcher
Executive Advisor

Enclosures

² *Application of the Louisville Water Company for Approval of Merger and Acquisition of Ownership of Kentucky Turnpike Water District, Case No. 2000-306 (Ky.PSC Sep. 6, 2000); Application of Louisville Water Company For Approval of Acquisition of Stock of Goshen Utilities, Inc., Case No. 2002-00088 (Ky.PSC June 13, 2002).*

REC'D NOV 30 2009



STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
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LEONARD K. PETERS
SECRETARY

November 23, 2009

Douglas Scott Porter
MSD
700 W Liberty St
Louisville, KY 40203-1911

Re: Open Records Request
Date Received: November 23, 2009

Dear Mr. Porter:

As the Records Coordinator for the Division of Water, I am responding to your Open Records request on Shadowwood WQTC.

A record search completed on November 23, 2009 indicated that there were no Notices of Violations or Corrections Notices issued by the Division of Water from September 2008 through November 1, 2009.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Elliston".

Morgan P. Elliston, Records Coordinator
Division of Water

me
c: Division of Water Files

EXHIBIT F

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
LOUISVILLE DIVISION

THE COMMONWEALTH OF)
KENTUCKY,)

Plaintiff,)

v.)

THE LOUISVILLE AND JEFFERSON)
COUNTY METROPOLITAN SEWER)
DISTRICT,)

Defendant.)

Civil Action No. 3:08-cv-00608-CRS

UNITED STATES OF AMERICA,)

Plaintiff-Intervener)

v.)

THE LOUISVILLE AND JEFFERSON)
COUNTY METROPOLITAN SEWER)
DISTRICT,)

Defendant.)

AMENDED CONSENT DECREE

TABLE OF CONTENTS

	<u>Page</u>
Introduction	4
Jurisdiction and Venue	11
Application Scope	11
Amendment Provisions	11
Objectives	12
Definitions.....	12
Compliance Program and Schedules	15
Early Action Plan.....	16
Nine Minimum Controls	16
Capital Improvement Project List	17
CMOM Programs.....	20
Sewer Overflow Response Protocol	21
Discharge Abatement Plans.....	22
Sanitary Sewer Discharge Plan	23
Long Term Control Plan.....	26
Jeffersontown WWTP.....	32
Process Controls Plans	32
Comprehensive Performance Evaluation.....	34
Composite Correction Plan.....	37
Service Connections.....	40

Comprehensive Performance Evaluation, Composite

Correction Plan and Elimination Plan for Certain WWTPs.....	43
Comprehensive Performance Evaluation.....	43
Composite Correction Plan.....	45
Elimination Plan	49
Monitoring, Record Keeping and Reporting at WWTPs	52
Continuous Flow Monitoring	52
Bypass Reporting.....	53
Effluent Sampling.....	54
Siphon Monitoring and Inspection	54
Reporting Requirements.....	56
Quarterly Reports.....	56
Annual Reports	57
Payment of Civil Penalties and Supplemental Environmental Project.....	57
Stipulated Penalties	60
Form of Notice	66
Costs of Suit.....	68
Review of Submittals	68
Certification of Submissions	69
Right of Entry	69
Record Retention	70
Miscellaneous Provisions	70
Public Comments.....	74

Force Majeure.....75
Continuing Jurisdiction, Termination and Amendments to Consent Decree.....76
Dispute Resolution.....78
Signatories79

Exhibits

- Exhibit A: MOM CD ROM**
- Exhibit B: System Capacity Assurance Program**
- Exhibit C: Interim SSDP**
- Exhibit D: February 19, 2008 MSD Letter**
- Exhibit E: New Sewer Service Applicants Spreadsheet**
- Exhibit F: Completed State Supplemental Environmental Projects**
- Exhibit G: Remaining State Supplemental Environmental Projects to be
Completed**
- Exhibit H: Federal Stream Restoration Supplemental Environmental Project**

INTRODUCTION

WHEREAS, the parties to this Amended Consent Decree which amends, supercedes and replaces the original Consent Decree entered in this matter by this Court on August 12, 2005, the Commonwealth of Kentucky by and through its Environmental and Public Protection Cabinet (hereinafter the "Cabinet"), the United States of America, on behalf of the United States Environmental Protection Agency (hereinafter "EPA") and the Louisville and Jefferson County Metropolitan Sewer District (hereinafter "MSD"), state as follows:

1. WHEREAS, the Cabinet is charged with the statutory duty of enforcing Kentucky Revised Statute ("KRS") Chapter 224 and the regulations promulgated pursuant thereto.
2. WHEREAS, EPA is charged with the statutory duty of enforcing the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 and the Water Quality Act of 1987 ("Clean Water Act" or "the Act") pursuant to 33 U.S.C. 1251 *et. seq.*, and the regulations promulgated pursuant thereto.
3. WHEREAS, MSD owns and operates a regional sewage system in Jefferson County, Kentucky; which includes both (a) a combined sewer system (hereinafter "CSS") that conveys sanitary wastewaters and stormwaters through a single pipe system to MSD's Morris Forman Wastewater Treatment Plant ("MFWTP"), and (b) separate sanitary sewer systems (hereinafter "SSS") which convey sanitary wastewaters to other MSD wastewater plants ("WWTPs") and through the CSS to MFWTP.
4. WHEREAS, this Amended Consent Decree between the Cabinet, EPA and MSD addresses SSOs and Unauthorized Discharges, as those terms are defined herein, from MSD's SSS, CSS and WWTPs, and discharges from MSD's combined sewer overflow ("CSO") locations identified in the MFWTP Kentucky Pollutant Discharge Elimination System

("KPDES") permit, and it requires MSD to finalize, develop, submit and implement plans for the continued improvement of MSD's Sewer System.

5. WHEREAS, the Cabinet initially filed an action against MSD in Franklin Circuit Court, Civil Action Number 04-CI-313, on February 27, 2004. The Cabinet subsequently filed an action in this Court against MSD, Civil Action No. 3:05cv-236-S, on April 25, 2005, pursuant to Section 505 of the Act, 33 U.S.C. § 1365, and KRS Chapter 224. EPA filed its motion to intervene as of right and complaint in intervention under Section 505(c)(2) of the Act, 33 U.S.C. § 1365(c)(2), alleging that MSD violated and continued to violate Section 301 of the Act, 33 U.S.C. §1311. Concurrently with the filing of the original complaints in this Court, the original Consent Decree was lodged concerning SSOs and Unauthorized Discharges from MSD's SSS, CSS and WWTPs, and discharges from MSD's CSO locations identified in its MFWTP KPDES permit, alleging violations of the Act and KRS Chapter 224. The Court entered the original Consent Decree on August 12, 2005. This Amended Consent Decree has been filed concurrently with an amended complaint alleging that MSD has further violated the Act and KRS Chapter 224. All parties agree that this Court has jurisdiction over this action pursuant to the Act, and under the provisions for supplemental jurisdiction in 28 U.S.C. § 1367 for claims pursuant to KRS Chapter 224. The Cabinet's claims arise under the powers and duties set forth in KRS 224.10-100. EPA's claims arise under the powers and duties set forth in Section 309 of the Act, 33 U.S.C. § 1319.

6. WHEREAS, the parties agree and recognize that the process for MSD under applicable law requiring it to comply with its KPDES permits and upgrade its SSS, CSS and WWTPs to adequately address SSOs and Unauthorized Discharges, and discharges from MSD's CSO locations identified in its MFWTP KPDES permit, is an ongoing and evolving effort from

the assessment process, to the design and construction of necessary infrastructure to meet permit conditions. The Cabinet and EPA are charged with the duties of applying applicable state and federal law and regulating MSD in a manner protective of human health and the environment. This process requires efforts that include, but are not limited to, characterizations, modeling, assessments, engineering design studies, implementation of compliance measures, and construction projects that will adequately insure MSD's compliance with permit conditions under applicable law. The parties recognize that it will take MSD several years to achieve full compliance. However, in the interest of adequately informing the public and allowing full participation by the public in this process, the parties agree that this Amended Consent Decree is the appropriate mechanism for achieving these objectives.

7. WHEREAS, MSD maintains that it has implemented measures to date in its efforts to achieve compliance under its KPDES permits, including abatement of many SSOs and establishing controls on certain CSOs. This Amended Consent Decree includes lists of those items completed and additional work planned for the near future to provide the public the information and an opportunity for public notice and comment on additional specific measures being taken or to be taken, in accordance with the provisions of 28 C.F. R. § 50.7. The parties also anticipate that this Amended Consent Decree will be further amended as MSD develops, designs, submits for review and approval, and implements additional compliance measures and projects, including those specified herein. As part of that process of proposing amendments to this Amended Consent Decree to incorporate the results of characterizations, assessments, modeling, engineering design studies, and to implement compliance measures and construction projects, the public will have an opportunity, in accordance with the provisions of 28 C.F. R. § 50.7, for notice and comment to present facts or considerations on whether the proposals are

appropriate, proper and adequate to achieve full compliance with the Act.

8. WHEREAS, the parties entered into the original Consent Decree and this Amended Consent Decree to address the claims arising from MSD's alleged violations as set forth in the original complaints and the amended complaint and as summarized below, and to agree to the performance of certain specified projects and to the completion of certain plans, characterizations, modeling, assessments, engineering design studies, implementation of compliance measures and construction projects on or before dates certain regarding SSOs and Unauthorized Discharges from MSD's SSS, CSS and WWTPs, and discharges from MSD's CSO locations identified in its MFWTP KPDES permit, as set forth in this Amended Consent Decree.

9. WHEREAS, MSD has documented CSOs in its CSS. These CSOs are identified under MSD's MFWTP KPDES permit. In 1996 and 1997, MSD submitted a draft Long Term Control Plan ("LTCP") under the MFWTP KPDES permit and EPA's Combined Sewer Overflow Control Policy, 59 Fed. Reg. 18688 ("CSO Control Policy"). MSD has submitted an interim LTCP and has agreed to submit the final LTCP as required by the terms of this Amended Consent Decree.

10. WHEREAS, during the early 1970s, Louisville conducted an Urban Renewal Program that MSD maintains allowed it to separate some CSOs and eliminate several others. During the 1980s, MSD maintains it further modified approximately ten major CSOs. In addition to the regular maintenance performed on the collection system, MSD maintains it implemented a program in 1986 to further improve the operation and maintenance of the CSS. The program included mathematical modeling of CSO and interceptor system performance supported by a CSO monitoring program. By the early 1990s, MSD maintains it developed a pretreatment program to minimize CSO impact and correct dry weather overflow problems.

11. WHEREAS, MSD has identified SSOs and Unauthorized Discharges in MSD's Sewer System and WWTPs which the Cabinet and EPA contend are violations of state law and the Act. MSD's identification of SSOs and Unauthorized Discharges has been made in MSD's Sanitary Sewer Overflow Plan ("SSOP") and the annual updates to that plan made in MSD's Annual WATERS Report. As required by the terms of this Amended Consent Decree, MSD has submitted an updated SSOP and an interim Sanitary Sewer Discharge Plan ("SSDP"), and has agreed to submit the final SSDP.

12. WHEREAS, MSD submitted to the Cabinet the following plans and reports:

- a. Annual Combined Sewer Operational Plan (hereinafter "CSOP") reports from 1993 to 1998;
- b. A draft LTCP for Region 1 with the 1996 CSOP;
- c. A draft LTCP for Regions 2 & 3 with the 1997 CSOP;
- d. A Nine Minimum Controls (hereinafter "NMC") compliance report on January 6, 1997;
- e. Annual SSOP reports in 1997 and 1998; and
- f. Annual WATERS reports since 1999 containing updates on the Municipal Separate Storm Sewer System Program (hereinafter "MS4"), CSOP; LTCP, NMC, and SSOP progress.

13. WHEREAS, the Cabinet approved a LTCP submitted by MSD pursuant to the MFWTP KPDES permit as reflected in the response to comments on the renewal of the MFWTP KPDES permit dated August 2, 1999.

14. WHEREAS, it is the purpose of the parties in entering into this Amended Consent Decree to further the objectives of KRS Chapter 224 and the Act, including the CSO Control

Policy. All plans, reports, construction, remedial maintenance, and other obligations in the original Consent Decree, this Amended Consent Decree, and any additional amendments to this Amended Consent Decree, or resulting from the activities required by the original Consent Decree, the Amended Consent Decree, and any additional amendments to this Amended Consent Decree, shall have the objective of ensuring that MSD complies with the Act, and all applicable federal and state regulations, and meets the goals and objectives of the Act to eliminate SSOs and Unauthorized Discharges from MSD's SSS, CSS and WWTPs, and to address discharges from MSD's CSO locations identified in its MFWTP KPDES permit, as set forth in this Amended Consent Decree.

15. WHEREAS, MSD neither admits nor denies the alleged violations described above, but acknowledges that SSOs and Unauthorized Discharges have occurred and accepts the obligations imposed under this Amended Consent Decree.

16. WHEREAS, the parties agree, without adjudication of facts or law, that settlement of the Cabinet's and EPA's claims in accordance with the terms of this Amended Consent Decree is in the public interest and have agreed to entry of this Amended Consent Decree without trial of any issues, and the parties hereby stipulate that, in order to resolve these claims stated in the Cabinet's and EPA's original complaints and amended complaint, this Amended Consent Decree should be entered.

17. NOW THEREFORE, in consideration of the recitals above listed and in the interest of settling all civil claims and controversies involving the violations described above before taking any testimony and without adjudication of any fact or law, the parties hereby consent to the entry of this Amended Consent Decree; and the Court hereby finds that settlement of the claims alleged without further litigation or trial of any issues is fair, reasonable and in the

public interest and the entry of this Amended Consent Decree is the most appropriate way of resolving the claims alleged, it is hereby ORDERED, ADJUDGED, and DECREED as follows:

JURISDICTION AND VENUE

18. This Court has jurisdiction and supplemental jurisdiction over the subject matter of this action, and over the parties hereto, pursuant to Sections 309 and 505 of the Act, 33 U.S.C. §§1319, 1365 and 28 U.S.C. §§1331, 1345, 1355, and 1367. Venue is proper in the Western District of Kentucky pursuant to Section 309 of the Act, 33 U.S.C. §1319, and 28 U.S.C. §§1391 and 1395(a).

APPLICATION AND SCOPE

19. The provisions of this Amended Consent Decree shall apply to and be binding upon the parties to this action, and their agents, employees, successors, and assigns, as well as to all persons acting under the direction and/or control of MSD, including firms, corporations, and third parties such as contractors engaged in implementation of this Amended Consent Decree. MSD shall provide a copy of this Amended Consent Decree to any consultant or contractor selected or retained to perform any activity required by this Amended Consent Decree.

AMENDMENT PROVISIONS

20. The parties acknowledge that, when they entered into the original Consent Decree they anticipated that it may be amended. The parties now enter into this Amended Consent Decree to clarify, amend and expand upon some of the provisions set forth in the original Consent Decree. In particular, the parties desire in this Amended Consent Decree to define certain terms; set forth more specific injunctive relief designed to eliminate prohibited Bypasses and insure that all flows entering MSD's WWTPs (other than the Morris Forman WWTP during

wet weather) receive a minimum of Secondary Treatment as defined herein; require reporting of Bypasses pursuant to Kentucky regulations, MSD's KPDES permits and this Amended Consent Decree; and require accurate, continuous monitoring of MSD's WWTP flows and accurate recording of such monitoring results pursuant to MSD's KPDES permits. This Amended Consent Decree supercedes and replaces the original Consent Decree.

OBJECTIVES

21. It is the express purpose of the parties in entering this Amended Consent Decree to further the objectives of the Act, as stated in Section 101 of the Act, 33 U.S.C. §1251, and to eliminate SSOs and Unauthorized Discharges from MSD's SSS, CSS and WWTPs, and to address discharges from MSD's CSO locations identified in its MFWTP KPDES permit, in the manner set forth in this Amended Consent Decree. All plans, reports, construction, remedial maintenance, and other obligations in this Amended Consent Decree or resulting from the activities required by this Amended Consent Decree, and under any subsequent amendments to this Amended Consent Decree, shall have the objective of insuring that MSD complies with the Act, all applicable federal and state regulations, and the terms and conditions of MSD's KPDES permits, and meets the objectives of the CSO Control Policy.

DEFINITIONS

22. Unless otherwise defined herein, the terms used in this Amended Consent Decree shall have the meaning given to those terms in the Act and the regulations promulgated thereunder. For purposes of this Amended Consent Decree, whenever the terms listed below are used in this Amended Consent Decree or appendices attached thereto and/or incorporated thereunder, the following definitions shall apply:

- a. "Bypass" shall mean the intentional diversion of waste streams from any portion

of a treatment facility as set forth at 40 C.F.R. § 122.41(m)(1) and 401 KAR 5:002, Section 1(36). The practice of bypassing Secondary Treatment units and recombining the bypass flow with the secondary effluent prior to discharge, known commonly as blending, recombination, or diversion, constitutes a Bypass. For purposes of this Amended Consent Decree only, the term Bypass shall specifically exclude (1) practices at MSD's MFWTP that are in accordance with the KPDES permit and the CSO Control Policy and (2) any flow that exceeds the design capacity of a tertiary process at any WWTP in accordance with a KPDES permit.

- b. "Combined Sewer Overflow" or "CSO" shall mean an outfall identified as a combined sewer overflow or CSO in MSD's KPDES permit for the MFWTP from which MSD is authorized to discharge during wet weather.
- c. "Combined Sewer System" or "CSS" shall mean the portion of MSD's Sewer System designed to convey municipal sewage (domestic, commercial and industrial wastewaters) and stormwater runoff through a single-pipe system to MSD's MFWTP or CSOs.
- d. "KPDES permit" shall mean any National Pollutant Discharge Elimination System permit issued to MSD by the Cabinet pursuant to the authority of the Act and KRS Chapter 224 and the regulations promulgated thereunder.
- e. "Sanitary Sewer System" or "SSS" shall mean the portion of MSD's Sewer System designed to convey only municipal sewage (domestic, commercial and industrial wastewaters) to MSD's WWTPs.
- f. "Sanitary Sewer Overflow" or "SSO" shall mean any discharge of wastewater to

waters of the United States from MSD's Sewer System through a point source not authorized by a KPDES permit, as well as any release of wastewater from MSD's Sewer System to public or private property that does not reach waters of the United States, such as a release to a land surface or structure that does not reach waters of the United States; provided, however, that releases or wastewater backups into buildings that are caused by blockages, flow conditions, or malfunctions in a building lateral, or in other piping or conveyance system that is not owned or operationally controlled by MSD are not SSOs.

- g. "Secondary Treatment" is a biological wastewater treatment technology required by the Clean Water Act for discharges from Publicly Owned Treatment Works, as that term is defined at 40 C.F.R. § 403.3(g). The minimum level of effluent quality attainable through the application of secondary treatment is established in 40 C.F.R. § 133.102 in terms of the parameters for 5-day biochemical oxygen demand ("BOD₅") concentration and percent removal, total suspended solids ("TSS") concentration and percent removal, and pH.
- h. "Sewer System" shall mean the wastewater collection, retention, and transmission system that MSD owns or operates, that are designed to collect, retain and convey municipal sewage (domestic, commercial and industrial wastewaters) to MSD's WWTPs or CSOs which is comprised of the CSS and the SSS.
- i. "Unauthorized Discharge" shall mean (a) any discharge of wastewater to waters of the United States from MSD's Sewer System or WWTPs through a point source not authorized by a KPDES permit and (b) any Bypass at MSD's WWTPs prohibited pursuant to the provisions of 40 C.F.R. § 122.41(m)(2) and (4) or 401

KAR 5:065, Section 1(13)(a) and (c).

- j. "Wastewater Treatment Plant" or "WWTP" shall mean the devices or systems used in the storage, treatment, recycling, and reclamation of municipal sewage that MSD owns or operates, and for which KPDES permits have been or will be issued to MSD.

COMPLIANCE PROGRAM AND SCHEDULES

23. To effectuate the remedial measures under this Amended Consent Decree, MSD has created a directorship-level position ("Director") who reports directly to MSD's Executive Director and the Board of MSD; has organized a Wet Weather Team regarding CSOs, SSOs and Unauthorized Discharges; establishes communications, coordination and control procedures for team members and other participants; and identifies and schedules tasks and associated resource needs.

The Director shall establish management tasks such as: estimating, forecasting, budgeting, and controlling costs; planning, estimating, and scheduling program activities; developing and evaluating quality control practices; and developing and controlling the program scope.

The Director has assembled a Wet Weather Team that includes all entities that have a stake in the program outcome, and is sufficiently multidisciplinary to address the myriad of engineering, economic, environmental, and institutional issues that will be raised during the implementation of the remedial measures under this Amended Consent Decree. The team will prepare a plan for funding the program and will develop a program for public information, education, and involvement.

The Wet Weather Team assembled by the Director contains MSD personnel such as

wastewater treatment plant operators and engineering personnel, local political officials, and the general public, including rate payers and environmental interests. Private consulting resources are also included. The Wet Weather Team may consult as appropriate with the Cabinet and EPA officials on the progress of MSD's implementation of the requirements of this Amended Consent Decree.

24. **Early Action Plan.** In accordance with the original Consent Decree, MSD prepared and submitted an Early Action Plan which the Cabinet/EPA reviewed and jointly approved. The Early Action Plan included the following components:

a. **Nine Minimum Controls ("NMC") Compliance.** The Early Action Plan contained documentation demonstrating the status of MSD's compliance with the NMC requirements within the CSS as set forth in the CSO Control Policy. The documentation of the compliance status and the proposed activities was consistent with the "Guidance for Nine Minimum Controls", EPA 832-B-95-003, May 1995.

The documentation submitted demonstrates compliance with the following controls:

- (1) Proper operation and regular maintenance programs for the CSS and the CSOs;
- (2) Maximum use of the collection system for storage;
- (3) Review and modification of pretreatment requirements to assure CSO impacts are minimized;
- (4) Maximization of flow to the WWTP for treatment;
- (5) Prohibition of CSOs during dry weather, including provision for backup power where appropriate (provided, however, those discharges resulting

from MSD's compliance with the requirements of the United States Army Corps of Engineers' Ohio River Flood Protection System Pumping Operations Manual, dated 1954 and revised 1988, shall be addressed under the interim and final LTCP);

- (6) Control of solid and floatable materials, including installation of devices where appropriate;
- (7) Pollution prevention;
- (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts, including improving the current signage at each CSO location to an easily readable type size and style, and in both English and Spanish; and
- (9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

The NMC Compliance portion of the Early Action Plan was approved by the Cabinet/EPA on February 22, 2007, and is hereby deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

- b. **Capital Improvement Project List.** The Early Action Plan includes a list that identifies projects that have been completed by MSD prior to the implementation of the final SSDP and final LTCP. The Capital Improvement Project List includes, at a minimum, the following projects, which MSD represents have been completed before the Abatement Date listed below. Project costs are also based on MSD calculations. Those projects completed are included to demonstrate the

efforts MSD maintains it has been making to date to address compliance.

(1) Project Locations as follows:

SSO Location	Number of Discharges	WTP Service Area	Approximate Cost	Abatement Date	
				Quarter	Calendar Year
7204 Preston Hwy	2	DGWTP ¹	\$1,165,000	1 QTR	2002
West Goose Creek PS	1	MFWTP ²	\$10,000	3 OTR	2002
Park Ridge Woods PS	1	DGWTP	\$5,000	4 OTR	2002
Vagabond and Siesta	2	DGWTP	\$500,000	2 QTR	2002
Melody PS	1	MFWTP	\$2,238,000	1 OTR	2003
Cedar Creek WTP	1	CCWTP ³	\$34,000,000	1 QTR	2003
12700 Abbey Lane	1	DGWTP	\$178,000	2 OTR	2003
Fairway View PS	1	Hunting Creek TP	\$5,000	2 OTR	2003
Olde Conner PS	8	FFWTP ⁴	\$12,000	1 OTR	2004
Running Creek WTP	2	Running Creek TP	\$1,680,000	1 QTR	2004
Savage Dr. PS	1	DGWTP	\$1,000,000	1 OTR	2004
Woodland Hills PS	8	MFWTP and FFWTP	\$2,452,000	2 QTR	2004
English Station WTP	1	English Station TP	\$2,500,000	2 QTR	2004
Jarvis Ln PS	2	MFWTP	\$75,000	2 OTR	2005
Hurstbourne Ln PS	8	MFWTP	\$224,000	2 OTR	2005
Hite Creek WTP	4	HCWTP	\$12,700,000	4 QTR	2005
Shelbyville & Marshall	3	MFWTP	\$3,148,000	4 QTR	2005
Canoe Lane PS	3	MFWTP	\$200,000	2 QTR	2006
Gunpowder PS	3	Hunting Creek TP	\$101,000	2 OTR	2006
Total	53		\$62,193,000		

¹ DGWTP is Derek R. Guthrie Water Quality Treatment Center. ²MFWTP is Morris Forman Wastewater Treatment Plant. ³CCWTP is Cedar Creek Wastewater Treatment Plant. ⁴FFWTP is Floyds Fork Wastewater Treatment Plant.

(2) Installation of backup power at the following facilities within the CSS by the date indicated, which MSD believes resulted in a total overflow volume reduction of 19 million gallons annually calculated on MSD's previous reporting history:

- A. 34th Street Pump Station, at an approximate cost of \$300,000 as calculated by MSD, completed by the end of the 1st quarter 2006;
- B. Buchanan Street Pump Station, at an approximate cost of \$630,000 as calculated by MSD, completed by the end of the 2nd quarter 2006;

(3) Installation of solids and floatables control devices at fifteen (15) CSO locations as shown below by the date indicated:

CSO	Approximate Cost	Completion Date Quarter	Completion Date Calendar Year
109	\$164,000	4 QTR	2004
113	\$146,500	4 QTR	2004
125	\$122,000	4 QTR	2004
126	\$92,000	4 QTR	2004
127	\$62,400	4 QTR	2004
144	\$34,800	4 QTR	2004
166	\$12,500	4 QTR	2004
28	\$40,300	1 QTR	2005
30	\$40,800	1 QTR	2005
34	\$42,800	1 QTR	2005
54	\$45,800	1 QTR	2005
119	\$46,300	1 QTR	2005
83	\$65,500	2 QTR	2005
121	\$106,400	2 QTR	2005

82	\$49,400	3 QTR	2005
Total	\$1,071,500		

- (4) Elimination of three (3) CSO locations through sewer separation projects as shown below by the date indicated:

CSO	Approximate Cost	Completion Date Quarter	Completion Date Calendar Year
CSO 209	\$2,560,000	3 QTR	2005
CSO 87	\$1,058,000	3 QTR	2006
CSO 147	\$2,225,000	3 QTR	2007

- (5) Implementation of a fully operational Real Time Control System, Initial Implementation phase, which MSD estimates achieved a minimum of 10% reduction of the average annual overflow volume by August 12, 2006.

The portion of the Early Action Plan consisting of the Capital Improvement Project List was not submitted for Cabinet/EPA approval.

- c. **CMOM (Capacity, Management, Operation and Maintenance) Programs Self-Assessment.** The Early Action Plan includes a CMOM Programs Self-Assessment of MSD's combined and separate sewer collection and transmission systems, in accordance with US EPA Region IV methodology as set forth in the CDROM disk attached hereto as Exhibit A, to ensure that MSD has CMOM Programs in place that are effective at eliminating SSOs, including Unauthorized Discharges, within the CSS and SSS. This Self-Assessment includes an evaluation of, and recommendation of improvements to, each CMOM Program to ensure that such Programs contain the following key CMOM elements: written,

defined purpose(s); written defined goal(s); documented in writing with specific details; implemented by well trained personnel; established performance measures; and written procedures for periodic review. Recommended improvements include schedules for implementation. Particular emphasis is placed upon the following Programs, as more particularly described in the attached CDROM: Continuous Sewer System Assessment Program; Infrastructure Rehabilitation Program; Collection and Transmission Plans Program; System Capacity Assurance Program; Water Quality Monitoring Program; Pump Station Preventive Maintenance Program; Gravity Line Preventive Maintenance Program; Contingency Plan for Utility Infrastructure (this includes the evaluation of the need for backup power for each pump station); and Sewer Use Ordinance Legal Support Program. The portion of the Early Action Plan containing MSD's CMOM Programs Self-Assessment, the CMOM Programs and recommended improvements and schedules was approved by the Cabinet/EPA on August 21, 2006, and is hereby deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree. In particular, MSD's System Capacity Assurance Program, one of the CMOM Programs evaluated pursuant to this paragraph, is attached hereto as Exhibit B.

- d. **Sewer Overflow Response Protocol ("SORP")**. The Early Action Plan includes a SORP in compliance with 401 KAR 5:015 to establish the timely and effective methods and means of: (1) responding to, cleaning up, and/or minimizing the impact of SSOs and Unauthorized Discharges; (2) reporting the location, volume, cause and impact of SSOs and Unauthorized Discharges, to the Cabinet and EPA;

and (3) notifying the potentially impacted public. The SORP was approved by the Cabinet/EPA on August 21, 2006, and MSD began to implement the SORP within fifteen (15) days of receiving the Cabinet's/EPA's approval. By the anniversary date of the approval of the SORP, MSD shall annually review the SORP and propose changes as appropriate subject to Cabinet/EPA review and approval. A copy of future updates to the SORP shall also be provided to the Louisville Regional Office of the Division of Water within fifteen (15) days of incorporation of the update. The SORP, and any subsequently approved changes, shall be deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

25. **Discharge Abatement Plans.** MSD shall prepare and submit, for Cabinet/EPA review and joint approval, a Sanitary Sewer Discharge Plan ("SSDP") designed to eliminate Unauthorized Discharges. MSD shall also prepare and submit an updated LTCP, for Cabinet/EPA review and joint approval, which complies with the CSO Control Policy. MSD shall develop these Discharge Abatement Plans for the elimination of Unauthorized Discharges, the reduction and control of discharges from CSO locations identified in the MFWTP KPDES permit, and the improvement of water quality in the receiving waters. MSD shall prepare conventional and innovative or alternative designs as part of each plan, including but not limited to: sewer rehabilitation, sewer replacement, sewer separation, relief sewers, above ground or below ground storage, high rate Secondary Treatment, illicit connection removal, remote wet weather Secondary Treatment facilities, and other appropriate alternatives. Designs shall be based on sound engineering judgment and shall be in accordance with generally accepted engineering design criteria and may include interim remedial measures to reduce pollutant

loading and improve water quality in the short term while alternatives for final remedial measures are being developed, evaluated and implemented.

a. Sanitary Sewer Discharge Plan.

- (1) MSD submitted to the Cabinet and EPA an update to its then current SSOP on February 10, 2006, which details the improvements to be accomplished through December 31, 2008. The updated SSOP is deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.
- (2) On September 28, 2007, MSD submitted to the Cabinet/EPA for review and approval an interim SSDP to identify remedial measures to eliminate Unauthorized Discharges, including those resulting from MSD's use of pumps, within the Hikes Point and the Beechwood Village areas, and to eliminate Unauthorized Discharges at the Highgate Pump Station and the Southeastern Diversion Structure. A copy of the interim SSDP is attached hereto as Exhibit C. The interim SSDP includes expeditious schedules for design, initiation of construction, and completion of construction of remedial measures; provided, however, such schedules shall not extend beyond December 31, 2011 for those Unauthorized Discharges within the Beechwood area and at the Southeastern Diversion Structure, and such schedules shall not extend beyond December 31, 2013 for those Unauthorized Discharges in the Hikes Point area and at the Highgate Pump Station. The interim SSDP was approved by the Cabinet/EPA on July 24, 2008, and is hereby deemed incorporated into this Amended

Consent Decree as an enforceable requirement of this Amended Consent Decree.

- (3) By December 31, 2008, MSD shall submit to the Cabinet/EPA for review and joint approval a final SSDP to identify remedial measures to eliminate Unauthorized Discharges at locations other than those identified in subparagraph (2) above. The final SSDP shall contain the long term SSDP projects, including schedules, milestones, and deadlines. The final SSDP shall also include the results of an evaluation of WWTP peak flow treatment capacity for any WWTP that will receive additional flow based on any interim or final SSDP project. Such evaluation shall be consistent with the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting POTWs," EPA CERL, July 1989. The final SSDP shall include, at a minimum, the following elements:

- A. A map that shows the location of all known Unauthorized Discharges. The map shall include the areas and sewer lines that serve as a tributary to each Unauthorized Discharge. Smaller maps of individual tributary areas also may be included to show the lines involved in more detail.
- B. A description of each Unauthorized Discharge location that includes:
- (i) The frequency of the Unauthorized Discharge;
 - (ii) The annual volume released of the Unauthorized

Discharge;

- (iii) A description of the type of Unauthorized Discharge location, i.e. manhole, pump station, constructed discharge pipe, etc.;
 - (iv) The receiving stream;
 - (v) The immediate area and downstream land use, including the potential for public health concerns;
 - (vi) A description of any previous (within the last 5 years), current, or proposed studies to investigate the Unauthorized Discharge; and
 - (vii) A description of any previous (within the last 5 years), current, or proposed rehabilitation or construction work to remediate or eliminate the Unauthorized Discharge.
- C. A prioritization of the Unauthorized Discharge locations identified above based upon the frequency, volume and impact on the receiving stream and upon public health, and in coordination with the CMOM programs. Based upon this prioritization, MSD shall develop remedial measures and expeditious schedules for design, initiation of construction and completion of construction. Such schedules shall be phased based on sound engineering judgment and in no case shall extend beyond December 31, 2024.
- D. A plan to involve stakeholders in the planning, prioritization and selection of projects.

Upon review of the final SSDP, the Cabinet/EPA may jointly (1) approve, in whole or in part, or (2) provide comments to MSD identifying the deficiencies. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the final SSDP for review and approval, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon resubmittal, the Cabinet/EPA may jointly (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the final SSDP is disapproved, the Cabinet/EPA may jointly deem MSD to be out of compliance with this Amended Consent Decree for failure to timely submit such portion and may assess stipulated penalties pursuant to this Amended Consent Decree, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon Cabinet/EPA joint approval of all or any part of the final SSDP, the final SSDP, or any approved part thereof (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be incorporated into this Amended Consent Decree by proposed material amendment under paragraph 60 of this Amended Consent Decree and, upon approval by the Court, become an enforceable requirement of this Amended Consent Decree.

b. Long Term Control Plan.

- (1) MSD submitted to the Cabinet/EPA on February 10, 2006 for review and joint approval an interim LTCP that updates the draft LTCP previously

submitted to the Cabinet in 1996 and 1997.

A. The interim LTCP specifies the activities which demonstrate MSD's efforts to date to achieve compliance with the following goals:

- (i) Ensure that if CSOs occur, they are only as a result of wet weather (including activities to address those discharges resulting from MSD's compliance with the requirements of the United States Army Corps of Engineers' Ohio River Flood Protection System Pumping Operations Manual, dated 1954 and revised 1988);
- (ii) Bring all wet weather CSO discharge points into compliance with the technology-based and water quality-based requirements of the Act;
- (iii) Minimize the impacts of CSOs on water quality, aquatic biota, and human health; and
- (iv) Bring stakeholders into the planning, prioritization and selection of projects process.

B. The interim LTCP describes the manner in which MSD plans to undertake the development of the final LTCP, including, at a minimum, the following elements:

- (i) Characterization, monitoring, modeling activities, and design parameters as the basis for selection and design of effective CSO controls (including controls to address those

discharges resulting from MSD's compliance with the requirements of the United States Army Corps of Engineers' Ohio River Flood Protection System Pumping Operations Manual, dated 1954 and revised 1988);

- (ii) A public participation process that actively involves the affected public in the decision-making to select long-term CSO controls;
- (iii) Consideration of sensitive areas as the highest priority for controlling overflows;
- (iv) Evaluation of alternatives that will enable MSD, in consultation with the Cabinet and EPA, water quality standards authority, and the public, to select CSO controls that will meet the requirements of the Act;
- (v) Cost/performance considerations to demonstrate the relationships among a comprehensive set of reasonable control alternatives;
- (vi) Operational plan revisions to include agreed-upon long-term CSO controls; and
- (vii) Maximization of treatment at MSD's existing wastewater treatment plants for wet weather flows.

The interim LTCP was approved by the Cabinet/EPA on February 27, 2007, and is hereby deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

(2) By December 31, 2008, MSD shall submit a final LTCP to the Cabinet/EPA for review and joint approval that complies with the CSO Control Policy and is consistent with EPA's "Guidance for Long-Term Control Plan," EPA 832-B-95-002, September 1995. The final LTCP shall include schedules, deadlines and timetables for remedial measures that achieve full compliance with the criteria listed for the demonstrative approach or the presumptive approach as soon as practicable based on sound engineering judgment but in no event later than December 31, 2020.

A. The final LTCP shall meet the following goals:

- (i) Ensure that if CSOs occur, they are only as a result of wet weather (this goal shall include addressing those discharges resulting from MSD's compliance with the requirements of the United States Army Corps of Engineers' Ohio River Flood Protection System Pumping Operations Manual, dated 1954 and revised 1988);
- (ii) Bring all wet weather CSO discharge points into compliance with the technology-based and water quality-based requirements of the Act; and
- (iii) Minimize the impacts of CSOs on water quality, aquatic biota, and human health.

B. The final LTCP shall include, at a minimum, the following elements:

- (i) The results of characterization, monitoring, modeling

- activities, and design parameters as the basis for selection and design of effective CSO controls (including controls to address those discharges resulting from MSD's compliance with the requirements of the United States Army Corps of Engineers' Ohio River Flood Protection System Pumping Operations Manual, dated 1954 and revised 1988);
- (ii) The results of an evaluation of WWTP peak flow treatment capacity for any WWTP, other than MFWTP, that will receive additional flow based on any LTCP project. Such evaluation shall be consistent with the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting POTWs," EPA CERL, July 1989;
 - (iii) A report on the public participation process;
 - (iv) Identification of how the final LTCP addresses sensitive areas as the highest priority for controlling overflows;
 - (v) A report on the cost analyses of the alternatives considered;
 - (vi) Operational plan revisions to include agreed-upon long-term CSO controls;
 - (vii) Maximization of treatment and evaluation of treatment capacity at MFWTP;
 - (viii) Identification of and an implementation schedule for the selected CSO controls; and

- (ix) A post-construction compliance monitoring program adequate to verify compliance with water quality-based Clean Water Act requirements and ascertain the effectiveness of CSO controls.

Upon review of the final LTCP, the Cabinet/EPA may jointly (1) approve, in whole or in part, or (2) provide comments to MSD identifying the deficiencies. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the final LTCP for review approval, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon resubmittal, the Cabinet/EPA may jointly (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the final LTCP is disapproved, the Cabinet/EPA may jointly deem MSD to be out of compliance with this Amended Consent Decree for failure to timely submit the final LTCP and may assess stipulated penalties pursuant to this Amended Consent Decree, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon Cabinet/EPA joint approval of all or any part of the final LTCP, the final LTCP, or any approved part thereof (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be incorporated into this Amended Consent Decree by proposed material amendment under paragraph 60 of this Amended Consent Decree and, upon approval by the Court, become an enforceable requirement of this

Amended Consent Decree.

26. Jeffersontown WWTP. MSD will be taking action pursuant to paragraphs 26.b. and c. below of this Amended Consent Decree with the objective of eliminating prohibited Bypasses at the Jeffersontown WWTP. Before such action is completed, MSD shall also implement a Process Controls Program to minimize the frequency, duration and volume of any Bypass at the Jeffersontown WWTP.

a. Process Controls Program. On or before October 31, 2008, MSD shall submit to EPA/Cabinet for review and approval a Process Controls Program designed to minimize the frequency, duration and volume of any Bypass at the Jeffersontown WWTP through proper management, operation and maintenance controls.

(1) The Process Controls Program shall include, without limitation, the following:

- A. Activities identified by MSD in its February 19, 2008 letter to EPA which is attached hereto and incorporated herein as Exhibit D.**
- B. Any relevant findings from the implementation of the Comprehensive Performance Evaluation pursuant to paragraph 26.b. below.**
- C. Identification of necessary activities to insure that SSOs from the siphon head box or any manhole within two thousand feet of the headworks of the Jeffersontown WWTP are also minimized to the greatest extent possible.**
- D. Identification of staffing needs to insure that plant operators are present during periods during which the plant is likely to Bypass.**

- E. A process for monitoring and recording plant flow, Secondary Treatment flow, concentration of mixed liquor suspended solids ("MLSS"), depth of sludge blanket levels and other appropriate criteria that the operations staff will use to determine the effective treatment capacity of the secondary system, which establishes when a Bypass will commence and will cease.
- F. The use of available laboratory and on-line instrumentation data before making a decision to change process controls.
- G. Identification of the MSD staff positions that will be responsible for implementing the Process Control Program.
- H. Identification of activities which MSD shall undertake when conditions indicate a probable need to Bypass. Such activities may include monitoring and/or adjusting clarifier sludge blankets, balancing flows to Secondary Treatment units, etc.
- I. A process for evaluating the effectiveness of the controls and for making adjustments as necessary to meet the goals of the Process Controls Program.
- J. An operations record keeping protocol which shall establish a system for accurately recording MSD's operation of the Jeffersontown WWTP including its Bypass activities. Such records shall include operator logs, activity reports, performance reports, documentation of all Bypass events and a listing of the criteria that determined when a Bypass commenced and ceased.

K. Performance measures for ensuring that the controls being implemented are as effective as possible.

(2) Upon review of the Process Controls Program, the Cabinet/EPA may (1) approve, in whole or in part, or (2) provide comments to MSD for the purpose of identifying the deficiencies in the Program. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the Process Controls Program for review and approval, subject only to MSD's rights under the dispute resolution provisions. Upon resubmittal, the Cabinet/EPA may (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the Process Controls Program is disapproved, then EPA may deem MSD to be out of compliance with this Amended Consent Decree for failure to timely submit the Process Controls Program and may assess stipulated penalties pursuant to this Amended Consent Decree. Upon Cabinet/EPA approval of all or any part of the Process Controls Program, the Process Controls Program, or any approved part of the Process Controls Program (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

b. **Comprehensive Performance Evaluation ("CPE").** Concurrent with or as part of the final SSDP which is to be submitted on or before December 31, 2008 pursuant to paragraph 25.a.(3) above, MSD shall also submit to the Cabinet/EPA

for review and approval a Comprehensive Performance Evaluation ("CPE") for the Jeffersontown WWTP.

- (1) The purpose of this CPE is to identify any flow and/or loading rate restricted treatment process unit(s) at the Jeffersontown WWTP which limit the plant's ability to comply with KPDES permit requirements, including those necessary to provide the required application of Secondary Treatment to all flows into the WWTP. The CPE shall also evaluate the cause of any effluent limit violation occurring at the WWTP within the last three (3) years.
- (2) The CPE shall include an in-depth diagnostic evaluation of the capacity and operation of the Jeffersontown WWTP in terms of its ability to meet all terms of the KPDES permit, including the Bypass prohibition set forth at 40 C.F.R. § 122.41(m)(2) and (4) and 401 KAR 5:065, Section 1(13)(a) and (c). The CPE shall also evaluate influent pumping capacities and the cause of any SSOs occurring within two thousand feet of the headworks of Jeffersontown WWTP including any SSO from the siphon head box. The CPE shall establish procedures that MSD will use to prepare a Composite Correction Plan ("CCP"), as set forth below, based on the results of the CPE. The CPE shall employ flow modeling and other appropriate techniques to evaluate WWTP capacity and operation, taking into account the net (cumulative) increase or decrease to the existing volume of wastewater introduced to the WWTP as a result of MSD's actual and anticipated increases in flow from the authorization of new sewer service

connections and/or from existing sewer service connections, and the reduction of inflow and infiltration into the Sewer System. The CPE shall also identify the peak flow/duration and the long term sustained flow/duration which can be put through the Jeffersontown WWTP Secondary Treatment units without adversely impacting the Secondary Treatment units (e.g. causing a washout or excessive loss of mixed liquor suspended solids). To the extent applicable, the CPE shall be consistent with the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting POTWs," EPA CERL, July 1989.

- (3) Upon review of the CPE, the Cabinet/EPA may (1) approve, in whole or in part, or (2) provide comments to MSD for the purpose of identifying the deficiencies in the CPE. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the CPE for review and approval, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon resubmittal, the Cabinet/EPA may (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the CPE is disapproved, then EPA may deem MSD to be out of compliance with this Amended Consent Decree for failure to timely submit the CPE and may assess stipulated penalties pursuant to this Amended Consent Decree. Upon Cabinet/EPA approval of all or any part of the CPE, the CPE, or any approved part of the CPE (provided that the approved part is not

dependent upon implementation of any part not yet approved), shall be deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

- c. **Composite Correction Plan ("CCP").** Concurrent with or as part of the final SSDP which is to be submitted on or before December 31, 2008 pursuant to paragraph 25.a.(3) above, MSD shall also submit to the Cabinet/EPA for review and approval a CCP for the Jeffersontown WWTP.
- (1) The CCP shall include specific Type 1 and Type 2 remedial actions (as those terms are used in the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting POTWs," EPA CERL, July 1989).
 - (2) The Type 1 and 2 remedial actions shall be designed towards the goal of achieving KPDES permit compliance, including compliance with effluent limits and with the Bypass prohibition set forth at 40 C.F.R. § 122.41(m)(2) and (4) and 401 KAR 5:065, Section 1(13)(a) and (c), and eliminating factors which limit or which could limit the WWTP's operating efficiency.
 - (3) The CCP shall include an expeditious implementation and completion schedule for such Type 1 and 2 remedial actions not extending past December 31, 2011.
 - (4) The CCP shall also identify appropriate alternatives for both the complete elimination of the Jeffersontown WWTP and long term upgrades to the Jeffersontown WWTP should elimination not be practical or achievable.

- (5) The long term upgrade alternatives shall include:
- A. Specific remedial actions, including capital improvements and Type 3 remedial actions (as that term is used in the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting POTWs," EPA CERL, July 1989), to achieve KPDES permit compliance, including compliance with effluent limits and with the Bypass prohibition set forth at 40 C.F.R. § 122.41(m)(2) and (4) and 401 KAR 5:065, Section 1(13)(a) and (c), and to eliminate all factors which limit or which could limit the WWTP's operating efficiency, by no later than December 31, 2015;
 - B. Specific remedial actions, including capital improvements, to address peak flow handling procedures and peak flow capacity of the WWTP to insure the application of Secondary Treatment to all flow by no later than December 31, 2015; and
- (6) The CCP shall also include expeditious implementation and completion schedules not extending past December 31, 2015 for both (A) the elimination of the Jeffersontown WWTP and (B) the long term upgrades to the Jeffersontown WWTP should elimination not be practical or achievable.
- (7) To the extent applicable, the CCP shall be consistent with the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting

POTWs," EPA CERI, July 1989.

- (8) Upon review of the CCP for the Jeffersontown WWTP, the Cabinet/EPA may (1) approve, in whole or in part, or (2) provide comments to MSD for the purpose of identifying the deficiencies in the CCP. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the CCP for review and approval, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon resubmittal, the Cabinet/EPA may (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the CPE is disapproved, then EPA may deem MSD to be out of compliance with this Consent Decree for failure to timely submit the CCP for the Jeffersontown WWTP and may assess stipulated penalties pursuant to this Consent Decree. Upon Cabinet/EPA approval of all or any part of the CCP for the Jeffersontown WWTP, the CCP, or any approved part of the CCP (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be incorporated into this Consent Decree by proposed material amendment under paragraph 60 of this Amended Consent Decree and, upon approval by the Court, become an enforceable requirement of this Amended Consent Decree.
- (9) No later than March 31, 2010, MSD must select and commit to perform pursuant to this Amended Consent Decree one of the alternatives for either the elimination or long term upgrade of the Jeffersontown WWTP as set

forth in the CCP that has been approved by Cabinet/EPA, and inform Cabinet/EPA of its selection.

d. **Service Connections.** Notwithstanding anything else in this Amended Consent Decree or in MSD's System Capacity Assurance Program (attached hereto as **Exhibit B**) to the contrary, upon the date of lodging of this Amended Consent Decree and until such time as the CCP for the Jeffersontown WWTP has been fully implemented and the Jeffersontown WWTP has either been eliminated or achieved full compliance with its KPDES permit, MSD agrees that it will only allow, permit or otherwise authorize new sewer service connections and/or increases in flow from any existing sewer service connection into the portion of the Sewer System providing flow into the Jeffersontown WWTP pursuant to the provisions of subparagraphs (1) and (2) below. For purposes of this paragraph only, the term "new sewer service connection" shall not include any existing sewer service connection approved by MSD prior to May 13, 2008 regardless of whether it has contributed flow to the Sewer System or that may need to change its tap in to the Sewer System through a differently located lateral line provided that there is no increase in flow as result of the change.

(1) MSD may allow new sewer service connections for each of the five (5) new sewer service applicants identified in **Exhibit E**, attached hereto, who, prior to the lodging of this Amended Consent Decree, had already applied, and deposited funds with MSD, for a new sewer service connection; provided, however, that MSD's allowance of these new sewer service connections shall be made pursuant to, and consistent with, MSD's

System Capacity Assurance Program (attached hereto as Exhibit B) and is limited for each applicant to the respective remaining gallons per day of sewer flow subject to approval as set forth in Exhibit E.

- (2) MSD may allow a new sewer service connection and/or an increase in flow from an existing sewer service connection only if as a "direct result" of the project involving the new connection or the increase in flow from an existing connection, an equal or greater amount of flow from an existing sewer service connection is eliminated prior to allowance of the new connection or the increase in flow from an existing connection. As a result, the allowance of the new connection or the increase in flow from an existing connection shall not increase the total flow of sewage into the portion of the Sewer System providing flow into the Jeffersontown WWTP. MSD may only allow any such new sewer service connection and/or increase in flow from an existing sewer service connection if such allowance is also done in accordance with MSD's System Capacity Assurance Program (attached hereto as Exhibit B) pursuant to which an additional amount of flow equal to three times that of the newly allowed increase in flow must have been eliminated by I/I removal activities within the portion of the Sewer System providing flow into the Jeffersontown WWTP. MSD agrees that it shall not count the decrease in flow from the eliminated, existing connection when calculating the amount of flow that must be eliminated pursuant to the implementation of the Capacity Assurance Program under the circumstances set forth in this subparagraph.

If MSD allows a new sewer service connection or an increase in flow from an existing connection pursuant to this subparagraph, it shall submit to the Cabinet and EPA within thirty (30) days of such allowance a written demonstration that: such allowance did not increase the total flow of sewage into the portion of the Sewer System providing flow into the Jeffersontown WWTP; the elimination of flow from the existing connection was a "direct result" of the project involving the new connection or the increase in flow from an existing connection; and such allowance was also made consistent with MSD's System Capacity Assurance Program pursuant to which an additional amount of flow equal to three times that of the newly allowed increase in flow was eliminated by I/I removal activities within the portion of the Sewer System providing flow into the Jeffersontown WWTP. For purposes of this subparagraph, "direct result" shall mean that the elimination of the existing sewer service connection is an essential element of the project involving the new connection or the increase in flow from an existing connection. If MSD fails to submit an acceptable demonstration as required above, then EPA may deem MSD to be in violation of the provisions of this paragraph 26.d and may assess stipulated penalties against MSD pursuant to paragraph 40 of this Amended Consent Decree, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree.

27. Comprehensive Performance Evaluation, Comprehensive Correction Plan and Elimination Plan for Certain WWTPs.

- a. **Comprehensive Performance Evaluation ("CPE").** Not later than March 31, 2009, MSD shall prepare and submit a CPE for Cabinet/EPA review and approval for the Lake Forest WWTP, the Timberlake WWTP and any WWTP that may receive additional flow from the Jeffersontown WWTP pursuant to an alternative set forth in the CCP for the Jeffersontown WWTP (excluding (1) dry weather flow sent to the MFWTP provided that the flow is within MFWTP's available dry weather capacity which is currently 120 million gallons per day and (2) wet weather flow sent to the West County WWTP provided that adequate plans for the West County WWTP to receive this additional flow are contained within the Cabinet/EPA approved, final SSDP).
- (1) The purpose of this CPE is to identify any flow and/or loading rate restricted treatment process unit(s) at the WWTP which limit the plants' ability to comply with permit requirements, including those necessary to provide the required application of Secondary Treatment to all flows into the WWTP. The CPE shall also evaluate the cause of any effluent limit violation occurring at the WWTP within the last three (3) years.
 - (2) The CPE shall include an in-depth diagnostic evaluation of the capacity and operation of the WWTP in terms of its ability to meet all terms of the KPDES permits, including the Bypass prohibition set forth at 40 C.F.R. § 122.41(m)(2) and (4) and 401 KAR 5:065, Section 1(13)(a) and (c). The CPE shall also evaluate influent pumping capacities and the cause of any

SSOs occurring just upsewer from the WWTP. The CPE shall employ flow modeling and other appropriate techniques to evaluate WWTP capacity and operation, taking into account the net (cumulative) increase or decrease to the existing volume of wastewater introduced to the WWTP as a result of MSD's actual and anticipated increases in flow from the authorization of new sewer service connections and/or from existing sewer service connections, and the reduction of inflow and infiltration into the Sewer System. The CPE shall also identify the flow that the WWTP may take without experiencing a prohibited Bypass. The CPE shall establish procedures that MSD will use to prepare a CCP for each WWTP, as set forth below, based on the results of the CPE. MSD shall propose, as part of its CPE, a schedule for submission of a CCP for each WWTP, provided, that such schedule shall not exceed six (6) months after Cabinet/EPA approval of the CPE for that WWTP. To the extent applicable, the CPE shall be consistent with the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting POTWs," EPA CERL, July 1989.

- (3) Upon review of the CPE, the Cabinet/EPA may (1) approve, in whole or in part, or (2) provide comments to MSD for the purpose of identifying the deficiencies in the CPE. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the CPE for review and approval, subject only to MSD's rights under the dispute resolution provisions. Upon resubmittal, the Cabinet/EPA may (1) approve or (2)

disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the CPE is disapproved, then EPA may deem MSD to be out of compliance with this Amended Consent Decree for failure to timely submit the CPE and may assess stipulated penalties pursuant to this Amended Consent Decree. Upon Cabinet/EPA approval of all or any part of the CPE, the CPE, or any approved part of the CPE (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

- b. **Composite Correction Plan ("CCP").** MSD shall prepare and submit for Cabinet/EPA review and approval a CCP for each WWTP identified in paragraph 27.a above pursuant to the schedule set forth in the CPE for that WWTP. The purpose of the CCP is to identify alternatives for the elimination of the WWTP or specific remedial actions, including capital improvements and other upgrades to the WWTP, to address the problems identified in the CPE.
- (1) The CCP shall include specific Type 1 and Type 2 remedial actions (as those terms are used in the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERL, October 1984, and "Retrofitting POTWs," EPA CERL, July 1989).
 - (2) The Type 1 and 2 remedial actions shall be designed towards the goal of achieving KPDES permit compliance, including compliance with effluent limits and with the Bypass prohibition set forth at 40 C.F.R. §

122.41(m)(2) and (4) and 401 KAR 5:065, Section 1(13)(a) and (c), and eliminating factors which limit or which could limit the WWTP's operating efficiency.

- (3) The CCP shall include an expeditious implementation and completion schedule for such Type 1 and 2 remedial actions not extending past December 31, 2011.
- (4) Except for the Timberlake WWTP, the CCP shall also include either a plan for the complete elimination of the WWTP or for specific long term upgrades to WWTP.
- (5) For the Timberlake WWTP, the CCP shall only include a plan for the complete elimination of the WWTP. Notwithstanding MSD's commitment to eliminate the Timberlake WWTP pursuant to this paragraph, MSD agrees that on or before April 30, 2009 it shall install or provide the necessary equipment or technology designed to enable the Timberlake WWTP to comply with a monthly average effluent limitation for Total Phosphorous of one milligram per liter (1 mg/L); provided, however, if a more stringent effluent limitation for Total Phosphorous becomes effective pursuant to a KPDES permit, MSD agrees to install or provide the necessary equipment or technology designed to comply with the more stringent effluent limitation. In addition, on or before April 30, 2009, MSD agrees to sample its discharges from the Timberlake WWTP for Total Phosphorous at least once per week in accordance with the applicable test procedure for the analysis of pollutants set forth in 40

C.F.R. Part 136; provided, however, if a more stringent monitoring requirement for Total Phosphorous becomes effective pursuant to a KPDES permit, MSD agrees to comply with the more stringent monitoring requirement. In addition to any reporting requirement that may be set forth in any KPDES permit, MSD shall include in its quarterly reports to be submitted pursuant to paragraph 29 of this Amended Consent Decree a list of the date and results of MSD's sampling for Total Phosphorous and a list of occurrences when such sampling indicates a monthly average effluent characteristic for Total Phosphorous of greater than one milligram per liter (1 mg/L).

- (6) If the CCP includes a plan for the complete elimination of the WWTP, then it shall also include an expeditious implementation and completion schedule not extending past December 31, 2015. The CCP for the Timberlake WWTP providing for the complete elimination of the Timberlake WWTP shall also include an expeditious implementation and completion schedule not extending past December 31, 2015. MSD agrees to use best efforts to begin upon the Cabinet/EPA's approval of the CCP for the Timberlake WWTP the process of obtaining any necessary easements that may be required for the implementation of the CCP for the Timberlake WWTP and agrees to provide quarterly updates on the progress of obtaining such easements in the quarterly reports to be submitted pursuant to paragraph 29 of this Amended Consent Decree.
- (7) If the CCP includes a plan for long term upgrades, such plan shall include:

- A. Specific remedial actions, including capital improvements and Type 3 remedial actions (as that term is used in the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERI, October 1984, and "Retrofitting POTWs," EPA CERI, July 1989), to achieve KPDES permit compliance, including compliance with effluent limits and the Bypass prohibition set forth at 40 C.F.R. § 122.41(m)(2) and (4) and 401 KAR 5:065, Section 1(13)(a) and (c), and to eliminate all factors identified in the CPE which limit or which could limit the WWTP's operating efficiency, by no later than December 31, 2015;
 - B. Specific remedial actions, including capital improvements, to address the WWTP's peak flow handling procedures and peak flow capacity to insure the application of Secondary Treatment to all flow by no later than December 31, 2015; and
 - C. An expeditious implementation and completion schedule for such remedial actions not extending past December 31, 2015.
- (8) To the extent applicable, the CCP shall be consistent with the EPA publications "Improving POTW Performance Using the Composite Correction Approach," EPA CERI, October 1984, and "Retrofitting POTWs," EPA CERI, July 1989.
- (9) Upon review of the CCP for each WWTP, the Cabinet/EPA may (1) approve, in whole or in part, or (2) provide comments to MSD for the

purpose of identifying the deficiencies in the CCP. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the CCP for review and approval, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon resubmittal, the Cabinet/EPA may (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the CCP is disapproved, then EPA may deem MSD to be out of compliance with this Amended Consent Decree for failure to timely submit the CCP and may assess stipulated penalties pursuant to this Amended Consent Decree. Upon Cabinet/EPA approval of all or any part of any CCP for the identified WWTP, the CCP, or any approved part of the CCP (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

c. **Elimination Plan.** Not later than March 31, 2009, MSD shall prepare and submit for Cabinet/EPA review and approval an Elimination Plan for the complete elimination of the Hunting Creek North WWTP, the Hunting Creek South WWTP, the Shadow Wood WWTP and the Ken Carla WWTP.

(1) The Elimination Plan shall include an expeditious implementation and completion schedule for the complete elimination of these WWTPs not extending past December 31, 2015. MSD agrees to use best efforts to begin upon the Cabinet/EPA's approval of the Elimination Plan the

process of obtaining any necessary easements that may be required for the implementation of the Elimination Plan for these WWTPs and agrees to provide quarterly updates on the progress of obtaining such easements in the quarterly reports to be submitted pursuant to paragraph 29 of this Amended Consent Decree.

- (2) Upon review of the Elimination Plan, the Cabinet/EPA may (1) approve, in whole or in part, or (2) provide comments to MSD for the purpose of identifying the deficiencies in the Elimination Plan. Upon receipt of Cabinet/EPA comments, MSD shall have sixty (60) days to revise and resubmit the Elimination Plan for review and approval, subject only to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. Upon resubmittal, the Cabinet/EPA may (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the Elimination Plan is disapproved, then EPA may deem MSD to be out of compliance with this Amended Consent Decree for failure to timely submit the Elimination Plan and may assess stipulated penalties pursuant to this Amended Consent Decree. Upon Cabinet/EPA approval of all or any part of the Elimination Plan, the Elimination Plan, or any approved part of the Elimination Plan (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

- (3) Notwithstanding MSD's commitment to eliminate the Hunting Creek North WWTP, the Hunting Creek South WWTP, the Shadow Wood WWTP and the Ken Carla WWTP pursuant to this paragraph, MSD agrees that on or before April 30, 2009 it shall install or provide the necessary equipment or technology designed to enable these WWTPs to comply with a monthly average effluent limitation for Total Phosphorous of one milligram per liter (1 mg/L); provided, however, if a more stringent effluent limitation for Total Phosphorous becomes effective pursuant to a KPDES permit, MSD agrees to install or provide the necessary equipment or technology designed to comply with the more stringent effluent limitation. In addition, on or before April 30, 2009, MSD agrees to sample its discharges from these WWTPs for Total Phosphorous at least once per week (except for the Ken Carla WWTP which shall be monitored once per month) in accordance with the applicable test procedure for the analysis of pollutants set forth in 40 C.F.R. Part 136; provided, however, if a more stringent monitoring requirement for Total Phosphorous becomes effective pursuant to a KPDES permit, MSD agrees to comply with the more stringent monitoring requirement. In addition to any reporting requirement that may be set forth in any KPDES permit, MSD shall include in its quarterly reports to be submitted pursuant to paragraph 29 of this Amended Consent Decree a list of the date and results of MSD's sampling for Total Phosphorous and a list of occurrences when such sampling indicates a monthly average effluent characteristic for Total

Phosphorous of greater than one milligram per liter (1 mg/L).

28. Monitoring, Recordkeeping and Reporting at WWTPs.

a. **Continuous Flow Monitoring.** MSD hereby agrees to immediately provide continuous flow monitoring at its WWTPs where required by its KPDES permits and to maintain records of such flow monitoring for a minimum of three (3) years in accordance with its KPDES permits. By September 30, 2008, MSD shall submit to the Cabinet/EPA a Monitoring and Recordkeeping Report, that includes in detail the following:

- (1) The actions MSD has taken since October 12, 2006 at each WWTP to remedy any problems in complying with these KPDES monitoring and recordkeeping requirements;
- (2) A description of the specific actions it currently and regularly performs at each WWTP to insure that such continuous flow monitoring and record keeping will occur;
- (3) A representative sample of flow monitoring records from several WWTPs to exemplify compliance with these KPDES permit requirements.

The parties agree that if after review of MSD's Report, the Cabinet/EPA considers MSD to be in noncompliance with the flow monitoring or recordkeeping requirements of the KPDES permits, then MSD shall be out of compliance with this Amended Consent Decree, subject to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. In addition, the parties agree that nothing in this Amended Consent Decree shall be construed to waive or limit any future remedy or cause of action by EPA and the Cabinet

against MSD for noncompliance with these KPDES permit requirements, and MSD reserves its defenses thereto, except that MSD shall not use this Amended Consent Decree as a defense. EPA and the Cabinet expressly reserve their rights at any time to take any other action deemed necessary, including the right to order all necessary remedial measures, assess penalties for violations, or recover all response costs incurred, and MSD reserves its defenses thereto, except that MSD shall not use this Amended Consent Decree as a defense.

- b. **Bypass Reporting.** MSD shall report in the quarterly reports submitted to EPA and the Cabinet pursuant to paragraph 29 below all Bypasses at MSD's WWTPs prohibited pursuant to the provisions of 40 C.F.R. § 122.41(m)(2) and (4) or 401 KAR 5:065, Section 1(13)(a) and (c). In addition, MSD agrees to immediately comply with the advance notice requirements of any anticipated Bypass pursuant to 40 C.F.R. § 122.41(m)(3)(i) or 401 KAR 5:065, Section 1(13)(b)1 and with the 24-hour notice requirements of any unanticipated Bypasses pursuant to 40 C.F.R. § 122.41(m)(3)(ii) or 401 KAR 5:065, Section 1(13)(b)2. In addition, MSD agrees to report along with its discharge monitoring reports all instances of permit noncompliance not otherwise reported in accordance with 40 C.F.R. § 122.41(l)(7) and 401 KAR 5:065, Section 1(12)(g). MSD shall also report, monitor and maintain records of all Bypasses pursuant to the procedures set forth by MSD in its February 19, 2008 letter to EPA which is attached hereto and incorporated herein as Exhibit D, provided that such actions shall also be performed for all Bypasses (not just those occurring during wet weather) and at any WWTP that experiences a Bypass. The parties agree that any failure to

comply with any of the above requirements shall be a violation of this Amended Consent Decree, subject to MSD's rights under the dispute resolution provisions of this Amended Consent Decree. In addition, the parties agree that nothing in this Amended Consent Decree shall be construed to waive or limit any future remedy or cause of action by EPA and the Cabinet against MSD for noncompliance with these reporting requirements, and MSD reserves its defenses thereto, except that MSD shall not use this Amended Consent Decree as a defense. EPA and the Cabinet expressly reserve their rights at any time to take any other action deemed necessary, including the right to order all necessary remedial measures, assess penalties for violations, or recover all response costs incurred, and MSD reserves its defenses thereto, except that MSD shall not use this Amended Consent Decree as a defense.

- c. **Effluent Sampling.** On July 1, 2008, MSD began to sample the effluent at the Jeffersontown WWTP seven (7) days a week for the parameters listed in the current KPDES permit and in accordance with the sample type and sample location indicated in the permit. MSD shall maintain all documentation regarding these sampling events for a minimum period of three (3) years. Nothing in this paragraph shall be construed to modify any of MSD's KPDES permits nor shall it in any way relieve MSD of its obligations to comply with its KPDES permits including its obligation to comply with the monitoring and sampling frequency requirements set forth in the Jeffersontown WWTP KPDES permit.
- d. **Siphon Monitoring and Inspection.** On July 1, 2008, MSD began to electronically monitor the water surface elevation in the siphon head box

upstream of the headworks of the Jeffersontown WWTP. When the level monitor within the siphon head box reaches an elevation of 603.7 indicating that an SSO is likely to occur, MSD will begin to inspect the siphon head box and manholes on the gravity interceptor within two thousand feet of the headworks of the Jeffersontown WWTP. When these inspections identify an SSO, the occurrence will be reported in accordance with the approved SORP and documented in a written inspection report. Inspection reports for these SSOs shall include, without limitation, the following:

- (1) The specific location of any SSO;
- (2) The estimated volume of any SSO;
- (3) The estimated start and ending time of day of any SSO;
- (4) The time at which any alarm may have been activated or text message received to indicate the water level of the siphon head box;
- (5) The time of day MSD personnel arrived at the location of any SSO;
- (6) A description of the cause and impact of any SSO;
- (7) A description of MSD's activities to minimize, respond to and clean up any SSO;
- (8) The WWTP flow at the documented start time of any SSO;
- (9) The total daily flow at the WWTP for the day of any inspection; and
- (10) Rainfall records for day or days of the SSO event obtained from the automatic, telemetered rain gauge at the Jeffersontown WWTP.

MSD's inspection activities shall also continue to include the reporting, monitoring and record-keeping actions being performed with respect to the siphon

as identified by MSD in its February 19, 2008 letter to EPA which is attached hereto and incorporated herein as Exhibit D. MSD shall include the above-mentioned inspection reports, created as a result of an SSO, in the quarterly reports to be submitted by MSD to EPA and the Cabinet pursuant to paragraph 29 below.

REPORTING REQUIREMENTS

29. **Quarterly Reports.** MSD shall submit a quarterly report for the previous quarter no later than thirty (30) days after the end of each quarter, with the first such report to be submitted no later than January 31, 2006, to the Cabinet and EPA that describes its progress in complying with this Amended Consent Decree. The quarterly report shall include, at a minimum:

- a. A detailed description of projects and activities conducted since the last reporting period to comply with the requirements of this Amended Consent Decree, in Gantt chart or similar format;
- b. An accounting of the current quarter and the cumulative reductions in volume and in number of occurrences of Unauthorized Discharges from the SSS, CSS and WWTPs and discharges from MSD's CSO locations identified in its MFWTP KPDES permit;
- c. All Bypasses at MSD's WWTPs prohibited pursuant to the provisions of 40 C.F.R. § 122.41(m)(2) and (4) or 401 KAR 5:065, Section 1(13)(a) and (c) that occurred in the previous quarter;
- d. The anticipated projects and activities that will be performed in the upcoming quarter to comply with the requirements of this Amended Consent Decree, in

Gantt chart or similar format;

- e. The sampling results of its monitoring for Total Phosphorous pursuant to paragraphs 27.b and c above during the previous quarter;
- f. An update of MSD's efforts to obtain any necessary easements that may be required for the implementation of the CCP for the Timberlake WWTP and the Elimination Plan;
- g. Inspection reports created pursuant to paragraph 28.d above during the previous quarter; and
- h. Any additional information necessary to demonstrate that MSD is adequately implementing its Early Action Plan, Discharge Abatement Plans and paragraphs 26, 27 and 28 of this Amended Consent Decree.

30. **Annual Reports.** MSD has submitted annual reports on or before December 31, 2006 and December 31, 2007, and shall continue to submit an annual report for its previous fiscal year, with the next report due December 31, 2008 and each year thereafter by December 31. The annual reports shall include a summary of the CMOM Programs implementation pursuant to this Amended Consent Decree, including a comparison of actual performance with any performance measures that have been established.

**PAYMENT OF CIVIL PENALTIES AND
SUPPLEMENTAL ENVIRONMENTAL PROJECT**

31. Pursuant to the original Consent Decree, MSD paid to the Cabinet a civil penalty in the amount of one million dollars (\$1,000,000) to resolve the violations alleged in the Cabinet's and EPA's original complaints up through the date of entry of the original Consent Decree.

32. Within sixty (60) days of entry of this Amended Consent Decree, MSD shall pay to EPA a civil penalty in the amount of two hundred thirty thousand dollars (\$230,000) to resolve the violations alleged in the Cabinet's and EPA complaint filed contemporaneously with this Amended Consent Decree from the date of entry of the original Consent Decree up through the date of entry of this Amended Consent Decree. Such payment shall be by electronic funds transfer in accordance with written instructions to be provided by the United States after entry of this Amended Consent Decree. The costs of such electronic transfer shall be the responsibility of MSD. MSD shall provide notice of such payment to the Parties in accordance with the Form of Notice provisions set forth in paragraph 51 of this Amended Consent Decree, referencing the case name, USAO File Number, and DOJ # 90-5-1-1-04258.

33. Pursuant to the original Consent Decree, MSD and the Cabinet agreed that MSD shall timely perform state supplemental environmental projects as set forth in Amended Exhibit A to the original Consent Decree pursuant the Court's Order dated March 15, 2007. MSD has already completed some of those state supplemental environmental projects set forth in Exhibit F attached hereto. The total expenditure for these state projects was not less than eight hundred thousand dollars (\$800,000). MSD has submitted to the Cabinet a Completion Report for each of these state projects described in Exhibit F. The Completion Report contains the following information for each of these state projects:

- a. A detailed description of the project as implemented;
- b. A description of any operating problems encountered and the solutions thereto;
- c. Itemized costs;
- d. Certification that the state project has been fully implemented pursuant to Exhibit F and the provisions of the original Consent Decree;

- e. A description of the environmental and public health benefits resulting from implementation of the project.

Pursuant to this Amended Consent Decree, MSD and the Cabinet agree that MSD shall complete the remaining state supplemental environmental projects required by the original Consent Decree as set forth in Exhibit G attached hereto. As set forth in Exhibit G hereto, approximately seven hundred fifty thousand dollars (\$750,000) has been spent to date on these remaining state projects. Upon completion, the total expenditure for these remaining state projects shall not be less than one million four hundred fifty thousand dollars (\$1,450,000). Upon completion of these remaining state projects, the total expenditure on for all of the state projects required by the original Consent Decree and this Amended Consent Decree shall not be less than two million two hundred fifth thousand dollars (\$2,250,000). MSD shall submit to the Cabinet a Completion Report for each of the state projects described in Exhibit G no later than sixty (60) days from the date for completion of the state project as set forth in Exhibit G. The Completion Report shall contain the following information for each of these state projects:

- a. A detailed description of the project as implemented;
- b. A description of any operating problems encountered and the solutions thereto;
- c. Itemized costs;
- d. Certification that the state project has been fully implemented pursuant to Exhibit G and the provisions of the original Consent Decree;
- e. A description of the environmental and public health benefits resulting from implementation of the project.

34. Pursuant to this Amended Consent Decree and in consideration of the settlement with the Cabinet and EPA set forth in this Amended Consent Decree, MSD shall also timely

perform the Supplemental Environmental Project ("SEP") set forth in Exhibit H attached hereto. The total expenditure for this SEP shall not be less than four hundred thousand dollars (\$400,000). MSD shall submit to the Cabinet and EPA a SEP Completion Report for the SEP described in Exhibit H no later than sixty (60) days from the date for completion of this SEP.

The Report shall contain the following information for this SEP:

- a. A detailed description of the SEP as implemented;
- b. A description of any operating problems encountered and the solutions thereto;
- c. Itemized costs;
- d. Certification that the SEP has been fully implemented pursuant to Exhibit H and the provisions of this Amended Consent Decree;
- e. A description of the environmental and public health benefits resulting from implementation of the SEP.

STIPULATED PENALTIES

35. For failure to timely submit the final SSDP, the Cabinet/EPA may jointly assess against MSD a stipulated penalty in the amount of three thousand dollars (\$3,000). For each day MSD remains out of compliance for failure to timely submit the interim SSDP or the final SSDP, the Cabinet/EPA may jointly assess against MSD a stipulated penalty of an additional one hundred dollars (\$100) per day. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

36. For failure to timely submit the final LTCP, the Cabinet/EPA may jointly assess against MSD a stipulated penalty in the amount of three thousand dollars (\$3,000). For each day that MSD remains out of compliance for failure to timely submit the final LTCP, the Cabinet/EPA may jointly assess against MSD a stipulated penalty of an additional one hundred

dollars (\$100) per day. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

37. For failure to timely submit the Process Control Program pursuant to paragraph 26.a of this Amended Consent Decree, EPA may assess against MSD a stipulated penalty in the amount of three thousand dollars (\$3,000). For each day that MSD remains out of compliance for failure to timely submit the Process Control Program, EPA may assess against MSD a stipulated penalty of an additional one hundred dollars (\$100) per day. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

38. For failure to timely submit the CPE for the Jeffersontown WWTP pursuant to paragraph 26.b of this Amended Consent Decree, EPA may assess against MSD a stipulated penalty in the amount of three thousand dollars (\$3,000). For each day that MSD remains out of compliance for failure to timely submit this CPE, EPA may assess against MSD a stipulated penalty of an additional one hundred dollars (\$100) per day. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

39. For failure to timely submit the CCP for the Jeffersontown WWTP pursuant to paragraph 26.c of this Consent Decree, EPA may assess against MSD a stipulated penalty in the amount of three thousand dollars (\$3,000). For each day that MSD remains out of compliance for failure to timely submit this CPE, EPA may assess against MSD a stipulated penalty of an additional one hundred dollars (\$100) per day. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

40. If MSD allows any increase in flow from new sewer service connections and/or from existing sewer service connections prohibited under paragraph 26.d of this Amended Consent Decree, then EPA may assess a stipulated penalty in the amount of twenty five thousand

dollars (\$25,000) for each such sewer service connection. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

41. For failure to timely submit a CPE for a WWTP pursuant to paragraph 27.a of this Amended Consent Decree, EPA may assess against MSD a stipulated penalty in the amount of three thousand dollars (\$3,000). For each day that MSD remains out of compliance for failure to timely submit this CPE, EPA may assess against MSD a stipulated penalty of an additional one hundred dollars (\$100) per day. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

42. For failure to timely submit a CCP for a WWTP pursuant to paragraph 27.b of this Amended Consent Decree and/or the Elimination Plan pursuant to paragraph 27.c of this Amended Consent Decree, EPA may assess against MSD a stipulated penalty in the amount of three thousand dollars (\$3,000). For each day that MSD remains out of compliance for failure to timely submit this CPE, EPA may assess against MSD a stipulated penalty of an additional one hundred dollars (\$100) per day. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

43. In the event MSD fails to comply with the advance notice requirements for any anticipated Bypass pursuant to 40 C.F.R. § 122.41(m)(3)(i) or 401 KAR 5:065, Section 1(13)(b)1, EPA may assess against MSD a stipulated penalty in the amount of two thousand dollars (\$2,000) for each failure. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

44. In the event MSD fails to comply with the twenty-four hour reporting requirements for any unanticipated Bypass pursuant to 40 C.F.R. § 122.41(m)(3)(ii) or 401 KAR 5:065, Section 1(13)(b)(2), EPA may assess against MSD a stipulated penalty in the amount of

two thousand dollars (\$2,000) for each failure. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

45. For failure to timely submit a quarterly report or an annual report, the Cabinet/EPA may jointly assess against MSD a stipulated penalty in the amount of one thousand dollars (\$1,000). This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

46. For the circumstances described below, the Cabinet/EPA may jointly assess against MSD stipulated penalties as follows:

- a. For any dry weather discharge at a CSO occurring after September 30, 2006, two thousand dollars (\$2,000) per discharge (provided, however, the Cabinet/EPA shall not assess stipulated penalties for those discharges resulting from MSD's compliance with the requirements of the United States Army Corps of Engineers' Ohio River Flood Protection System Pumping Operations Manual, dated 1954 and revised 1988, which shall be addressed under the interim and final LTCP). This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.
- b. For any Unauthorized Discharge (not including any effluent limitation violation of a WWTP KPDES permit and those Unauthorized Discharges described in paragraphs 46.c, d and e below) occurring after August 12, 2007, five hundred dollars (\$500) per Unauthorized Discharge. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.
- c. For any Bypass at MSD's WWTPs prohibited pursuant to the provisions of 40 C.F.R. § 122.41(m)(2) and (4) or 401 KAR 5:065, Section 1(13)(a) and (c), five

hundred dollars (\$500) per Bypass occurring after December 31, 2008. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed; provided, however, after December 31, 2015, this penalty may not be assessed for a particular Bypass if a penalty for that Bypass has been assessed under paragraph 46.e below.

- d. For any Unauthorized Discharge within the Beechwood Village Area and at the Southeast Diversion at Fountain Court, five thousand dollars (\$5,000) per Unauthorized Discharge occurring after December 31, 2011. For any Unauthorized Discharge within the Hikes Point Area and at the Highgate Springs Pump Station, five thousand dollars (\$5,000) per Unauthorized Discharge occurring after December 31, 2013. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.
- e. For any Unauthorized Discharge at the Jeffersontown WWTP or occurring within two thousand feet of the headworks of the Jeffersontown WWTP including any Unauthorized Discharge from the siphon head box, five thousand dollars (\$5,000) per Unauthorized Discharge occurring after December 31, 2015. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed; provided, however, that this penalty may not be assessed for a particular Bypass if a penalty for that Bypass has been assessed under paragraph 46.c above.
- f. For each time samples taken after October 31, 2010 at the Timberlake WWTP, the Hunting Creek North WWTP, the Hunting Creek South WWTP, the Shadow Wood WWTP or the Ken Carla WWTP pursuant to paragraphs 27.b(5) or 27.c(3) of this Amended Consent Decree indicate a monthly average effluent

characteristic for Total Phosphorous of greater than one milligram per liter (1 mg/L), one thousand dollars (\$1,000).

47. For each day that MSD fails to timely complete approved projects under the interim SSDP, the final SSDP, the final LTCP, or any approved amendments thereto, the Cabinet/EPA may jointly assess against MSD stipulated penalties for each such project as follows:

Period Beyond Completion Date	Penalty Per Violation Per Day
1 - 30 days	\$1,000
31 - 60 days	\$2,000
60 - 120 days	\$3,000
more than 120 days	\$5,000

48. For failure to complete the selected alternative in the CCP for the Jeffersontown WWTP on or before December 31, 2015, EPA may assess against MSD a stipulated penalty in the amount of one hundred thousand dollars (\$100,000). For each month that MSD remains out of compliance for failure to complete the selected alternative in the CCP for the Jeffersontown WWTP, EPA may assess against MSD a stipulated penalty of an additional fifty thousand dollars (\$50,000) per month. This penalty is in addition to, and not in lieu of, any other penalty that could be assessed.

49. In the event MSD fails to satisfactorily complete the SEP as set forth in paragraph 34 and Exhibit H of this Amended Consent Decree, EPA may assess a stipulated penalty in the amount of one hundred fifty thousand dollars (\$150,000); provided, however, if EPA determines that MSD (a) has made good faith efforts to complete the SEP and (b) has certified, with supporting documentation, that at least ninety percent (90%) of the money required to be spent

on the SEP was expended, MSD shall not be liable for this stipulated penalty. In the event MSD spends less than ninety percent (90%) of the money required to be spent on the SEP but otherwise satisfactorily completes the SEP as set forth in paragraph 34 and Exhibit H of this Amended Consent Decree, EPA may assess a stipulated penalty equal to the difference between MSD's documented SEP expenditures and the amount of money required to be spent on the SEP. In the event MSD fails to submit the SEP Completion Report in accordance with the provisions of paragraph 34 of this Amended Consent Decree, EPA may assess a stipulated penalty in the amount of one thousand dollars (\$1,000) for each day after the report was originally due until the report is satisfactorily submitted.

50. MSD shall tender all stipulated penalty payments specified above within ten (10) days of receipt of written notice that such penalty has been assessed. Fifty (50) percent of each payment due pursuant to paragraphs 35 through 48 shall be paid to the Cabinet and fifty (50) percent shall be paid to EPA. Each payment due pursuant to paragraph 49 shall be paid to EPA. MSD shall tender all penalty payments due to the Cabinet by certified check, cashier's check or money order, payable to the KENTUCKY STATE TREASURER. Payment shall be tendered to the Kentucky Division of Enforcement, 300 Fair Oaks Lane, Frankfort, Kentucky 40601; note Case No. DOW-32604-056. MSD shall tender all penalty payments due to EPA by electronic funds transfer, in accordance with written instructions to be provided by EPA after entry of this Amended Consent Decree. The costs of such electronic transfer shall be the responsibility of MSD. Notice of such payment shall be provided under the Form of Notice provision in this Amended Consent Decree.

FORM OF NOTICE

51. Unless otherwise specified, or as may be changed from time to time, all reports,

notices, or any other written communications required to be submitted under this Amended Consent Decree shall be sent to the respective parties at the following addresses:

As to the Commonwealth of Kentucky:

Director, Division of Enforcement
Department of Environmental Protection
300 Fair Oaks Lane
Frankfort, Kentucky 40601

For verbal notifications: Mark Cleland, Division of Enforcement, (502) 564-2150
(subject to change on written notice to MSD).

As to EPA:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington, D.C. 20044-7611
Reference DOJ Case No. 90-5-1-1-08254

Chief, Water Programs Enforcement Branch
Water Management Division
U.S. Environmental Protection Agency,
Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

For verbal notifications: Doug Mundrick, Chief, Water Programs Enforcement Branch,
(404) 562-9328 (subject to change on written notice to MSD).

As to MSD:

H. J. Schardein, Jr.
Executive Director
Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203

Laurence J. Zielke
Special Counsel to the Board
Zielke Law Firm, PLLC
1250 Meidinger Tower
462 South Fourth Avenue
Louisville, Kentucky 40202

Notifications to, or communications with, the parties shall be deemed submitted on the date they are postmarked and sent by certified mail, return receipt requested, or deposited with an overnight mail/delivery service.

COSTS OF SUIT

52. The parties shall bear their own costs and attorneys' fees with respect to matters related to this Amended Consent Decree. In the event, however, that the Cabinet or EPA must enforce this Amended Consent Decree, MSD shall pay all attorneys' fees and costs incurred by the Cabinet or EPA if the Cabinet or EPA prevails on the issue for which enforcement is sought; this obligation shall not apply to any procedures that may arise under the dispute resolution provisions of this Amended Consent Decree.

REVIEW OF SUBMITTALS

53. The Cabinet/EPA agree to use their best efforts to expeditiously review and comment on submittals that MSD is required to submit to the Cabinet/EPA for approval pursuant to the terms and provisions of this Amended Consent Decree. If the Cabinet/EPA cannot

complete their review of a submittal within sixty (60) days of receipt of the submittal, or within the time period otherwise provided in this Amended Consent Decree, the Cabinet/EPA shall so notify MSD before the expiration of the applicable review period. If the Cabinet/EPA fail to approve, provide comments or otherwise act on a submittal within sixty (60) days of receipt of the submittal, or within the time period otherwise provided in this Amended Consent Decree, any subsequent milestone date dependent upon such action by the Cabinet/EPA shall be extended by the number of days beyond the applicable review period that the Cabinet/EPA use to act on that submittal.

CERTIFICATION OF SUBMISSIONS

54. In all notices, documents or reports submitted pursuant to this Amended Consent Decree, MSD shall, by a responsible party of MSD, as defined by 40 C.F.R. §122.22, sign and certify each such notice, document and report as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

RIGHT OF ENTRY

55. The Cabinet and EPA and their authorized representatives and contractors shall have authority at all times, upon the presentation of proper credentials, to enter the premises of MSD to:

- a. Monitor the work required by this Amended Consent Decree;
- b. Verify any data or information submitted to the Cabinet or EPA;
- c. Obtain samples from any portion of the SSS, CSS or WWTPs;
- d. Inspect and evaluate any portions of the SSS, CSS or WWTPs;
- e. Inspect and review any records required to be kept under the terms and conditions of this Amended Consent Decree or any KPDES permit, the Act and KRS Chapter 224; and
- f. Otherwise assess MSD's compliance with state and federal environmental laws and this Amended Consent Decree.

The rights created by this paragraph are in addition to, and in no way limit or otherwise affect, the authority of the Cabinet or EPA to conduct inspections, to require monitoring and to obtain information from MSD as authorized by law.

RECORD RETENTION

56. MSD shall retain all data, documents, plans, records and reports that relate to MSD's performance under this Amended Consent Decree which are in the possession, custody, or control of MSD or its consultants or contractors. MSD shall retain all such materials for five (5) years from the date of origination. Drafts of final documents, plans, records, or reports do not need to be retained. This paragraph does not limit or affect any duty or obligation of MSD to maintain records or information required by any KPDES permit. At the conclusion of this retention period MSD shall notify the Cabinet and EPA at least one-hundred and twenty (120) days prior to the destruction of any such materials, and upon request by any of these parties, MSD shall deliver any such materials to that party.

MISCELLANEOUS PROVISIONS

57. This Amended Consent Decree is designed to resolve the civil claims for penalties of the Cabinet and EPA for the violations of KRS Chapter 224 and the Act as alleged in the complaints and the amended complaint filed by the Cabinet and EPA up through the date of entry of this Amended Consent Decree. The Cabinet and EPA have relied upon the factual representations of MSD. Nothing contained herein shall be construed to waive or to limit any remedy or cause of action by the Cabinet and EPA based on statutes or regulations under applicable jurisdiction and MSD reserves its defenses thereto, except that MSD shall not use this Amended Consent Decree or any subsequent amendments to this Amended Consent Decree as a defense. The Cabinet and EPA expressly reserve their rights at any time to issue administrative orders and to take any other action deemed necessary, including the right to order all necessary remedial measures, assess penalties for violations, or recover all response costs incurred, and MSD reserves its defenses thereto, except that MSD shall not use this Amended Consent Decree or any subsequent amendments to this Amended Consent Decree as a defense.

58. This Amended Consent Decree or any subsequent amendments to this Amended Consent Decree shall not prevent the Cabinet and EPA from issuing, reissuing, renewing, modifying, revoking, suspending, denying, terminating, or reopening any permit to MSD. MSD reserves its defenses thereto, except that MSD shall not use this Amended Consent Decree or any subsequent amendments to this Amended Consent Decree as a defense.

59. MSD waives its right to any hearing on the matters admitted herein. However, failure by MSD to comply strictly with any or all of the terms of this Amended Consent Decree or any subsequent amendments to this Amended Consent Decree shall be grounds for the Cabinet and EPA to seek enforcement of this Amended Consent Decree or any subsequent amendments to this Amended Consent Decree in this Court and to pursue any other appropriate

administrative or judicial action under the Act or KRS Chapter 224, and the regulations promulgated pursuant thereto.

60. The terms and conditions stated herein are intended to be implemented as a whole and may not be challenged independently. Except as set forth below, this Amended Consent Decree may not be materially amended or modified except by written agreement of the parties, and approval of this Court. Any material modification of this Amended Consent Decree shall be effective upon approval of the Court. Non-material modifications of the Amended Consent Decree which do not significantly alter the requirements of this Amended Consent Decree may be made in writing by the parties. The parties agree that any future agreed upon changes to Exhibit D attached hereto shall be considered non-material modifications of this Amended Consent Decree which may be made in writing by the parties.

61. It is the intention of the parties to this Amended Consent Decree that MSD shall have the opportunity, consistent with applicable law, to conform compliance with this Amended Consent Decree to any modifications in EPA's regulations or national policies governing Bypasses that may occur after lodging of this Amended Consent Decree. Consequently, upon issuance of any new EPA final regulation (as promulgated in the Federal Register) or national policy governing Bypasses, MSD may request modification of this Amended Consent Decree (including requests for extensions of time) from the Cabinet/EPA to conform this Consent Decree to such regulation or national policy. For the purposes of this paragraph, "national policy" refers to a formal written policy statement issued by EPA's Assistant Administrator for the Office of Water and EPA's Assistant Administrator for the Office of Enforcement and Compliance Assurance. Upon MSD's request, the parties shall discuss the matter. If the parties agree on a proposed modification to this Amended Consent Decree, they shall prepare a joint

motion to the Court requesting such modification. If the parties do not agree, and MSD still believes modification of this Amended Consent Decree is appropriate, it may file a motion seeking such modification in accordance with Federal Rule of Civil Procedure 60(b); provided, however, that nothing in this paragraph is intended to waive the Cabinet's and EPA's rights to oppose such motion and to argue that such modification is unwarranted. Following the filing of a motion under Rule 60(b), any stipulated penalties that may be assessed shall accrue due to MSD's failure, if any, to continue performance of obligations under this Amended Decree that are necessarily the subject of the Rule 60(b) motion; provided, however, that such penalties need not be paid unless the Court resolves the Rule 60(b) motion in the Cabinet/EPA's favor. If the Court resolves the motion in MSD's favor, MSD shall comply with this Amended Consent Decree as modified.

62. The Cabinet and EPA do not, by consent to the entry of this Amended Consent Decree, warrant or aver in any manner that MSD's complete compliance with this Amended Consent Decree will result in compliance with the provisions of the Act or KRS Chapter 224, and the regulations promulgated pursuant thereto, nor with any permit. Notwithstanding the Cabinet's and EPA's review and approval of any plans formulated pursuant to this Amended Consent Decree, MSD shall remain solely responsible for compliance with the terms of the Act and KRS Chapter 224, and the regulations promulgated pursuant thereto, this Amended Consent Decree and any permit and compliance schedule requirements. This Amended Consent Decree is not and shall not be construed as a permit, nor a modification of any existing permit, issued pursuant to Section 402 of the Act, 33 U.S.C. § 1342, nor shall it in any way relieve MSD of its obligations to obtain permits for its WWTPs and related operations or facilities and to comply with the requirements of any KPDES permit or with any other applicable state or federal law or

regulation. Any new permit, or modification of existing permits, must be complied with in accordance with applicable state or federal laws and regulations.

63. The provisions of this Amended Consent Decree shall apply to and be binding upon MSD. The acts or omissions of MSD's officers, directors, agents, and employees shall not excuse MSD's performance of any provisions of this Amended Consent Decree. The Cabinet and EPA reserve the right to seek enforcement of this Amended Consent Decree against the successors and assigns of MSD. MSD shall give notice of this Amended Consent Decree to any purchaser, lessee or successor-in-interest prior to the transfer of ownership and/or operation of any part of the now-existing facility occurring prior to termination of this Amended Consent Decree, shall notify the Cabinet and EPA that such notice has been given, and shall follow all statutory and regulatory requirements for a transfer. Whether or not a transfer takes place, MSD shall remain fully responsible for payment of all civil penalties, stipulated/performance penalties, and for performance of all remedial measures identified in this Amended Consent Decree.

64. This Amended Consent Decree shall not be contingent on the receipt of federal or state funds.

65. Upon entry of this Amended Consent Decree, MSD and the Cabinet hereby agree that this Amended Consent Decree shall supersede and replace all of MSD's obligations set forth in the Agreed Order, filed August 4, 1999 in the Cabinet's Office of Administrative Hearings, and the Amended Agreed Order, filed February 24, 2005 in the Cabinet's Office of Administrative Hearings, both having file numbers DOW-22824-042, DOW-23166-042, DOW-24095-042 and DOW-24270.

PUBLIC COMMENTS

66. The parties agree and acknowledge that final approval of this Amended Consent

Decree by the Cabinet and EPA, and entry of this Amended Consent Decree by the Court, are subject to the requirements of 28 C.F.R. §50.7, which provides for notice of the lodging of this Amended Consent Decree in the Federal Register, an opportunity for public comment, and consideration of any comments. MSD hereby agrees not to withdraw from, oppose entry of, or challenge any provision of this Amended Consent Decree, unless the Cabinet or EPA has notified MSD in writing that it no longer supports entry of the Amended Consent Decree.

FORCE MAJEURE

67. MSD shall perform the requirements of this Amended Consent Decree within the time limits set forth or approved herein, unless the performance is prevented or delayed solely by events which constitute a force majeure, in which event the delay in performance shall be excused and no performance or stipulated penalty shall be assessed. A force majeure is defined as any event arising from causes not reasonably foreseeable and beyond the control of MSD, or MSD's consultants and contractors, which could not be overcome by due diligence, and which delays or prevents performance by a date required by this Amended Consent Decree. Force majeure events do not include unanticipated or increased costs of performance, changed economic or financial conditions, the failure by a contractor to perform, or the failure by a supplier to deliver.

68. MSD shall notify the Cabinet's Director of the Enforcement Division and EPA's Chief of the Water Programs Enforcement Branch by telephone by the end of the next business day and in writing within ten (10) business days after it becomes aware of events which it knows or should know constitute a force majeure. The notice shall estimate the anticipated length of delay, including necessary demobilization and remobilization, its cause, measures taken or to be taken to minimize the delay and an estimated timetable for implementation of these measures.

Failure to comply with the notice provision of this paragraph shall be grounds for the Cabinet and EPA to deny an extension of time for performance. If an event is anticipated to occur which may cause a delay in meeting the requirements of this Amended Consent Decree, MSD shall notify the Cabinet's Director of the Enforcement Division and EPA's Chief of the Water Programs Enforcement Branch by telephone by the end of the next business day and in writing within ten (10) business days of learning of the possibility of a force majeure event, if the event has not already occurred. The Cabinet or EPA will respond in writing to any written notice received.

69. If MSD reasonably demonstrates to the Cabinet and EPA that the delay has been or will be caused by a force majeure event, the Cabinet and EPA will extend the time for performance for that element of the Amended Consent Decree for a period not to exceed the delay resulting from such circumstances.

70. If a dispute over the occurrence or impact of a force majeure event cannot be resolved, MSD may invoke its rights under the dispute resolution provisions of this Amended Consent Decree. In any such dispute, MSD shall have the burden of proof that a violation of this Amended Consent Decree was caused by a force majeure event.

**CONTINUING JURISDICTION, TERMINATION AND
AMENDMENTS TO CONSENT DECREE**

71. The Court shall retain jurisdiction to effectuate and enforce the terms and conditions and achieve the objectives of this Amended Consent Decree and any subsequent amendments thereto, and to resolve disputes arising hereunder as may be necessary or appropriate for the construction, modification, implementation, or execution of this Amended Consent Decree or any subsequent amendments thereto.

72. This Amended Consent Decree is subject to termination on the date that MSD

certifies that it has:

- a. Completed all SEPs,
- b. Paid all penalties and stipulated penalties due,
- c. Submitted and received approval of the Early Action Plan; the interim SSDP; the final SSDP; the interim LTCP; the final LTCP; the Process Controls Program for the Jeffersontown WWTP; the CPE and CCP for the Jeffersontown WWTP; and the CPEs, CCPs and Elimination Plan for the other WWTPs pursuant to paragraph 27 of this Amended Consent Decree, and
- d. Completed all work and implemented all the requirements in the Early Action Plan; the interim SSDP; the final SSDP; the interim LTCP; the final LTCP; the Process Controls Program for the Jeffersontown WWTP; the CPE and CCP for the Jeffersontown WWTP; and the CPEs, CCPs and Elimination Plan for the other WWTPs pursuant to paragraph 27 of this Amended Consent Decree, as required under this Amended Consent Decree or any additional amendments to this Amended Consent Decree.

The Cabinet/EPA's determination that this Amended Consent Decree or any subsequent amendment to this Amended Consent Decree should be terminated shall be based on a consideration of whether all of the four (4) requirements listed above have occurred.

73. MSD may request that the Cabinet/EPA make a determination that this Amended Consent Decree be terminated. Any such request shall be in writing and shall include a certification that the four (4) requirements listed in paragraph 72 above have been met. MSD shall serve a copy of any such request on the Cabinet through the office of its Secretary and EPA through the Director of the EPA Region 4 Water Division.

74. If the Cabinet/EPA agree that MSD has met all four of the requirements listed above, the Cabinet/EPA and MSD shall file a joint motion with the Court seeking an order terminating the Amended Consent Decree or any subsequent amendment thereto. If the

Cabinet/EPA determine not to seek termination of this Amended Consent Decree or any subsequent amendment thereto because they determine all of the four requirements listed in paragraph 72 above were not met, they shall so notify MSD in writing. The Cabinet/EPA's notice shall summarize the basis for its decision and describe the actions necessary to achieve final compliance. If MSD disagrees with any such determination by the Cabinet/EPA, it must invoke the dispute resolution procedures described in paragraphs 75 and 76 below before filing any motion with the Court regarding the disagreement.

DISPUTE RESOLUTION

75. Any dispute that arises under or with respect to this Amended Consent Decree shall in the first instance be the subject of informal negotiations between the parties. MSD shall invoke the informal dispute resolution procedures by notifying all other parties in writing of the matter(s) in dispute and of MSD's intention to resolve the dispute under these paragraphs 75 and 76. The notice shall:

- a. Outline the nature and basis of the dispute;
- b. Include MSD's proposed resolution;
- c. Include all information or data relating to the dispute and the proposed resolution;
and
- d. Request negotiations pursuant to this paragraph to informally resolve the dispute.

The parties shall then attempt to resolve the dispute informally for a period of thirty (30) days from the date of the notice with the goal of resolving the dispute in good faith, without further proceedings. The period for informal negotiations shall not exceed thirty (30) days from the date of the original notice of this dispute, unless the parties otherwise agree in writing to extend that period.

76. If informal negotiations are unsuccessful, the position of the Cabinet and EPA shall control unless, within thirty (30) days after the conclusion of the informal negotiation period, MSD seeks judicial review of the dispute by filing with the Court and serving on the Cabinet and EPA a motion requesting judicial resolution of the dispute. The motion shall contain a written statement of MSD's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Amended Consent Decree. The Cabinet and EPA shall respond to MSD's motion within thirty (30) days. Either party may request an evidentiary hearing for good cause. The burden of proof is on MSD to demonstrate that its position on the matter in dispute meets the objectives of the Amended Consent Decree, any subsequent amendment thereto, the Act and KRS Chapter 224. If the dispute is not resolved within the schedule identified for orderly implementation of the Amended Consent Decree in MSD's motion, MSD may request additional time beyond compliance schedules or deadlines in this Amended Consent Decree that are dependent upon the duration and/or resolution of the dispute.

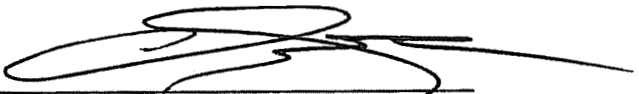
SIGNATORIES

77. The signatories for the Cabinet and EPA certify that they are fully authorized to enter into the terms and conditions of this Amended Consent Decree and to execute and legally bind such parties to this document.

78. MSD's agent identified on the attached signature page is authorized to accept service of process by mail on MSD's behalf with respect to all matters arising under or related to this Amended Consent Decree. MSD agrees to accept service of process in that manner and to waive the formal service and notice requirements set forth in Section 505 of the Act, 33 U.S.C. § 1365, and Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this

Court, including but not limited to service of a summons.

SO ORDERED, this 10th day of April, 2009.


UNITED STATES DISTRICT JUDGE

THE UNDERSIGNED Party enters into this Amended Consent Decree, subject to the public notice requirements of 28 C.F.R. §50.7, and submits it to the Court for entry.

FOR THE COMMONWEALTH OF KENTUCKY,
ENERGY AND ENVIRONMENT CABINET



Leonard K. Peters,
Secretary



C. Michael Haines,
General Counsel
Twelfth Floor, Capital Plaza Tower
Frankfort, Kentucky 40601
(502) 564-7192

THE UNDERSIGNED Party enters into this Amended Consent Decree, subject to the public notice requirements of 28 C.F.R. §50.7, and submits it to the Court for entry.

FOR THE UNITED STATES OF AMERICA



Ronald J. Tenpas
Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice



WILLIAM A. WEINISCHKE
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DAVID L. HUBER
United States Attorney

WILLIAM F. CAMPBELL
Assistant United States Attorney
Western District of Kentucky
510 W. Broadway, 10th Floor
Louisville, Kentucky 40402
(502) 582-6773



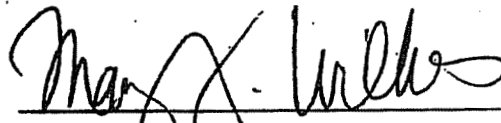
RANDOLPH L. HILL

Acting Director

Office of Civil Enforcement

Office of Enforcement and Compliance Assurance

United States Environmental Protection Agency



MARY J. WILKES

Regional Counsel

United States Environmental Protection Agency

Region 4

61 Forsyth Street

Atlanta, Georgia 30303

(404) 562-9556



WILLIAM B. BUSH, JR.

Associate Regional Counsel

United States Environmental Protection Agency

Region 4

61 Forsyth Street

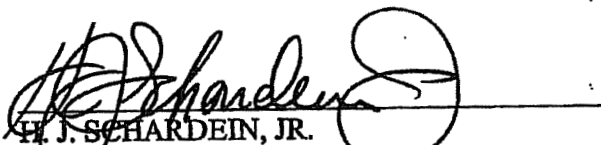
Atlanta, Georgia 30303


(404) 562-9538

THE UNDERSIGNED Party enters into this Amended Consent Decree, subject to the public notice requirements of 28 C.F.R. §50.7, and submits it to the Court for entry.

FOR LOUISVILLE AND JEFFERSON COUNTY
METROPOLITAN SEWER DISTRICT


BEVERLY WHEATLEY
Chairman of the Board


H. J. SCHARDEIN, JR.
Executive Director


LAURENCE J. ZIELKE
Special Counsel to the Board
Zielke Law Firm, PLLC
1250 Meidinger Tower
462 South Fourth Avenue
Louisville, Kentucky 40202
(502) 589-4600



MSD

Louisville and Jefferson County
Metropolitan Sewer District

Capacity, Management, Operations and Maintenance Self Assessment

May 12, 2006





MSD

*Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville Kentucky 40203-1911
502-540-6000
www.msdlouky.org*

February 19, 2008

Mr. Douglas F. Mundrick
Chief, Water Programs Enforcement Branch
Water Management Program
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: Followup to February 6, 2008, Meeting in Atlanta
Concerning Peak Flow Management at Jeffersontown WWTP

Dear Mr. Mundrick:

On behalf of the Louisville and Jefferson County Metropolitan Sewer District ("MSD"), we appreciated the opportunity to meet with you and others concerning matters involving operations of MSD. We believe that the meeting was very productive and resulted in correcting some miscommunications.

We believe that continued face to face meetings are the most productive and will lead to an amicable resolution of all outstanding issues.

While we acknowledge that there are various issues left to resolve, we understand that the blending issue at the Jeffersontown Wastewater Treatment Plant is a primary concern for us both.

During the meeting, we agreed to begin reporting blending events at the Jeffersontown Wastewater Treatment Plant. As stated in the meeting, MSD has installed new technology, which will now provide us with real time information concerning blending events at the Jeffersontown Wastewater Treatment Plant. The information will assist us to maximize secondary treatment and minimize blending. MSD believes that some treatment is preferable to no treatment. MSD will also implement a public website notification of blending events at the Jeffersontown Wastewater Treatment Plant.



*Beneficial Use of Louisville's Biosolids
www.louisvillegreen.com*

Exhibit E

MSD Development Team Log No.	Capacity Charge Worksheet or Downstream Facilities Capacity Identifier Development Name / Location	Original Amount Applied For - Gallons Per Day	Payment Date	Tax Block (Remaining Property)	Tax Lot (Remaining Property)	Remaining Amount Subject to Approval - Gallons Per Day	Comments
366-04	12515 Taylorsville Road	12,000	10/1/2004	TB 0047	L 0044	12,000	
002-08	Stone Lakes Sections 2 and 8	61,200	7/6/2004	TB 3735	L 004	17,200	Original Application for 153 lots; 110 lots previously approved; 43 additional lots thus subject to approval
001-08	Grand Lakes Subdivision	40,000	7/6/2004	TB 0040	L 0037	20,000	Original Application for 100 lots; 50 lots previously approved; 50 additional lots thus subject to approval
252-04	Citicorp Development	17,250	5/13/2004	TB 1831	L 0085	17,250	
298-04	Blankenbaker Station	49,117.5	7/7/2004	TB 0039	L 1078	5,010	This commercial project has been partially developed with only 5,010 gpd remaining for approval.

EXHIBIT F

The following is a list of the completed state supplemental environmental projects performed by MSD pursuant to paragraphs 28 and 29 of the original Consent Decree and Amended Exhibit A of the original Consent Decree which was approved by the Court's Order dated March 15, 2007.

Environmental Education and Public Outreach

Perform or provide funding for groups that will perform efforts to raise environmental awareness and stewardship for the local and regional community. Specific emphasis will be placed on efforts that promote watershed focused environmental activities. Proposed cost is \$800,000.

Specific activities include:

- Sustainable Landscaping – Education, planning, and plant material for implementing sustainable landscaping for urban areas. Specifically, schools and low income housing will be targeted. (\$100,000)
- Outdoor Classroom – Continued support of the ongoing Outdoor Classroom program with Jefferson County Public Schools. This program was started under the MFWTP Agreed Order and is closely connected to the previous item. (\$100,000)
- PRIDE – Implementation and/or expansion of PRIDE into the local and regional area. (\$200,000)
- Environmental Education Certification – Continue support for the this existing program (\$50,000)
- Watershed Focused Environmental Groups – Provide funding to assist these groups with the environmental education and public outreach activities. Providing water quality data interpretation for these groups and the general public. (\$250,000)
- Bicycle and Pedway Connections along K&I Railroad Bridge and Metro Park System. (\$100,000)

EXHIBIT G

The following is a list of the remaining state supplemental environmental projects required pursuant to paragraphs 27 and 28 of the original CD and Amended Exhibit A of the original Consent Decree which was approved by the Court's Order dated March 15, 2007. These remaining state projects are now required to be completed pursuant to this Amended Consent Decree.

Public Health Screening – Western Louisville

Perform public health screening for residents of neighborhoods adjacent to the industrialized areas of the western portion of Louisville Metro. The screenings will be coordinated through the Louisville Metro Board of Health and will be performed at no cost to the residents. The parameters of the screening shall include the types of health concerns most commonly associated with living in close proximity to industrialized areas including certain forms of cancer.

As part of the original Consent Decree, MSD committed to fund a Louisville Metro Board of Community Health Screening Project ("CHSP") with \$1,200,000. After the original project was finished, funds remained. The Louisville Metro Board of Health proposes a Phase II of the SEP to spend the remaining funds. Phase II of the CHSP will consist of a continuance of the Colon Cancer Navigation Program from Phase I, the continuation of follow up and referral from Phase I and a focus group study of participation and non-participation as a part of lessons-learned as an addendum to the Final Report – Phase I. Funds allocated for these initiatives are for Colon Cancer navigation (\$50,000), remaining follow-up and referral (\$5000) and the focus group study (\$25,000).

The remaining funds (\$335,000) will be dedicated to a Louisville Asthma Outreach Project. This project will be two-pronged, with education goals aimed at individual asthmatics as well as the general community. The individual patient outreach efforts will center on educating community members who are known to have severe asthma. Asthmatics will be directed from the Rubbertown-area Family Health Centers to follow up with the project if they have had repeated emergency room visits or hospitalizations with asthma exacerbations. The Health Department will employ a case manager to make multiple visits to their homes to help them better understand the pathology of their disease, how to use their medication correctly, and potential environmental triggers in their home. They will be given simple, low-cost resources to manage these triggers. The Health Department will aim for this program to reach about 50 asthmatics and their families each year.

The community education arm will utilize curricula developed by the American Lung Association and Centers for Disease Control and Prevention to reach community work sites, schools, and organizations within the community to further inform about asthma, its symptoms, its health effects, and how it can be prevented.

The Health Department will hire a full-time supervisor to manage the project, with responsibilities of scheduling events, maintaining community contacts, and supervising the case management process. The Health Department will also hire a full-time case manager to conduct home visits. The Health Department has formed a community advisory board to help steer this project, which includes representatives from the

Kentucky chapter of the American Lung Association, the Family Health Centers, the Kentucky Department for Public Health's Respiratory Disease Program in the Division of Prevention and Quality Improvement, and a community allergist, Dr. James Sublett. The Health Department anticipates that this project will continue for at least three (3) years, and it will attempt to appeal for further outside funding to finance this project in the future.

Proposed total cost is \$1,200,000. **This is to be completed no later than three (3) years from the date of entry of this Amended Consent Decree. This date is subject to approval of the Health Department.**

Environmental Education and Public Outreach

Perform or provide funding for groups that will perform efforts to raise environmental awareness and stewardship for the local and regional community. Specific emphasis will be placed on efforts that promote watershed focused environmental activities.

Proposed cost is \$250,000. Specific activities include:

Riparian Buffers – Education, planning, and plant material for the development and implementation or restoration of riparian buffers along urbanized streams. Additionally, a demonstration project will be a "no mow zone" to demonstrate the process and define expectations for prospective participants in the program. **To be performed no later than December 31, 2008.**

EXHIBIT H

Supplemental Environmental Project Stream Restoration

1. Project Description

The purpose of the Stream Restoration Project is to provide one-time restoration work for various stretches of streams in Jefferson County, Kentucky as described in MSD's Stream Restoration Plan to be submitted as provided below. The Stream Restoration Project will target stretches of streams affected by discharges from MSD's Sewer System. Stream restoration may include one-time clean up of the streams and stream beds, removing debris and trash, improving habitat, stabilizing banks, creating vegetation buffers and/or removing invasive vegetation.

2. General Obligations

MSD shall prepare a Stream Restoration Plan and submit the plan to EPA for review and approval within thirty (30) days of entry of this Amended Consent Decree. At a minimum, the Stream Restoration Plan shall contain MSD's strategy for restoring various stretches of streams in Jefferson County, including work schedules and work budgets.

Upon review of the Stream Restoration Plan, EPA may (1) approve, in whole or in part, or (2) provide comments to MSD for the purposes of identifying the deficiencies in the Stream Restoration Plan. Upon receipt of EPA's comments, MSD shall have thirty (30) days to revise and resubmit the Stream Restoration Plan for review and approval, subject only to MSD's rights under the dispute resolution provisions of this

Amended Consent Decree. Upon resubmittal, EPA may (1) approve or (2) disapprove and provide comments to MSD identifying the deficiencies. Upon such resubmittal, if the Stream Restoration Plan is disapproved, then EPA may deem MSD to be out of compliance with this Amended Consent Decree for failure to satisfactorily complete the SEP and may assess stipulated penalties pursuant to paragraph 49 of this Amended Consent Decree. Upon EPA approval of all or any part of the Stream Restoration Plan, the Stream Restoration Plan, or any approved part of the Stream Restoration Plan (provided that the approved part is not dependent upon implementation of any part not yet approved), shall be deemed incorporated into this Amended Consent Decree as an enforceable requirement of this Amended Consent Decree.

Within six (6) months of approval by EPA of the Stream Restoration Plan, MSD shall retain personnel or contract for services under the Stream Restoration Plan, secure necessary federal, state and local permits, and begin work to satisfy the Stream Restoration Plan. MSD shall complete the work under the Plan within one year of beginning the work.

3. Total Costs

The total costs to be spent by MSD on the Stream Restoration Plan shall not be less than \$400,000.

EXHIBIT H

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3. Total Costs

The total costs to be spent by MSD on the Stream Restoration Plan shall not be less than \$400,000.





MSD

Louisville and Jefferson County
Metropolitan Sewer District

Louisville, Kentucky USA

A component unit of the Louisville KY Metro Government



COMPREHENSIVE ANNUAL FINANCIAL REPORT
FOR THE FISCAL YEAR ENDED
JUNE 30, 2008

EXHIBIT H

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**LOUISVILLE AND JEFFERSON COUNTY, KY
METROPOLITAN SEWER DISTRICT (MSD)**

**A COMPONENT UNIT OF THE LOUISVILLE KY METRO
GOVERNMENT**

**COMPREHENSIVE
ANNUAL
FINANCIAL
REPORT**

FOR THE FISCAL YEAR ENDED JUNE 30, 2008

**Prepared by the Division of Budget and Finance
Marion Gee, Director**

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**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
 COMPREHENSIVE ANNUAL FINANCIAL REPORT
 FOR THE FISCAL YEAR ENDED JUNE 30, 2008**

TABLE OF CONTENTS

	<u>Page No.</u>
<i>INTRODUCTORY SECTION</i>	
Letter of Transmittal	1-6
GFOA Certificate of Achievement for Excellence in Financial Reporting	7
Organizational Chart	8
List of Board Members and Principal Officials	9
<i>FINANCIAL SECTION</i>	
Independent Auditors' Report	10
Management Discussion and Analysis	11-18
Basic Financial Statements	
Comparative Statement of Net Assets	19
Comparative Statements of Revenues, Expenses and Changes in Net Assets	20
Comparative Statement of Cash Flows	21 - 22
Notes to the Comparative Financial Statements	23 - 47
<i>STATISTICAL SECTION</i>	
Schedules of Debt Service Coverage	48
Ten Years Comparative Statement of Net Assets	49 - 50
Ten Years Comparative Statements of Revenues, Expenses, and Changes in Net Assets	51
Ten Years Comparative Statements of Cash Flow	52

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPREHENSIVE ANNUAL FINANCIAL REPORT
FOR THE FISCAL YEAR ENDED JUNE 30, 2008
(CONTINUED)**

TABLE OF CONTENTS

	<u>Page No.</u>
Ten Years Comparative Summaries of Operating Revenue	53
Ten Years Comparative Summaries of Service and Administrative Costs	54
Ten Years Comparative Schedules of Plant, Lines, and Other Facilities	55
Wastewater Treatment Plant Capacity	56
Employers of One Thousand or more in Greater Louisville	57
Population Trend	58
Top Ten Customers	59

INTRODUCTORY SECTION

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MSD

November 16, 2008

Customers, Investors and Board
Louisville and Jefferson County Metropolitan Sewer District

Ladies and Gentlemen:

The Comprehensive Annual Financial Report ("CAFR") of the Louisville and Jefferson County, Kentucky, Metropolitan Sewer District ("MSD") for the fiscal year ended June 30, 2008 ("2008") is submitted herewith. Responsibility for both the accuracy of the data, the completeness and fairness of the presentation, including all disclosures, rests with MSD. To provide a reasonable basis for making these representations, the management of MSD has established a comprehensive internal control framework that is designed to both protect its assets from loss, theft, or misuse and to compile sufficient reliable information for the preparation of MSD's financial statements in conformity with Generally Accepted Accounting Principles (GAAP). Because the cost of internal controls should not outweigh their benefits, MSD's comprehensive framework of internal controls has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. To the best of MSD's knowledge and belief, the accompanying data is accurate in all material respects and are reported in a manner designed to present fairly the financial position and results of operations of MSD. All disclosures necessary to enable the reader to understand MSD's financial activities have been included. We encourage readers to review the narrative introduction, overview, and analysis found in Management's Discussion and Analysis (MD&A) along with the footnotes that accompany the financial statements.

Profile of MSD

MSD was created in 1946 as a public body corporate and subdivision of the Commonwealth of Kentucky ("the Commonwealth"). MSD has complete control, possession and supervision of the sewer and drainage systems within the majority of Louisville Metro, which now comprises all of Jefferson County, Kentucky. Chapter 76 of the Kentucky Revised Statutes authorizes MSD to construct additions, betterments, and extensions within its service area and to recover the cost of its services in accordance with rate schedules adopted by its Board.

MSD is now considered a component unit of the Louisville-Jefferson County Metro government ("Louisville Metro government"). The Louisville Metro Mayor appoints, with the approval of the Louisville Metro City Council, the members to

Louisville and Jefferson County Metropolitan Sewer District

700 West Liberty Street · Louisville, Kentucky · 40203-1913 · 502-540-6000

P.O. Box 740011 · Louisville, Kentucky · 40201-7411

MSD's governing Board. The Board, which has statutory authority to enter into contracts and agreements for the management, regulation and financing of MSD, manages its business and activities. The Board has full statutory responsibility for approving and revising MSD's budgets, for financing deficits and for disposition of surplus funds. MSD has no special financial relationship with the Louisville Metro government; however effective July 1, 2006 MSD began providing free sewer and drainage services to the Metro government. The value of these services in 2008 was \$1.45 million.

Economic Condition and Outlook

MSD's sanitary sewer and drainage service areas lie within Jefferson County which, with a 2007 population of approximately 709,300, is Kentucky's largest and the center of the seven Kentucky and Indiana counties which comprise the Louisville metropolitan area ("Greater Louisville").

The total non-farm employment count for the Louisville Metropolitan Statistical Area (MSA) increased in June 2008 to 632,000; a slight increase from the June 2007 level of 631,900. The June 2008 unemployment rate for the Louisville MSA was 6.4% compared to a national average of 5.7% and a state average of 6.6% for this same time period.

During 2008, construction began on a 22,000 seat arena that will host University of Louisville basketball, major concerts, and other events. Despite the national real estate slump, demand for downtown Louisville residential and commercial properties continued to remain high. Approximately \$420 million is being invested in luxury condominiums, loft apartments, office space and retail space. In 2007, an announcement was made that additional retail and residential establishments would be developed in the 3rd Street corridor that is adjacent to the Fourth Street Live entertainment district. The city recently finalized an agreement with a national development firm that will allow this project to come to fruition.

Louisville has developed a reputation as a business friendly city. In 2007, Expansion Management Magazine ranked it among the top 25 cities in the nation as a desirable location for business expansion. It also ranked #9 on the list of Top 20 hot headquarters cities for the 21st century by Business Facilities. Entrepreneur Magazine deemed Louisville to be the best city for small business growth and ranked it 15th for best cities for entrepreneurship. In addition to its business rankings, the city also received accolades for its quality of life. In 2008, the U.S. Conference of Mayors named Louisville as the "most livable" large city in the United States. Louisville topped a list of more than 200 applicants for the award.

During 2008, MSD continued to benefit from the diversity of the area economy. Fifty-one percent (51%) of its service charge revenue came from business customers. During 2008, sewer accounts increased by 1,776 or 0.8% from 2007.

Residential construction permitting within Jefferson County has remained remarkably steady since 1990, averaging approximately 2,500 to 3,000 units per year. During the calendar year ended 2007, approximately 2,500 residential building permits were issued. Growth in the number of new residential units is consistent with the trend of resumed population growth within the County since 1990. Building permitting is a key barometer of MSD's prospects for long-term growth and the main contributor to its system development revenue. Since 1986, system development charges have become an increasingly significant component of MSD's operating revenue. In 2008, revenue from these charges amounted to 1.6% of total revenues and it was 1.9% of the total in 2007. This source of revenue is extremely sensitive to changes in the economic climate which affect homebuilding.

Major Initiatives

Project WIN – Waterway Improvements Now

In order to meet the requirements of the consent decree that MSD signed with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (KEPPC) and the U.S. Environmental Protection Agency (EPA) in 2005 to address sanitary and combined sewer overflows; Project WIN – or Waterway Improvements Now – was created. Project WIN is a comprehensive sewer improvement plan and it will include the implementation of sewer improvement projects to minimize the impact of combined sewer overflows, eliminate sanitary sewer overflows, and rehabilitate the community's aging sewer system.

Project WIN is estimated to cost approximately \$843 million over a twenty-year period. During the fourth quarter of 2008, MSD will submit detailed plans to the KEPPC and the EPA outlining the capital improvement program designed to minimize and/or abate overflows.

Project D.R.I. Continues to Keep the Community Dry

On January 27, 2003, Mayor Jerry Abramson outlined a plan to tackle Louisville's most pressing drainage problems. The first phase of the plan – dubbed Project D.R.I. (Drainage Response Initiative) identified 380 of the worst drainage problems in the Louisville Metro area. Phase I of Project D.R.I. was completed in FY 2006 and Phase II ended during FY 2007. Since January 2003, MSD has invested over \$100 million to complete approximately 700 neighborhood projects. In addition, this investment allowed MSD to complete in excess of 16,000 construction work orders related to drainage issues throughout its service area. During 2008, plans for Phase III of Project DRI were announced. These plans called for an additional investment of \$25 million over 30 months, beginning in January 2008.

Continued Focus on Flood Protection and Flood Control Systems

One of MSD's core business functions is flood protection. The aftermath of Hurricane Katrina directed the nation's attention to its aging flood protection systems. Flood protection and control has always been a high priority with MSD. During 2008, MSD moved forward with its plans to invest more than \$150 million over the next 15 years to upgrade its pumping stations, rehabilitate its floodwall gates, and repair its floodwalls. MSD along with the U.S. Army Corps of Engineers perform annual inspection and maintenance activities of the system. These activities allowed FEMA to recognize the flood protection system as nationally certified and thereby incorporated into the flood insurance rate maps. This certification should lead to lower flood insurance premiums for citizens of Louisville Metro.

Louisville Green Continues to Provide Benefits

In FY 2004, MSD received the necessary approvals to market and distribute its dried biosolid pellets. The pellets were given the name of Louisville Green and are being sold as a usable soil-enhancing product. Until 2004, all of the biosolids produced by MSD were hauled to a landfill for disposal at an annual cost of approximately \$600,000. During FY 2008, MSD produced 82 tons of the fertilizer on a daily basis and sold it to customers in eleven states. MSD is currently selling 100 percent of the product it produces thus savings local ratepayers the disposal cost. The product is sold to homeowners in 40 pound bags. In addition, Louisville Metro's golf courses, Kentucky's Department of Highways, and fertilizer blenders utilize Louisville Green in bulk. The agriculture market continues to be the largest user of the product.

MSD recently received verification of its quality assurance and safety standards by the National Biosolids Partnership through its Environmental Management System (EMS). The EMS auditing process used an independent, third-party audit firm that verified MSD's biosolids production process as safe and dependable for its customers and the environment.

Factors Affecting Financial Condition

Cash and Investment Management

Cash temporarily idle during the year was invested in insured certificates of deposit, repurchase agreements and obligations of the U.S. Treasury. MSD's investment policy is to minimize credit and market risks, while maintaining a competitive yield on its portfolio. Accordingly, deposits either were insured by federal depository insurance or collateralized.

Gross 2008 investment income of \$6.1 million represented a return of 6.1% on average balances available for investment of \$99.8 million, which compares with

gross earnings of \$8.4 million, representing a 5.6% return on available balances of \$151.2 million in 2007.

Gross 2008 interest expense of \$66.9 million represented a 4.96% cost of funds on average outstanding indebtedness of \$1.35 billion, which compares with gross interest expense of \$70.5 million, representing a 5.34% cost of funds on average 2007 debt of \$1.32 billion.

Risk Management, Insurance, and Employee Benefits

MSD maintains a comprehensive risk management program, utilizing third-party and self-insurance. Basic workers compensation is self-insured, while excess coverage is provided through third-party insurance. MSD participates in the Louisville Area Governmental Self-Insurance Trust (LAGIT), a pooled municipal self-insurance program, for comprehensive general and automobile liability and property coverage. All other risks (including automobile physical damage, public employees and blanket bond, life and accidental death and dismemberment, long-term disability, travel accident and group medical/dental) are insured by third parties. MSD self-insures employees' short-term disability in lieu of compensated sick leave.

MSD employees participate in the County Employees Retirement System (CERS), which is a cost-sharing multiple-employer defined benefit plan administered by the Kentucky Retirement System. MSD contributed 16.17% of participating employees' compensation in 2008 and 13.19% in 2007, which amounted to \$5.5 and \$4.2 million in 2008 and 2007, respectively. Employees currently are required to contribute 5% of their compensation which totaled \$1.8 million in 2008 and \$1.60 million in 2007.

Other Information

Independent Audit

MSD is required by law and its Revenue Bond Resolution to undergo an annual audit by independent certified public accountants. A joint venture of Strothman & Company PSC and Toni Levy, CPA, was selected by the MSD Board to conduct the 2008 audit. The goal of the independent audit was to provide reasonable assurance that the financial statements of MSD for the fiscal year ended June 30, 2008 are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. The independent auditors concluded, based upon the audit, that there was a reasonable basis for rendering an unqualified opinion that MSD's financial statements for the fiscal year ended June 30, 2008 are fairly presented in conformity with GAAP. The auditors' opinion and report on the basic financial statements is included in the Financial section of this report.

Awards and Acknowledgements

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to MSD for the eighteenth consecutive time for its CAFR for the year ended June 30, 2007. In order to be awarded a Certificate of Achievement, MSD published an easily readable and efficiently organized CAFR. The report satisfied both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for one year only. MSD believes that its current CAFR continues to meet the Certificate of Achievement Program's requirements and will submit the current report to GFOA to determine its eligibility for another Certificate.

I wish to take this opportunity to thank the MSD Board and Executive Director Herbert J. Schardein, Jr., for their continued guidance, support and leadership in the management of MSD's financial resources.

I also express my deepest appreciation to the staff of MSD's Budget and Finance Division. This report could not have been completed in a timely manner without your commitment and dedication.

Respectfully submitted,

A handwritten signature in cursive script that reads "Marion M. Gee".

Marion M. Gee

Director of Finance

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Louisville and Jefferson County
Metropolitan Sewer District
Kentucky

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended
June 30, 2007

A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.



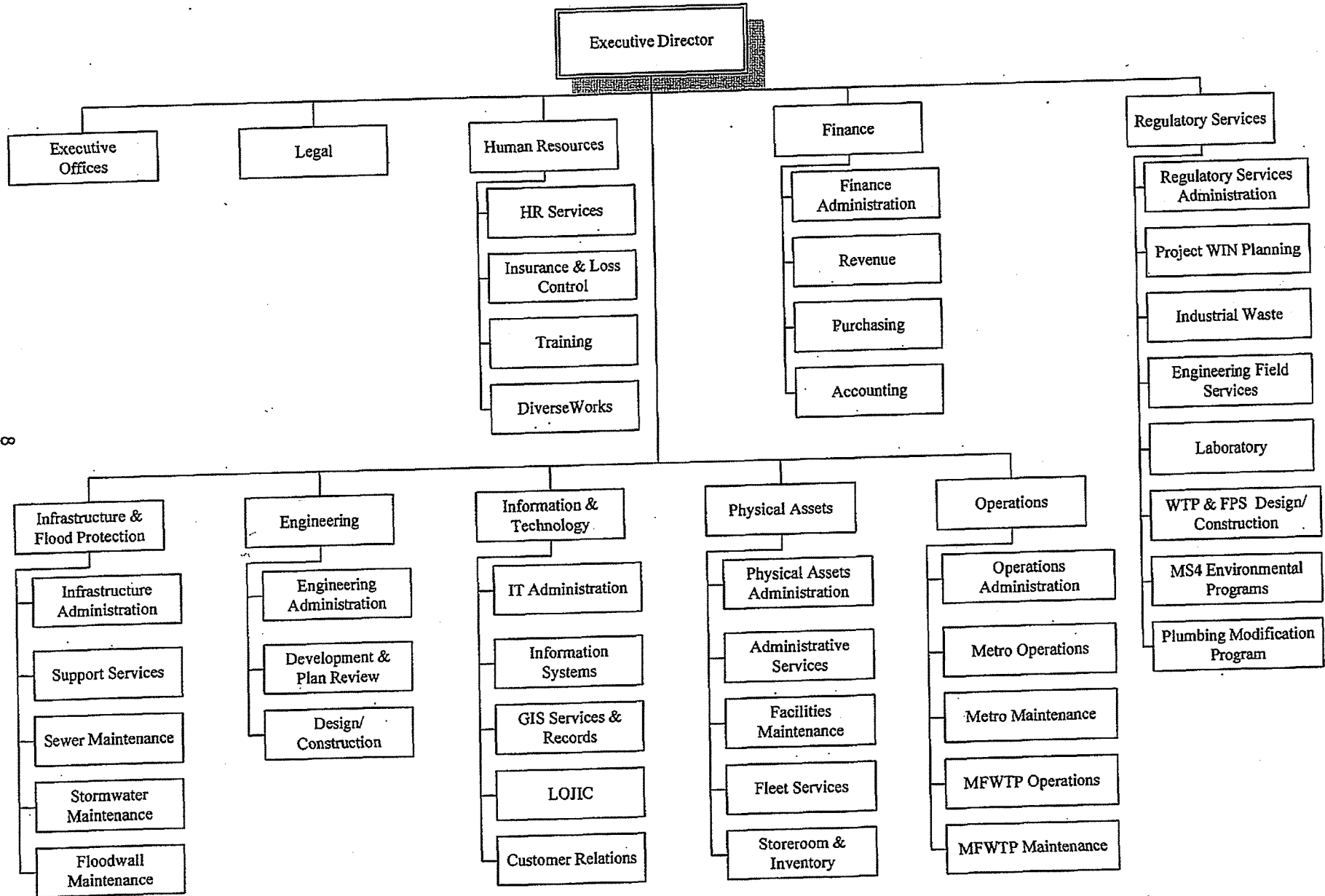
Oliver S. Cox

President

Jeffrey R. Emery

Executive Director

Louisville and Jefferson County
Metropolitan Sewer District
Organization Chart



MSD BOARD

Beverly A. Wheatley, Chairperson

Audwin A. Helton, Vice Chairperson

Benjamin K. Richmond

Martin D. Hoehler

Jerome L. Clark

Marvin D. Stacy

Charles E. Weiter

Arnold J. Celentano

Herbert J. Schardein, Jr., Secretary/Treasurer

PRINCIPAL OFFICERS

Herbert J. Schardein, Jr., Executive Director

Mark Johnson, Director
Engineering

James J. Hunt, Director
Physical Assets

Kathy J. Cooksie, Director
Human Resources

Bruce Seigle, Director
Information Technology

Paula Purifoy
Legal Counsel

W. Brian Bingham, Director
Regulatory Management Services

Saeed Assef, Sr. Manager
Infrastructure & Flood Protection

Marion Gee, Director
Budget and Finance

FINANCIAL OFFICERS

Marion Gee, Chief Financial Officer

Maria Mullaney
Controller

Renee Thomas
Purchasing Manager

Sharon Dawson
Revenue Manager

Sherry Knox
Budget Administrator

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FINANCIAL SECTION

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Strothman & Company P S C
Certified Public Accountants & Advisors

1600 Waterfront Plaza 502 585 1600
325 West Main Street 502 585 1601 Fax
Louisville, Kentucky 40202-4251 www.strothman.com

Independent Auditors' Report

The Board of Directors
Louisville and Jefferson County Metropolitan Sewer District
Louisville, Kentucky



We have audited the accompanying financial statements of the Louisville and Jefferson County Metropolitan Sewer District ("MSD"), a component unit of the Louisville-Jefferson County Metro Government, as of and for the years ended June 30, 2008 and 2007, as indicated in the accompanying table of contents. These financial statements are the responsibility of MSD management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of MSD as of June 30, 2008 and 2007, and the changes in its net assets and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

The Management's Discussion and Analysis on pages 11 through 18 is not a required part of the financial statements but is supplementary information required by accounting principles generally accepted in the United States of America. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the supplementary information. However, we did not audit the information and express no opinion on it.

Our audit was conducted for the purpose of forming an opinion on the basic financial statements of MSD. The information presented in the introductory and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we express no opinion on them.

In accordance with *Government Auditing Standards*, we have also issued our report dated October 21, 2008 on our consideration of MSD's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audit.

STROTHMAN & COMPANY PSC

Louisville, Kentucky
October 21, 2008



Management's Discussion and Analysis

As management of the Louisville and Jefferson County Metropolitan Sewer District (MSD), we offer readers of MSD's financial statements this narrative overview and analysis of the financial activities for the fiscal year ended June 30, 2008. We encourage readers to consider the information presented here in conjunction with additional information that we have furnished in our letter of transmittal, which can be found on pages 1-6 of this report.

Financial Highlights

- MSD's net assets decreased by \$855.7 thousand (0.2%) as a result of this year's operations.
- Operating revenues increased by \$28.8 million (21.8%) to \$161.3 million.
- Operating expenses excluding depreciation increased by \$6.9 million (10.8%).
- Non-operating revenues (investment income) decreased by \$224.8 thousand (4.8%) and non-operating expenses decreased by \$20.6 thousand (0.03%).

Overview of the Financial Statements

This annual report consists of three parts: Introductory Section, Financial Section, and Supplementary Information. The Financial Section includes notes that provide additional information relating to MSD's financial condition. Readers are encouraged to read the notes to better understand the financial statements.

Required Financial Statements

The Statement of Net Assets

The Statement of Net Assets includes all of MSD's assets and liabilities and provides information about the nature and amounts of investments in resources (assets) and the obligations to creditors (liabilities). It also provides the basis for computing rate of return, evaluating the capital structure of MSD and assessing the liquidity and financial flexibility of the organization.

The Statement of Revenues, Expenses and Changes in Net Assets

The Statement of Revenues, Expenses, and Changes in Net Assets identify the revenues generated and expenses incurred during the fiscal year.

This statement helps the user to assess the profitability of MSD during the time period for which the statement relates.

Statement of Cash Flows

The Statement of Cash Flows provides information relating to MSD's cash receipts and cash expenditures during the fiscal year. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities and provides answers to such questions as where did cash come from, what was cash used for, and what was the change in the cash balance during the reporting period.

Financial Information

MSD's net assets decreased by \$855.7 thousand in FY 2007 to \$550.5 million. In the early 1990's, less than 30% of MSD's capitalization was in the form of long-term debt. In 1997, for the first time, long-term debt exceeded 50% of MSD's capital structure. This change in capitalization can be attributed to the aggressive capital construction plan that MSD initiated in order to eliminate small neighborhood sewer treatment plants and septic tanks and to expand and rehabilitate its drainage and sewer infrastructure. At June 30, 2008, total long-term liabilities represented 70% of MSD's capitalization.

MSD's total assets increased by approximately \$90.6 million in 2008. This increase can be attributed to the sale of \$105 million of revenue bonds as a result of the 2008A series bond issue. Noncurrent assets increased by approximately \$35.6 million during fiscal year 2008.

	FY 2008	FY 2007	Dollar Change	Percent Change	FY 2006
Unrestricted Current Assets	\$ 46,504	\$ 46,517	\$ (13)	0.0%	\$ 57,477
Restricted Current Assets	131,985	76,934	55,051	71.6%	134,874
Noncurrent Assets	1,828,874	1,793,305	35,569	2.0%	1,761,502
Total Assets	2,007,363	1,916,756	90,607	4.7%	1,953,853
Current Liabilities	14,758	16,639	(1,881)	-11.3%	22,619
Current Liab. from Restr. Assets	35,102	33,253	1,849	5.6%	28,778
Noncurrent Liabilities	1,406,984	1,315,490	91,494	7.0%	1,332,993
Total Liabilities	1,456,844	1,365,382	91,462	6.7%	1,384,390
Invested in Capital Assets, net	482,094	479,305	2,789	0.6%	489,973
Restricted Assets, net	12,228	7,034	5,194	73.8%	8,927
Unrestricted	56,197	65,035	(8,838)	-13.6%	70,563
Total Net Assets	550,519	551,374	(855)	-0.2%	569,463
Total Liabilities and Net Assets	\$ 2,007,363	\$ 1,916,756	\$ 90,607	4.7%	\$ 1,953,853

Unrestricted current assets experienced a slight decrease of \$13 thousand.

Total liabilities increased by \$91.5 million in 2008. This increase was due to the issuance of \$105 million of revenue bonds.

Capital Assets and Long-term Debt

MSD's net investment in plant, lines, and other facilities increased by \$38.0 million in FY 2008. Major additions include the completion of \$34.5 million of sewer line installations and \$24.0 million of stormwater drainage facilities. Readers are encouraged to review the Comparative Schedules of Plant, Lines, and Other Facilities that is contained in the statistical section of the CAFR for additional information regarding changes to capital assets. Also, readers should review Note 5 to the financial statements which provides additional information relating to MSD's capital assets.

In December 2007, MSD issued \$61.1 million in Revenue Bonds to currently refund a portion of its then outstanding Series 1997B bond issue.

In May 2008, MSD issued \$105 million in Revenue Bonds to finance its capital program. As of June 30, 2008, approximately \$94.8 million of these bond proceeds remained. The remaining funds are expected to be used for additional expansions to the wastewater and drainage systems, plant expansions, flood protection systems, and other wastewater and stormwater projects. Note 7 to the financial statements provides readers with a comparative schedule of long-term debt outstanding at June 30, 2008 and June 30, 2007.

Results of Operations

Total Operating Revenues as of June 30, 2008 were \$161.3 million compared to \$132.4 million for the same period last year, an increase of \$28.8 million or 21.8%. This increase in operating revenues was primarily driven by a surcharge enacted in August 2007 to help the fund the expected cost of a consent decree that MSD signed with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet and the U.S. Environmental Protection Agency (see the Other Significant Matters section of the MD&A). During FY 2007, MSD began offering free wastewater and stormwater service to the Louisville Metro Government. This free service amount to \$2.2 million in FY 2008 and \$1.45 million in FY 2007.

Wastewater Service Charges totaled \$125.8 million as of June 30, 2008. This represents an increase of \$29,188,000 or 30.2% from a year ago. This increase was due to the consent decree surcharge described in the previous paragraph which effectively raised wastewater rates by 33%. Free wastewater services provided to the Louisville Metro Government amounted to \$1.8 million during the fiscal year. The majority of MSD's wastewater customers are billed based on the amount of water used. Since substantially all of MSD's customers are also

customers of the Louisville Water Company, this charge is billed and collected by the Louisville Water Company on behalf of MSD.

Stormwater service charges were \$31.1 million as of June 30, 2008. This represents an increase of \$1,211,000 or 4.1% from the same period one year ago. This increase is net of the \$355,400 of free services provided to the Louisville Metro Government.

	FY 2008	FY 2007	Dollar Change	Percent Change	FY 2006
Operating Revenues	\$ 161,283	\$ 132,446	\$ 28,837	21.8%	\$ 129,765
Nonoperating Revenues	4,895	4,670	225	4.8%	3,964
Total Revenues	166,178	137,116	29,062	21.2%	133,729
Depreciation Expense	55,485	52,177	3,308	6.3%	51,174
Other Operating Expenses	70,335	63,479	6,856	10.8%	61,046
Nonoperating Expenses	56,388	56,408	(20)	0.0%	50,404
Total Expenses	182,208	172,064	10,144	5.9%	162,624
Net income (loss) before contributions	(16,030)	(34,948)	18,918	-54.1%	(28,895)
Contributions	15,175	16,859	(1,684)	-10.0%	20,083
Change in net assets	(855)	(18,089)	17,234	-95.3%	(8,812)
Beginning Net Assets	551,374	569,463	(18,089)	-3.2%	578,275
Ending Net Assets	\$ 550,519	\$ 551,374	\$ (855)	-0.2%	\$ 569,463

Other operating income was \$1.6 million less than the amount recorded in FY 2007. This decrease can be attributed to a decrease in proceeds from the sale of assets of \$1.4 million or 100.4% from FY 2007 levels. In FY 2007, MSD sold property that was declared surplus for approximately \$1.4 million.

Table 3 shows the composition of gross service and administrative costs by major classification of expense for the last three fiscal years. Gross service and administrative costs increased by \$8.0 million above the FY 2007 level. An increase in labor (\$2.4 million), utilities (\$2.0 million), and billing and collection expenses (\$2.4 million) resulted in this change. Labor expenses comprise the bulk of service and administrative costs, approximately 50% and 52% in FY 2008 and FY 2007, respectively. As of June 30, 2008, labor costs were \$49,431,000 compared to \$47,079,000 for the same period last year. The increase in labor in FY 2008 can be attributed to an increase in regular salaries and wages of \$1,589,000. In addition, retirement contributions increased by \$1,261,000. The increase in utility expenses was driven by increases in electricity and natural gas costs of \$714,000 and \$913,000; respectively. The change in billing and

collection expenses was due to an increase of \$2.3 million in the allowance for doubtful accounts balance.

Table 3
Gross Service and Administration Costs
(000's)

	2008		2007		Variance		%	2006			
Service and administrative costs:											
Labor	\$	49,431	50%	\$	47,079	52%	\$	2,352	5.0%	\$	42,287
Utilities		12,989	13%		10,976	12%		2,013	18.3%		12,518
Materials and supplies		8,707	9%		8,197	9%		510	6.2%		7,745
Professional services		3,126	3%		2,797	3%		329	11.8%		2,543
Maintenance and repairs		8,926	9%		8,035	9%		891	11.1%		7,762
Billing and collections		5,318	5%		2,889	3%		2,429	84.1%		3,869
Chemicals		3,805	4%		3,585	4%		220	6.1%		4,128
Fuel		1,344	1%		1,240	1%		104	8.4%		960
Biosolids disposal		1,661	2%		1,412	2%		249	17.6%		1,554
All other		2,800	3%		3,947	4%		(1,147)	-29.1%		3,067
Gross service and admin. costs	\$	98,107	100%	\$	90,157	100%	\$	7,950	8.8%	\$	86,433

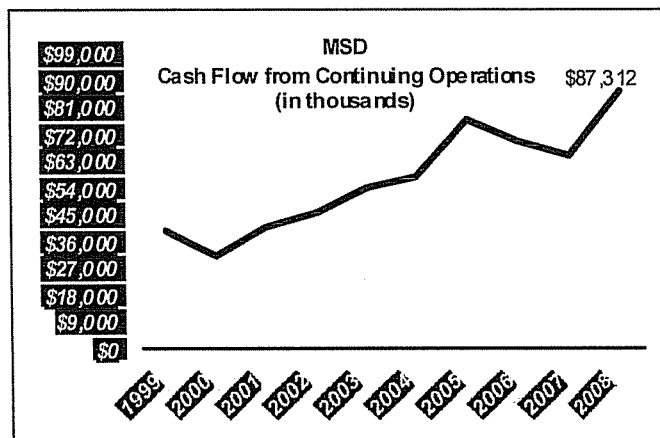
Net Operating Expenses excluding depreciation were \$70,334,000 in FY 2008 compared to \$63,479,000 in FY 2007. This change reflects an increase of \$6,856,000 or 10.8%.

Depreciation expense of \$55.5 million was \$3.3 million more than the FY 2007 amount. This increase in depreciation is consistent with the growth in Capital Assets that MSD has experienced.

In FY 2008, net cash provided by operating activities increased by \$22.7 million primarily due to an increase of \$25.4 million in cash received from customers.

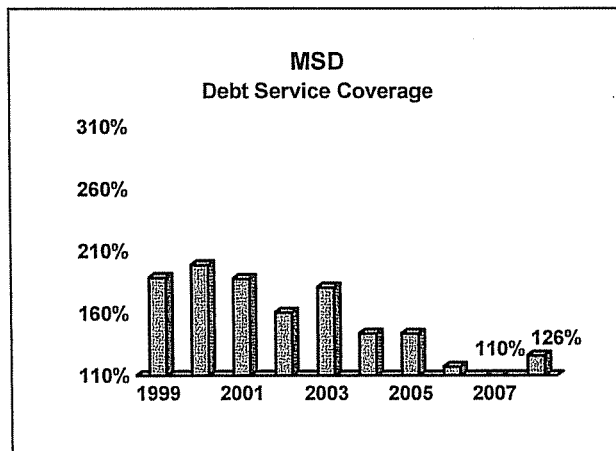
Although net operating income is the most significant component of the factors which go into determining MSD debt

service coverage, other sources, including investment income and current period payments of property owner assessments also are included in "available revenues" and "net revenues" for purposes of demonstrating MSD's performance



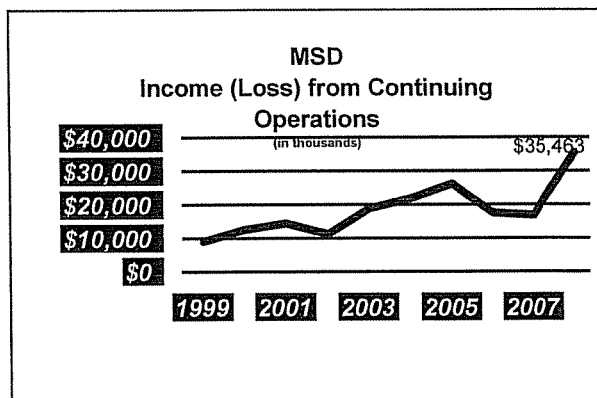
under the several debt service ratio tests of the 1993 Sewer and Drainage System Revenue Bond Resolution.

The 1993 Resolution and its supplements require MSD to provide "available revenues", as defined in the Resolution, sufficient to pay 110% of each year's "aggregate net debt service" on Revenue Bonds and 100% of "operating expenses". "Available revenues," as used only for purposes of the Resolution, means all revenues and other amounts received by MSD and pledged as security for payment of bonds issued pursuant to the Resolution, but excludes any interest income which is capitalized in accordance with generally



accepted accounting principles. "Operating expenses" include all reasonable, ordinary, usual or necessary current expenses of maintenance, repair and operation determined in accordance with generally accepted accounting principles and the enterprise basis of accounting. "Operating expenses" do not include reserves for extraordinary maintenance and repair, or administrative and engineering expenses of MSD which are necessary or incidental to capital improvements for which debt has been issued and which may be paid from proceeds of such debt. "Aggregate net debt service" is aggregate debt service on all bonds issued pursuant to the Resolution (in 2008, all of MSD outstanding debt), excluding (i) interest expense which, in accordance with generally accepted accounting principles, is capitalized and which may be paid from the proceeds of debt and (ii) other amounts, if any, available or expected to be available in the ordinary course for payment of debt service. MSD debt service coverage, calculated on the foregoing basis, was 126% in 2008 and 110% in 2007.

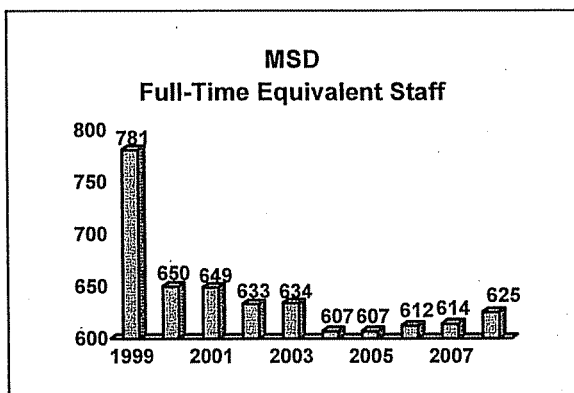
MSD is not allowed to include depreciation expense in the formula authorized by the Louisville Metro Government to calculate allowable rate increases. The



applicable rate ordinances allow MSD to increase rates to maintain the 100% revenue coverage of service and administrative costs and 110% coverage of aggregate net principal and interest requirements on Revenue Bonds that MSD covenants in the Revenue Bond Resolution. However, the straight-line depreciation of plant, lines and

other facilities substantially exceeds scheduled principal amortization on the Revenue Bonds.

MSD recorded a net operating income of \$35.5 million compared to \$16.8 million in FY 2007, an increase of \$18,673,000 or 111.2%. The increase was primarily due to a 33% wastewater rate increase initiated in August 2007.



MSD's employee count increased slightly to 625 in 2008 compared to 614 full-time equivalent positions in 2007.

Since 1999, the most significant reduction of staff costs has been achieved in operations and maintenance and their support activities, which are reflected in the "service and administrative costs" category in the financial statements.

Net interest expense totaled \$56,388,000 in FY 2008 and \$56,408,000 in FY 2007; a decrease of \$20,600.

Other Significant Matters

In April 2005, MSD agreed to enter into a Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (KEPPC) and the U.S. Environmental Protection Agency (EPA). The agreement calls for MSD to design and implement projects within specified deadlines that will eliminate combined sewer overflows in its service area. The cost of the projects has yet to be determined but the preliminary estimate is \$843 million over the next two decades. MSD will submit a long-term control plan that will contain a list of proposed projects to the KEPPC and the EPA by December 31, 2008.

On August 9, 2007, the Louisville Metro Council authorized MSD to add an EPA Consent Decree surcharge to its bills. Residential customers pay a surcharge of \$6.95 per month and commercial and industrial customers pay rates based on volume that range from \$0.49 to \$0.93 per thousand gallons of water used or sewage discharged. In addition to the rate increase, the Metro Council also authorized MSD to implement a senior citizens discount program that provides customers 65 and older with household income of less than \$25,000, a 30% discount off sewer charges.

Requests For Additional Information

This report is intended to provide readers with a general overview of MSD's finances and to provide information regarding the receipts and uses of funds. If

you need clarification regarding a statement(s) made in the report or need additional information, please contact the Louisville and Jefferson County Metropolitan Sewer District, 700 West Liberty Street, Louisville Kentucky 40203. You can also submit a request for additional information via MSD's website at www.msdlouky.org.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
 COMPARATIVE STATEMENT OF NET ASSETS
 (in thousands)

	<u>June 30, 2008</u>	<u>June 30, 2007</u>
<u>Assets</u>		
Current Assets:		
Unrestricted cash and cash equivalents	\$ 10,524	\$ 1,912
Restricted cash and cash equivalents	105,299	3,133
Unrestricted investments	14,843	24,935
Restricted investments	26,686	73,801
Accounts receivable, less allowance for doubtful accounts of \$1,568 (2008), \$281 (2007)	16,732	15,398
Inventories	3,020	3,091
Prepaid expenses and other current assets	<u>1,385</u>	<u>1,181</u>
Total current assets	<u>178,489</u>	<u>123,451</u>
Noncurrent assets:		
Long-term assessment receivables	26,334	28,749
Plant, lines and other facilities, net	<u>1,802,540</u>	<u>1,764,556</u>
Total noncurrent assets	<u>1,828,874</u>	<u>1,793,305</u>
Total assets	<u>2,007,363</u>	<u>1,916,756</u>
<u>Liabilities</u>		
Current liabilities:		
Current liabilities (payable from unrestricted assets):		
Accounts payable and accrued expenses	14,758	16,639
Current liabilities (payable from restricted assets):		
Accounts payable and accrued expenses, includes contractor's retainages of \$818 (2008), \$388 (2007)	5,250	4,239
Accrued interest	8,597	10,824
Current maturities of bonds payable	<u>21,255</u>	<u>18,190</u>
Total current liabilities	<u>49,860</u>	<u>49,892</u>
Long-term liabilities:		
Accounts payable	2,375	2,632
Unearned revenue	14,824	5,622
Bonds payable, net	<u>1,389,785</u>	<u>1,307,236</u>
Total long-term liabilities	<u>1,406,984</u>	<u>1,315,490</u>
Total liabilities	<u>1,456,844</u>	<u>1,365,382</u>
<u>Net Assets</u>		
Invested in plant, lines and other facilities, net of related debt	482,094	479,305
Restricted for payment of bond principal and interest	12,228	7,034
Unrestricted	<u>56,197</u>	<u>65,035</u>
Total net assets	<u>\$ 550,519</u>	<u>\$ 551,374</u>

The accompanying notes to the financial statements are an integral part of this statement.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
 COMPARATIVE STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
 (in thousands)

	Year Ended	
	June 30, 2008	June 30, 2007
Operating revenues:		
Service charges	\$ 156,889	\$ 126,490
Other operating income	4,394	5,956
Total operating revenues	161,283	132,446
Operating expenses:		
Service and administrative costs	70,335	63,479
Depreciation	55,485	52,177
Total operating expenses	125,820	115,656
Income from operations	35,463	16,790
Non-operating revenue (expenses):		
Investment income	4,895	4,670
Interest expense	(56,388)	(56,408)
Total non-operating revenue (expenses) - net	(51,493)	(51,738)
Net loss before contributions	(16,030)	(34,948)
Contributions		
Property owner assessments	164	7,634
All other	15,011	9,225
Decrease in net assets	(855)	(18,089)
Net assets, beginning of year	551,374	569,463
Net assets, end of year	\$ 550,519	\$ 551,374

The accompanying notes to the financial statements are an integral part of this statement.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
 COMPARATIVE STATEMENT OF CASH FLOWS
 (in thousands)

	Year Ended	
	June 30, 2008	June 30, 2007
Cash flows from operating activities:		
Cash received from customers	\$ 159,539	\$ 134,160
Cash paid to suppliers	(37,186)	(36,216)
Cash paid to employees	(35,041)	(33,320)
Net cash provided by operating activities	87,312	64,624
Cash flows from capital and related financing activities:		
Proceeds from issuance of revenue bonds	166,125	-
Capital contributed by governments, property owners & developers	15,174	16,861
Assessments receivable	2,703	(645)
Interest income - assessments	1,405	1,670
Unamortized loss on refundings	2,504	-
Principal paid on revenue bonds	(84,350)	(17,250)
Interest paid on revenue bonds	(69,145)	(70,180)
Acquisition and construction of capital assets	(83,548)	(65,669)
Retainage payable	430	(33)
Acquisition of non-operating property	(257)	(258)
Net cash used in capital and related financing activities	(48,959)	(135,504)
Cash flows from investing activities:		
Purchase of investments	(62,392)	(72,800)
Proceeds from sale of maturities of investments	120,084	137,908
Interest received on investments	4,807	7,642
Unamortized gain on termination of swap agreements	9,926	-
Net cash provided by investing activities	72,425	72,750
Net increase in cash and cash equivalents	110,778	1,870
Cash and cash equivalents, including cash and cash equivalents in restricted assets, beginning of year	5,045	3,176
Cash and cash equivalents, including cash and cash equivalents in restricted assets, end of year	\$ 115,823	\$ 5,045

(CONTINUED)

The accompanying notes to the financial statements are an integral part of this statement.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
 COMPARATIVE STATEMENT OF CASH FLOWS
 (CONTINUED)
 (in thousands)

	Year Ended	
	June 30, 2008	June 30, 2007
Reconciliation of operating income to net cash provided by operating activities:		
Income from operations	\$ 35,463	\$ 16,790
Adjustment to reconcile income from operations to net cash provided by operating activities		
Depreciation	55,297	51,991
Amortization	65	65
Loss from retired assets	122	120
Change in operating assets and liabilities:		
Decrease (increase) in accounts receivable	(1,622)	1,677
(Increase) decrease in inventories	71	(216)
Decrease (increase) in prepaid expenses	(203)	178
Decrease (increase) in other current assets	(121)	37
Decrease in accounts payable and accrued expenses	(1,760)	(6,018)
Net cash provided by operating activities	\$ 87,312	\$ 64,624
Non-cash capital financing activities:		
Contribution of plant, lines and other facilities by developers and property owners	\$ 15,175	\$ 16,859
Increase in accounts payable incurred for construction	\$ 1,011	\$ 3,167
Decrease in fair value of investments	\$ (478)	\$ (81)
(Increase) decrease in interest rate swap deferred revenue	\$ (9,202)	\$ 475

The accompanying notes to the financial statements are an integral part of this statement.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007
(in thousands)

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Louisville and Jefferson County Metropolitan Sewer District (MSD) have been prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. With respect to proprietary activities, MSD has adopted GASB Statement No. 20, "Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities that use Proprietary Fund Accounting." MSD has elected to apply all applicable GASB pronouncements as well as Financial Accounting Standards Board (FASB) pronouncements and Accounting Principles Board (APB) Opinions, issued on or before November 30, 1989, unless those pronouncements conflict with or contradict GASB pronouncements.

These financial statements follow the provisions of GASB No. 34, "Basic Financial Statements, Management's Discussion and Analysis, for State and Local Governments" and related standards. These new standards provided for changes in terminology; recognition of contributions in the Statement of Revenues, Expenses and Changes in Net Assets; including of a management discussion and analysis as supplementary information; and other changes. The more significant of MSD's accounting policies are described hereinafter.

A. Reporting Entity

MSD is a public body corporate, and political subdivision of the Commonwealth of Kentucky. MSD was created in 1946 pursuant to Chapter 76 of the Kentucky Revised Statutes, in the interest of the public health and for the purpose of providing adequate sewer and drainage facilities in the urbanized area of the Louisville Metropolitan Area. Pursuant to Chapter 76, MSD is governed by a Board which consists of eight members who are appointed by the Mayor of the Louisville Metro government, subject to approval of the Louisville Metro Council. Not more than five Board members may be of the same political party. However, there is not a continuing supervisory relationship exercised by the Louisville Metro government over MSD with respect to MSD's statutory public functions.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - (CONTINUED)

Reporting Entity - (Continued)

Chapter 76 authorizes MSD to provide sewer and drainage facilities and services. MSD is further authorized by the statute to establish and collect service charges and to budget therefrom for operations and maintenance, capital outlays and debt service on obligations it is authorized by the statute to incur. No special financing relationship exists between the Louisville Metro government and MSD, nor is the Louisville Metro government empowered by law or custom to approve MSD operating or capital budgets; nor are they responsible for financing deficits or disposing of surplus funds.

MSD has complete control, possession and supervision of the sewer and drainage system in large portions of Jefferson County, and has statutory authority to construct additions, betterments and extensions within its service area. Additionally, MSD has statutory responsibility for approval of the design and proper construction of sewer and drainage facilities within the County's boundaries. There are cities within the County that, by statute, have the option of using MSD sewer services on a contractual basis. Third and fourth class cities also have the option of obtaining drainage services from MSD.

The business and activities of MSD are managed by its Board, which has statutory authority to elect officers, enact by-laws and enter into agreements and contracts for the management and regulation of MSD's affairs.

MSD's revenue is derived from sewer and drainage service charges which are collected from residential, commercial and industrial customers. MSD controls the collection of all revenue, disbursement of payables and title to all sewer and drainage assets. Sewer service charges are distributed among customer classes on the basis of actual costs incurred to collect and treat wastewater. Drainage service charges are distributed among customer classes on the basis of actual costs of drainage services per equivalent unit of impervious surface. Changes in MSD's service charges are implemented by MSD's Board, but no change in the service charge schedule is final within the Louisville Metro area until approval by the Louisville Metro Council. However, the statute provides that such approval may not be arbitrarily withheld and that the schedule shall be sufficient

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

*(Continued)
(in thousands)*

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - (CONTINUED)

Reporting Entity - (Continued)

to provide revenues for the operation and maintenance of the system and for debt service. By ordinance, the Louisville Metro Government has provided that MSD's Board may amend its service charge schedule to maintain a debt service coverage ratio of 1.10 for MSD's sewer and drainage revenue bonds, and that such amendments will be effective within the Metropolitan area when adopted by MSD's Board, so long as the amended rates do not generate additional revenue from service charges in excess of seven percent during the twelve months succeeding the period in which the deficiency was identified.

Chapter 76 permits MSD to finance sewer and drainage system construction, acquisition and other capital improvements through the issuance of its revenue bonds and with the proceeds of governmental grants, property owner contributions in aid of construction and bonds and loans for which pledge of repayment is subordinated to the pledge of revenues given by MSD for the security of its revenue bond holders. MSD indebtedness does not constitute indebtedness of the Louisville Metro government or the Commonwealth, but the Louisville Metro government must authorize by ordinance the issuance by MSD of revenue bonds to finance projects within the Metropolitan area.

B. Basis of Accounting

The sewer and drainage system owned and operated by MSD is accounted for using a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operation of the system are included on the statement of net assets. Total net assets are segregated into amounts invested in plant, lines and other facilities, net of related debt, restricted for payment of bond principal and interest and unrestricted. Operating statements present increases (e.g., revenues) and decreases (e.g., expenses) in net assets. MSD utilizes the accrual basis of accounting wherein revenues are recorded when earned and expenses are recorded at the time the liability is incurred.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

*(Continued)
(in thousands)*

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - (CONTINUED)

C. Cash and Cash Equivalents

For purposes of the statements of cash flows, MSD includes repurchase agreements and other investments with an original maturity of three months or less in cash and cash equivalents.

D. Investments

Investments are reported at fair value based on quoted market value. Investment income consists of interest income, and the change in fair value of investments.

E. Operating Revenues and Receivables

Operating revenues are those revenues that are generated directly from the primary activity of MSD. These revenues are wastewater and stormwater service charges. The Louisville Water Company is responsible for billing and collection of these charges on a monthly basis.

Accounts receivable are stated at the amount management expects to collect from outstanding balances. Balances are considered past due 30 days from the invoice date. Management provides an allowance for probable uncollectible amounts based on its assessment of the current status of individual accounts. Balances that are still outstanding after management has used reasonable collection efforts are written off through a charge to the allowance and a credit to accounts receivable.

Assessment receivables represent amounts billed to residents to have sewer lines installed in their neighborhood. Assessment warrants are considered past due once the balance is 90 days in arrears. Management considers all amounts collectible on the basis that liens are placed on properties at the time of assessment.

F. Inventories

Inventories are stated at the lower of cost (principally average cost) or market, and consist of supplies and parts used in the operation of MSD's treatment plants and for the maintenance of automobiles, sewers and other related equipment.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

*(Continued)
(in thousands)*

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - (CONTINUED)

G. Contributed Capital and Construction Grants

Construction and acquisition of sewer and drainage plant, lines and other facilities are financed in part by governmental grants and contributions in aid of construction from property owners and developers. Governmental grants in aid of construction represent the estimated portion of construction costs incurred for which grants are expected to be paid to MSD by the governmental grantor. These amounts are recorded as a receivable and revenues from contributions at the time the related expenditures are incurred. The revenues from contributions are then added to Net Assets.

H. Plant, Lines and Other Facilities

Plant, lines and other facilities are recorded at historical cost or, if contributed, at fair value as determined by engineering estimates on the date the contribution is received. Capital assets are defined by MSD as assets with an initial, individual cost of more than \$20 or renewal and replacement cost of a component of existing assets with a cost of more than \$20. It is MSD's policy to depreciate the costs of these assets over their estimated useful lives on a straight line basis.

Estimated useful lives on depreciable assets are as follows:

Buildings and other structures	30 - 50 years
Land improvements	10 - 30 years
Miscellaneous machinery	10 - 20 years
Vehicles	6 - 12 years
Equipment, heavy	15 - 30 years
Equipment, light	5 - 15 years
Sewer lines and major drainage channels	80 years

Costs incurred for capital construction and acquisition are carried in construction in progress until disposition or completion of the related projects. The major components of construction in progress are sewer lines, wastewater treatment and stormwater facilities. Costs relating to projects not pursued are expensed, while costs relating to completed projects are capitalized as plant, lines and other facilities.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - (CONTINUED)

H. Plant, Lines and Other Facilities – (Continued)

Plant, lines and other facilities includes capitalized amounts of bond issuance costs. Bond issuance costs are amortized to expense on a straight line basis over the term of the related indebtedness.

I. Capitalized Interest

Interest capitalized on projects funded from bond proceeds is recorded as the difference between the interest cost of the borrowing less interest earned on undisbursed invested proceeds during the construction period. Interest is not capitalized on project costs that are reimbursed by contributions of capital from government, property owners and developers.

J. Impairment of Capital Assets

In accordance with GASB Statement No. 42 "Accounting and Financial Reporting for Impairment of Capital Assets and for Insurance Recoveries" management evaluates prominent events or changes in circumstances affecting capital assets to determine whether impairment of a capital asset has occurred. A capital asset is generally considered impaired if both (a) the decline in service utility of the capital asset is large in magnitude and (b) the event or change in circumstance is outside the normal life cycle of the capital asset. No impairment losses were recognized in the years ended June 30, 2008 and 2007.

K. Bonds Payable

Bonds outstanding which have been refunded and economically defeased are not included in long-term debt. The related assets are not included in investments. The loss on refunding, which is the difference between the reacquisition price and the net carrying amount of the old debt, is deferred and amortized as a component of interest expense over the average remaining life of the old debt. The unamortized loss on refunding is reported as a deduction from the new debt liability.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

*(Continued)
(in thousands)*

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - (CONTINUED)

K. Bonds Payable – (Continued)

MSD enters into interest rate swap agreements to modify interest rates on outstanding debt. MSD records the net interest expenditures resulting from these agreements and amortizes gains/losses resulting from the termination of these agreements until the original termination date of the agreement.

L. Compensated Absences

Vacation and personal pay benefits are accrued as vested by MSD employees.

M. Allocation of Overhead

MSD allocates overhead costs to its core business processes which are: operations and maintenance (service and administrative costs); design, construction and acquisition of plant lines and other facilities; and subsidiary business enterprises.

N. Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make assumptions and estimates that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

O. Reclassifications

Certain reclassifications have been made to the 2007 financial statements to conform to those used in 2008.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 2. DEPOSITS AND INVESTMENTS

A comparative statement of cash, cash equivalents and investments held in MSD's portfolio follows:

June 30, 2008

Investment Type	Fair Value	Weighted Average Maturity in Years	Credit Rating
U.S. Agency Discount Notes	\$ 36,118	0.15	Aaa
U.S. Treasury Obligations	2,633	0.13	Aaa
Corporate Bonds	25	0.02	Aaa
Municipal Bonds	25	0.02	Aaa
Money Market Funds	112,907	0.08	Aaa
Repurchase Agreement	8,012		
Certificate of Deposit	101		
Total fair market value of cash equivalents and investments	159,821	0.10	
Accrued interest from cash equivalents and investments	638		
Checks drawn in excess of cash on deposit in banks	(3,107)		
Total cash, cash equivalents and investments	\$ 157,352		

June 30, 2007

Investment Type	Fair Value	Weighted Average Maturity in Years	Credit Rating
U.S. Treasury Obligations	\$ 420	0.36	Aaa
Corporate Bonds	12,019	0.02	Aa
Commercial Paper	36,432	0.36	P1
Money Market Funds	3,330	0.09	Aaa
Repurchase Agreement	52,475		
Certificate of Deposit	101		
Total cash equivalents and investments	104,777		
Checks drawn in excess of cash on deposit in banks	(996)		
Total cash, cash equivalents and investments	\$ 103,781		

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 2. DEPOSITS AND INVESTMENTS - (CONTINUED)

Investments are made based upon prevailing market conditions at the time of the transaction with the intent to hold the instrument until maturity. With this strategy, investments would be expected to reach maturity with limited realized gains or losses. If the yield of the portfolio can be improved upon by the sale of an investment, prior to its maturity, with the reinvestment of the proceeds, then this provision is also allowed. Chapter 76 of the Kentucky Revised Statutes authorizes MSD to invest in obligations of the United States and its agencies and instrumentalities; bonds or certificates of indebtedness of the Commonwealth of Kentucky and of its agencies and municipalities; interest bearing deposit accounts in financial institutions chartered in the Commonwealth of Kentucky and insured by an agency of the United States up to the amount thus insured and in larger amounts, provided such financial institutions pledge as security obligations of the United States having such value as may be satisfactory to MSD. MSD bond resolutions and covenants contain similar restrictions.

MSD's Investment Policy requires that investments be divided to eliminate the risk of loss resulting from over concentration of assets in a specific maturity, a specific issuer, or a specific class of securities. Section 2.0 of the Investment Policy outlines the permitted investments and identifies the limitations placed on the types of investments to minimize the risk. The Policy also requires that all investments have the highest category of ratings by the nationally recognized rating agencies. Where applicable, all of the above investments have such ratings. Custodial credit risk is the risk that, in the event of the failure of the counterparty, MSD would be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The collateral provided by financial institutions is considered adequate to cover all balances in excess of limits set forth by the Federal Deposit Insurance Corporation. All of MSD's investments are held by MSD or in the name of MSD by a Trustee.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 2. DEPOSITS AND INVESTMENTS - (CONTINUED)

A reconciliation of cash, cash equivalents and investments as shown on the Comparative Statement of Net Assets for MSD is as follows:

	<u>June 30</u>	
	<u>2008</u>	<u>2007</u>
Cash and cash equivalents - unrestricted \$	10,524 \$	1,912
Investments - unrestricted	14,843	24,935
Cash and cash equivalents - restricted	105,299	3,133
Investments - restricted	26,686	73,801
	\$ 157,352 \$	\$ 103,781

NOTE 3. RESTRICTED CASH, CASH EQUIVALENTS AND INVESTMENTS

MSD's revenue bond resolution provides that MSD shall maintain in a Debt Service Reserve Account a balance equal to the maximum annual aggregate gross principal and interest due on all outstanding revenue bonds; or, in lieu of cash and investments in that amount, a letter of credit or policy of bond insurance payable in that amount. Resolutions adopted in connection with the issuance of MSD First Mortgage Bonds, and of subdistrict sewer revenue bonds and municipal improvement assessment bonds whose obligation MSD has assumed, also provide for the maintenance of debt service reserve accounts.

Cash, cash equivalents and investments segregated as accounts restricted for authorized construction include proceeds from issuance of MSD bonds.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

**NOTE 3. RESTRICTED CASH, CASH EQUIVALENTS AND INVESTMENTS
(CONTINUED)**

Cash, cash equivalents and investments segregated and restricted are as follows:

	<u>June 30</u>	
	<u>2008</u>	<u>2007</u>
Payment of bond principal and interest	\$ 41,392	\$ 36,759
Authorized construction	<u>90,593</u>	<u>40,175</u>
Total restricted cash, cash equivalents and investments	\$ <u>131,985</u>	\$ <u>76,934</u>

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007

(Continued)
(in thousands)

NOTE 4. CHANGES IN NET ASSETS

A comparative schedule of changes in net assets follows:

	<u>2008</u>	<u>June 30</u>	<u>2007</u>
Net assets invested in plant, lines and other facilities			
Plant, lines and other facilities net of depreciation	\$ 1,802,540	\$	1,764,556
Outstanding debt that applies to plant, lines and other facilities	(1,411,040)		(1,325,426)
Unspent bond proceeds	<u>90,594</u>		<u>40,175</u>
Invested in plant, lines and other facilities, net	<u>482,094</u>		<u>479,305</u>
Cash and investments restricted for bond principal and interest	42,080		36,048
Current maturities on bonds	(21,255)		(18,190)
Accrued interest on bonds	<u>(8,597)</u>		<u>(10,824)</u>
Net assets restricted for payment of bond principal and interest, net	<u>12,228</u>		<u>7,034</u>
Unrestricted	<u>56,197</u>		<u>65,035</u>
Total net assets	\$ <u>550,519</u>	\$	<u>551,374</u>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 5. PLANT, LINES AND OTHER FACILITIES

A comparative schedule of plant, lines and other facilities for the years 2008
and 2007 follows:

Year ended June 30, 2008

	<u>Beginning Balance</u>	<u>Additions</u>	<u>Retirements / Reclassifications</u>	<u>Ending Balance</u>
Capital assets:				
Sewer lines	\$ 963,799	\$ 59,161	\$ (101)	\$ 1,022,859
Wastewater treatment facilities	422,483	34,472		456,955
Stormwater drainage facilities	366,745	23,955	(1)	390,699
Pumping and lift stations	60,877	6,113	-	66,990
Administrative facilities	45,347	214	-	45,561
Maintenance facilities	7,313	520	-	7,833
Machinery and equipment	62,526	13,347	-	75,873
Capitalized interest and bond issuance costs	<u>220,690</u>	<u>12,384</u>	-	<u>233,074</u>
Total capital assets	<u>2,149,780</u>	<u>150,166</u>	<u>(102)</u>	<u>2,299,844</u>
Less accumulated depreciation and amortization:				
Sewer lines	(171,959)	(12,385)	7	(184,337)
Wastewater treatment facilities	(187,135)	(19,685)	-	(206,820)
Stormwater drainage facilities	(82,162)	(5,686)	-	(87,848)
Pumping and lift stations	(22,913)	(2,839)	-	(25,752)
Administrative facilities	(21,011)	(2,873)	-	(23,884)
Maintenance facilities	(3,667)	(346)	-	(4,013)
Machinery and equipment	(50,712)	(5,856)	-	(56,568)
Capitalized interest and bond issuance costs	<u>(39,085)</u>	<u>(5,692)</u>	-	<u>(44,777)</u>
Total accumulated depreciation and amortization	<u>(578,644)</u>	<u>(55,362)</u>	<u>7</u>	<u>(633,999)</u>
Construction in progress	<u>193,420</u>	<u>70,387</u>	<u>(127,112)</u>	<u>136,695</u>
	<u>\$ 1,764,556</u>	<u>\$ 165,191</u>	<u>\$ (127,207)</u>	<u>\$ 1,802,540</u>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 5. PLANT, LINES AND OTHER FACILITIES (CONTINUED)

Year ended June 30, 2007

	<u>Beginning Balance</u>	<u>Additions</u>	<u>Retirements / Reclassifications</u>	<u>Ending Balance</u>
Capital assets:				
Sewer lines	\$ 915,527	\$ 48,272	\$ -	\$ 963,799
Wastewater treatment facilities	418,997	3,486	-	422,483
Stormwater drainage facilities	337,039	29,706	-	366,745
Pumping and lift stations	55,407	5,470	-	60,877
Administrative facilities	45,347	-	-	45,347
Maintenance facilities	7,470	-	(157)	7,313
Machinery and equipment	58,613	5,085	(1,172)	62,526
Capitalized interest and bond issuance costs	211,362	9,328	-	220,690
Total capital assets	<u>2,049,762</u>	<u>101,347</u>	<u>(1,329)</u>	<u>2,149,780</u>
Less accumulated depreciation and amortization:				
Sewer lines	(160,278)	(11,681)	-	(171,959)
Wastewater treatment facilities	(167,757)	(19,378)	-	(187,135)
Stormwater drainage facilities	(76,652)	(5,510)	-	(82,162)
Pumping and lift stations	(20,350)	(2,563)	-	(22,913)
Administrative facilities	(18,012)	(2,999)	-	(21,011)
Maintenance facilities	(3,393)	(312)	38	(3,667)
Machinery and equipment	(47,697)	(4,187)	1,172	(50,712)
Capitalized interest and bond issuance costs	(33,660)	(5,425)	-	(39,085)
Total accumulated depreciation and amortization	<u>(527,799)</u>	<u>(52,055)</u>	<u>1,210</u>	<u>(578,644)</u>
Construction in progress	<u>211,761</u>	<u>73,678</u>	<u>(92,019)</u>	<u>193,420</u>
	<u>\$ 1,733,724</u>	<u>\$ 122,970</u>	<u>\$ (92,138)</u>	<u>\$ 1,764,556</u>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
 NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
 FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
 (in thousands)

NOTE 6. CAPITALIZED INTEREST

A comparative schedule of net interest cost capitalized in 2008 and 2007 follows:

<u>Year ended June 30, 2008</u>	<u>Capitalized</u>	Included in <u>Operations</u>	<u>Total</u>
Investment earnings	\$ 1,190	\$ 4,895	\$ 6,085
Interest cost	<u>(10,530)</u>	<u>(56,388)</u>	<u>(66,918)</u>
Net	<u>\$ (9,340)</u>	<u>\$ (51,493)</u>	<u>\$ (60,833)</u>

<u>Year ended June 30, 2007</u>	<u>Capitalized</u>	<u>Operations</u>	<u>Total</u>
Investment earnings	\$ 3,747	\$ 4,670	\$ 8,417
Interest cost	<u>(14,140)</u>	<u>(56,408)</u>	<u>(70,548)</u>
Net	<u>\$ (10,393)</u>	<u>\$ (51,738)</u>	<u>\$ (62,131)</u>

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 7. LONG-TERM DEBT

A comparative schedule of long-term debt outstanding at June 30, 2008
and June 30, 2007, follows:

	<u>Interest Rates</u>	<u>Final Payment In</u>	<u>Outstanding As Of</u>	
			<u>June 30 2008</u>	<u>2007</u>
REVENUE BONDS				
1997 Sewer and Drainage System Revenue Bonds Series 1997A	5.25% - 6.00%	2027	\$ 24,815	\$ 24,815
1997 Sewer and Drainage System Revenue Bonds Series 1997B	4.00% - 5.20%	2007	-	65,940
1998 Sewer and Drainage System Revenue Bonds Series 1998A	4.25% - 9.00%	2030	236,940	240,700
1999 Sewer and Drainage System Revenue Bonds Series 1999A	5.25% - 6.50%	2033	288,030	290,700
2001 Sewer and Drainage System Revenue Bonds Series 2001A	5.00% - 5.50%	2036	293,705	295,415
2003 Sewer and Drainage System Revenue Bonds Series 2003A and 2003B	Variable Rate	2023	157,265	164,580
2004 Sewer and Drainage System Revenue Bonds Series 2004A	5.00% - 5.25%	2038	100,000	100,000
2005 Sewer and Drainage System Revenue Bonds Series 2005A	3.00% - 5.00%	2026	61,640	63,135
2006 Sewer and Drainage System Revenue Bonds Series 2006A	4.00% - 5.00%	2038	100,000	100,000
2007 Sewer and Drainage System Revenue Bonds Series 2007A	4.00% - 5.00%	2025	59,665	-
2008 Sewer and Drainage System Revenue Bonds Series 2008A	4.00% - 5.00%	2038	105,000	-
			<u>1,427,060</u>	<u>1,345,285</u>
Less current maturities			(21,255)	(18,190)
Unamortized loss on refunding			(16,020)	(19,859)
			<u>\$ 1,389,785</u>	<u>\$ 1,307,236</u>
Total - MSD Long-Term Debt				

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 7. LONG-TERM DEBT (CONTINUED)

A schedule of future debt service requirements after June 30, 2008 follows:

Year Ending June 30,	<u>Revenue Bonds</u>		<u>Total</u>
	<u>Principal</u>	<u>Interest</u>	
2009	\$ 21,255	\$ 72,379	\$ 93,634
2010	22,965	71,199	94,164
2011	23,990	70,161	94,151
2012	25,100	69,040	94,140
2013	26,275	67,853	94,128
2014-2018	151,515	318,892	470,407
2019-2023	191,460	278,324	469,784
2024-2028	243,380	225,956	469,336
2029-2033	313,245	156,092	469,337
2034-2038	407,875	61,689	469,564
	<u>\$ 1,427,060</u>	<u>\$ 1,391,585</u>	<u>\$ 2,818,645</u>

A comparative summary of long-term debt activity for the years ended June 30, 2008 and June 30, 2007 follows:

	<u>June 30</u>	
	<u>2008</u>	<u>2007</u>
Long term debt - beginning of year	\$ 1,325,426	\$ 1,341,256
Bonds issued	166,125	-
Deferred gain on refunding, net of amortization	3,839	-
Principal paid on bonds	(22,450)	(15,830)
Bonds refunded	<u>(61,900)</u>	<u>-</u>
Long term debt - end of year	<u>\$ 1,411,040</u>	<u>\$ 1,325,426</u>

Amortization of loss on prior refunds totaled \$1,336.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

*(Continued)
(in thousands)*

NOTE 7. LONG-TERM DEBT (CONTINUED)

On January 24, 2001, MSD terminated a nineteen-year interest rate swap agreement for \$100,000 of its fixed-rate 1999 Series Sewer and Drainage Revenue Bonds. The termination of this swap agreement resulted in the receipt of a payment in the amount of \$7,935. This income will be amortized annually until 2019, the original termination date on the agreement. The unamortized portion is recorded as a long-term liability.

In April 2001, MSD entered into a forward interest rate swap agreement with an aggregate notional amount of \$282,165. Under this agreement, MSD will be the fixed rate payer on the swap and the swap-counter party will be the floating rate payer. MSD will pay a fixed rate of 4.4215% and will receive 67% of the 30-day London InterBank Offered Rate (LIBOR) Index. The forward start date begins November 15, 2009 and terminates on May 15, 2033. MSD initiated the swap to synthetically convert a portion of its floating rate debt expected to be issued November 15, 2009 for the refinancing of its Sewer and Drainage System Revenue Bonds, Series 1999A, to a fixed rate. MSD reserved the right to terminate the swap agreement at any time at the then current market value. This may result in MSD making or receiving a termination payment. This swap transaction exposes MSD to tax event risk due to the possibility that municipal bonds could be taxable when MSD needs to issue debt. In addition, there is a risk (market-access risk) that MSD will not be able to enter credit markets in November 2009 thus the expected cost savings may not be realized. The negative fair value of this swap for the years ending June 30, 2008 and 2007 was \$(34,253) and \$(15,799) respectively.

On January 25, 2008, MSD terminated a Floating to Floating (Basis) Interest Rate Swap agreement with a notional amount of \$282,165. MSD entered into this agreement in April 2006 and paid 67% of the 1-Month LIBOR index and received 62.2% of the 5-Year LIBOR Index. MSD received a termination payment of \$5,756 that will be amortized until 2033.

In October 2002, MSD entered into a Floating to Fixed (Synthetic Fixed) Forward Starting Interest Rate Swap Agreement with a notional amount of \$190,790. MSD executed this agreement to synthetically convert a portion of its floating rate debt that was issued on May 15, 2003 for the refinancing of its Sewer and Drainage System Revenue Bonds, Series 1993, 1993A, and 1993B, to a fixed rate. MSD pays a fixed rate of 4.075% and receives a

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

*(Continued)
(in thousands)*

NOTE 7. LONG-TERM DEBT (CONTINUED)

floating rate equivalent to the Securities Industry and Financial Markets Association Index (formerly the Bond Market Association (BMA) Municipal Bond Index). MSD reserves the exclusive right to terminate the swap agreement at any time at the then current market value. This agreement took effect on May 15, 2003 and terminates on May 15, 2023. The negative fair value of this swap for the years ending June 30, 2008 and 2007 was \$(6,907) and \$(583) respectively.

In March 2003, MSD entered into a swap agreement with a notional amount of \$190,790 that in essence changed the terms of the October 2002 agreement. The terms of this agreement call for MSD to receive 78.78% of the 3-month LIBOR Index and to pay the Securities Industry and Financial Markets Association (SIFMA) Index. MSD reserves the exclusive right to terminate the swap agreement at any time at the then current market value. This agreement took effect on May 15, 2003 and terminates on May 15, 2023. The positive fair value of this swap for the years ending June 30, 2008 and 2007 was \$1,479 and \$4,516 respectively.

In April 2006, MSD entered into a swap agreement with an initial notional amount of \$171,405 which provided that beginning May 15, 2006, a net payment will be made based on MSD paying 78.78% of the 3-month LIBOR Index on the notional amount and receiving 73.45% of the 5-year LIBOR Index on the notional amount. On January 23, 2008, MSD terminated this swap agreement and received a termination payment of \$4,170 that will be amortized until 2023.

MSD has implemented steps to safeguard it against the risks associated with the aforementioned swap transactions. If the counter-party does not maintain A1/A+ ratings from Moody's and Standard and Poor's, the swaps contain provisions that require them to be marked to market weekly with monthly statements sent to MSD and the value will be collateralized with U.S. Treasury and Agency securities with the securities held by a tri-party custodian approved by MSD. All costs of collateralization will be borne by the downgraded party who must post the collateral. In addition, the April 2001 and October 2002 swaps were awarded to multiple firms to further mitigate the credit risk associated with the transactions.

The aforementioned swap transactions also expose MSD to basis risk, the risk that arises when variable interest rates on a derivative and an

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**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 7. LONG-TERM DEBT (CONTINUED)

associated bond are based on different indexes. The payment terms of the October 2002 and March 2003 swaps coincide with the 2003 variable rate bond issue that was executed to refinance the Sewer and Drainage System Revenue Bonds, Series 1993, 1993A, and 1993B. The positive and negative fair value amounts above were provided by a third-party financial advisor.

NOTE 8. RETIREMENT PLAN

Plan Description: MSD contributes to the County Employees Retirement System (CERS) which is a cost-sharing multiple-employer defined benefit pension plan administered by the Kentucky Retirement System, an agency of the Commonwealth of Kentucky. The CERS provides for retirement, disability and death benefits to plan members and beneficiaries. The Kentucky Retirement System issues a publicly available financial report that includes financial statements and required supplemental information for the CERS. That report may be obtained by writing to the Kentucky Retirement System, 1260 Louisville Road, Frankfort, Kentucky 40601-6124.

Funding Policy. Plan members are required to contribute 5% of creditable compensation and MSD is required to contribute at an actuarially determined rate. The employer contribution rates for the years ending June 30, 2008; 2007; and 2006 were 16.17%, 13.19%, and 10.98% respectively, of participating employees' compensation.

The contribution requirements of plan members and MSD are established and may be amended by the CERS Board of Trustees. MSD's contributions to the CERS for the years ending June 30, 2008, 2007, and 2006 were \$5,482; \$4,221; and \$3,288 respectively, equal to the required contributions for each year.

NOTE 9. RISK MANAGEMENT

MSD is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; natural disasters; and injuries to MSD's employees. These risks are provided for through various programs.

MSD participates in the Louisville Area Governmental Self-Insurance Trust (the Trust). The Trust, which is permitted by the Commonwealth of Kentucky to practice as a "group self-insurance trust," was created on

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
 NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
 FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
 (in thousands)

NOTE 9. RISK MANAGEMENT (CONTINUED)

January 1, 1987. Trust members currently include the Louisville Metro Government, six smaller cities, and six government agencies. The Trust was formed to provide better risk protection and lower cost liability insurance by sharing the risk with all of its members.

MSD's payments to the Trust are reflected on the financial statements as an expense. The Trust provides, after a \$300 deductible, liability coverage up to \$7,000 per occurrence. The amount of coverage available to MSD could be limited by the total assets of the Trust. At June 30, 2008, MSD has no claims that are payable from the Trust's assets.

MSD has chosen to self-insure the basic worker's compensation. Claims administration is handled by a third party administrator and includes claims monitoring, check issuance, settlement negotiations and loss control services. Liabilities are reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. A separate insurance policy provides coverage in excess of \$300 for catastrophic injury claims by an employee or several employees as a result of a single occurrence.

A comparative schedule of changes in liabilities for worker's compensation claims follows:

	June 30	
	2008	2007
Liability - beginning of year	\$ 1,913	\$ 1,249
Claims and changes in estimates	808	1,893
Payments	(972)	(1,229)
Liability - end of year	\$ 1,749	\$ 1,913

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 9. RISK MANAGEMENT (CONTINUED)

MSD joined the Louisville Area Governmental General Insurance Trust (Property Insurance Trust) in September 2002. The Property Insurance Trust was created to provide lower cost to participants for property insurance. MSD is responsible for property damage up to \$100. The Property Insurance Trust provides coverage for the next \$900 and a reinsurance plan with a third party carrier covers claims in excess of \$1 million. MSD has had no settled claim that has exceeded the above coverages, in any of the past three fiscal years.

NOTE 10. DEFERRED COMPENSATION

MSD offers its employees deferred compensation plans created in accordance with Internal Revenue Service Code Sections 401(k) and 457. These plans, available to all MSD employees, permit them to defer the payment of a portion of their salary until future years. Participation in these plans is voluntary and MSD makes no contributions to these plans on behalf of the employee. The deferred compensation is not available to employees until termination, retirement, death, or unforeseen emergency. All amounts of compensation deferred, including the investments and earnings thereon, vest with the employee and are not subject to the claims of MSD's general creditors.

NOTE 11. COMMITMENTS AND CONTINGENCIES

Forward Purchase Agreements

MSD previously entered into forward purchase agreements to invest the debt service account of its bond fund at specified times in the future at fixed interest rates. MSD entered into these agreements in order to receive a guaranteed interest rate and lock in current long-term investment rates for the investment of its debt service payments. In December 2007 and January 2008, MSD terminated these agreements and received a net payment of \$1,466,000 that will be amortized over the original life of the agreements.

Prior to the termination of the agreements, MSD was exposed to market risk, since it was possible that interest rates may be higher than the rate at which MSD was committed on the purchase of eligible securities as defined in the agreements. MSD was also exposed to the failure of the counterparty to fulfill the agreement.

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 11. COMMITMENTS AND CONTINGENCIES (CONTINUED)

Sale of Sewer Assessments

MSD has entered into agreements to sell sanitary sewer assessments to a local bank. These assessments reflect the portion of the cost that residents pay to have sewer lines installed in their neighborhood. Residents are given the opportunity to pay the assessment in full or to finance it over a twenty-year period at 7% interest per annum. The original agreement called for the bank to accept up to \$25 million of outstanding assessments and for MSD to receive 104% of the face value of the assessments. The subsequent agreement allows an additional \$5 million of assessments to be sold to the bank at face value. These agreements give the bank the option to place the assessments back to MSD if the payments of the property owner are ninety days in arrears or the property owner does not respond to the bank's demand for payment within a ninety day period after the issuance of the assessment. Sales to the bank are net of any subsequent repurchases of warrants by MSD. The unpaid principal balance of loans held by the bank at June 30, 2008 was \$7,464

Activity under these assessment agreements for the years ending June 30, 2008 and 2007 was as follows:

	June 30	
	2008	2007
Balance - beginning of year	\$ 31,538	\$ 25,792
Assessments sold to bank	12	7,089
Assessments repurchased by MSD	(1,788)	(1,343)
Balance - end of year	\$ 29,762	\$ 31,538

EPA Consent Decree

In May 2003, MSD received a request for information from the United States Environmental Protection Agency, Region 4 (EPA), under Section 308 of the Clean Water Act. MSD provided the requested information. EPA representatives conducted an inspection of part of MSD's combined and separate collection systems during the week of August 25 through August 29,

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

(Continued)
(in thousands)

NOTE 11. COMMITMENTS AND CONTINGENCIES (CONTINUED)

2003. On December 1, 2003, MSD received the inspection report from the EPA. This report contains findings that asserted violations by MSD of the Clean Water Act. The report identified significant violations of the Clean Water Act due to the discharge of sanitary sewer overflows into the navigable waters of the United States. It also found violations of the Clean Water Act for MSD's combined sewer overflows. Representatives of EPA returned to MSD the week of December 8, 2003 for further information. MSD clarified certain information contained in the report and provided the EPA with comments and corrections to the report.

On February 27, 2004, the Kentucky Environmental and Public Protection Cabinet filed suit against MSD in Franklin Circuit Court alleging violations of Federal and State laws with respect to the discharge of pollutants. The suit alleged unauthorized discharges by MSD in the form of sanitary sewer overflows. The suit sought damages and abatement of the unauthorized discharges.

In April 2005, MSD agreed to enter into a Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet and the U.S. Environmental Protection Agency. The Consent Decree calls for MSD to submit a final Long-Term Control Plan (LTCP) to the Cabinet/EPA for review and joint approval by December 31, 2008. The final LTCP must include schedules, deadlines, and timetables for projects to be completed by December 31, 2020. In addition, a Sanitary Sewer Discharge Plan (SSDP) is due by December 31, 2008. The SSDP will include schedules and deadlines for capital projects to be completed by the end of 2024. The cost of the projects is estimated to be \$843 million. Also, MSD agreed to pay a civil penalty to the Commonwealth of Kentucky in the amount of one million dollars (\$1,000) to resolve the violations alleged in the Cabinet's and EPA's complaints up through the date of entry of the Consent Decree. The agreement also calls for MSD to perform supplemental environmental projects (SEPS) at an amount of not less than \$2,250. MSD neither admitted nor denied the alleged violations but acknowledged that discharges occurred and accepted the obligations imposed in the Consent Decree. The Consent Decree, as negotiated, was entered by the U.S. District Court Judge on August 12, 2005 and is now final.

The enforcement actions initiated by the EPA are not unique in the wastewater treatment industry. Several wastewater utilities have signed or are in the process of signing Consent Decrees. In the opinion of MSD, the

**LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
NOTES TO THE COMPARATIVE FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2008 AND 2007**

*(Continued)
(in thousands)*

NOTE 11. COMMITMENTS AND CONTINGENCIES (CONTINUED)

resolution of any violations will not result in material adverse affect on the operation, property or finances of MSD.

IRS Inquiry

In 1998, MSD purchased with the proceeds of its Sewer and Drainage System Revenue Bonds, Series 1997B, United States Treasury obligations for an escrow fund for certain defeased bonds, and at the same time, purchased a put option that allowed it to sell those obligations for an agreed-upon period of time to a counterparty. In 2003, MSD became aware that the Internal Revenue Service (the "IRS") was scrutinizing similar transactions and encouraging issuers who had engaged in such transactions to contact the IRS under the IRS's voluntary compliance agreement program ("VCAP"). While MSD believed it had complied in all respects with applicable provisions of the tax laws, it contacted the IRS promptly with a request for a VCAP settlement. During FY 2007, MSD entered into a closing agreement with the IRS. The agreement provided that the holders of the 1997B bonds are not required to include any interest on the bonds in gross income for federal income tax purposes and no income is required to be recognized by any holder of the bonds as a result of the closing agreement or any payments made pursuant to the agreement. The closing agreement required MSD to redeem \$2,800 of the bonds on November 15, 2007 using funds other than proceeds of tax-exempt bonds. MSD complied with this requirement in FY 2008.

Other Matters

MSD is a defendant in various lawsuits. Although the outcome of these lawsuits is not presently determinable, it is the opinion of the MSD's management that resolution of these matters will not have a material adverse effect on the financial condition of MSD.

The value of construction contracts signed, where work has not yet been performed at June 30, 2008, amounted to \$20,569.

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STATISTICAL SECTION

The schedules and reports shown in the Statistical Section are not considered necessary for the fair presentation of MSD's financial statements in order for them to be in conformity with Generally Accepted Accounting Principles.

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LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
METROPOLITAN SEWER DISTRICT
COMPARATIVE SCHEDULES OF DEBT SERVICE COVERAGE
YEARS ENDED JUNE 30
(\$ in thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Revenues:										
Service charges	\$ 156,889	\$ 126,490	\$ 122,643	\$ 113,561	\$ 103,571	\$ 99,546	\$ 90,255	\$ 87,641	\$ 85,162	\$ 79,635
Other operating income	4,394	5,966	7,122	9,288	7,216	6,696	5,713	6,013	6,569	5,194
Assessments	2,251	8,237	6,796	10,731	12,064	27,290	14,020	12,558	7,539	1,793
Investment income	6,085	8,417	5,558	14,503	23,916	9,377	11,610	14,363	11,748	8,459
Less: capitalized investment income	(1,190)	(3,747)	(1,594)	(6,245)	(18,201)	(5,087)	(6,428)	(10,146)	(9,625)	(7,196)
Total revenues	168,429	145,363	140,525	141,838	128,566	137,822	115,170	110,429	101,393	87,885
Operating expenses:										
Service and administrative costs	96,845	89,194	86,433	78,835	74,972	77,829	74,734	74,417	74,823	71,836
Less: capitalized project costs	(26,510)	(25,715)	(25,387)	(25,286)	(23,671)	(25,784)	(24,007)	(22,618)	(19,822)	(26,494)
Total operating expenses	70,335	63,479	61,046	53,549	51,301	52,045	50,727	51,799	55,001	45,342
Net Revenues	98,094	81,884	79,479	88,289	77,265	85,777	64,443	58,630	46,392	42,543
Aggregate debt service:										
Current maturities of long-term debt	21,255	18,190	17,250	15,685	15,303	13,092	11,676	9,559	6,210	5,909
Interest expense	66,918	70,548	66,162	72,395	65,370	64,797	61,220	50,950	44,363	33,572
Less: capitalized interest expense	(10,530)	(14,140)	(15,758)	(26,603)	(26,940)	(30,490)	(32,891)	(29,352)	(27,242)	(17,029)
Aggregate net debt service	77,643	74,598	67,654	61,477	53,733	47,399	40,005	31,157	23,331	22,452
Debt service coverage ratio	126%	110%	117%	144%	144%	181%	161%	188%	199%	189%

This table has been prepared using the definitions of revenue, expense and debt service contained in MSD's 1993 Sewer & Drainage System Revenue Bond Resolution. Accordingly, for years prior to 1994, certain reclassifications have been made which result in coverage ratios which differ from those reported under the 1989 and 1971 Bond Resolutions.

The 1993 Resolution and its supplements require MSD to provide "Available Revenues", as defined in the Resolution, sufficient to pay 110% of each fiscal year's "Aggregate Net Debt Service" on Revenue Bonds and 100% of "Operating Expenses". "Available Revenues", as used only for purposes of the Resolution, means all revenues and other amounts received by MSD and pledged as security for payment of Bonds issued pursuant to the Resolution, but excludes any interest income which is capitalized in accordance with generally accepted accounting principles. "Operating Expenses" includes all reasonable, ordinary, usual or necessary current expenses of maintenance, repair and operation determined in accordance with generally accepted accounting principles and the enterprise basis of accounting. "Operating Expenses" does not include reserves for extraordinary maintenance and repair, nor does it include administrative and engineering expenses of MSD which are necessary or incidental to capital improvements for which debt has been issued and which may be paid from the proceeds of such debt. "Aggregate Net Debt Service" is aggregate current principal and interest requirements on all Bonds issued pursuant to the Resolution, excluding (i) interest expense, which in accordance with generally accepted accounting principles, is capitalized and which may be paid from the proceeds of debt, and (ii) other amounts, if any, available, or expected to become available in the ordinary course for payment of principal and interest, and not included in "Available Revenues".

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENT OF NET ASSETS – ASSETS
JUNE 30
(in thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Assets										
Current Assets:										
Cash and cash equivalents	\$ 10,524	\$ 1,912	\$ 17,198	\$ 28,732	\$ 20,572	\$ 15,072	\$ 11,920	\$ 23,408	\$ 7,515	\$ 18,495
Investments	14,843	24,935	18,645	7,163	56	9,176	1,006	217	302	233
Accounts receivable	16,732	15,398	17,401	13,716	14,136	12,904	12,233	13,235	11,610	8,075
Recovery of insured loss receivable										941
Inventories	3,020	3,091	2,874	3,090	2,685	2,676	2,466	2,530	2,372	2,338
Prepaid expenses and other current assets	1,385	1,181	1,359	803	796	667	394	154	288	306
Total Current Assets	46,504	46,517	57,477	53,504	38,245	40,495	28,019	39,544	22,540	30,388
Restricted Assets:										
Cash and cash equivalents	105,299	3,133	24	65,423	110,942	117,226	216,890	67,500	230,198	70,263
Investments	26,686	73,801	134,850	33,934	74,112	51,220	52,400	25,457	24,872	22,911
Miscellaneous Receivables	-	-	-	-	-	-	-	-	-	-
Total Restricted Assets	131,985	76,934	134,874	99,357	185,054	168,446	269,290	92,957	255,070	93,174
Long-term Assessments Receivable	26,334	28,749	27,778	29,712	27,964	30,327	37,538	26,723	17,415	7,605
Deferred Compensation Plan	-	-	-	-	-	-	-	-	-	-
Plant, Lines and Other Facilities:										
Completed projects	2,299,844	2,149,779	2,049,762	1,874,875	1,632,338	1,526,610	1,391,498	1,199,210	1,066,648	1,025,187
Less: Accumulated depreciation	(633,999)	(578,643)	(527,799)	(477,624)	(436,162)	(398,727)	(366,204)	(361,016)	(334,249)	(310,451)
	1,665,845	1,571,136	1,521,963	1,397,251	1,196,176	1,127,883	1,025,294	838,194	732,399	714,736
Construction in progress	136,695	193,420	211,761	297,705	423,823	405,035	411,570	433,324	377,506	249,727
Net Plant, Lines and Other Facilities	1,802,540	1,764,556	1,733,724	1,694,956	1,619,999	1,532,918	1,436,864	1,271,518	1,109,905	964,463
Total Assets	\$ 2,007,363	\$ 1,916,756	\$ 1,953,853	\$ 1,877,529	\$ 1,871,262	\$ 1,772,186	\$ 1,771,711	\$ 1,430,742	\$ 1,404,930	\$ 1,095,630

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENT OF NET ASSETS – LIABILITIES AND NET ASSETS
JUNE 30
(In thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Liabilities and Net Assets										
Liabilities:										
Current Liabilities (Payable from Current Assets):	\$ 14,758	\$ 16,639	\$ 22,619	\$ 17,781	\$ 9,671	\$ 9,492	\$ 7,969	\$ 7,912	\$ 7,285	\$ 9,187
Accounts payable and accrued expenses	-	-	-	-	-	-	-	-	-	8,392
Early retirement incentive plan payable	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities (Payable from Current Assets)	14,758	16,639	22,619	17,781	9,671	9,492	7,969	7,912	7,285	17,579
Current Liabilities (Payable from Restricted Assets):										
Accounts payable and accrued expenses	5,250	4,239	1,072	5,863	11,846	17,588	16,231	14,942	10,945	7,445
Accrued interest	8,597	10,824	10,456	9,768	9,916	9,454	10,922	8,444	8,478	4,873
Current maturities of bonds payable	21,255	18,190	17,250	15,685	15,303	13,092	11,676	9,559	6,210	5,909
Current maturities of other long-term debt	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities (Payable from Restricted Assets)	35,102	33,253	28,778	31,316	37,065	40,134	38,829	32,945	25,633	18,227
Long-Term Debt:										
Bonds payable	1,389,785	1,307,236	1,324,006	1,240,966	1,256,228	1,170,141	1,184,993	895,973	904,839	610,353
Other long-term debt	17,199	8,254	8,987	9,191	6,495	6,917	7,338	7,759	-	-
Total Long-Term Debt	1,406,984	1,315,490	1,332,993	1,250,157	1,262,723	1,177,058	1,192,331	903,732	904,839	610,353
Deferred Compensation										
	-	-	-	-	-	-	-	-	-	-
Total Liabilities	1,456,844	1,365,382	1,384,390	1,299,254	1,309,459	1,226,684	1,239,129	944,589	937,757	646,159
Net Assets:										
Invested in plant, lines, & other facilities, net of related debt	482,094	479,305	489,973	497,314	490,458	476,849	450,966	428,688		
Restricted for payment of bond principal & interest	12,228	7,034	8,927	14,133	17,850	18,884	35,482	10,810		
Unrestricted	56,197	65,035	70,563	66,828	53,495	49,769	46,134	46,655		
Total Net Assets	550,519	551,374	569,463	578,275	561,803	545,502	532,582	486,153		
Total Liabilities and Net Assets	2,007,363	1,916,756	1,953,853	1,877,529	1,871,262	1,772,186	1,771,711	1,430,742		
Equity:									345,994	334,345
Contributed Capital										
Retained Earnings:										
Reserved for payment of bond principal and interest	-	-	-	-	-	-	-	-	12,129	12,891
Unreserved	-	-	-	-	-	-	-	-	109,050	102,235
Total Retained Earnings									121,179	115,126
Total Equity									467,173	449,471
Total Liabilities and Equity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,404,930	\$ 1,095,630

Note: FY 2001 - 2007 statements are presented in accordance with GASB 34

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
YEARS ENDED JUNE 30
(in thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Operating revenue:										
Wastewater service charges	\$ 125,782	\$ 96,594	\$ 93,907	\$ 87,653	\$ 79,933	\$ 77,778	\$ 69,856	\$ 68,228	\$ 66,637	\$ 62,306
Stormwater service charges	31,107	29,896	28,736	25,908	23,638	21,768	20,399	19,413	18,525	17,329
Other operating income	4,394	5,956	7,122	9,288	7,216	6,696	5,713	6,013	6,569	5,194
Total operating revenue	161,283	132,446	129,765	122,849	110,787	106,242	95,968	93,654	91,731	84,829
Operating expenses:										
Service and administrative costs	96,845	90,157	86,433	78,835	74,972	77,829	74,734	74,417	74,823	71,836
Capitalization/recovery of cost	(26,510)	(26,678)	(25,387)	(25,286)	(23,671)	(25,784)	(24,007)	(22,618)	(19,822)	(26,494)
Depreciation and amortization	55,485	52,177	51,174	43,161	37,718	35,401	34,131	27,448	24,266	30,497
Total operating expenses	125,820	115,656	112,220	96,710	89,019	87,446	84,858	79,247	79,267	75,839
Income (loss) from operations	35,463	16,790	17,545	26,139	21,768	18,796	11,110	14,407	12,464	8,990
Non-operating revenue (expense):										
Investment income	4,895	4,670	3,964	8,259	5,715	4,290	5,182	4,217	2,123	1,263
Interest expense	(56,388)	(56,408)	(50,404)	(45,792)	(38,495)	(34,307)	(28,330)	(21,598)	(17,121)	(16,544)
Early retirement incentive plan expenses	-	-	-	-	-	-	-	-	20,236	14,470
Contributed capital	-	-	-	-	-	-	-	-	-	-
Total non-operating revenue (expenses) - net	(51,493)	(51,738)	(46,440)	(37,533)	(32,780)	(30,017)	(23,148)	(17,381)	5,238	(10,924)
Net loss before contributions	(16,030)	(34,948)	(28,895)	(11,394)	(11,012)	(11,221)	(12,038)	(2,974)		
Contributions										
Property owner assessments	164	7,634	4,862	12,478	9,701	20,079	24,786	21,865		
All other	15,011	9,225	15,221	15,388	17,612	4,062	33,681	89		
Increase (decrease) in net assets	(855)	(18,089)	(8,812)	16,472	16,301	12,920	46,429	18,980		
Net assets, beginning of year	551,374	569,463	578,275	561,803	545,502	532,582	486,153	467,173		
Net assets, end of year	550,519	551,374	569,463	578,275	561,803	545,502	532,582	486,153		
Net income (loss)	-	-	-	-	-	-	-	-	17,702	(1,934)
Beginning equity	-	-	-	-	-	-	-	-	449,471	451,405
Ending equity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 467,173	\$ 449,471

Note: FY 2001 - 2008 statements are presented in accordance with GASB 34

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENTS OF CASH FLOWS
YEARS ENDED JUNE 30
(in thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Cash flows from operating activities:										
Cash received from customers	159,539	134,160	125,918	123,269	109,938	105,571	96,970	92,029	\$ 12,464	\$ 8,990
Cash paid to suppliers and employees	(72,227)	(69,536)	(56,548)	(45,851)	(51,643)	(51,005)	(50,846)	(51,196)	24,266	30,497
Income/(loss) from operations									(3,535)	139
Depreciation									(34)	861
Change in operating assets and liabilities:									18	422
Decrease (increase) in accounts receivable									(1,902)	(434)
Decrease (increase) in inventories										
Decrease (increase) in prepaid expenses										
Increase (decrease) in accounts payable										
Net cash provided by operating activities	87,312	64,624	69,370	77,418	58,295	54,566	46,124	40,833	31,277	40,475
Cash flows from non-capital financing activities:										
Early retirement incentive plan	-	-	-	-	-	-	-	-	(8,392)	(1,722)
Cash flows from capital and related financing activities:										
Proceeds from issuance of long-term debt	166,125	-	100,000	64,740	100,000	191,000	300,000	-	300,000	-
Defeasance of bonds and other long-term debt	15,174	16,861	1,460	2,838	4,031	948	864	2,313	6,282	3,769
Capital contributed by governments, property owners and developers	-	-	-	-	-	(185,230)	-	-	-	-
Refunding of long-term bonds	2,703	(645)	-	-	-	-	-	-	-	-
Assessments receivable	1,405	1,670	-	-	-	-	-	-	(5,909)	(5,654)
Interest income - assessments	2,504	-	-	-	-	-	(8,863)	(6,210)	(40,668)	(36,245)
Unamortized loss on refundings	(84,350)	(17,250)	(16,815)	(14,020)	(11,702)	(19,206)	(8,863)	(6,210)	(40,668)	(36,245)
Principal paid on revenue bonds	(69,145)	(70,180)	(65,474)	(26,751)	(26,478)	(31,958)	(30,408)	(50,986)	(150,809)	(118,808)
Interest paid on revenue bonds	(83,548)	(65,669)	(67,035)	(109,200)	(126,365)	(127,057)	(164,959)	(165,857)	(150,809)	(118,808)
Acquisition and construction of capital assets	430	(33)	-	-	-	-	-	453	488	6,087
Retainage payable	(257)	(258)	-	-	-	-	-	-	-	-
Acquisition of non-operating property	-	-	-	-	-	-	-	-	-	-
Recovery of insured loss	-	-	-	-	-	-	-	-	-	-
Net cash (used in) provided from capital and related financing activities	(48,959)	(135,504)	(47,864)	(147,993)	(60,514)	(171,503)	96,634	(220,287)	109,384	(150,851)
Cash flows from investing activities:										
Assessment principal payments	-	-	8,621	10,301	12,792	27,495	13,997	10,897	6,174	1,831
Interest received on termination of swap agreement	-	-	-	(421)	(422)	(421)	(421)	7,759	(49,820)	(32,249)
Purchase of investment securities	(62,392)	(72,800)	(303,998)	(100,889)	(370,182)	(79,864)	(77,980)	(65,918)	(49,820)	(39,384)
Proceeds from sale and maturities of investment securities	120,084	137,908	177,341	110,070	329,655	63,592	48,160	65,093	49,871	39,384
Interest received on investments	4,807	7,642	5,551	14,155	29,592	9,623	11,388	14,818	10,461	10,273
Unamortized gain on termination of swap agreements	9,926	-	-	-	-	-	-	-	-	-
Net cash (used in) provided from investing activities	72,425	72,750	(112,485)	33,216	1,435	20,425	(4,856)	32,649	16,686	19,239
Net increase (decrease) in cash and cash equivalents	110,778	1,870	(90,979)	(37,359)	(784)	(96,512)	137,902	(146,805)	148,955	(92,859)
Cash and cash equivalents, beginning of year	5,045	3,176	94,155	131,514	132,298	228,810	90,908	237,713	88,758	181,617
Cash and cash equivalents, end of year	\$ 115,823	\$ 5,045	\$ 3,176	\$ 94,155	\$ 131,514	\$ 132,298	\$ 228,810	\$ 90,908	\$ 237,713	\$ 88,758

Note: FY 2001 - FY 2008 statements are prepared utilizing the direct method. Please see the cash flow statement in the financial section for the reconciliation of operating income to net cash provided by operating activities.

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
METROPOLITAN SEWER DISTRICT
COMPARATIVE SUMMARIES OF OPERATING REVENUE
YEARS ENDED JUNE 30
(in thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Service charges:										
Wastewater service charges:										
Residential	\$ 64,978	\$ 48,338	\$ 47,555	\$ 43,320	\$ 39,394	\$ 37,730	\$ 33,106	\$ 31,469	\$ 31,785	\$ 27,304
Commercial	38,935	28,892	27,619	25,274	23,761	23,071	21,220	20,339	20,412	18,855
Industrial	21,324	18,431	17,279	17,142	15,182	15,380	13,992	14,935	14,845	15,263
Bulk dumpers	-	-	-	-	-	-	-	-	17	313
Other - net	2,382	1,993	1,454	1,917	1,597	1,597	1,538	1,485	(422)	571
Free Sewer to Metro Government	(1,837)	(1,060)	-	-	-	-	-	-	-	-
Total wastewater service charges	125,782	96,594	93,907	87,653	79,934	77,778	69,856	68,228	66,637	62,306
Stormwater service charges:										
Residential	12,198	11,617	11,205	10,304	9,223	8,657	8,134	7,865	7,398	6,973
Commercial	17,276	16,741	15,683	13,854	12,735	11,533	10,765	10,052	9,579	8,876
Industrial	1,988	1,930	1,848	1,750	1,679	1,578	1,500	1,496	1,548	1,480
Free Drainage to Metro Government	(355)	(392)	-	-	-	-	-	-	-	-
Total stormwater service charges	31,107	29,896	28,736	25,908	23,637	21,768	20,399	19,413	18,525	17,329
Total service charges	156,889	126,490	122,643	113,561	103,571	99,546	90,255	87,641	85,162	79,635
Other operating income:										
Capacity charges	2,521	2,538	4,772	6,925	5,176	4,272	2,549	3,754	4,373	3,067
Connection fees	172	146	220	411	601	675	1,458	927	839	895
Regional facilities fees	-	(11)	357	513	301	374	354	276	324	506
Reserve capacity charges	37	5	22	40	18	1	58	13	23	33
Wastewater miscellaneous	1,606	3,220	1,693	1,342	1,062	1,344	1,244	994	967	632
Stormwater miscellaneous	58	58	58	57	58	30	50	49	43	61
City sewer bonds	-	-	-	-	-	-	-	-	-	-
Total other operating income	4,394	5,956	7,122	9,288	7,216	6,696	5,713	6,013	6,569	5,194
Total operating revenue	\$ 161,283	\$ 132,446	\$ 129,765	\$ 122,849	\$ 110,787	\$ 106,242	\$ 95,968	\$ 93,654	\$ 91,731	\$ 84,829

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
 METROPOLITAN SEWER DISTRICT
 COMPARATIVE SUMMARIES OF SERVICE AND ADMINISTRATIVE COSTS
 YEARS ENDED JUNE 30
 (in thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Service and administrative costs:										
Labor	\$ 49,431	\$ 47,079	\$ 42,287	\$ 40,948	\$ 40,206	\$ 40,947	\$ 40,068	\$ 39,185	\$ 40,049	\$ 43,800
Utilities	12,989	10,976	12,518	10,119	8,870	7,967	6,979	7,984	7,017	6,451
Materials and supplies	8,707	8,197	7,745	6,625	7,237	7,479	7,043	8,400	8,730	6,469
Professional services	3,126	2,797	2,543	2,698	2,530	3,821	4,543	4,425	4,185	3,651
Maintenance and repairs	8,926	8,035	7,762	5,874	4,976	5,672	4,660	4,056	4,212	3,111
Billing and collections	5,319	2,889	3,869	3,371	3,209	2,812	3,164	3,628	3,578	2,996
Chemicals and fuel	5,148	4,825	5,088	4,099	3,828	3,701	3,536	2,825	2,403	2,060
Biosolids disposal	1,661	1,412	1,554	1,451	1,359	1,442	2,438	1,584	1,565	1,424
All other	2,800	3,947	3,067	3,650	2,757	3,988	3,081	3,163	3,084	1,874
Adjustment for encumbrances	-	-	-	-	-	-	-	-	-	-
Gross service and administrative costs	98,107	90,157	86,433	78,835	74,972	77,829	75,512	75,250	74,823	71,836
Less: Recovery of cost										
Capitalized project cost	(26,510)	(25,715)	(24,450)	(24,419)	(23,158)	(25,302)	(24,007)	(22,620)	(19,000)	(25,743)
Revenue recoveries	(1,262)	(963)	(937)	(867)	(513)	(482)	(778)	(831)	(822)	(751)
FEMA flooding cost recoveries										-
Recovery of cost	(27,772)	(26,678)	(25,387)	(25,286)	(23,671)	(25,784)	(24,785)	(23,451)	(19,822)	(26,494)
Net service and administrative costs	\$ 70,335	\$ 63,479	\$ 61,046	\$ 53,549	\$ 51,301	\$ 52,045	\$ 50,727	\$ 51,799	\$ 55,001	\$ 45,342

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
 METROPOLITAN SEWER DISTRICT
 COMPARATIVE SCHEDULES OF PLANT, LINES AND OTHER FACILITIES
 YEARS ENDED JUNE 30
 (in thousands)

	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Completed Projects											
Sewer lines	\$ 1,022,859	\$ 963,798	\$ 915,527	\$ 819,349	\$ 762,241	\$ 694,851	\$ 619,077	\$ 527,412	\$ 452,743	\$ 444,098	\$ 420,389
Wastewater treatment facilities	456,954	422,483	418,997	389,747	273,187	262,073	242,549	214,818	207,124	205,266	225,304
Stormwater drainage facilities	390,699	366,745	337,039	308,282	288,277	278,739	265,294	236,526	217,427	213,382	206,737
Pumping and lift stations	66,991	60,877	55,407	51,389	46,752	42,620	39,454	32,315	29,834	29,743	29,626
Administrative facilities	45,561	45,347	45,347	45,239	30,724	22,859	20,867	20,479	18,973	18,379	26,933
Maintenance facilities	7,833	7,313	7,470	7,395	4,785	4,048	4,048	3,359	3,210	3,189	2,697
Machinery, equipment and other	75,872	62,526	58,613	56,749	47,815	47,703	46,653	40,744	32,986	31,509	20,964
Capitalized interest and issuance cost	233,074	220,690	211,362	196,725	178,557	173,717	153,556	123,557	104,351	79,621	71,561
Total Completed Projects	2,299,843	2,149,779	2,049,762	1,874,875	1,632,338	1,526,610	1,391,498	1,199,210	1,066,648	1,025,187	1,004,211
Less accumulated depreciation	(633,999)	(578,643)	(527,799)	(477,624)	(436,162)	(398,727)	(366,204)	(361,016)	(334,249)	(310,451)	(295,929)
Total Completed projects - net	1,665,844	1,571,136	1,521,963	1,397,251	1,196,176	1,127,883	1,025,294	838,194	732,399	714,736	708,282
Construction in progress											
Sewer lines	91,561	83,613	161,586	175,694	202,021	189,116	199,910	187,546	140,901	101,754	
Wastewater treatment facilities	12,974	23,232	19,964	61,790	153,019	140,498	131,681	145,196	104,789	64,755	
Stormwater drainage facilities	22,319	25,717	16,812	27,107	24,880	17,904	19,861	38,823	38,750	28,249	
Pumping and lift stations	3,171	2,833	2,550	9,333	8,561	8,283	9,150	10,645	11,362	6,364	
Administrative facilities	3,209	10,064	10,000	21,337	31,880	48,836	49,898	50,374	43,233	22,129	
Maintenance facilities	-	-	-	-	-	-	-	740	1,066	642	
Machinery, equipment and other	3,462	47,961	849	2,444	3,462	398	1,070	-	37,405	25,834	
Total Construction in progress	136,696	193,420	211,761	297,705	423,823	405,035	411,570	433,324	377,506	249,727	157,279
Total Net Plant, Lines and Other Facilities	\$ 1,802,540	\$ 1,764,556	\$ 1,733,724	\$ 1,694,956	\$ 1,619,999	\$ 1,532,918	\$ 1,436,864	\$ 1,271,518	\$ 1,109,905	\$ 964,463	\$ 865,561

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
 METROPOLITAN SEWER DISTRICT
 WASTEWATER TREATMENT PLANT CAPACITY
 2008

Plant	Design Capacity MGD	Avg Daily Flow MGD	Eventual Capacity MGD	Customer Base			Total	Year Built	Treatment Process
				Residential	Commercial	Industrial			
Morris Forman	120.0	107.9	120.0	122,663	13,838	353	136,854	1958	Secondary added in 1972.
West County	30.0	26.8	30.0	55,010	3,114	17	58,141	1986	Secondary
Jeffersontown	4.0	4.3	4.0	6,682	905	14	7,601	1956	Secondary
Hite Creek	6.0	4.4	8.0	6,653	474	5	7,132	1970	Tertiary: sand filter
Cedar Creek	7.5	4.3	7.5	6,960	167	-	7,127	1995	Tertiary: sand filter
Floyd's Fork	3.3	2.1	9.8	4,170	99	-	4,269	2001	Tertiary: sand filter
15 Small Treatment Plants	2.7	2.3	-	5,105	201	-	5,306	Most 1970s	Various: developer-built package plants
Total Treatment System	173.5	152.1	179.3	207,243	18,798	389	226,430		

GREATER LOUISVILLE, KENTUCKY/INDIANA
EMPLOYERS OF 1,000 EMPLOYEES OR MORE

	2007 Rank	2006 Rank	2005 Rank	2004 Rank	2003 Rank	2002 Rank	2002 Rank	Type of business					
United Parcel Service, Inc.	1	20,560	1	20,674	1	18,398	1	17,543	1	17,206	1	20,424	P Air cargo transport and distribution
Jefferson County, KY Public Schools	2	13,917	2	13,593	2	13,281	2	13,235	2	13,420	2	14,329	G Primary and secondary education
Humana, Inc.	3	9,854	3	8,775	5	7,458	6	5,850	11	4,889	11	4,785	P Group health insurance/HMOs
Norton Healthcare (formerly Alliant Health)	4	7,978	4	7,690	4	7,783	4	8,525	4	7,850	12	7,575	N Hospital and health care facilities
Jewish Hospital & St. Mary's Healthcare Inc.	5	6,203	6	6,229	7	5,907	7	5,405	6	5,450	7	5,467	N Hospital and health care facilities
Ford Motor Company	6	5,929	5	7,586	3	8,745	3	8,972	3	9,303	8	9,807	P Vehicle manufacturing
University of Louisville	7	5,866	7	5,763	8	5,563	8	5,236	10	4,943	9	5,133	G Higher education
Louisville-Jefferson County Metro Government*	8	5,639	8	5,698	6	5,993	5	5,893	5	5,744	10	5,995	G City/County Government
General Electric Company	9	5,000	9	5,000	10	5,000	9	5,000	7	5,200	6	5,800	P Appliance manufacturing
Kroger Company	10	4,784	10	4,644	9	5,177	11	4,827	8	4,960	10	5,045	P Retail grocer
Commonwealth of Kentucky	11	4,498	11	4,535	11	4,700	10	4,952	9	4,952	8	5,328	G General purpose government
Baptist Healthcare System	12	3,089	12	3,536	12	3,140	12	3,179	15	2,308	15	2,204	N Hospital and health care facilities
U.S. Federal Government	13	2,853	14	2,822	13	2,826	13	2,941	13	2,806	13	2,949	G General purpose government
U.S. Postal Service	14	2,651	15	2,553	14	2,674	14	2,902	12	2,872	12	3,137	G Mail distribution
Roman Catholic Archdiocese of Louisville	15	2,351	17	2,348	15	2,437	15	2,680	14	2,468	14	2,485	N Religious, educational, social services
University Hospital	16	2,314	16	2,417	17	2,346	19	1,972	18	2,115	19	2,006	N Nonprofit health care
U.S. Bureau of the Census	17	2,248	22	1,638	20	1,810	22	1,672					G Federal Government
Yum! Brands Inc. (formerly Tricon)	18	2,243	18	2,219	18	2,123	18	2,195	16	2,194	17	2,170	P Food service provider
Kindred Healthcare (Formerly Vencor Inc.)	19	2,079	13	3,033	16	2,349	16	2,342	20	1,957	20	1,952	P Long-term health care, facilities
Publishers Printing Company	20	1,860	21	1,689	21	1,702	23	1,633	23	1,595	24	1,600	P Trade, professional, special printing
Horsehoe Southern IN (formerly Ceasars)	21	1,858	19	1,895	19	1,942	20	1,918	19	1,968	18	2,076	P Gaming and entertainment resort
AT&T (Formerly BellSouth)	22	1,680	24	1,561	25	1,476	26	1,423	25	1,438	27	1,395	P Telecommunications
American Commercial Lines (Jeffboat LLC)	23	1,615	25	1,560	41	1,009							P Manufacturer - Inland river barges & towboats
Bullitt County Public Schools	24	1,589	20	1,700	26	1,473	29	1,376					G Primary and secondary education
Oldham County, KY Board of Education	25	1,519	28	1,448	28	1,407	31	1,320	30	1,250	30	1,238	G Primary and secondary education
JPMorgan Chase & Co.	26	1,500	27	1,500	24	1,500	25	1,495	22	1,630	22	1,720	P Diversified commercial banking
Greater Clark County, IN School Corp.	27	1,491	23	1,600	22	1,598	24	1,509	24	1,459	26	1,438	G Primary and secondary education
Papa John's International Inc.	28	1,480	38	1,130									P Quick-service restaurants
U.S. Veterans Affairs Medical Center	29	1,406	31	1,406	35	1,234	35	1,195	32	1,181	36	1,130	G Hospital and health care facilities
New Albany/Floyd County, IN School Corp.	30	1,400	32	1,400	36	1,215	34	1,209	31	1,213	32	1,200	G Primary and secondary education
Anthem, Inc.	31	1,381	29	1,438	23	1,575	21	1,687	21	1,744	21	1,725	P Health insurance sales and services
Swift & Co.	32	1,350	35	1,251	34	1,250	38	1,151	33	1,151	34	1,151	P Hog slaughtering and pork processing
Floyd Memorial Hospital & Health Services	33	1,316	30	1,409	29	1,337	27	1,412	37	1,113	29	1,249	P Hospital and health services provider
Lowe's Cos. Inc.	34	1,265	26	1,520	27	1,450							P Home Improvement Products & Services
Brown-Forman Corp.	35	1,256	34	1,317	33	1,264	39	1,075	34	1,145	25	1,584	P Distilled spirits manufacturing
SHPS	36	1,209	37	1,200	30	1,315	30	1,336	27	1,315			P Benefits administration
Citigroup	37	1,184	33	1,355	31	1,312	37	1,153					P Banking, insurance, investments
Clark Memorial Hospital	38	1,175	40	1,060	39	1,098	28	1,411	26	1,358	38	1,015	N Hospital and health care services
Texas Roadhouse	39	1,160											P Restaurants
Seven Counties Services	40	1,110	39	1,100	37	1,137	36	1,159	35	1,132	39	1,005	N Health care provider
A.J. Schneider Co.	41	1,081	36	1,214	38	1,100	32	1,300	36	1,130	35	1,130	P Full-service hotel
		<u>140,941</u>		<u>140,606</u>		<u>132,867</u>		<u>127,624</u>		<u>120,197</u>		<u>125,112</u>	

P=for-profit organization N=not-for-profit organization G=governmental organization
Source: *Business First*, Louisville, KY

*The City of Louisville & Jefferson County Governments merged in January 2003.

GREATER LOUISVILLE, KENTUCKY/INDIANA
POPULATION TREND
1970-2020

	Census				Projected	
	1970	1980	1990	2000	2010	2020
City of Louisville	361,700	298,500	269,200	256,231	270,000	270,000
Jefferson County, KY (outside City)	334,500	385,800	396,000	437,373	438,000	462,000
Subtotal Jefferson County, KY	696,200	684,300	665,200	693,604	708,000	732,000
Clark County, IN	76,200	88,900	87,900	96,472	100,000	106,600
Floyd County, IN	55,600	61,400	64,600	70,823	82,700	92,800
Bullitt County, KY	26,500	43,500	47,800	61,236	61,400	68,900
Oldham County, KY	14,700	27,900	33,600	46,178	53,900	65,500
Harrison County, IN	20,500	27,400	30,000	34,325	40,600	46,700
Scott County, IN	17,200	20,400	21,000	22,960	34,600	40,400
Total Greater Louisville	906,900	953,800	950,100	1,025,598	1,081,200	1,152,900

Source: "Greater Louisville Forecasts of Jobs, Population and Income: 1995-2020"
Cornerstone 2020 & U.S. Census Bureau

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
TOP 10 WASTEWATER AND STORMWATER CUSTOMERS

Rank	Customer Name	FY '08 Wastewater		Percent Total Wastewater Revenue	Customer Name	FY '01 Wastewater		Percent Total Wastewater Revenue
		Billed	Revenue			Billed	Revenue	
1	Solae LLC*	\$ 3,426,871	2.72%	Protein Technologies	\$ 1,848,000	2.71%		
2	Opta Foods	\$ 1,732,934	1.38%	E.I. Dupont	\$ 1,535,437	2.25%		
3	Oxy Vinyls	\$ 1,688,374	1.34%	Swift & Company	\$ 1,068,293	1.57%		
4	Swift & Company	\$ 1,645,651	1.31%	Oxy Vinyls	\$ 998,618	1.46%		
5	E.I. Dupont	\$ 1,536,790	1.22%	Ford Motor Co.	\$ 934,068	1.37%		
6	Brown Forman Corp.	\$ 1,504,167	1.20%	Opta Food	\$ 750,000	1.10%		
7	Jefferson Co. Bd. of Educ	\$ 1,404,805	1.12%	Jefferson Co. Bd. of Educ.	\$ 626,709	0.92%		
8	Heaven Hill Distilleries	\$ 994,958	0.79%	Louisville Mun. Housing	\$ 541,479	0.79%		
9	Rohm & Haas	\$ 876,608	0.70%	Rohm & Haas	\$ 536,701	0.79%		
10	Lou. Metro Housing Auth.	\$ 778,370	0.62%	General Electric	\$ 464,768	0.68%		
Total		\$ 15,589,528	12.39%	Total	\$ 9,304,073	13.64%		

Total FY '08 Wastewater Revenue: \$125,782,000

Total FY '01 Wastewater Revenue: \$68,288,000

Rank	Customer Name	FY '08 Stormwater		Percent Total Stormwater Revenue	Customer Name	FY '01 Stormwater		Percent Total Stormwater Revenue
		Billed	Revenue			Billed	Revenue	
1	Regional Airport Authority	\$ 810,221	2.60%	Regional Airport Authority	\$ 265,009	1.37%		
2	United Parcel Service	\$ 532,838	1.71%	United Parcel Service	\$ 234,484	1.21%		
3	Jefferson Co. Bd. of Educ.	\$ 282,936	0.91%	Jefferson Co. Bd. of Educ.	\$ 192,397	0.99%		
4	Ford Motor Company	\$ 278,681	0.90%	Ford Motor Company	\$ 164,945	0.85%		
5	LIT Industrial Limited**	\$ 208,303	0.67%	University of Louisville	\$ 109,536	0.56%		
6	Churchill Downs	\$ 160,661	0.52%	Churchill Downs	\$ 108,570	0.56%		
7	KY State Fair Board	\$ 137,987	0.44%	Trammell Crow Co.	\$ 91,683	0.47%		
8	Norfolk Southern Corp.	\$ 137,143	0.44%	KY State Fair Board	\$ 86,690	0.45%		
9	Louisville Gas & Electric	\$ 133,662	0.43%	Norfolk Southern Corp.	\$ 82,503	0.42%		
10	University of Louisville	\$ 124,094	0.40%	Seaboard Systems, Inc.	\$ 78,141	0.40%		
Total		\$ 2,806,526	9.02%	Total	\$ 1,413,958	7.28%		

Total FY '08 Stormwater Revenue: \$31,107,000

Total FY '01 Stormwater Revenue: \$19,413,000

Note: MSD switched billing systems in FY '01 thus this fiscal year was used to compare billings against FY '08

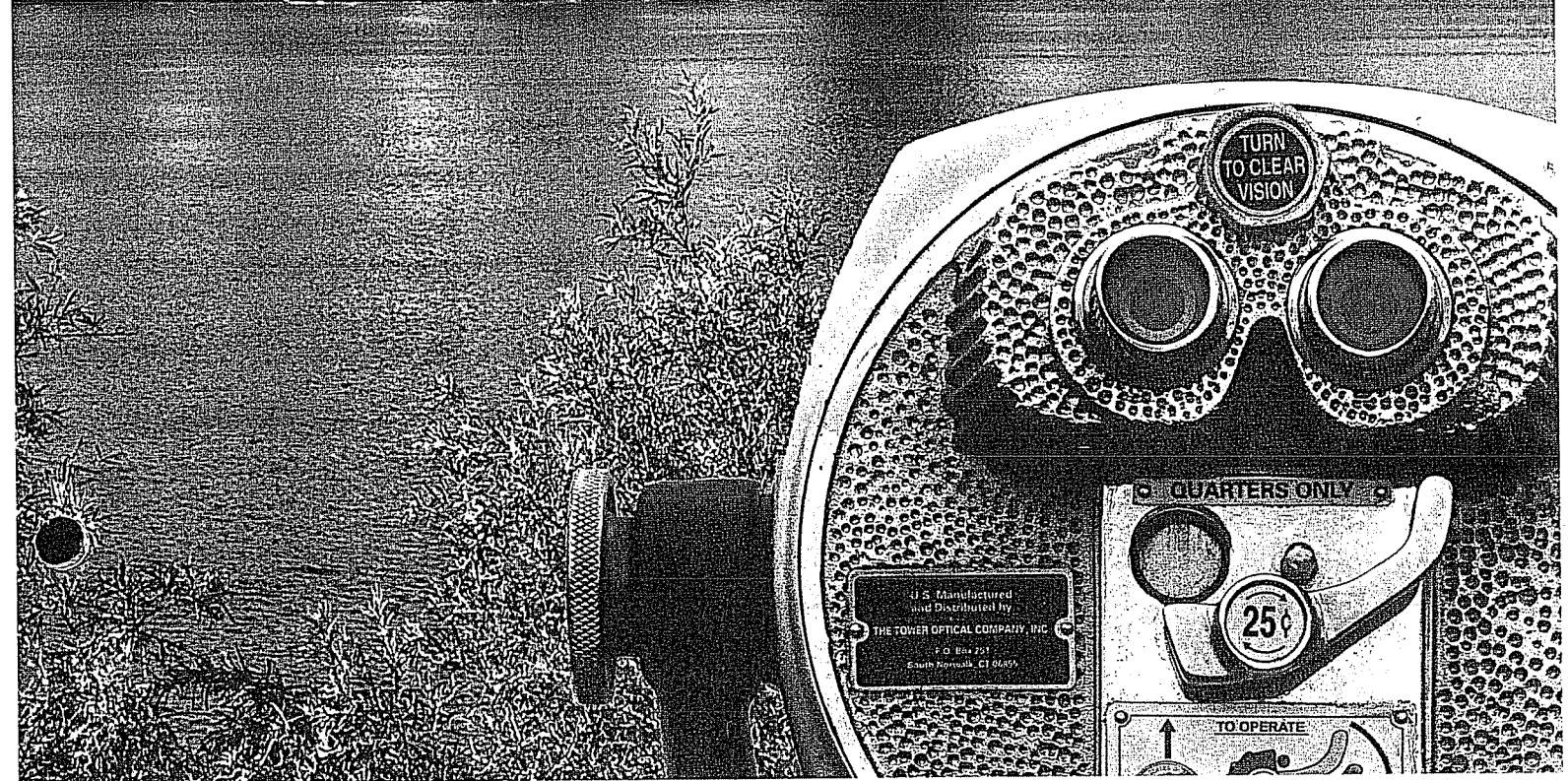
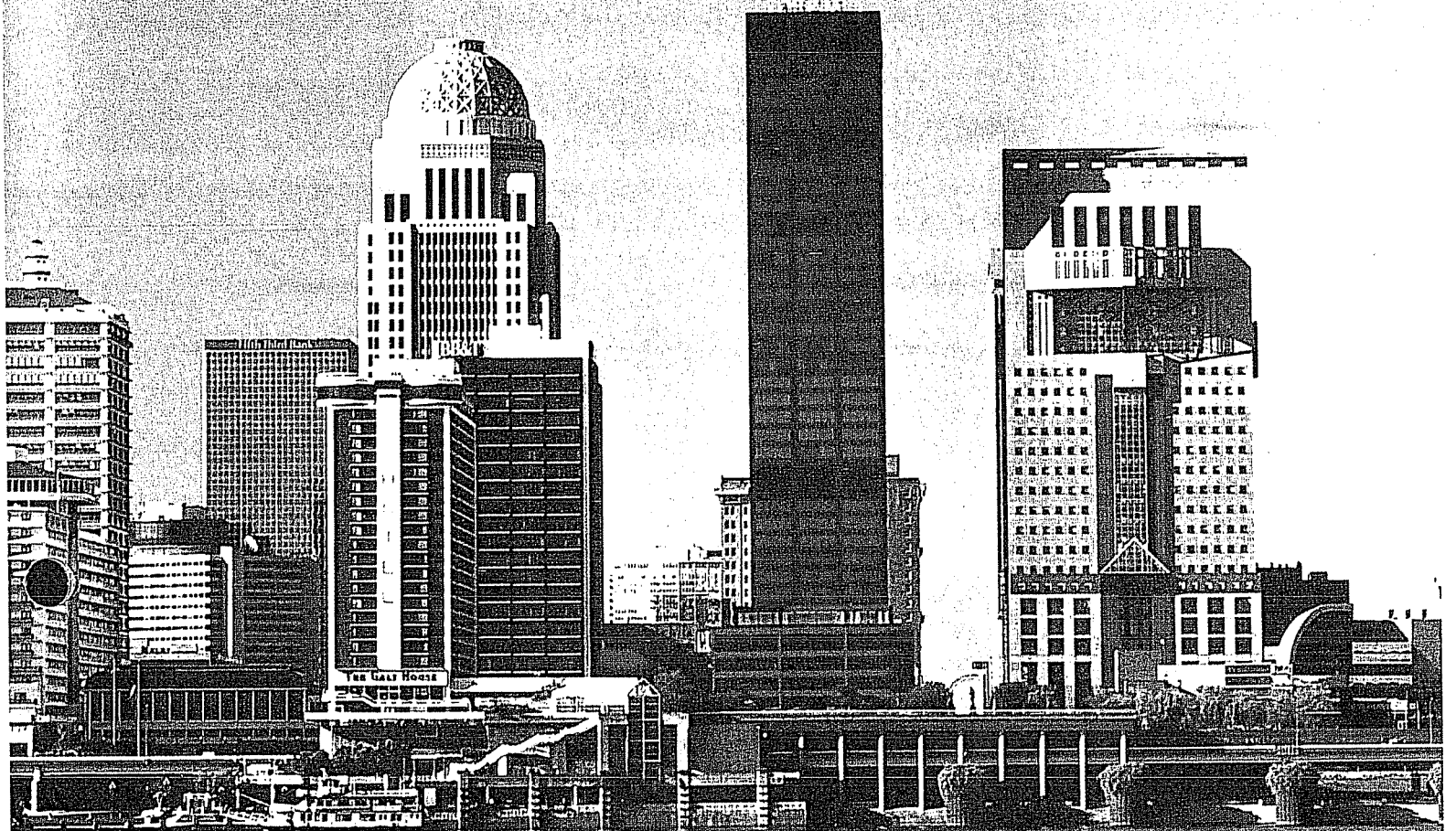
* Solae LLC was formerly known as Protein Technologies

** LIT Industrial Limited was formerly known as Trammell Crow Co.

VISION FOR THE FUTURE — AN EYE TO OUR PAST

LOUISVILLE AND JEFFERSON COUNTY
METROPOLITAN SEWER DISTRICT

24168 4/80 1000 11/80



TO OUR CUSTOMERS — OUR VISION OF THE COMMUNITY

Louisville Metro sits in a beautiful location along the Ohio River. Our reason for being, like many other American cities, is the close proximity to an unlimited water source. The Ohio has provided generations of Louisvillians with dependable drinking water; an abundant water for manufacturing; and a year-round transportation system for moving goods and commodities through the Ohio Valley, through the Mississippi Valley and beyond.



H. J. Schardein Jr.
Executive Director

Louisville is also blessed with numerous inland streams and creeks that flow through almost every neighborhood and area of the community. These streams traverse Olmsted parks, small farming areas, manufacturing areas and residential neighborhoods. Two hundred years ago, these inland streams were part of a natural ecological system that included floodplains, wetlands and woods, which provided a natural buffer from pollution and a natural control for flooding. Obviously, much has changed in our local landscape during that time. Those changes constitute a challenge for MSD and the community to obtain cleaner water and dependable flood protection.



Beverly A. Wheatley
Chair

Our 2008 annual report takes a different approach than in the past several years. Twelve years ago, MSD distributed a report summarizing its first 50 years of service. The bulk of this year's report furnishes an update concerning what we have accomplished during the past 12 years and offers a brief recap of 2008 highlights.

Hopefully, you will find the *MSD 2008 Annual Report* to be informative. A postage-paid survey card has been included for you to provide us feedback with comments or suggestions regarding ways we can improve this report.

Sincerely,

A handwritten signature in cursive script, appearing to read "H. J. Schardein Jr.".

H. J. Schardein Jr.
Executive Director

A handwritten signature in cursive script, appearing to read "Beverly A. Wheatley".

Beverly A. Wheatley
MSD Board Chair

LOOKING BACK — THE PAST 12 YEARS

A great deal has happened since MSD published its "50 Years of Service" in 1996. The MSD Board and senior management have refocused the agency on its three core businesses: stormwater drainage services; flood protection; and sanitary sewer service and treatment. MSD continued to reduce the amount of pollution in our local waterways and make them more environmentally friendly.

In 1997, MSD implemented a new watershed-management program to coordinate all the activities within a watershed. These watershed teams worked to expand sewer service, eliminating septic systems within the county and removing inefficient package treatment plants. During this time, MSD expanded the capacity of our regional wastewater treatment facilities to handle new flow from small treatment plants that were eliminated, thereby increasing water quality throughout the county. Within the urban area, MSD also closed about 15 percent of the combined sewer overflows that contributed to Beargrass Creek and Ohio River pollutants.

The Flood of 1997 demonstrated how surface flooding can affect even inland areas of the county. Although the Flood Protection System along the Ohio River performed its job well, many homes away from the river were flooded. MSD began to focus more resources on drainage concerns throughout the county because of these flooding matters. Many drainage channels were improved, and stormwater storage basins were built around the county. These basins are now able to store more than 1 billion gallons of inland floodwaters.

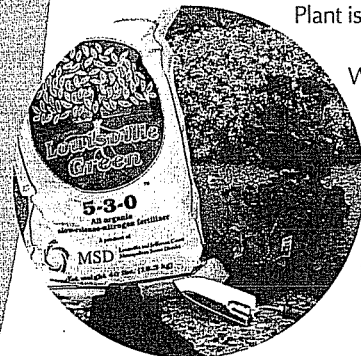


The rising Ohio River covered portions of Shawnee Golf Course in March 2008.

A drainage response initiative – Project DRI – was introduced at the urging of Metro Mayor Jerry Abramson and the new 26-member Metro Council when City and County governments merged in January 2003. This initiative provides a way to deliver drainage services in an efficient, cost-effective, justifiable and transparent manner to the public. Project DRI is able to focus on localized drainage issues at a street level because the recently constructed stormwater storage basins furnish an outlet for neighborhood drainage issues.

There have been several occasions since 1996 when we have had to rely on the Flood Protection System to prevent river flooding in the community. Although the system performs well, as the Flood of 1997 showed, many upgrades will be needed for the aging mechanical and electrical components of the flood pumping stations. Minor upgrades have been made to the 16 flood pumping stations, but the Robert J. Starkey Pumping Plant is the only one to date that has been completely rebuilt, at a cost of \$8.5 million.

We have established a business philosophy that emphasizes the highest level of customer service at the lowest possible cost. For example, the number of full-time employees has been cut from about 850 to 600 people, and automated systems have been installed to increase productivity and minimize service interruptions. If anything best describes the past 12 years at MSD, it is the realization that our customers expect us to use their investments in the most cost-effective and productive ways. Indeed, our customers are our shareholders, and their level of satisfaction will always determine our success.

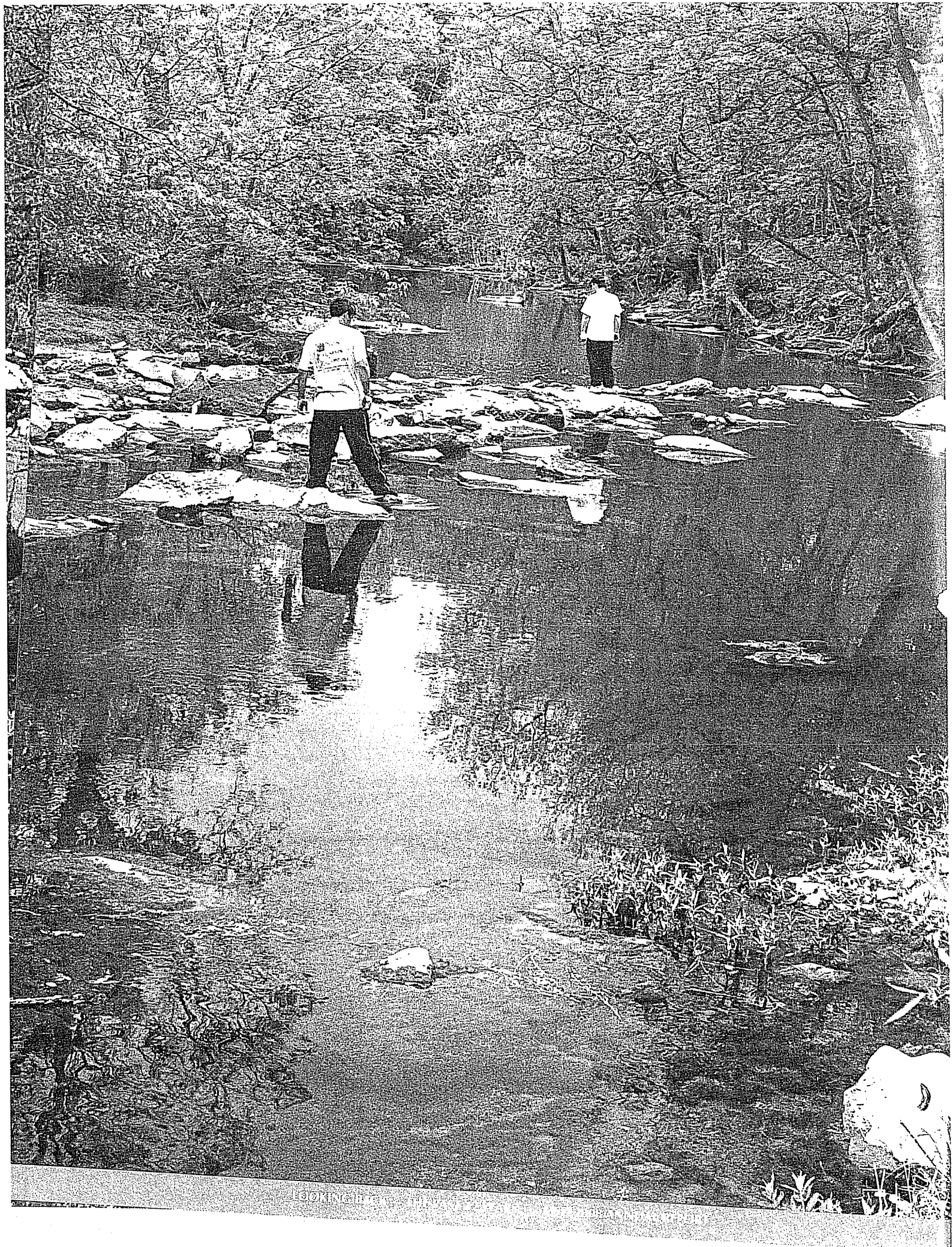


In 2004, MSD began marketing a slow-release organic fertilizer known as Louisville Green, which is produced at its Morris Forman Water Quality Treatment Center.

TABLE OF CONTENTS

Looking Back —	
The Past 12 Years	1
The Long View —	
Overcoming Drainage Woes	4
Insight and Planning —	
Flood Protection	7
Broadening Our Vision —	
Sanitary Sewer Service Expansion	10
A Vision for the Future —	
Planting the Seeds of Change	14
Refining Our Vision —	
Living with Water Quality	18
A Year in Review —	
2008 Highlights	24
Focus on Education —	
Community Relations	26
A Bird's-Eye View —	
OJIC	29
A Financial View —	
Inside MSD	30
A Clear Vision —	
Celebrating Diversity	32
A Vision for the Prize —	
Awards and Achievements	33
A Strategic Vision —	
MSD's Road	33

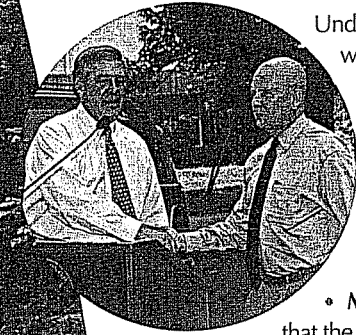




LOOKING UP

MSD as Part of the Louisville Metro Team

The city of Louisville and Jefferson County merged governments in January 2003 to become Louisville Metro after many years of debate. While looking for the best route for merging City and County agencies and services, Metro Mayor Abramson also looked to local utilities and organizations to join the team.



Under the leadership of Executive Director Bud Schardein, MSD enhanced its position in the community by working as a partner with Metro Mayor Abramson and other Louisville Metro service agencies. Through this cooperation, MSD has provided additional services to the community, including:

- **Metro Information, Development and Asset System (MIDAS)** – MSD partners with Louisville Metro for the community's Geographic Information System, information management and imaging systems for tracking service requests, development review, permitting, code enforcement, asset management and planning functions.
- **MetroCall** – The partnership between Louisville Metro and MSD's Customer Relations Department ensures that the community's 311 calls are answered "live" during Louisville Metro's nonbusiness hours. MSD's Customer Relations staff fielded more than 1,200 calls a week from MetroCall customers during 2008.
- **Metro Development Center** – Louisville Metro Public Works, the Louisville Metro Planning Commission and MSD have partnered to staff a centralized permitting and licensing center at 444 South Fifth Street.
- **Snow Removal** – MSD's crews assist Louisville Metro Public Works in plowing and salting approximately 185 miles of major roadways during each snow event in the Louisville Metro area.
- **Neighborhood Cleanup** – MSD's crews provide assistance to local neighborhoods that organize debris cleanups in their community. MSD has furnished gloves, bags and debris disposal for these efforts.
- **Ohio River Levee Trail/Riverwalk** – MSD's crews and contractors help maintain the trail along the Flood Protection System.

Overall, the merger has been the catalyst for more cohesive service provisions to Louisville Metro residents through improved communication and shared assets between Louisville Metro government and MSD.

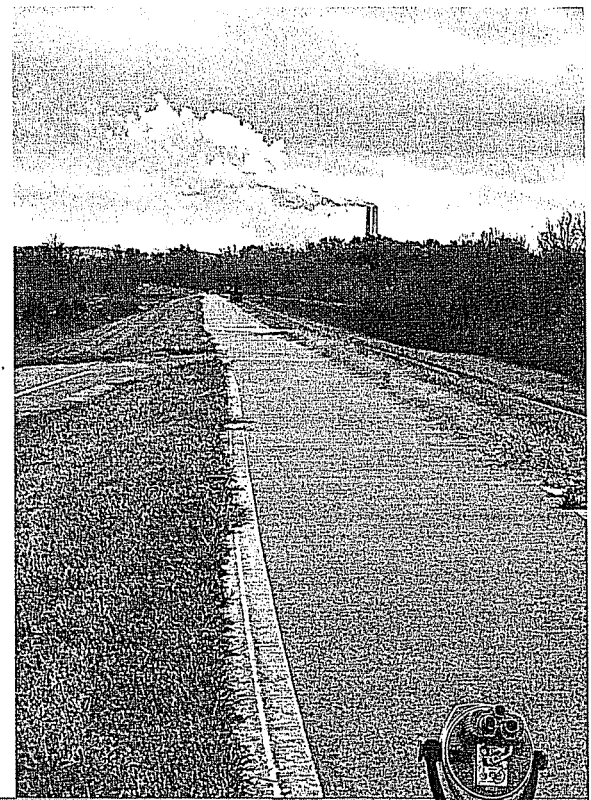
ABOVE INSET: As demonstrated by this joint press conference with Mayor Jerry Abramson and Bud Schardein, the merger of City and County governments in 2003 established an improved relationship between Louisville Metro and MSD.

LEFT: Beargrass Creek in Cherokee Park, like many streams in Louisville Metro, provides a natural habitat as well as recreational resources.

RIGHT: The Ohio River Levee Trail sits atop the Flood Protection System as it runs through southwest Jefferson County.



MSD drivers and equipment assist Louisville Metro agencies in clearing roads of snow and ice.





THE LONG VIEW — OVERCOMING DRAINAGE WOES

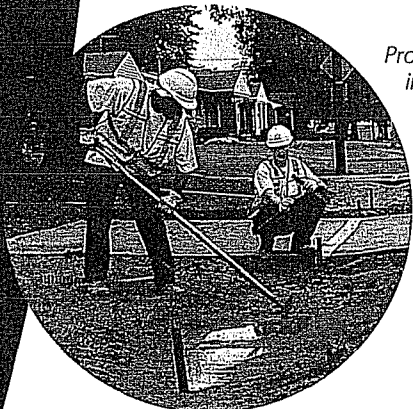
Drainage in Louisville and Jefferson County has always been a divisive issue. Disputes have occurred concerning who should be responsible for stormwater drainage, and how improvements to the public drainage system should be funded. For decades beginning in the 1940s, disagreements and lawsuits among the city of Louisville, Jefferson County, the Kentucky General Assembly, MSD and the public mired most attempts at real improvements in a political stalemate. Dozens of entities were responsible for maintaining drainage systems within their small jurisdiction until 1986, when MSD took over responsibility as the local stormwater utility for much of Louisville and Jefferson County.

The idea of a stormwater utility was a relatively new concept when MSD assumed this responsibility. After all, most people thought that local governments should be able to use taxes for addressing surface drainage issues in the same way that they fund road improvements and other critical infrastructure issues. Most drainage problems had been ignored for decades, though, and the price tag for correcting them was well beyond the means of any existing entity or funding mechanism. The most responsible solutions were for MSD to manage the issue throughout its service area, and to fund the program based on user fees.

In the Beginning . . .

The early years of the program were challenging in a multitude of different ways. It was difficult to know where to start with a seemingly insurmountable backlog of problems; frustrated residents and elected officials; and a severely underfunded program. Although there were clearly parts of the service area that had more severe problems than others, there seemed to be an expectation that resources would be delivered equally across political boundaries.

Through the early 1990s and with the assistance of bond issuances, MSD began prioritizing and funding projects throughout the service area, while always attempting to manage the constantly growing number of requests for service that it could neither address nor assign to any schedule. The number of individual requests for service in MSD's system hovered between 15,000 and 20,000 at any given time. The inability to assign work schedule dates frustrated customers at all levels.



Project DRI brings drainage improvements to neighborhoods all across Louisville Metro, such as the system being constructed in the Treasure Island Subdivision (far left) and on Fairmeade Road (left).

Winds of Change

Several initiatives in the mid-to-late 1990s made strides to provide higher levels of service. A Customer Response Team was formed in 1994 to provide personal response for new service requests and to improve the flow of work between MSD Maintenance and Engineering divisions. A Neighborhood Program was implemented to concentrate maintenance crews in specific geographic areas according to a fixed schedule. For the first time, the Neighborhood Program also included large-scale capital drainage improvements that were laid out and constructed without detailed construction plans. These types of projects were essentially designed in the field by using the expertise of inspectors, contractors and MSD project managers.

In 1997, the Drainage Response Action Plan helped to redefine MSD's drainage program. In this effort, every open drainage service request in the system was reviewed for accuracy, and the result of every inspection and recommendation for work was updated in a database and linked to a computerized mapping system.

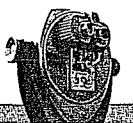
With the boundaries for the new Louisville Metro Council Districts already established under a proposed merger of City/County governments in 2001, MSD devised a plan linking some important pieces together. Using information about the number of requests for service and the cost estimates for all proposed work in each Council District, a drainage allocation plan was unveiled that effectively distributed MSD's available drainage resources by Council District based on the established drainage needs in each District.

What seemed obvious to many was now an accepted and justifiable practice. Council Districts in the southern and southwestern portions of the county, which were plagued by the large majority of problems in the service area, would receive a percentage of available resources in proportion to the needs of each District. This process set the stage for one of the most successful programs in the history of MSD's drainage efforts — Project DRI.

Drainage Response Initiative (Project DRI)

The first phase of Project DRI began in early 2003 to coincide with the start of merged government. This phase committed \$67 million to address the most severe problems on record. The effort included 428 capital drainage projects constructed by private contractors and 2,592 work orders completed by MSD crews during a period of 2½ years.

Nearly all the allocated money was used on pipe, concrete and labor because MSD staff and contractors planned and designed this work. The endeavor was a huge success since it resolved drainage problems for thousands of Louisville Metro residents. The Phase 2 planning effort began before Phase 1 construction had reached a halfway mark due to the program's effectiveness. The first phase of DRI ended in June 2005.



Project DRI Continues

Phase 2 of DRI started immediately after the first phase had left off. The need for 374 capital projects at a value of \$35 million, as well as 1,641 maintenance work orders for an additional \$20 million, began construction in the summer of 2008. While Phase 1 addressed many severe flooding and erosion problems, Phase 2 began to address chronic water problems in older subdivisions with inadequate or nonexistent storm collection systems.

As of the writing of this report, the second phase of Project DRI is well under way. Phase 3, which began in January 2009, will run through the summer of 2011. Another \$25 million will be invested in Louisville Metro drainage infrastructure during this initiative involving 281 capital projects.

In addition to efforts associated specifically with Project DRI, MSD's crews perform routine and preventive maintenance on the drainage infrastructure of Louisville Metro. This work includes the routine cleaning of more than 30,000 catch basins; moving of over 16 miles of large channels along the levee; removal of obstructions in the system; repair of cave-ins over stormy facilities; and scheduled cleaning of concrete and earthen ditches. Spread throughout the three phases of Project DRI, this work includes almost 150,000 work orders valued at approximately \$14.5 million.

MSD's drainage work will never be completed. Responsibilities ranging from reconstruction efforts necessary for the Flood Protection System, to thousands of residents living in floodplains, to a seemingly endless number of minor problems and constantly needed maintenance projects will keep MSD busy for decades to come. With several hundred million dollars of drainage needs identified but unfunded, MSD's challenge will be continuing to improve efficiency and to provide high levels of customer service and flood protection with the limited resources that are available.

LEFT: Working through Project DRI, Jason Walls and Ron Richards regrade a roadside swale to restore adequate runoff along Fairmeade Road.



As the local stormwater utility, MSD is responsible for the operation and maintenance of the local Flood Protection System, which is most often associated with the floodwalls, levees and flood pumping stations that protect Louisville Metro from the flooding impacts of the Ohio River. MSD is also responsible for managing floodplain issues related to local streams and creeks. This management entails the use of various tools, including a local floodplain ordinance that allows us to regulate development and other activities in the floodplains, detailed hydraulic models linked with digital maps and multiple initiatives pertaining to the Community Rating System.

Of course, the major goal of any flood protection system is protecting homes, businesses and people from the effects of damaging floods. Several means available to protect structures from flooding include:

- Levee and floodwall construction;
- Channel improvements to increase the carrying capacity of streams;
- Structural floodproofing or elevation of individual structures;
- Buyouts and demolition of homes that cannot be protected; and
- Flood storage basin construction.

MSD uses all these tools, but one of the most effective ones employed in the last 12 years has been building flood storage basins.



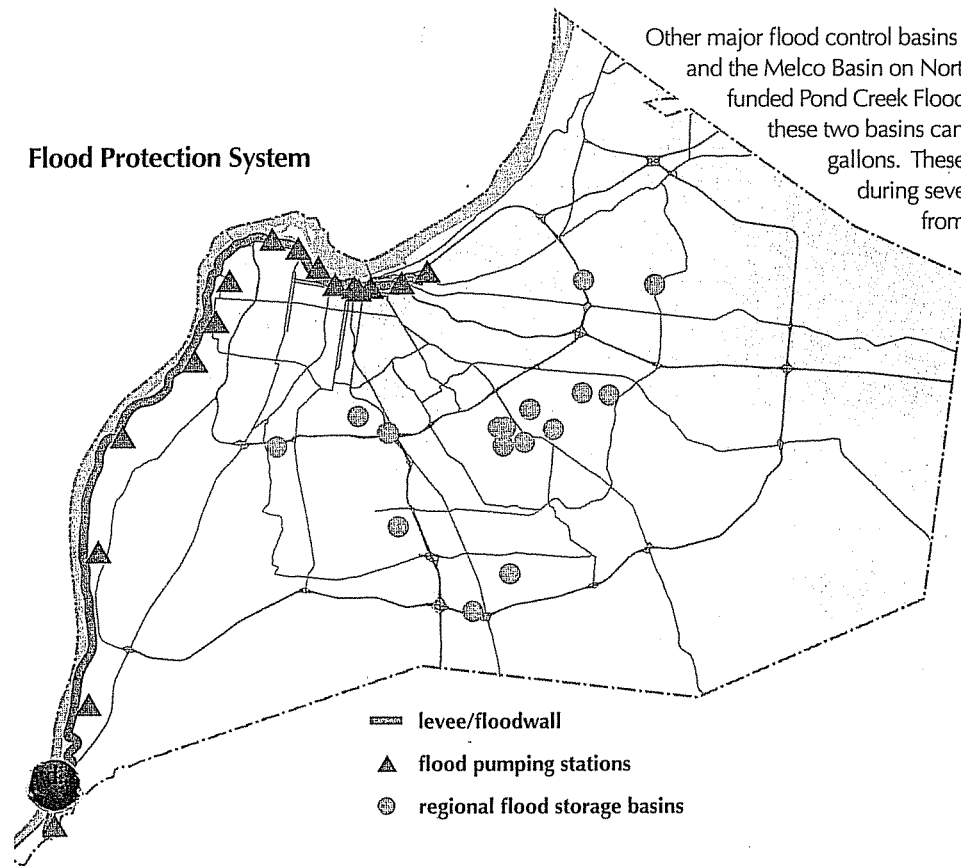
The Bingham Way Flood Pumping Station, which is located next to Riverfront Park, protects portions of downtown Louisville Metro.

Flood Storage Basins

MSD built the Roberson Run Basin, its first regional flood storage basin, in the early 1990s on a relatively small scale in the Pond Creek watershed. Although the impacts on flooding were minimal by today's standards, the concept of a multiuse facility, with the incorporation of walking paths around the basin linked with adjoining residential areas, was a huge step taken toward MSD's early overall vision of connecting residents with our local rivers and streams. Louisville Metro continues this effort some 15 years later with the waterfront development projects along the Ohio River in downtown Louisville and the Louisville Loop construction.

Other major flood control basins in Pond Creek include the Vulcan Quarry on Fishpool Creek and the Melco Basin on Northern Ditch. These two basins were built as part of the federally funded Pond Creek Flood Control Project, of which MSD was the local sponsor. Together, these two basins can store almost 2,000 acre-feet of stormwater, or 652 million gallons. These efforts in Pond Creek have proven themselves to be invaluable during several flooding events, while safeguarding hundreds of properties from devastating losses.

Flood Protection System

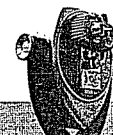


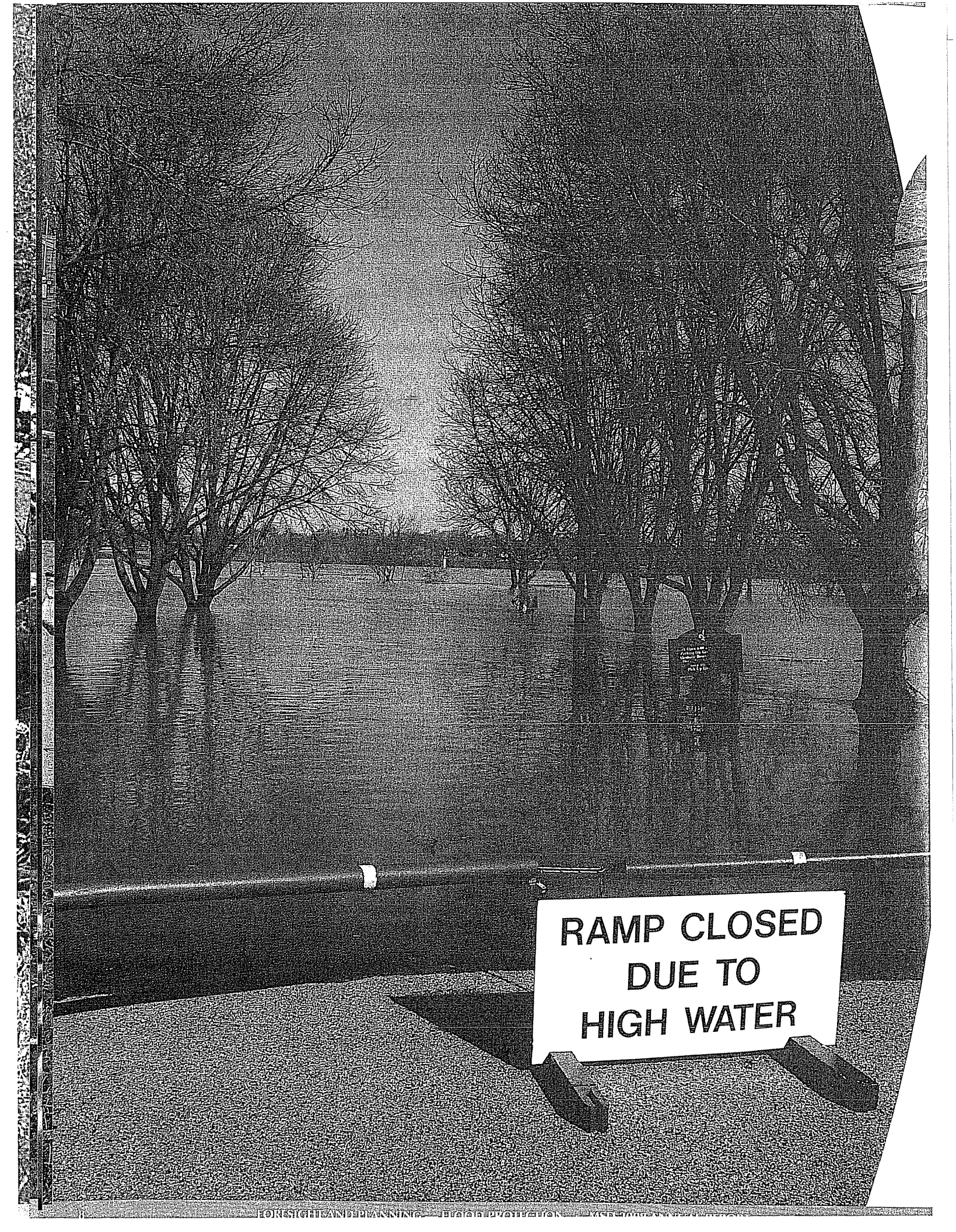
Like Pond Creek, the Beargrass Creek watershed has a long history of flooding problems. MSD partnered with the U.S. Army Corps of Engineers to construct a major flood control project along the South Fork of Beargrass Creek in the late 1990s. This plan involved the construction of seven flood control projects of various sizes and configurations located on properties scattered throughout the Hikes Lane and Buechel areas.

In the northeast portion of the county, the Whipps Mill Basin, situated on the Upper Middle Fork of Beargrass Creek, involved the construction in 2000 of the first roller compacted concrete dam built by MSD. This 40-acre site provides protection for hundreds of residents.

MSD can store nearly 1 billion gallons of floodwater countywide during heavy rainstorms, which protects thousands of homes and businesses from flooding.

Map provided by LOJIC.



A black and white photograph showing a flooded area. In the foreground, a concrete ramp is partially submerged. A sign on the ramp reads "RAMP CLOSED DUE TO HIGH WATER". The water is high, reaching up to the trunks of several trees in the background. The sky is overcast. The image has a grainy, high-contrast appearance.

**RAMP CLOSED
DUE TO
HIGH WATER**

The Toolbox Expands . . .

While flood control basins may have been the most visible components of MSD's flood control effort during the last 12 years, dozens of other initiatives and responsibilities are just as critical to the success of the Flood Protection System as a whole.

Ohio River Flood Protection

Maintaining and replacing or upgrading the aging system of levees, floodwalls and flood pumping stations, which

protect Louisville Metro from the mighty Ohio River, have assumed a new priority at a local and federal level since Hurricane Katrina devastated New Orleans. In 2001, MSD completed the \$8.5 million replacement of the Buchanan Street Pumping Plant, which was renamed the Robert J. Starkey Pumping Plant. Many of the 15 other flood pumping stations that are essential to the operation of the Flood Protection System are over 50 years old, and have exceeded their original service life expectancy. While all these stations are exercised regularly, a failure of any station during a flood event could cause catastrophic damage to Louisville Metro citizens and property.

If You Can't Beat 'em, Buy 'em

Keeping properties safe from damaging repetitive losses is key to the success of our program. Regardless of the number and sizes of the flood control basins, MSD realizes that no amount of concrete and steel will be able to protect some structures from flooding; they were simply built in areas that are meant to flood. While MSD had purchased scattered flood-prone properties in the past, the agency took a more aggressive approach in the Woodland Manor Subdivision in 2002. With the assistance of a State Hazard Mitigation Grant, MSD bought and demolished 42 residential structures that were subject to repetitive flooding. These properties are now vacant, publicly owned open spaces, which can flood as nature intended without any social or economic consequences.

ABOVE INSET: The Roberson Run Stormwater Detention Basin includes a walking path.

LEFT: High water levels along the Ohio River in March 2008 closed access to Cox's Park.

Community Rating System

The Community Rating System (CRS) is a national initiative driven by the Federal Emergency Management Agency (FEMA) in an effort to encourage local communities to adopt responsible flood protection practices. In exchange for participating in comprehensive flood control endeavors, residents are granted discounts for federally sponsored flood insurance policies. The city of Louisville and Jefferson County joined the voluntary program in 1990. MSD, as the CRS program coordinator for Louisville Metro, is responsible for the administration of all CRS activities. The local community received a Class 9 Rating in 1991, resulting in a 5 percent reduction in flood insurance premiums. Louisville Metro, which currently has a Class 5 Rating, receives a 25 percent discount on flood insurance premium rates.

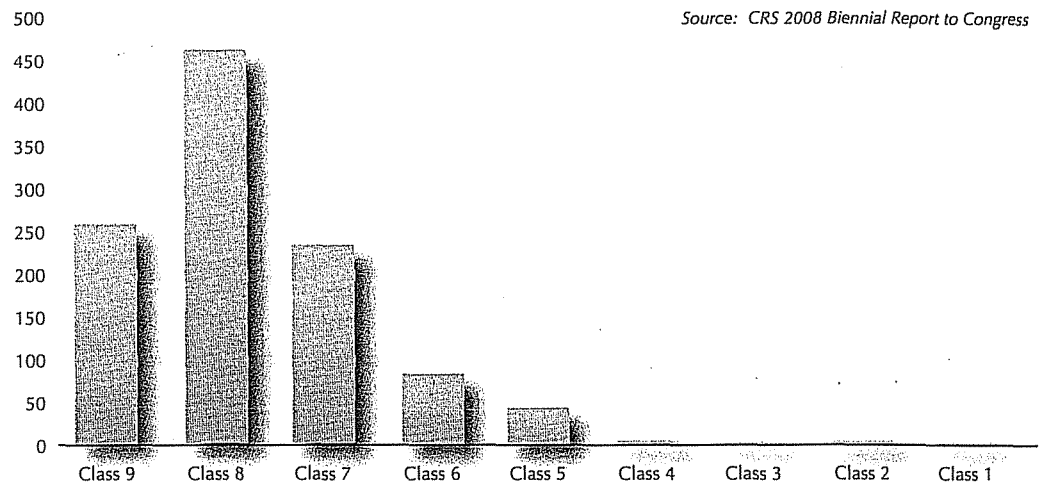
Class 5 is the highest-class rating in the commonwealth of Kentucky, which means that more than 6,000 policyholders in Louisville Metro benefit from a reduction in annual flood insurance premiums. Only six communities nationwide have attained a higher CRS rating than has Louisville Metro. While insurance premium discounts are one of the benefits of CRS participation, protecting lives and safeguarding property from damage are overall program objectives.

Also relevant to the effectiveness of MSD's flood management initiatives are:

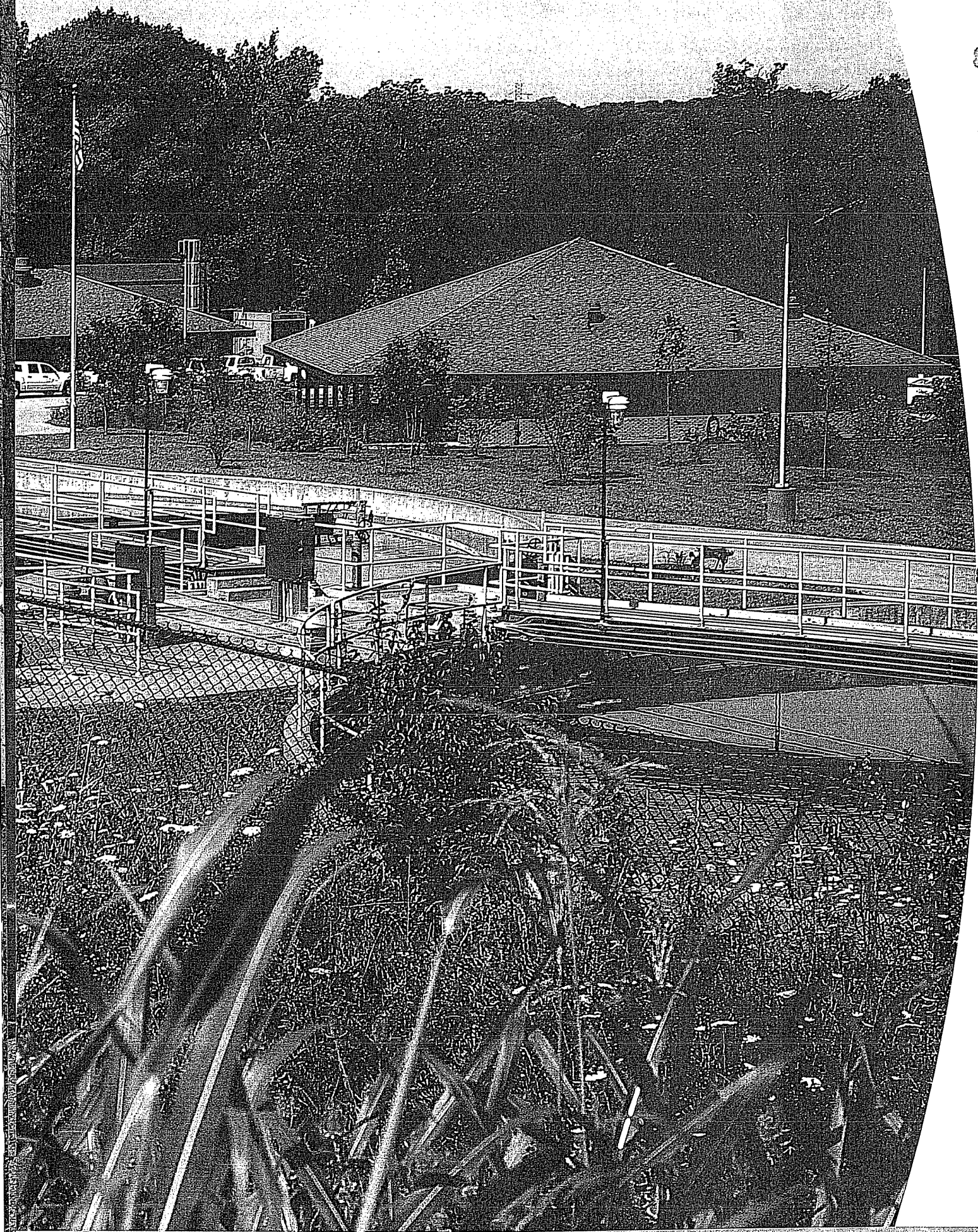
- Online floodplain information and determination at www.msdlouky.org;
- An extensive rain-gauge network;
- Revised FEMA Flood Digital Insurance Rate Maps; and
- Erosion Prevention and Sediment Control Ordinance.

Number of Communities Rated by Class (10/01/2008)

Source: CRS 2008 Biennial Report to Congress



The Ohio River Levee Trail offers access and recreational opportunities along the Ohio River.



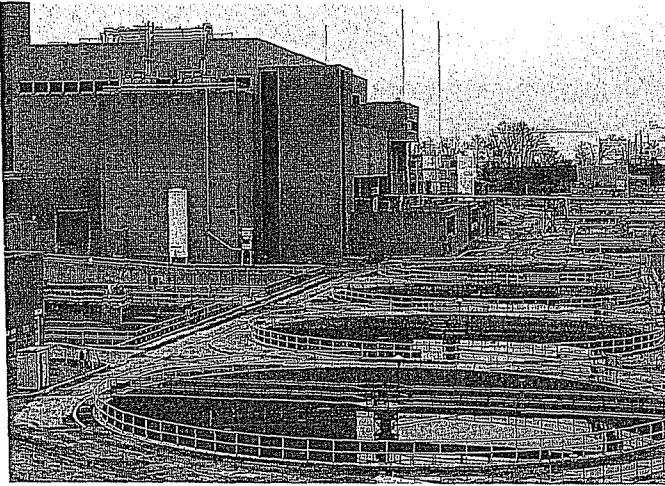
WIDENING OUR VISION — SANITARY SEWER SERVICE EXPANSION

MSD's sewer service area increased as the community kept growing. Expanding sanitary sewer service to areas on septic tanks was an ongoing priority. Another priority was eliminating small treatment plants, which served thousands of homes and businesses. Nearly 1,000 miles of sewers have been constructed since 1996; the existing five regional treatment facilities have received significant upgrades and improvements; and a new regional treatment facility was built. Overall, MSD has invested more than \$200 million in upgrades and improvements to its wastewater treatment facilities. As a result, thousands of leaky septic tanks or other on-site systems have been eliminated, and 50 small package wastewater treatment plants have been removed from service.

An announcement was made in 2008 by MSD's Executive Director, Bud Schardein, to change the name of facilities formerly known as Wastewater Treatment Plants to Water Quality Treatment Centers (WQTC). MSD is in the process of implementing these designation changes. Readers will see the new names inserted throughout the report.

LEFT: The Floyds Fork Water Quality Treatment Center and environmental education center is located off Shelbyville Road in eastern Louisville Metro.

BELOW: The Morris Forman Water Quality Treatment Center in western Louisville Metro has operated continuously since 1958.



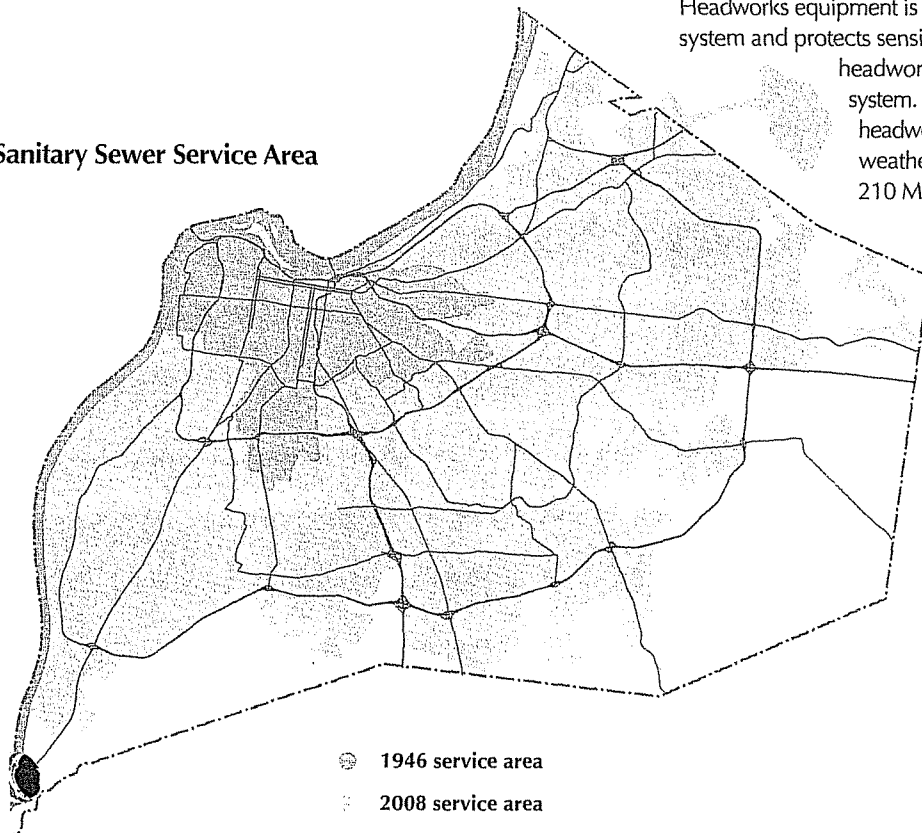
Morris Forman Water Quality Treatment Center

The Morris Forman WQTC, which was built in 1956, began operation in 1958. As Kentucky's largest wastewater treatment facility, there are more than 1,700 miles of sewers in its service area. It is permitted to receive an average daily flow of 120 million gallons per day (MGD) from the 135,000 customers it serves.

Since 1996, the Morris Forman facility has had a number of projects implemented at a cost of \$175.2 million to improve efficiency and control odor. Probably the biggest project constructed since the 50-year report is converting biosolids into fertilizer pellets. Rather than putting biosolids into the landfill, a new dewatering, drying and pelletizing system was implemented. These pellets meet the standard of "Exceptional Quality" biosolids and are sold and distributed as an organic fertilizer known as Louisville Green. All solids produced by the other five regional water quality treatment centers and the remaining 15 small package wastewater treatment facilities are transported to the Morris Forman WQTC to be processed into Louisville Green.

The new headworks at Morris Forman WQTC were installed to improve capacity. Headworks equipment is the first to treat the raw wastewater delivered from the collection system and protects sensitive downstream processes and equipment. The upgraded headworks provided new bar screens and a much better grit-removal system. The capacity of the system is approximately 160 MGD. The old headworks still handle the remaining flow during wet weather. The wet weather secondary bypass system was upgraded to a capacity of 210 MGD to allow a total flow of 350 MGD during wet weather.

Sanitary Sewer Service Area



- 1946 service area
- 2008 service area

Map provided by LOJIC.

Derek R. Guthrie Water Quality Treatment Center

(formerly known as the West County Wastewater Treatment Plant)
In 1979, MSD built a 15 MGD pumping station at the current Derek R. Guthrie WQTC site for transporting wastewater from the Mill Creek and Pond Creek areas of the county to the Morris Forman facility. In 1986, the first phase of the treatment center was constructed with the same capacity. A second phase was added to the treatment center in 2000 to increase capacity to 19.5 MGD.

To meet the expanding needs of MSD customers, Phase 3 was initiated in 2003 for increasing the treatment center capacity to 30 MGD. The work was completed in 2006 with an investment of \$8.7 million. Part of the expansion included odor-control systems. MSD has spent \$28.6 million for upgrades and improvements to this facility. In 2008, the average effluent flow from this facility was 24.86 MGD. With nearly 890 miles of sewers in the service area, the treatment center serves approximately 59,000 commercial, industrial and residential customer connections.



Cedar Creek Water Quality Treatment Center

The Cedar Creek WQTC was constructed in 1995 to offer sanitary sewer service to the Cedar Creek watershed and to a small portion of the Floyds Fork watershed. The new wastewater treatment center eliminated existing neighborhood package plants, which experienced a history of operational problems. Because of the Cedar Creek WQTC operating near its rated capacity, in the 1999 Cedar Creek Action Plan update, MSD addressed the treatment facility expansion to serve the 20-year planning area needs of southeast Jefferson County.

The original plans called for three expansion phases. The second and third construction phases began in 2001 to expand the Cedar Creek WQTC, tripling its capacity from 2.5 MGD to 7.5 MGD. The most recent phase was completed in 2003. To date, 10 out of 12 neighborhood package plants have been eliminated with flow being diverted to the WQTC. MSD has spent \$15.4 million on upgrades and improvements to this facility. The average effluent flow from the facility was 4.60 MGD in 2008. This treatment center serves more than 7,300 commercial and residential customer connections; there are 150 miles of sewers in its service area.

Hite Creek Water Quality Treatment Center

With the arrival of the Ford truck assembly plant in 1967, construction of the Hite Creek WQTC became a priority. Built in 1970, this facility now provides sanitary sewer service to the most northeastern part of Louisville Metro and portions of Oldham County. With an average daily flow of 3.88 MGD, this center, which serves more than 7,000 residential, industrial and commercial customers, has approximately 142 miles of sewer in its service area. MSD has spent \$4.5 million since 1996 on facility improvements. It originally was built with a treatment capacity of 2.2 MGD. Expansions increased its capacity to 6.0 MGD in 2006.

Jeffersontown Water Quality Treatment Center

The city of Jeffersontown owned and operated the Jeffersontown wastewater treatment facility, which was built in 1967, until MSD acquired it in 1990. The facility, which was designed at 4 MGD, received an average daily flow of 3.94 MGD. It currently serves more than 7,600 customer connections. There are 128 miles of sewers in its service area. Even though a number of projects have occurred during the years to improve facility efficiency, such as phosphorus-removal mechanisms and UV disinfection, expansion has not been financially feasible because of its location. MSD has spent nearly \$7 million to improve this facility since 1996.

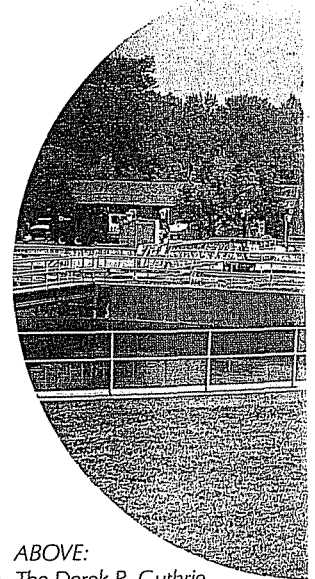
Floyds Fork Water Quality Treatment Center

The newest regional wastewater treatment facility began accepting flow in 2001. The Floyds Fork WQTC is located in the eastern part of the county, just north of Interstate 64, near Floyds Fork. It cost more than \$15 million dollars to design and build this facility with a capacity of 3.25 MGD and a peak flow rate of 10.4 MGD. Approximately \$9.7 million of improvements have been made to the center since its construction.

There are 123 miles of sewers in the Floyds Fork service area, and the center receives flow from nearly 5,000 residential, industrial and commercial customer connections. The current average flow that the facility receives is 2.13 MGD. Like other regional facilities, the Floyds Fork WQTC was constructed due to community growth, but also so that smaller, less efficient package plants could be eliminated. Unlike our other regional facilities, it is home to a unique environmental education center that local schools use. The learning center offers visitors many educational opportunities about the process of treating sanitary wastewater.

The Future Continues to Hold . . .

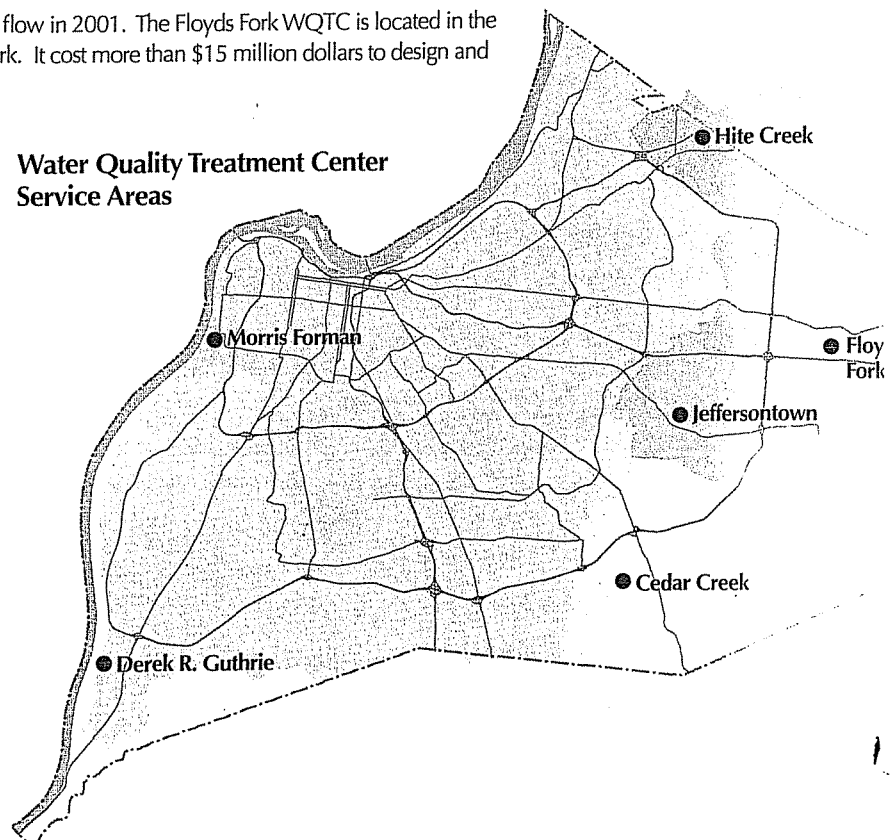
To date, MSD owns and operates six regional treatment centers and 15 small package facilities. MSD provides sewer service to more than 226,000 customers, and there are approximately 3,200 miles of sewers in the service area. Future expansion projects will eliminate the remaining smaller package facilities, thereby continuing to improve the water quality of our waterways.



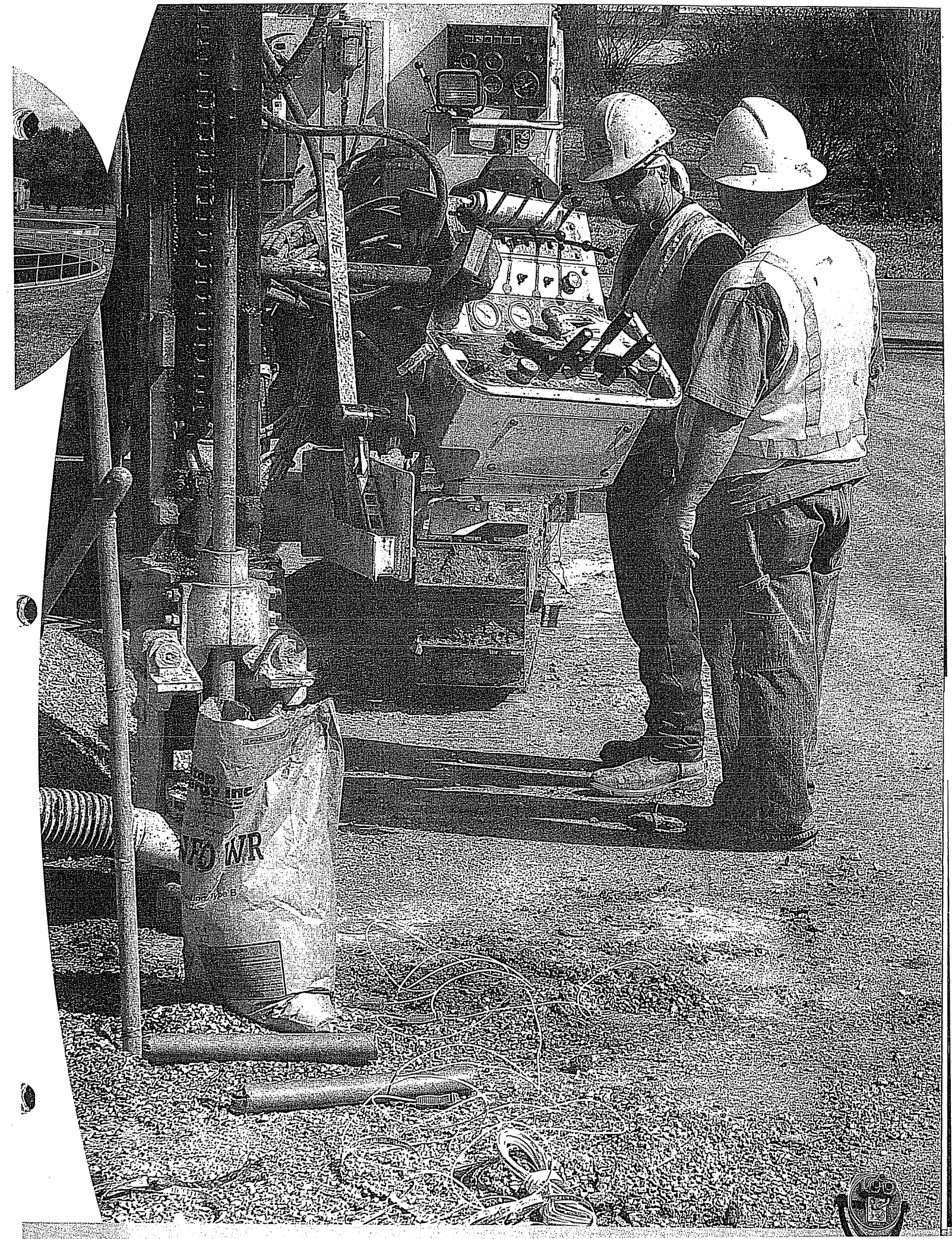
ABOVE:
The Derek R. Guthrie Water Quality Treatment Center is located off Lower River Road in southwest Louisville Metro.

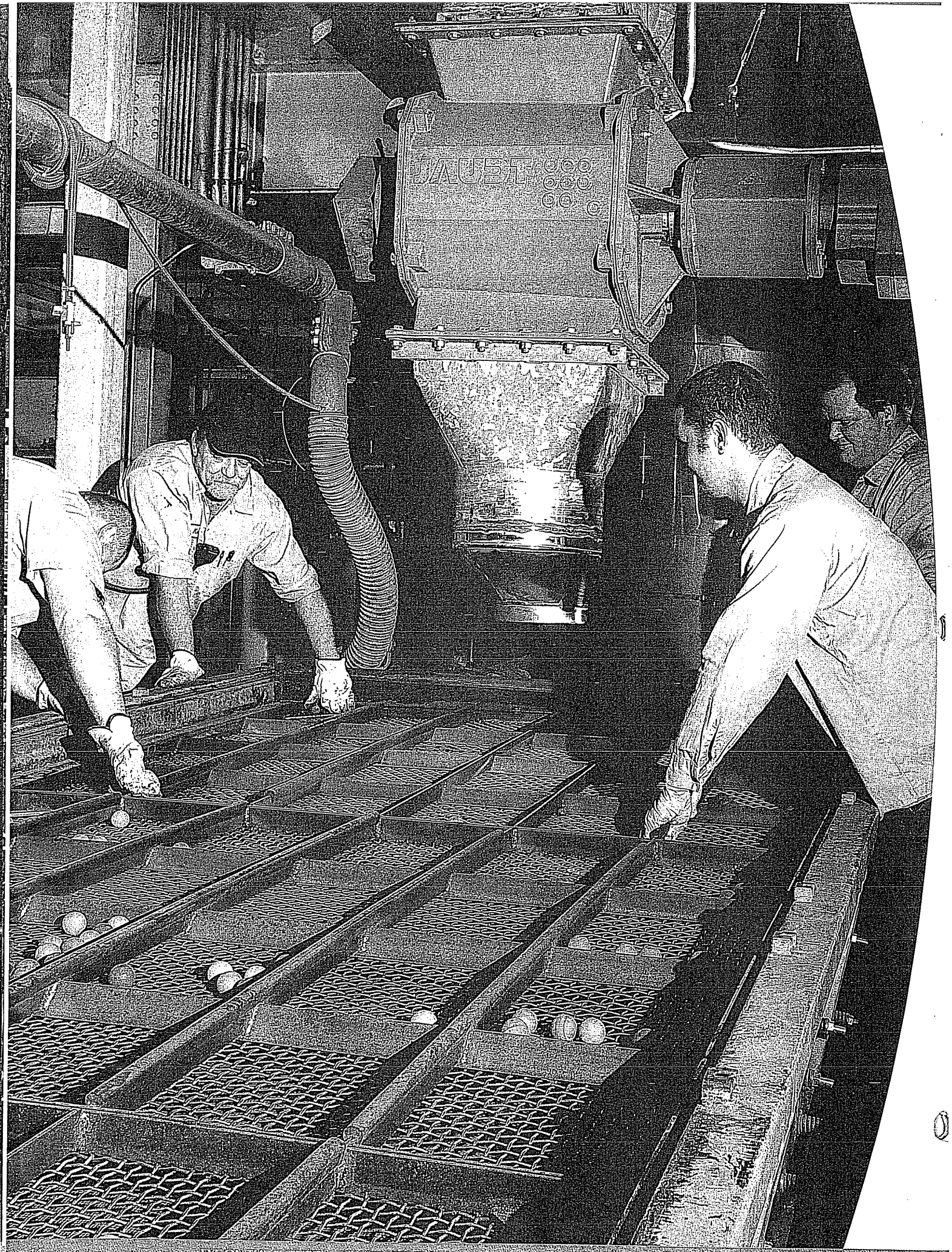
RIGHT: An MSD contractor drills and loads explosive to install sewer along South Watterson Trail.

Water Quality Treatment Center Service Areas



Map provided by LOJIC.





EYE ON THE FUTURE — PLANTING THESE SEEDS OF CHANGE — MSD 2108 ANNUNIA VALLEY

Beneficial Use of a Long-Wasted Resource

The end result of sanitary sewage treatment is the separation of water from waste. The water is released back into the river after filtering, cleaning and sanitizing. Dealing with the solids extracted from the wastewater creates a difficult challenge for municipal sewer districts. MSD's biosolids were dewatered, heat-treated and disposed of in a landfill until 2004.

During MSD's 50th year, funding was committed to implement new solid waste processing at the Morris Forman facility. The goal of this new process was providing an alternative to landfilling the solids with an additional benefit of eliminating the odors that the existing system generated.

MSD initiated a \$65 million project to design and construct a new solids processing system at its largest treatment facility in 1999. The design-build project had the added challenge of fitting new equipment into existing buildings without interruption to daily processing of solids.

Innovative Recipe for Results

Biosolids are separated from the wastewater stream through the treatment process. This material is conveyed to a three-stage solids handling system. The process includes anaerobic digestion, dewatering and drying.

Anaerobic digestion is a process by which microorganisms break down biosolids in the absence of oxygen. This simple process greatly reduces the amount of organic matter extracted from the wastewater. The methane gas produced as a byproduct in the four digesters is captured as a renewable energy source.

Dewatering mechanically separates the liquids from the solids. Five centrifuges, working much like the spin cycle of a washing machine, are each capable of processing up to three tons of solids per hour. The result is 22 percent dry solids ready to move on to the final stage.

The drying takes place in four natural gas-fired rotary drum dryers. The biosolids are tumble dried during a process easily comparable to that of a household clothes dryer. Each of the four dryers removes as much as 1,900 pounds of water per hour. Methane gas collected from the digesters is used in the drying process, saving approximately \$3,000 a day in fuel costs.



Doris Harris prepares laboratory equipment utilized in quality analysis.



Cultivating an Organic Idea

The dried pellets, each of which measures approximately 2 millimeters in diameter, are cooled and stored in two final product silos at the Morris Forman facility. The organic soil enhancing product meets the Environmental Protection Agency's most stringent requirement for consideration as a Class A, "Exceptional Quality" biosolid. The organic-based product furnishes a source of valuable nutrients (5 percent nitrogen and 3 percent available phosphorus) for crops and lawns. Consequently, what enters the system as waste becomes a valuable fertilizer known as Louisville Green.

The Louisville Green Production Facility, as it was designated in August 2005, typically produces about 70 tons of fertilizer per day. MSD staff has worked hard to maintain the consistently high quality of the Louisville Green product. Although only monthly monitoring is required, samples are collected daily for analysis to ensure consistent compliance with federal and state regulations. Customers have indicated that pellet size, the final product's percentage of dryness and the application of oil (which controls dust) are also important. Therefore, the pellets are tested for proper size and density every 90 minutes. Samples from each truckload are tested before leaving the facility.

After only three years of active marketing, the demand for Louisville Green now surpasses the current production rate. In 2006, 73 percent of the final product was distributed. As of the end of 2008, 100 percent of the material released as marketable fertilizer was distributed for beneficial reuse. Louisville Green is enhancing crop production on farms in 11 states, which accounts for nearly all the material sold. Area golf courses and parks utilize a small portion of the product, while less than 1 percent of this material is bagged for retail sales.

LEFT: Travis Crabtree, Kenny Giles, Eric Bean and James Poyner clean equipment used to ensure that Louisville Green pellets are properly sized.



Growing Environmental and Economic Benefits

MSD's investment in a new solids handling process has reaped both economic and environmental benefits for the Louisville Metro area. These benefits are spreading well beyond the local community with the expanding distribution network.

Louisville Green provides a steady supply of nitrogen during an extended time period. Typical chemical fertilizers dissolve quickly in heavy rains, saturating creeks and streams with high levels of nutrients. Increased nitrogen levels can cause excessive algae growth, which results in reduced dissolved oxygen levels. The low breakdown rate of the pellets decreases the negative effect on waterways.

The direct economic impact on MSD is threefold. Use of the methane gas generated in the digestion process results in savings of more than \$1 million per year. Revenue from the sale of Louisville Green amounts to more than \$120,000 a year, and the reduction of hauling and landfill fees exceeds \$500,000 annually. These savings benefit our customers by helping MSD hold operating costs to a minimum.

Although it is much more difficult to assign a dollar amount to other environmental and economic effects, they are no less important:

- Improved water quality of local and regional waterways;
- Increased crop production for farming-dependent families and communities;
- Reduced energy usage; and
- Savings of approximately 1 million cubic feet of landfill space.

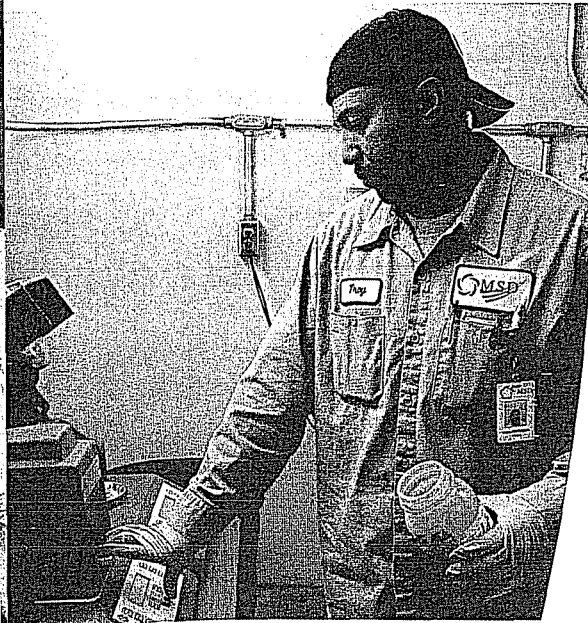
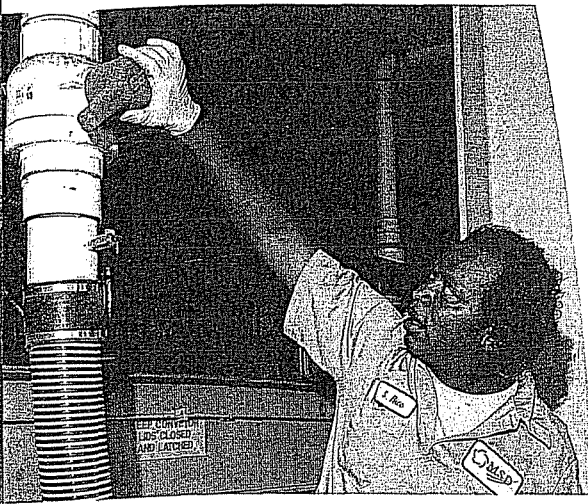
Harvesting National Recognition

MSD received verification of its quality assurance and safety standards from the National Biosolids Partnership (NBP) in 2008. Advancing sound and accepted biosolids management practices is the goal of this not-for-profit alliance. Coupled with its Class A rating, this recognition solidifies Louisville Green's place in the organic fertilizer market.

The core of the NBP program consists of a biosolids Environmental Management System (EMS), which is an organized management system for achieving biosolids management policy requirements. An independent, third-party EMS audit confirms the results of the process.

MSD attained its objective after more than two years of developing, documenting, implementing and refining the biosolids management process. The NBP certified the Louisville Green Environmental Management System on July 31, 2008. This certification marks a significant milestone for MSD and ensures that our biosolids process is safe and dependable for our customers and the environment.

More information on the National Biosolids Partnership is located on its Web site, at www.biosolids.org.



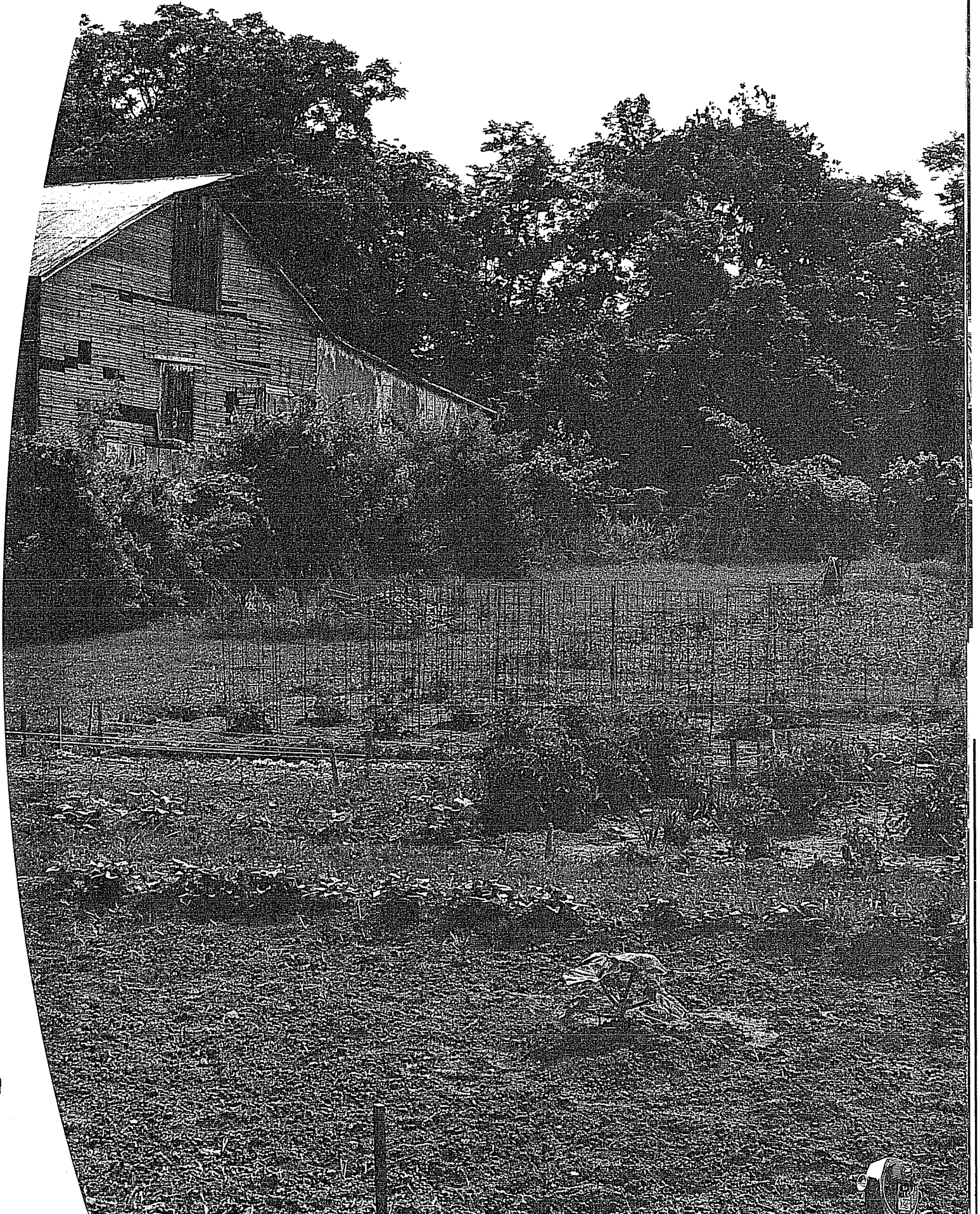
ABOVE TOP: Seville Rice makes adjustments to the solids handling equipment.

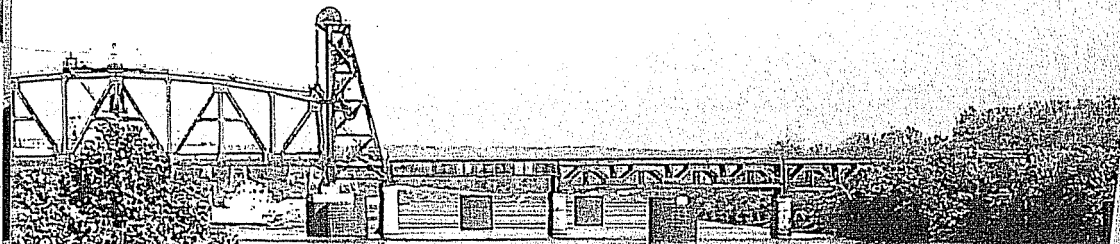
ABOVE: Troy Henderson analyzes Louisville Green to maintain consistency.

RIGHT: Louisville Green enhances crop production on farms and in gardens.



Morris Forman staff members (left to right) Joe Falleri, David Coe, Norm Robinson, Mac Reed, Robert Bates, Zonetta English, Rich Galardi, Alex Novak and Sharon Work developed and implemented the Environmental Management System, which received certification from the National Biosolids Partnership.





WARNING
ADVERTENCIA
DURING AND AFTER RAIN EVENTS

The surface water in this area contains runoff contaminants and is subject to sewage overflows. Avoid contact with water due to increased health risks during these times. For more information, visit our website or call the telephone number below.

DURANTE Y DESPUES DE LLUVIA

El agua en esta área contiene contaminantes recogidos por la lluvia en el suelo y las calles y está sujeto a desbordamientos de las alcantarillas sanitarias. Evite contacto con el agua durante y después de la lluvia debido a riesgos de salud. Para más información, visite nuestra página del internet o llame al teléfono que aparece a continuación.

MSD
www.msd.com.ny.gov

(502) 587-0603
 SIGNISENAL S2006

CAUTION!
COMBINED SEWER OUTFALL

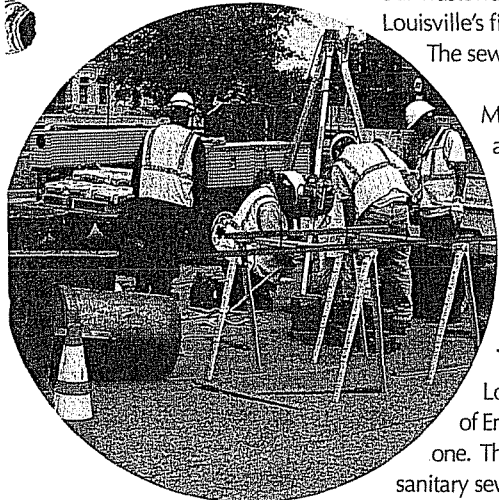
Avoid contact with stream after rain.
 MSD Customer Service: 587-0603

CSO No. 159.51

ALERTA!
OUTFALL COMBINADO DE LA ALCANTARILLA

HONING OUR VISION — WITH WATER QUALITY

Although our country is considered to be young by historical standards, most of the systems we employ to carry and treat our wastewater could be defined as antiquated. The wastewater system in Louisville Metro is no exception to that rule. Louisville's first underground sewer, which was built before 1850, was a stone-lined ditch covered with stone slabs. The sewer was designed to flow directly into area streams and the Ohio River.



MSD has made great strides to reduce pollutants in our community through the years, even receiving national acclaim for our efforts to comply with the Clean Water Act. While MSD remained ahead of the national curve, however, we fell short of meeting the stringent requirements of the Kentucky Division of Water, U.S. Environmental Protection Agency—Region IV (EPA) and U.S. Department of Justice. As a result, like many other cities in the United States, MSD entered into an agreement in 2005 with EPA to address Clean Water Act violations.

The Consent Decree

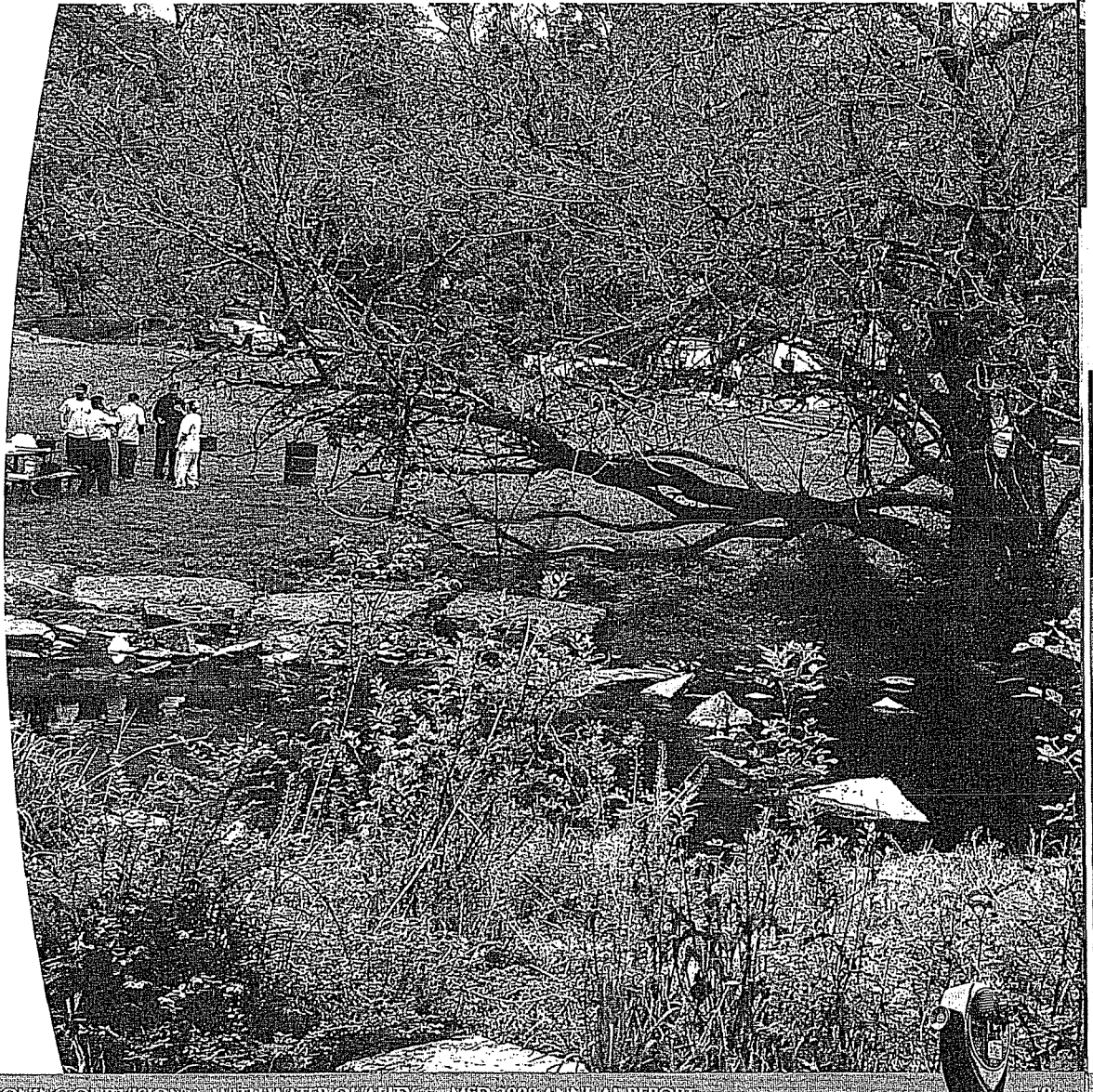
Louisville Metro, through MSD, is working under a consent decree with the EPA and the Kentucky Department of Environmental Protection (KDEP). Our relationship with both state and federal officials is a positive and cooperative one. This relationship has produced an agreement allowing for the rehabilitation of Louisville Metro's combined and sanitary sewer systems.

ABOVE: An MSD crew enters a combined sewer along Ninth Street to eliminate the overflow channel.

We are moving forward as a community to address both quality and safety issues along our streams and the Ohio River. MSD must accomplish this in a way that will provide meaningful and lasting results without placing undue financial burdens on our community.

LEFT: This sign along the Ohio River bank informs the public of a combined sewer overflow location.

A family picnics along the bank of Beargrass Creek.



How the Rates Stack Up

The National Association of Clean Water Agencies projected the average 2008 national monthly residential rate at \$27.50 as the chart below reflects. MSD's average rate ranked just slightly above the national average.

Average Monthly Residential Wastewater Bill





Project-Specific Values

- Asset protection
- Eco-friendly solutions
- Environmental enhancement
- Public health enhancement
- Regulatory performance

Programmatic Values

- Customer satisfaction
- Economic vitality
- Education
- Environmental justice and equity
- Financial equity
- Financial stewardship

Project Waterway Improvements Now (Project WIN)

Project WIN was created as an initiative to directly address our Consent Decree responsibilities. The program's challenges include:

- An aging sewer system that lacks the capacity to handle the current sewage and stormwater volume
- Sewer overflows that pollute the river and streams throughout Louisville Metro, violating the federal Clean Water Act; and
- Keeping the public informed of potential health risks, financial impacts and construction project activities

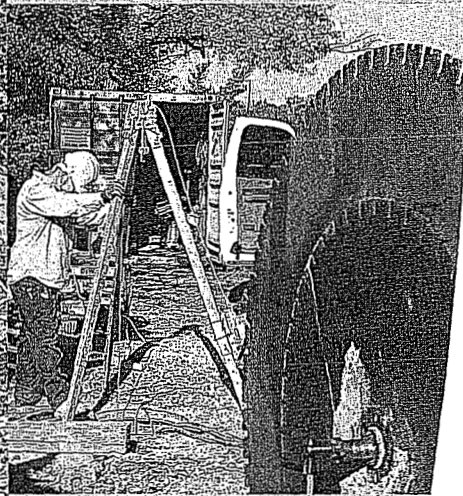
Our program to rehabilitate the sewer system will improve local water quality and protect the health of citizens and future generations. The Integrated Overflow Abatement Plan (IOAP) developed under Project WIN is a long-term plan to control combined sewer overflows (CSOs), and eliminate sanitary sewer overflows (SSOs) and other unauthorized discharges from MSD's sewer system.

Wet Weather Stakeholder Group and Public Education

MSD established a Wet Weather Stakeholder Group to make sure that the IOAP would reflect community interests in accordance with the Consent Decree. Along with MSD staff, the group comprised a broad range of community stakeholders, each of whom volunteered more than 100 hours of time through a series of meetings spanning two years. Group members developed a framework to be used in evaluating and prioritizing other approaches to overflow abatement. They also identified and agreed upon 11 community values (shown to the left) that underpin the analysis and selection of alternatives for the IOAP. This approach maximizes the community benefit for monies spent, while ensuring that the overflow abatement program scope is the most cost-effective.

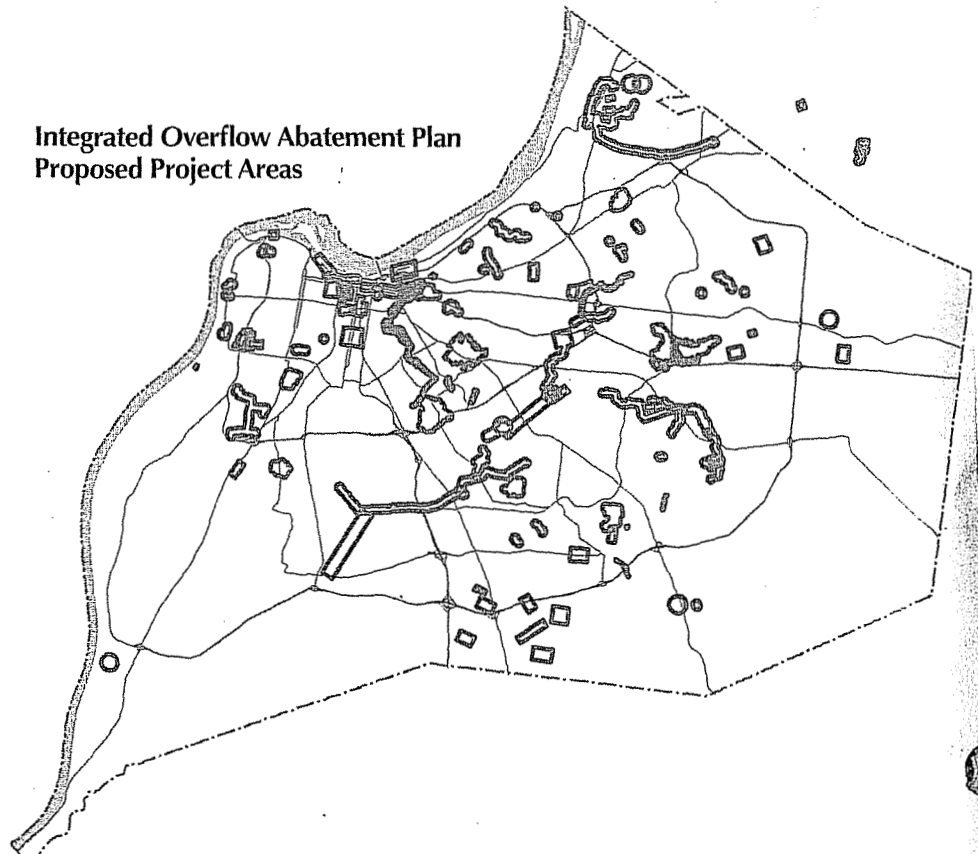
RIGHT INSET: Gary Swanson, Rob Greenwood and Councilman Stuart Benson discussed program initiative at a Project WIN Stakeholders' meeting.

RIGHT: Pervious concrete, which allows runoff to infiltrate the surrounding soil, is installed around storm drain in the MSD parking lot to reduce the amount of water entering the combined sewer system.

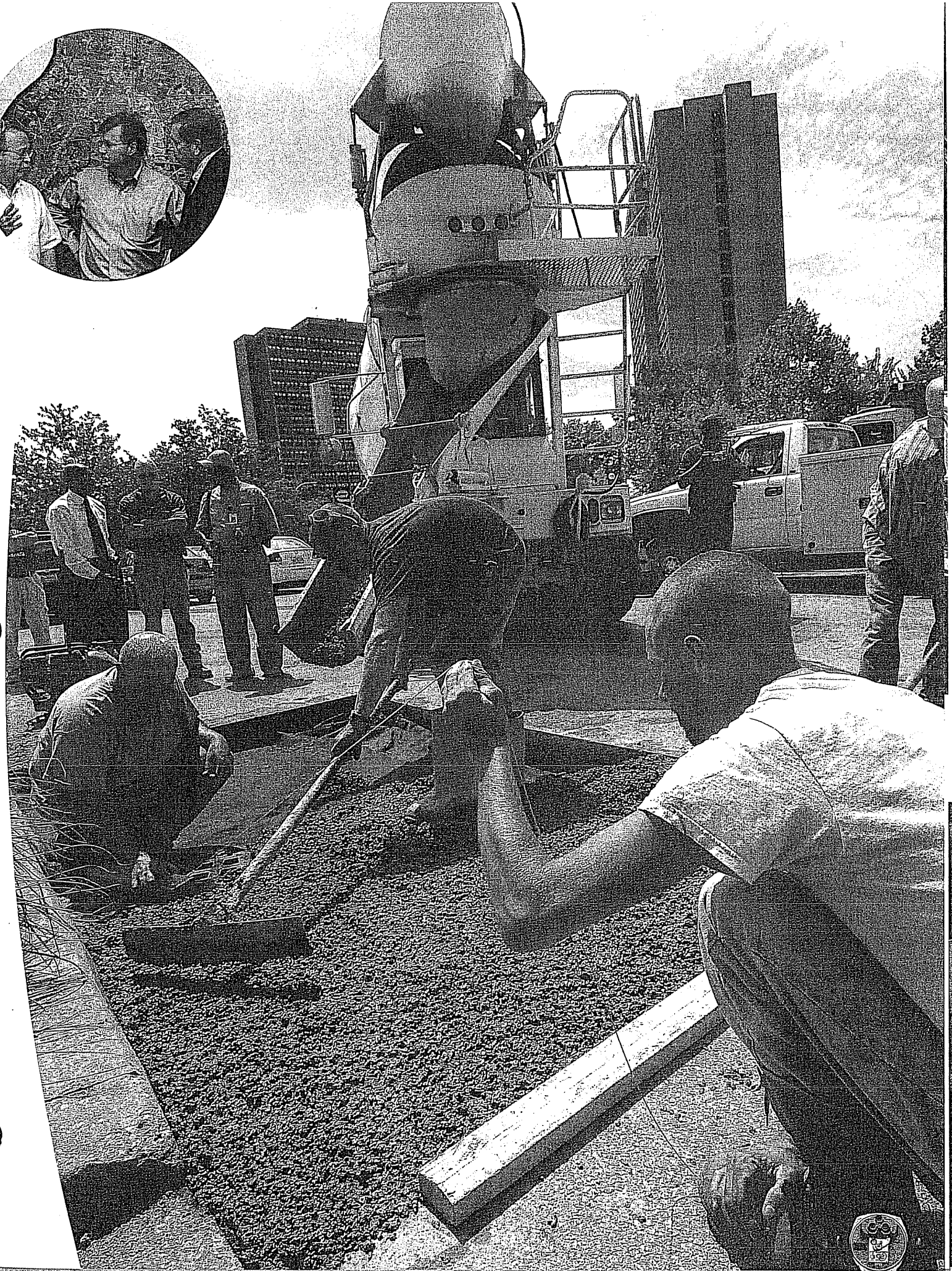


A contractor makes modifications to CSO 108 along Newburg Road

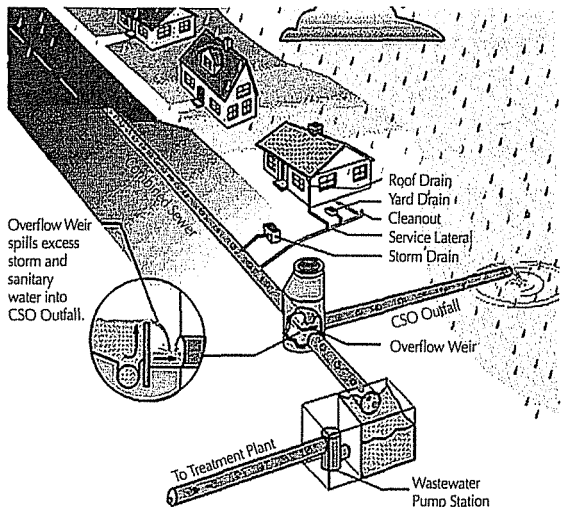
Integrated Overflow Abatement Plan Proposed Project Areas



Map provided by LOJIC.



What Is a CSO?



A separate sanitary sewer system is designed to carry just wastewater to a wastewater treatment plant; a separate stormwater system is designed to carry only stormwater that is transported to ditches and streams. In a combined sewer system, both wastewater and stormwater are carried in the same set of pipes to the treatment plant. During nearly every rain event, stormwater enters these sewer systems, resulting in untreated sewage overflowing into area streams and the Ohio River. When these overflows occur in the combined sewer system, they are known as CSOs.

Adapted from graphic by the city of Bremerton, WA.

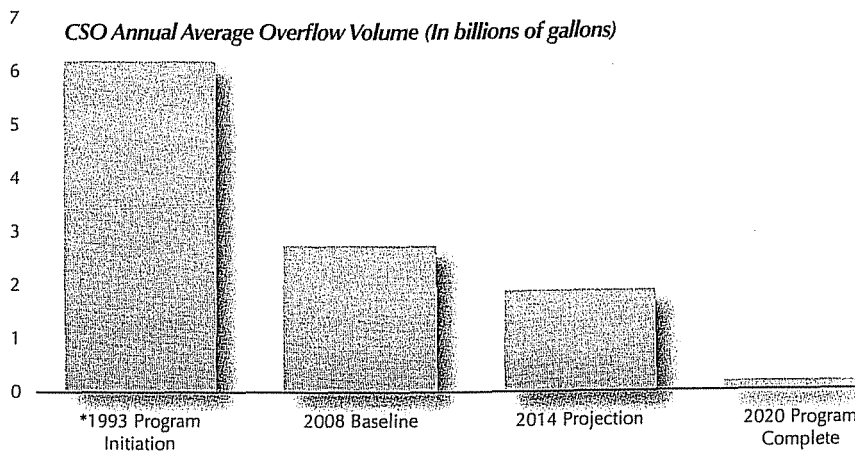
CSO Controls and Benefits

Under the IOAP submitted to federal and state regulators, MSD will invest \$320 million dollar both "green" and traditional concrete infrastructure, which will work to increase the amount of stormwater absorbed into the ground and thus reduce the amount of sewage overflow into area streams.

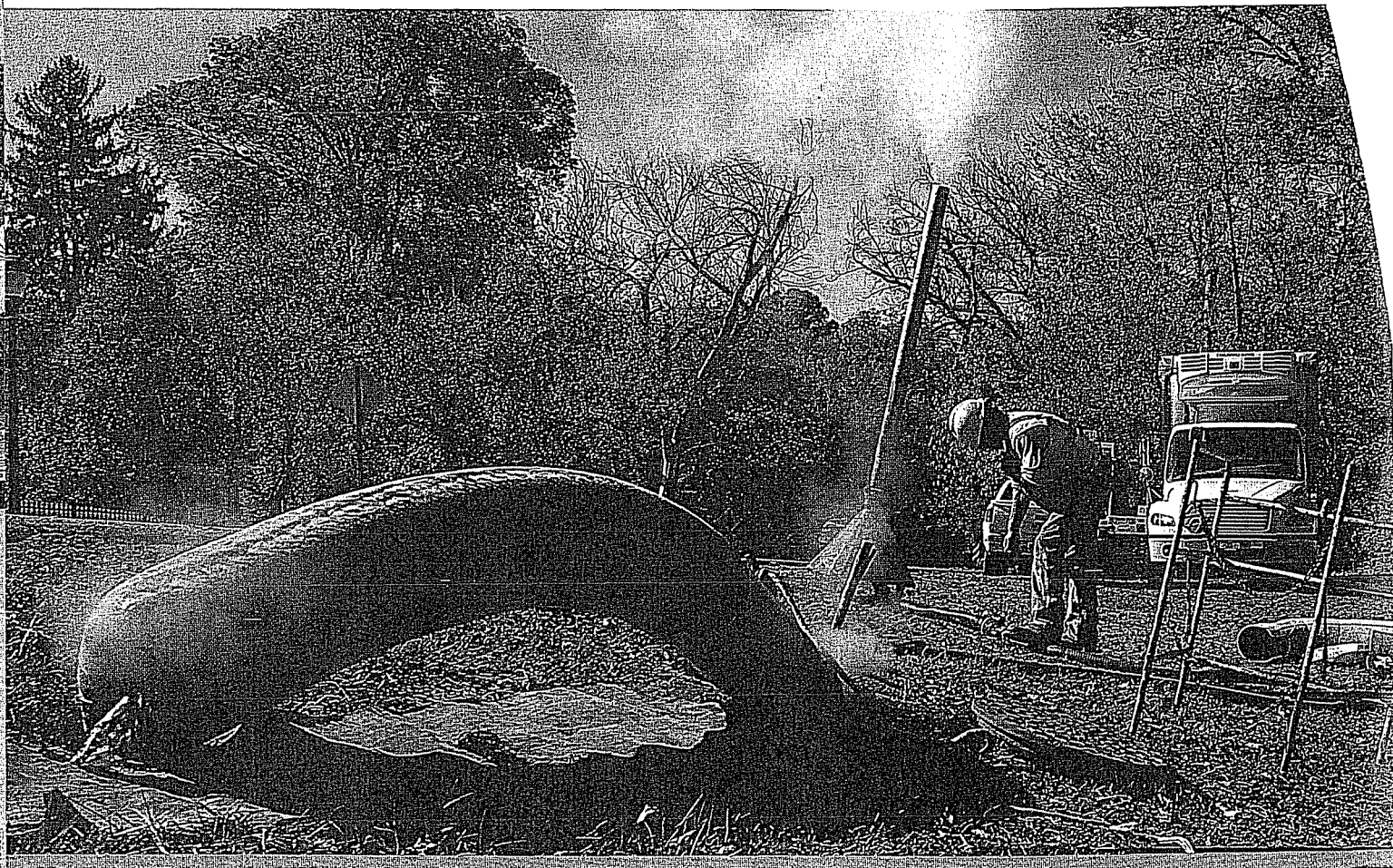
In addition, continued investment will be made to expand the Real Time Control system, which monitors rainfall and sewer levels to maximize storage within our system and minimize overflow. The system uses a series of gates, gauges and inflatable dams for shifting flow to different area of the system with available storage and/or conveyance capacity.

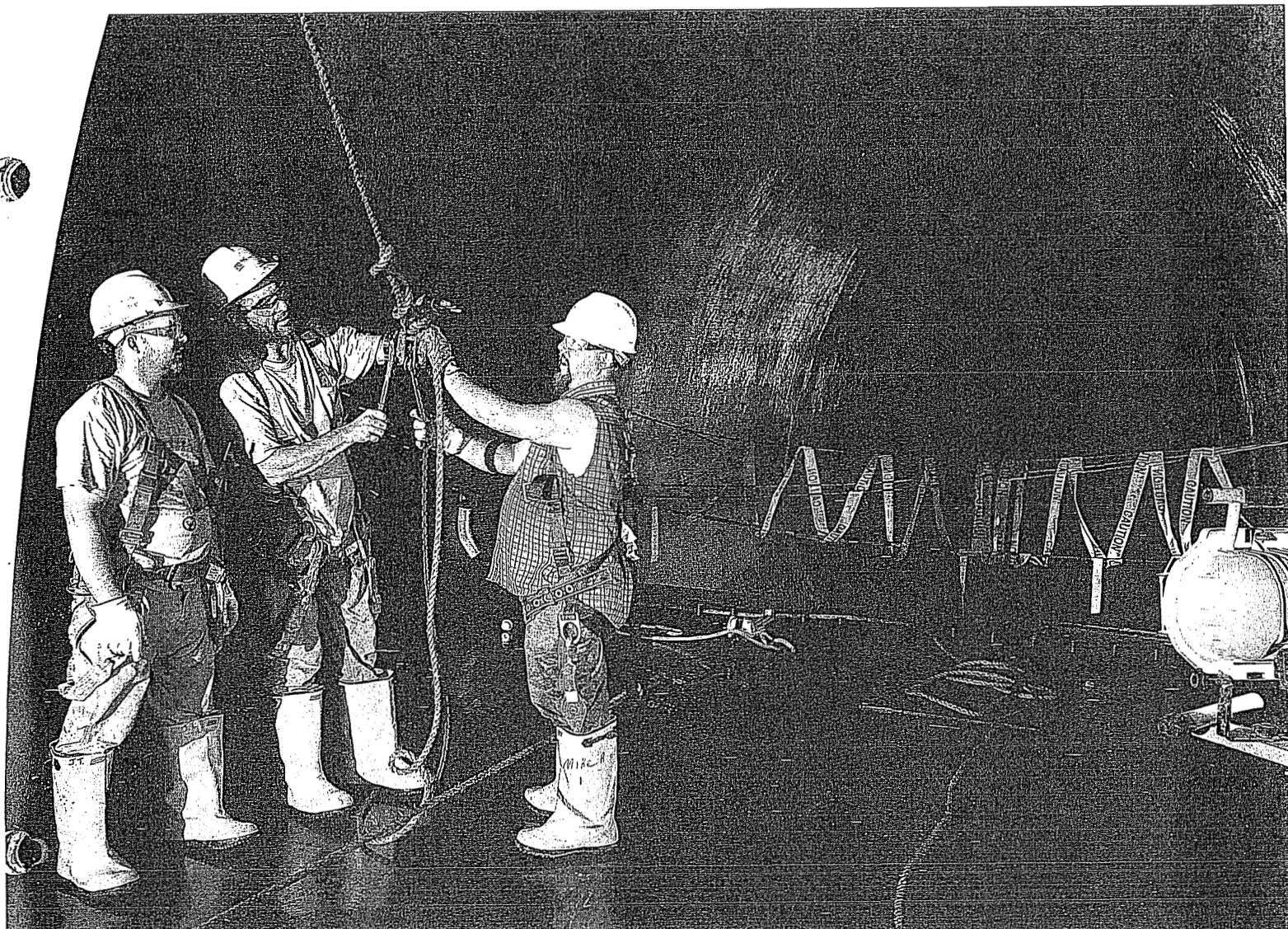
MSD currently captures and treats 75 percent of the combined stormwater and sanitary flow in the combined sewer area. Approximately 96 percent of these flows will be captured and treated by 2020. The chart below depicts the amount of past, current and projected combined sewer overflow volume.

Projected Impact of CSO Program Improvements



BELOW: The Park Boundary Road sewer repair project utilizes a cured-in-place pipe lining system.





ABOVE: Contractors install an inflatable rubber dam, which will allow excess flow to be stored in the Southwestern Outfall and released gradually.

SSO Controls and Benefits

Per the IOAP submitted to federal and state regulators, the group of projects selected for SSO control will result in the elimination of capacity-related SSOs up to the site-specific level of protection. These projects consist of storage, pump station upgrades, sewer rehabilitation and treatment facility eliminations costing an estimated \$530 million.

Sewer overflow control is essential to improving water quality, but alone it is not sufficient to meet current standards. In light of this challenge, MSD continues to leverage its role in supporting broader water quality improvement initiatives in the community. The IOAP will be one of the key elements of MSD's participation in these endeavors.

The IOAP was submitted to EPA and KDEP for review on December 19, 2008, and is awaiting approval.

In order to keep interested parties fully informed with respect to the ongoing Project WIN progress, information on the following can be accessed through MSD's Web site at <http://www.msdlouky.org/projectwin/index.htm>.

The Integrated Overflow Abatement Plan

CSO and SSO locations and facts

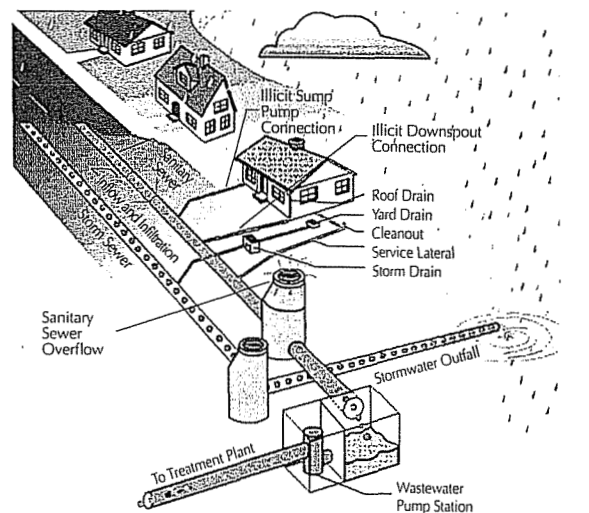
Public document repository with quarterly and annual regulatory reports

Wastewater treatment plant reports

Wet Weather Stakeholder Group document repository

- E-Mail Notification System
- History of Project WIN
- What customers can do to help
- Tips, resources and frequently asked questions

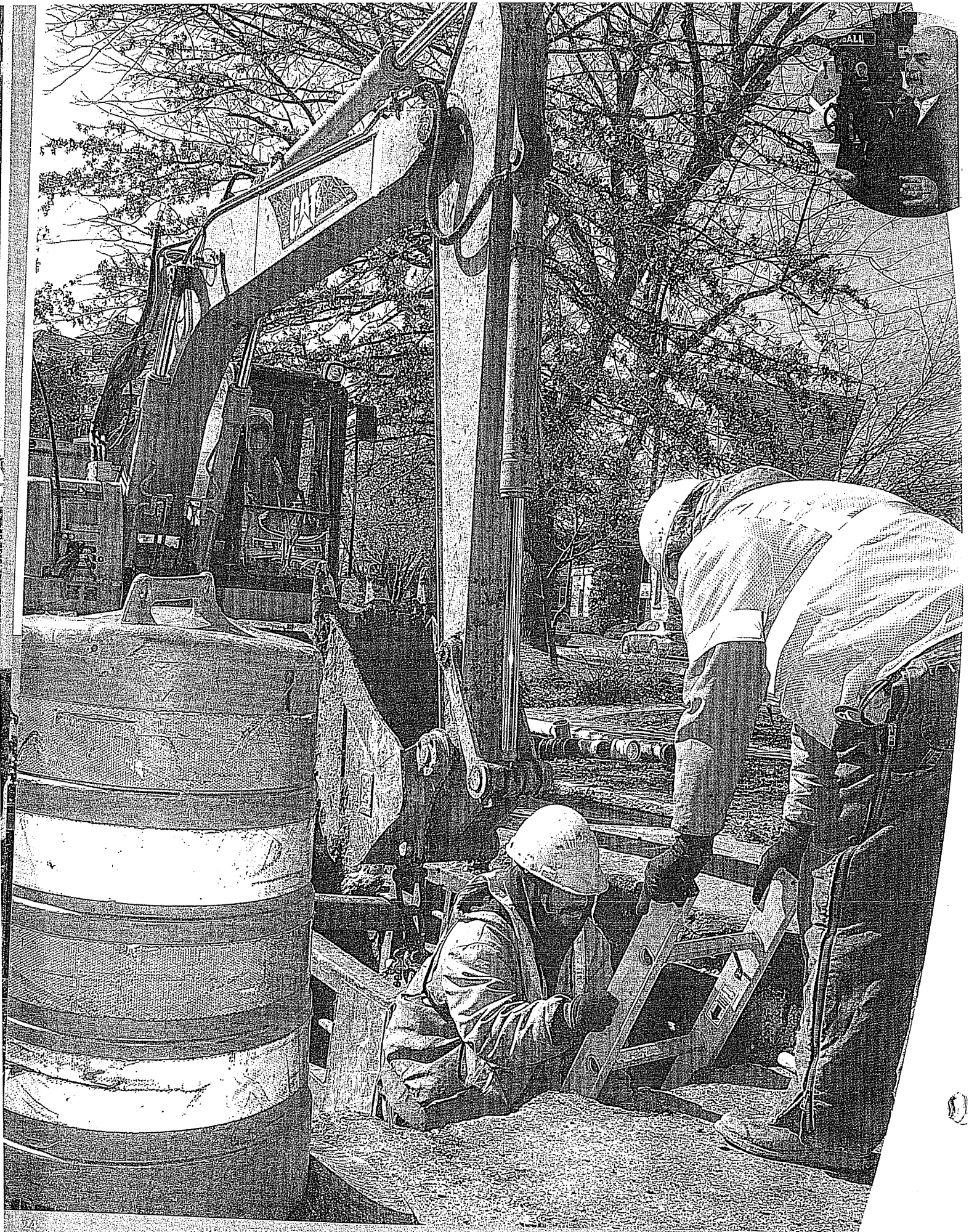
What Is an SSO?



When overflows occur in the separate sanitary sewer system, they are known as SSOs. These overflows are generally caused by aging sewers or illegal stormwater and groundwater connections to the sanitary sewers and can contribute to water quality problems in our streams.

Adapted from graphic by the city of Bremerton, WA.





A REAR VIEW — 2008 HIGHLIGHTS

EFT INSET: Mark Johnson spoke to MSD staff, consultants and guests at the dedication of the new Metro Operations maintenance facility.

EFT: Contractors disconnect pipes carrying stormwater to the sanitary sewers in the Douglass Loop area of the Highlands.

The year 2008 presented MSD with numerous challenges. Yet, great strides were made in its core businesses through consent decree projects; Project DRI; and the increased production and distribution of Louisville Green. In addition to those successes, below are just a few other highlights outside the core businesses, which demonstrate MSD's community commitment with continuous improvement.

Locals Preferred

For a long time, MSD has been committed to supporting our community through local business purchases. To better demonstrate that commitment, the MSD Board approved a Local Procurement Policy that gives preference to local businesses that are headquartered in, or have a branch office located in, Louisville Metro. These businesses must also have been located in Louisville Metro for at least one year before the date of the invitation to bid.

Change Is Inevitable

MSD restructured the existing Area Teams into the new Design and Construction Department in an attempt to clarify projects and activities. This change permitted us to accelerate the implementation of capital projects and programmatic activities, and to work within approved budgets. This transition also incorporated the change of leadership that resulted from the retirement of Derek R. Guthrie. In August 2008, Mark Johnson joined MSD as the new Director of Engineering and Chief Engineer.

No More FOG

MSD introduced a new program that helps keep fats, oils and grease – or FOG – out of the sewer. FOG is a common cause of basement backups resulting from clogged sewers. MSD Board members approved FOG guidelines, which set requirements for facilities discharging greasy wastewater into the sewer system.

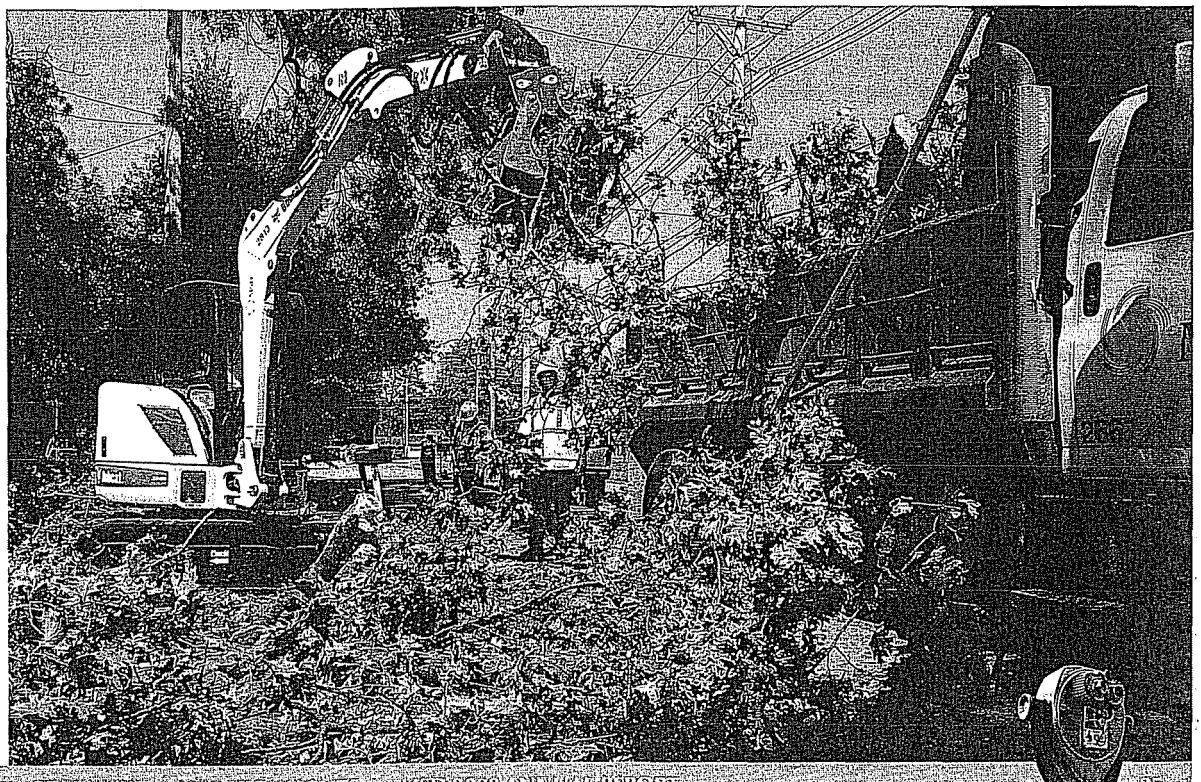
Hurricane Ike . . . Strikes!

September 14, 2008, marked the dawn of a new era for Louisville Metro. The first of its kind, hurricane-force winds of more than 85 miles per hour ravaged the Louisville Metro area and other Midwestern cities. The violent winds left more than 300,000 local residences, businesses, schools and churches without power. MSD staff immediately went to work moving generators to more than 200 pumping stations that lost power. Tanker trucks hauled away more than 1 million gallons of wastewater. Our rapid response time limited the number of power-related basement sewer backups to only 13 during this week. Additionally, MSD worked 12-hour shifts for servicing the downed stations throughout the week. Furthermore, we worked closely with Louisville Metro Public Works to provide crews and equipment for clearing trees from some 95 local roadways.

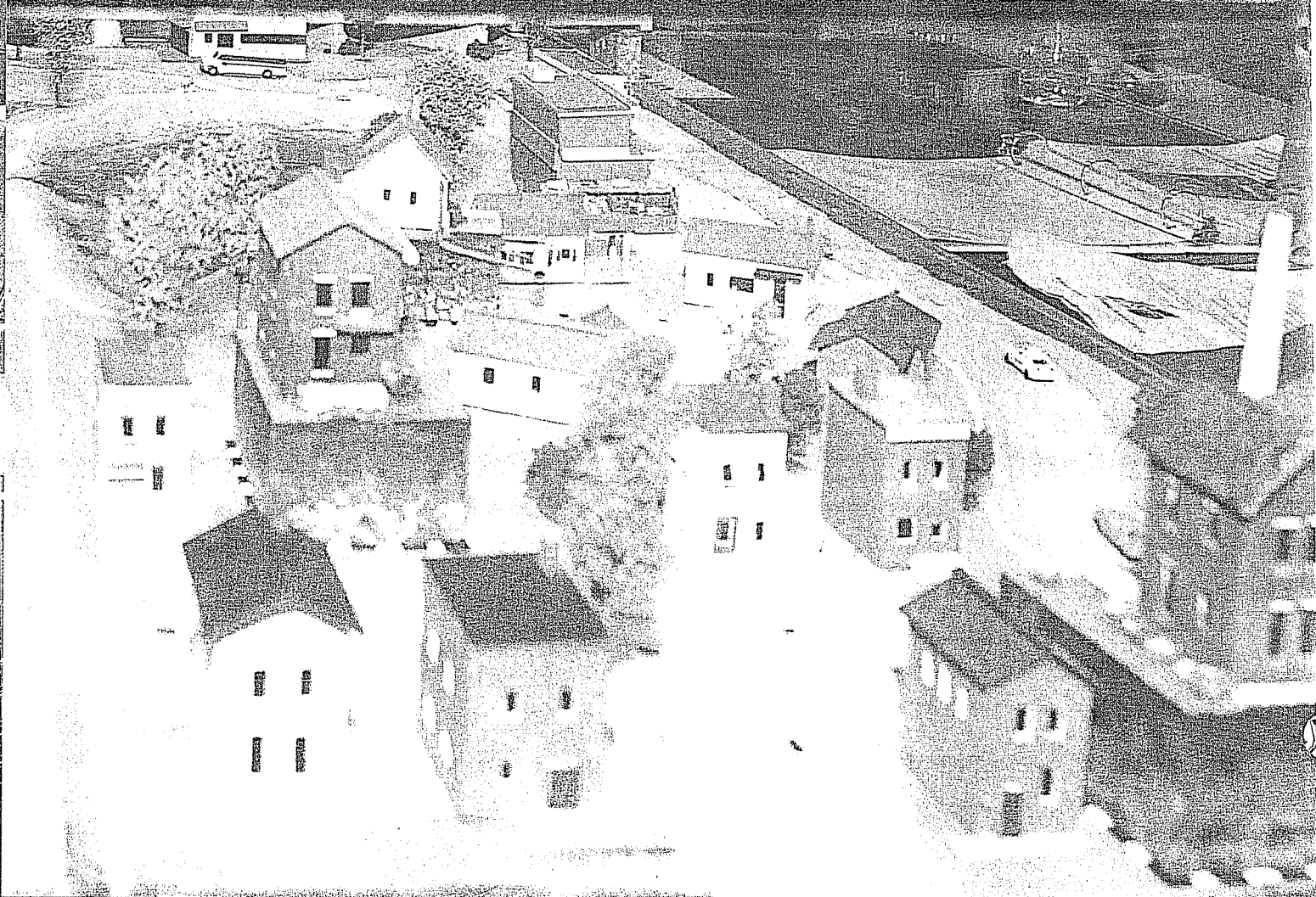


Fighting the FOG

- Do not put grease or greasy foods down sink drains or garbage disposals, or into toilets.
- Scrape grease and food scraps from trays, plates, pots, pans, utensils, grills and cooking surfaces into a can or the trash for disposal or recycling.
- Put basket/strainers in sink drains to catch food scraps and other solids, and empty them into the trash for disposal.



RIGHT: Kavin Moore, Morris Tolbert, Darryl King and Keith Brooks loaded fallen trees and limbs to assist the community cleanup after the Hurricane Ike windstorm.



FOCUS ON EDUCATION — COMMUNITY RELATIONS

MSD assists customers in learning ways to help them improve the community's water quality and to connect them with resources. Along with its public education and outreach initiatives, MSD sponsors:

- Annual waterway cleanup events, such as the Ohio River Sweep;
- A rain barrel and rain garden program, which provides resources and teaches participants to reclaim rainwater for use in gardening and to aid in stormwater retention; and
- Educational agendas for Louisville Metro's public and private schools.

MSD is committed to an ongoing effort to educate the community on its responsibilities and to dedicate needed resources to make Louisville a "Green Community." Advertisements are placed in different media sources, which include magazines, newspapers and television in an attempt to update MSD customers concerning various programs.

Staff members attend town forums held by Louisville Metro Council members to offer information and address concerns. Moreover, MSD schedules public meetings throughout Louisville Metro for furnishing information about the Consent Decree and many of its projects.

MSD's Executive Director, Bud Schardein, frequently speaks to civic groups and homeowner associations. He encourages invitations to speak to groups, so that MSD can educate the community with regard to its programs.



Rain Barrels and Rain Gardens

Rain barrels harvest rainwater to be used later for gardens or lawns and prevent that water from entering combined sewers. Approximately 1,000 barrels have been distributed throughout the community since the rain barrel program was introduced in April 2006. The demand for rain barrels has grown so much that MSD contracted with a local vocational group, Louisville Youthbuild, to convert food-grade barrels into rain barrels. The barrels are next supplied to the Louisville Nature Center, which then sells them to the community and keeps profits for supporting the center.

When rain gardens are sized and constructed properly, they are able to handle the amount of stormwater produced in an average event. One inch of rain, running off from a typical 1,500-square-foot house, is equal to 935 gallons of water, which would fill 16 rain barrels or 13 bathtubs!

Throughout the year, MSD has conducted community presentations regarding urban stormwater and the use of rain gardens and rain barrels for various neighborhood associations, parks, libraries and environmental clubs. MSD has also conducted workshops at the Louisville Nature Center about how to establish rain gardens.

Several rain gardens have been installed locally at:

- The Louisville Nature Center, 3745 Illinois Avenue;
- Americana Community Center, Second Street and Southside Avenue;
- 2105 and 2107 Dorothy Street;
- 1850 and 1852 Harvard Drive;
- 2379 Gladstone Avenue; and
- St. Peter Claver Community Center, in front of the community gardens on Lampton Street.

MSD's Rain Garden Manual is available specifically for the Louisville Metro area. To obtain a hard copy, stop by MSD's downtown office located at 700 West Liberty Street; or call Customer Relations, at 587-0603, and a copy will be mailed to you.

LEFT: Tanger Swallows (second from right) guided Kentucky State Fair attendees during a tour of MSD's infrastructure model.



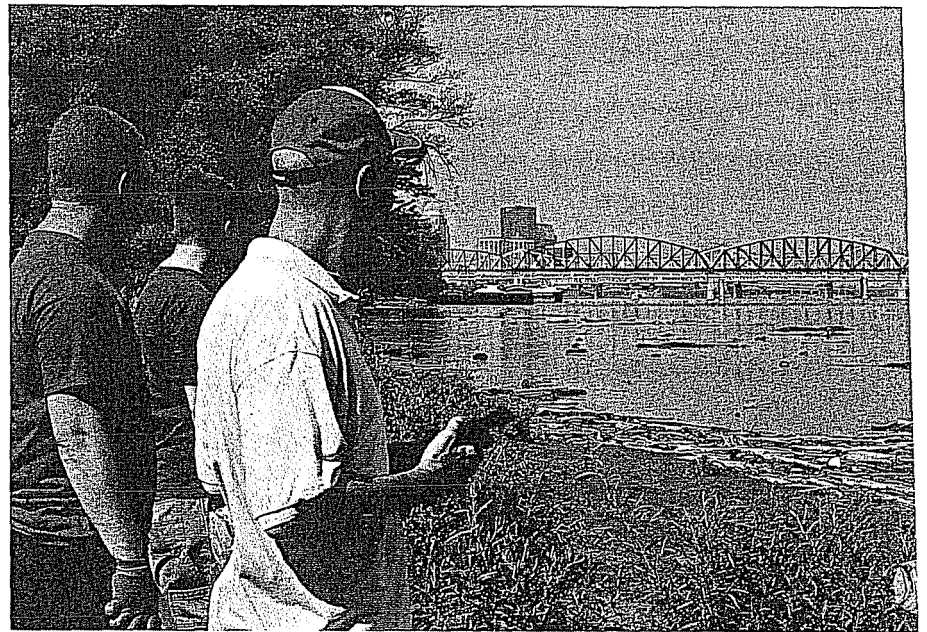
LEFT: Troy Smith discusses pervious concrete installation with a contractor.

Events

- The Xstream Cleanup – MSD partnered in the sponsorship of a cleanup org; by Living Lands and Waters to clean the banks at 21 sites along 10 creeks, ri and streams in the Louisville Metro area.
- Kentucky State Fair Exhibit Sponsorship – “Infrastructure Supporting Kentucky’s Fut. The exhibit contained a model of MSD’s wastewater, flood protection and watersl related elements along with an MSD TV inspection truck. Also included was a scaled- version of a home with a roof garden, a rain barrel and pervious concrete to demonstrate wa for residential customers to help alleviate stormwater runoff.
- Ohio River Sweep, Earth Day Booth at the Zoo, Jeffersontown Gaslight Festival, Beargrass C Clean Sweep and Okolona cleanup.

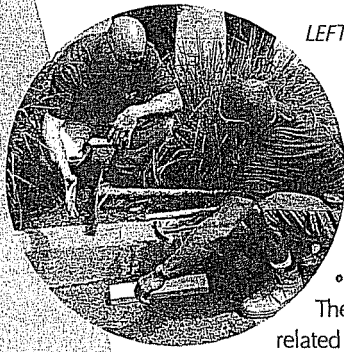
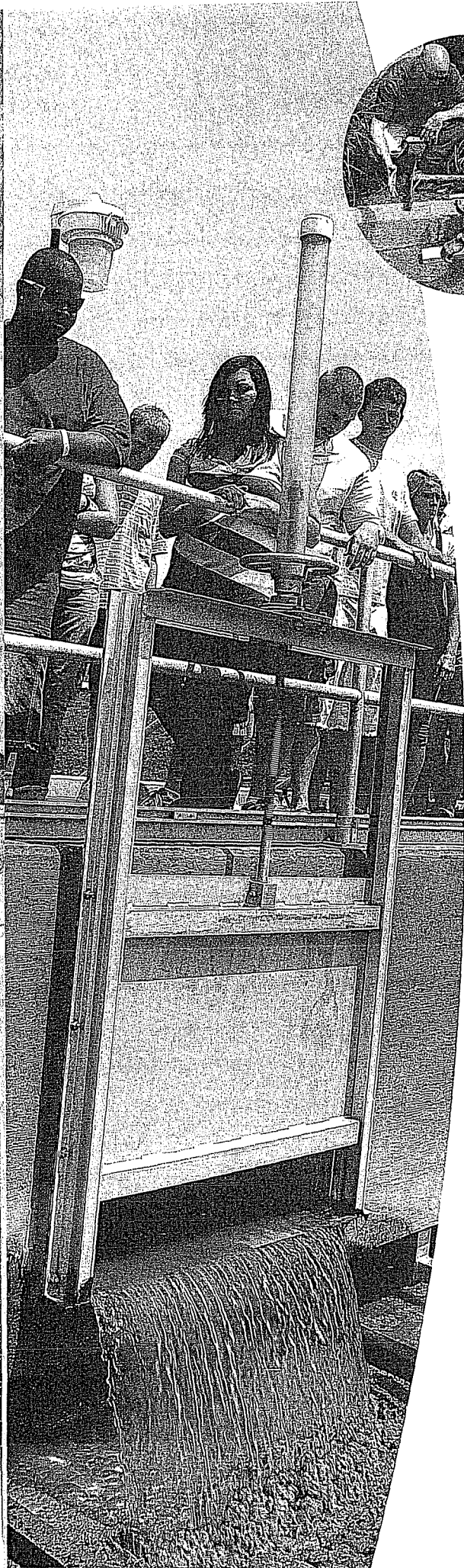
Partnerships

- Green Infrastructure design suggestions and native plants for Fire Station 6, which is locate at 2500 Griffiths Avenue.
- Fire Station 21, located at 300 North Spring Street, received bioswale design and financial support for pervious paving.
- “Make the Middle School Connection” – MSD partnered with the Jefferson County Public Sch (JCPS) to provide volunteers for mentoring seventh-grade students through the annual “Mak Middle School Connection” mentoring initiative. This is an opportunity to offer students introductions to career paths and to help focus their final year of middle school on explorin various career options.
- MSD formed a partnership with the Jefferson County Public School District for Eastern High School to utilize the Floyds Fork Water Quality Treatment Center’s energy-efficient smart classroom, composting facilities and native plant garden for student environmental scienc courses. The Eastern High School students complete their academic requirements while studying environmental issues under the guidance of their certified classroom teacher dur the school year.



ABOVE: Volunteers gathered at Eva Bandman Park to participate in the 2008 Ohio River Sweep.

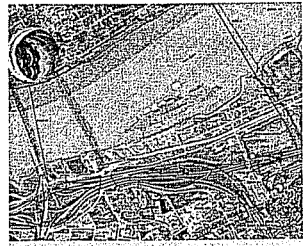
LEFT: An Eastern High School science class tours the Floyds Fork Water Quality Treatment Center. Students and teachers from Eastern High School learn about wastewater treatment and other environmental issues at the facility’s education center.



LOJIC represents a multiagency effort to build and maintain a comprehensive geographic information system (GIS) to serve all of Louisville Metro. Participants include Louisville Metro Government, MSD, the Property Valuation Administrator and the Louisville Water Company.

With constant reference to its strategic plan, LOJIC continued to press forward with technology migration, system/software upgrades, data expansion and new applications of GIS for better serving partner agencies and the public. LOJIC significantly increased its shared warehouse of spatial data to include imagery, street networks and facility data covering a dozen counties in the Louisville Metro region. Staff members and users developed expertise in Web-based technologies, which will serve as the primary framework for delivering user-friendly GIS applications via the Internet.

Providing GIS training, user support and educational outreach is an essential part of LOJIC's ongoing mission. More than 160 users and the public attended various GIS classes and workshops throughout the year. Focused technical workshops, called LOJIC Learning Labs, were added to enhance user utilization of ArcGIS. A MetroTV special was produced and televised to educate the public on the different interactive maps that are available from the LOJIC Web site. LOJIC has continued to grow and provide more information to our partner agencies and to our community during the last 10 years.



LOJIC staff teamed with partner agencies on several projects using GIS technology, including:

Collaborations

Assisted Louisville Metro and the U.S. Census Bureau in the Local Update to Census Addresses, Boundary Annexation Survey and Participant Statistical Area Programs in preparation for the 2010 census.

Guided JCPs in the creation of elementary, middle and high school attendance boundaries.

Enacted data-sharing agreements with Oldham County, Google and other private sector firms.

Helped Metro Public Works with the creation of an electrical/intersection assets database.

Worked with Metro Government agencies on debris-removal projects in the My Louisville interactive map for Hurricane Ike.

Coordination

Implemented the Oldham County base map update.

Began planning for the 2009 aerial imagery and base map update process for Jefferson, Oldham and Bullitt counties.

Enhanced the E911/Computer-Aided Dispatch data/edit application to support an upgrade by MetroSafe.

Assisted in the rollout of the Jefferson County PVA revenue-management program and the redesign of its parcel editor software.

Worked with MSD for enhancing the sewer geodatabase and improving editing procedures.

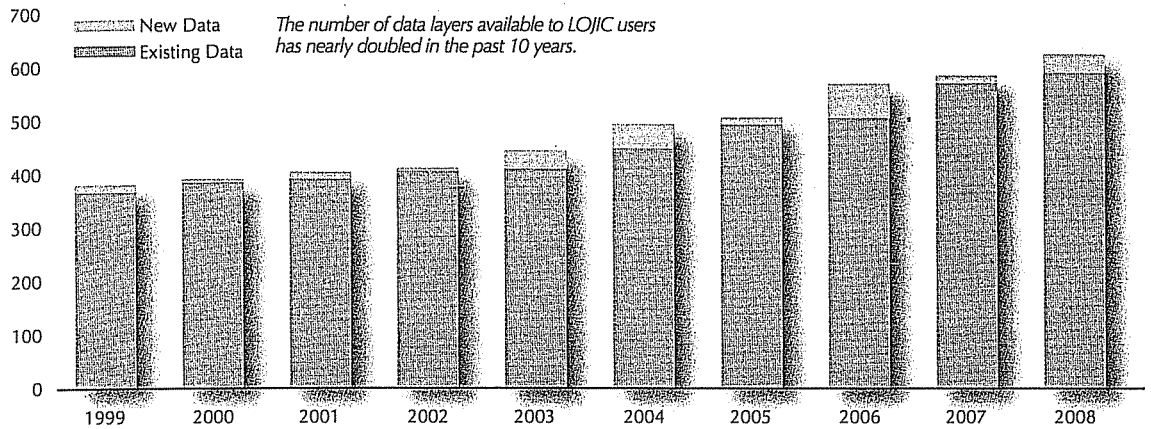
Worked with Metro Police on Metro Watch crime incident map enhancements.

Contributions

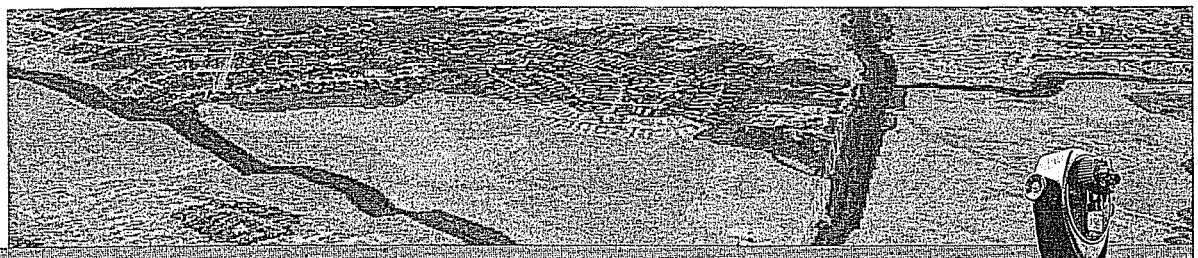
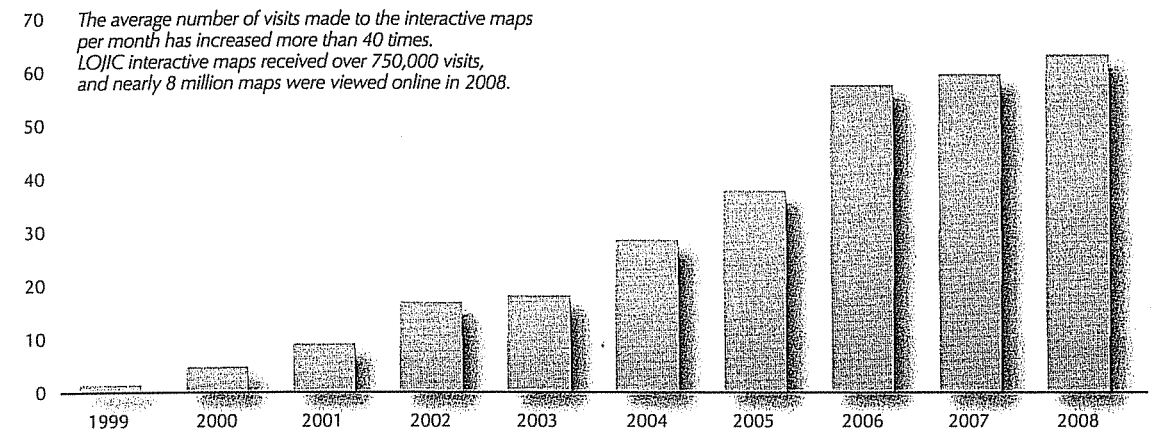
Received the Special Achievement in GIS from the Environmental Systems Research Institute (ESRI).

Offered the Middletown Fire Protection District technical guidance for its Fire Atlas, which won first place at the ESRI International Conference for Best In-House Cartographic Publication.

Number of Data Layers per Year



LOJIC Interactive Maps Average Monthly Visits (In thousands)



The 2008 MSD Financial Report is available for viewing or downloading on MSD's Web site: www.msdlouky.org.

Condensed Statement of Net Assets (In thousands)

	FY 2008	FY 2007	Dollar Change	Percent Change	FY 2006
Unrestricted Current Assets	\$ 46,504	\$ 46,517	\$ (13)	0.0%	\$ 57,477
Restricted Current Assets	131,985	76,934	55,051	1%	134,874
Noncurrent Assets	1,828,874	1,793,305	35,569	2.0%	1,761,502
Total Assets	\$2,007,363	\$1,916,756	\$90,607	4.7%	\$1,953,853
Current Liabilities	\$ 14,758	\$ 16,639	\$ (1,881)	-11.3%	\$ 22,619
Current Liabilities from Restricted Assets	35,102	33,253	1,849	5.6%	28,778
Noncurrent Liabilities	1,406,984	1,315,490	91,494	7.0%	1,332,993
Total Liabilities	\$1,456,844	\$1,365,382	\$ 91,462	6.7%	\$1,384,390
Invested in Capital Assets, Net	\$ 482,094	\$ 479,305	\$ 2,789	0.6%	\$ 489,973
Restricted Assets, Net	12,228	7,034	5,194	73.8%	8,927
Unrestricted	56,197	65,035	(8,838)	-13.6%	70,563
Total Net Assets	\$ 550,519	\$ 551,374	\$ (855)	-0.2%	\$ 569,463
Total Liabilities and Net Assets	\$2,007,363	\$1,916,756	\$ 90,607	4.7%	\$1,953,853

Condensed Statements of Revenues, Expenses and Changes in Net Assets (In thousands)

	FY 2008	FY 2007	Dollar Change	Percent Change	FY 2006
Operating Revenues	\$ 161,283	\$ 132,446	\$ 28,837	21.8%	\$ 129,555
Non-Operating Revenues	4,895	4,670	225	4.8%	3,115
Total Revenues	\$ 166,178	\$ 137,116	\$ 29,062	21.2%	\$ 133,729
Depreciation Expense	\$ 55,485	\$ 52,177	\$ 3,308	6.3%	\$ 51,174
Other Operating Expenses	70,335	63,479	6,856	10.8%	61,046
Non-Operating Expenses	56,388	56,408	(20)	0.0%	50,404
Total Expenses	\$ 182,208	\$ 172,064	\$ 10,144	5.9%	\$ 162,624
Net Income (Loss) before Contributions	\$ (16,030)	\$ (34,948)	\$ 18,918	-54.1%	\$ (28,895)
Contributions	15,175	16,859	(1,684)	-10.0%	20,083
Change in Net Assets	(855)	(18,089)	17,234	-95.3%	(8,812)
Beginning Net Assets	551,374	569,463	(18,089)	-3.2%	578,275
Ending Net Assets	\$ 550,519	\$ 551,374	\$ (855)	-0.2%	\$ 569,463

Gross Service and Administration Costs (In thousands)

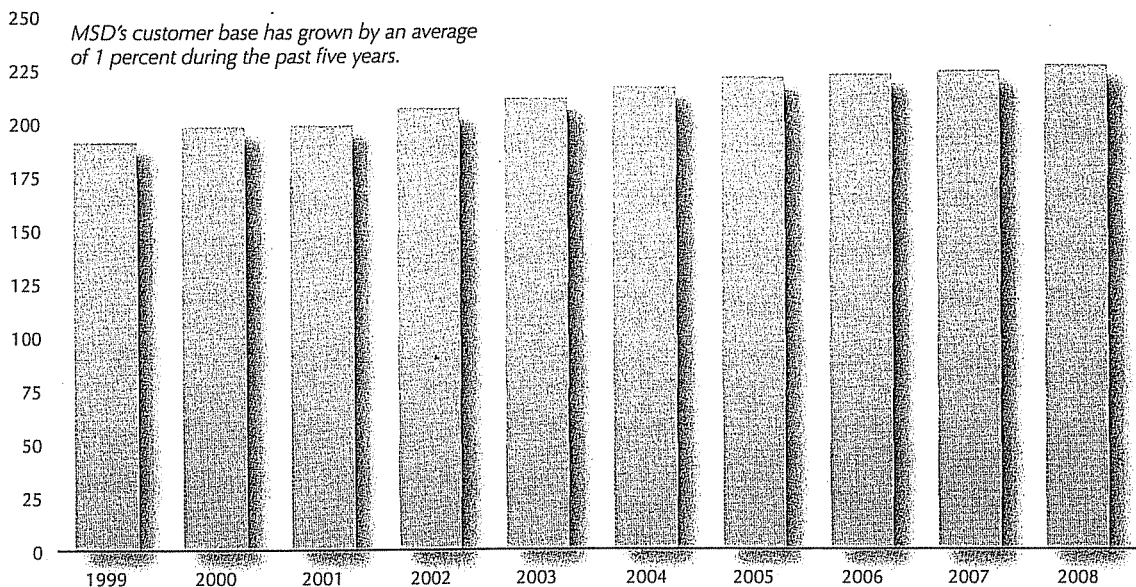
	FY 2008		FY 2007		Variance	Percent Change	FY 2006
Labor	\$ 49,431	51%	\$ 47,079	53%	\$ 2,352	5.0%	\$ 42,287
Utilities	12,989	13%	10,976	12%	2,013	18.3%	12,518
Materials and Supplies	8,707	9%	8,197	9%	510	6.2%	7,745
Professional Services	3,126	3%	2,797	3%	329	11.8%	2,543
Maintenance and Repairs	8,926	9%	8,035	9%	891	11.1%	7,762
Billing and Collections	5,318	5%	2,889	3%	2,429	84.1%	3,869
Chemicals	3,805	4%	3,585	4%	220	6.1%	4,011
Fuel	1,344	1%	1,240	1%	104	8.4%	960
Biosolids Disposal	1,661	2%	1,412	2%	249	17.6%	1,554
All Other	2,800	3%	3,947	4%	(1,147)	-29.1%	3,067
Gross Service and Administration Total	\$ 98,107	100%	\$ 90,157	100%	\$ 7,950	8.8%	\$ 86,433

MSD's total assets and liabilities increased by approximately \$90.6 million and \$91.5 million, respectively, in 2008.

Both increases are due to a \$105 million bond issue, which was completed during the fiscal year.

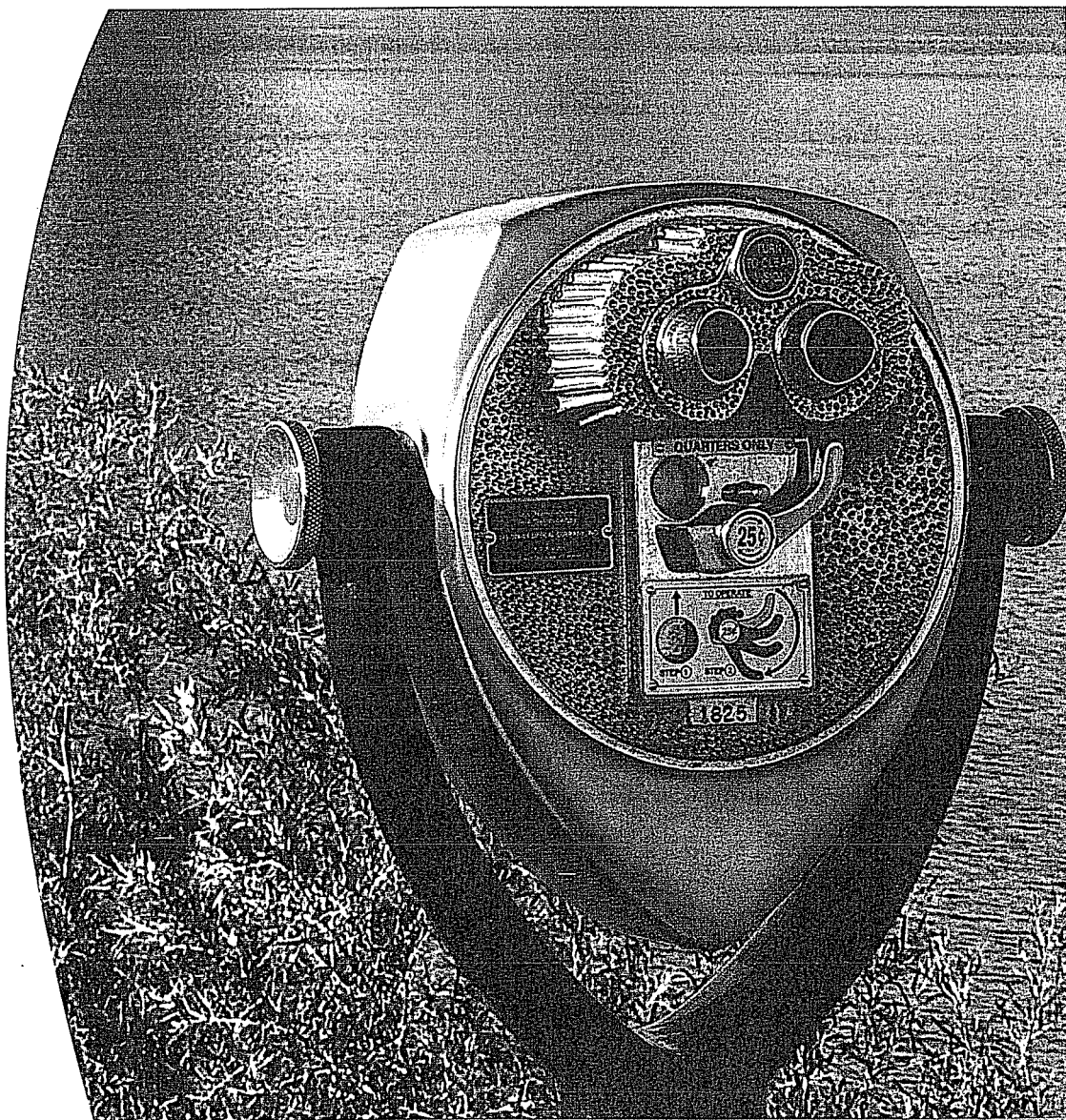
MSD Customer Growth (In thousands)

MSD's customer base has grown by an average of 1 percent during the past five years.



Total Operating Revenues as of June 30, 2008, were \$161.3 million, compared with \$132.4 million for the same period last year, which is an increase of \$28.8 million or 21.8 percent. This increase in operating revenues was primarily driven by a surcharge enacted in August 2007, to help fund the expected cost of the Consent Decree that MSD signed with the Kentucky Division of Water, U.S. Environmental Protection Agency—Region IV and U.S. Department of Justice. Total expenses were more than the FY 2007 level due primarily to increases in operating expenses and depreciation expense. An increase in labor, utilities and billing/collection expenses led to the overall increase in operating expenses.

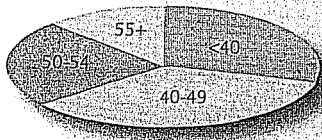
Gross service and administrative costs increased by \$8.0 million above the FY 2007 level. An increase in labor (\$2.4 million), utilities (\$2.0 million), and billing and collection expenses (\$2.4 million) resulted in a net change.



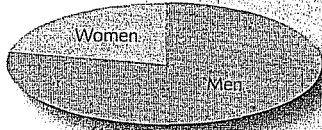
CLEAR VISION — CELEBRATING DIVERSITY

At MSD we value our employees, and we understand diversity as the different cultures of our employees, and as the varying perspectives and approaches they bring to the business, too. Employees are invited to bring their ideas, knowledge and perspectives into collaborative efforts to solve problems and promote creativity for the benefit of our customers and community.

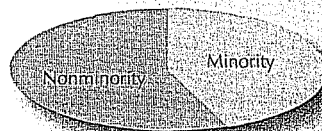
MSD Work Force by Age



MSD Work Force by Gender



MSD Work Force by Race/Ethnicity



Louisville AIDS Walk

A team of MSD employees participated in the 16th Annual Louisville AIDS Walk on September 28, 2008, and contributed just over \$3,000. The total amount raised for the event was more than \$196,000, which will help provide local HIV/AIDS services to people with HIV who live in our community.

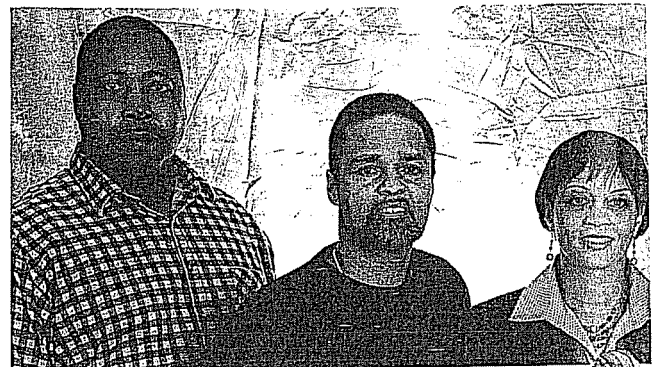
2008 Extravaganza Celebration

MSD's annual Holiday Extravaganza is a time to recognize and celebrate the diverse aspects of our work force. The 2008 "Hometowns" theme gave employees an opportunity to showcase and learn about the similarities and differences of the neighborhoods and towns where we live and serve. MSD realizes the vital role of its employees and recognizes that our varied backgrounds create unity when we focus on a common goal of growing a viable and productive community.

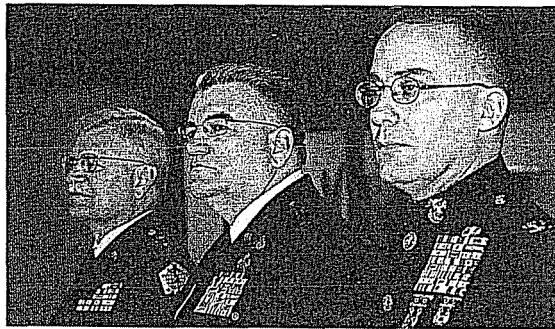
Black Achievers

Every year, MSD DiverseWorks chooses exemplary MSD employees to be Adult Black Achievers. Three employees were selected in 2008, based on their own individual track record of service to the public, the community and the company.

Sharise Horne, Contract Administrator; Isaac Johnson, Field Engineering Technician; and Noble Marks, Maintenance Planner were recognized as MSD's Adult Black Achievers.



Adult Black Achievers for 2008 from MSD are Noble Marks, Isaac Johnson and Sharise Horne.



Maj. Gen. Robert S. Silverthorne of the U.S. Army, Brig. Gen. Michael Dornbush of the U.S. Air Force/U.S. Air National Guard and Col. David J. Clement of the U.S. Marine Corps honored MSD veterans for their military service.

Veterans Day Celebration

The fourth annual Veterans Day observance was held November 11, 2008. MSD honored its employees for serving our country as members or past members of the United States Armed Forces.

2008 Annual 'Window of Opportunity' Reception

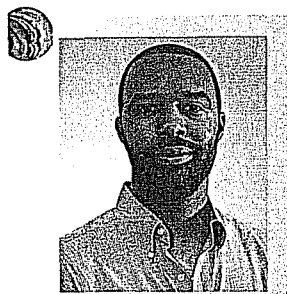
MSD was the lead sponsor of the fifth annual "Window of Opportunity" reception, along with the Louisville Metro Human Relations Commission, E.ON U.S. and the Louisville Water Company. The primary objective of the reception was affording both minority- and woman-owned businesses an opportunity to interact with public utility companies and governmental officials as well as with prime contractors and consultants. This well-regarded networking event was attended by a record number of nearly 300 participants.

MSD staff not only branded the event theme, but also networked with countless minority- and woman-owned businesses throughout the venue, providing essential information pertaining to current and upcoming projects, procurement methodologies and our DiverseWorks certification program.

Bud Schardein, MSD's Executive Director, reiterated MSD's commitment to a diverse supplier base, work force and community as we continue to provide our customers and the environment with outstanding wastewater collection and treatment, stormwater drainage and flood protection services.

Professional, Construction and Purchasing Expenditures

	Total Expenditures	% Achieved
Professional Services	\$13,534,030	
MBE	\$2,324,901	17%
WBE	\$1,172,298	9%
Construction Services	\$18,132,720	
MBE	\$3,104,469	17%
WBE	\$1,442,777	8%
Purchasing Expenditures	\$25,931,918	
MBE	\$756,122	3%
WBE	\$635,877	2%



MSD Regulatory Engineer Daymond Talley received an African-American Catholic Leadership Award at the 21st annual African-American Catholic Leadership and Scholarship Awards.

African-American Catholic Leadership and Scholarship Award

- Regulatory Engineer **Daymond Talley** was presented with the African-American Catholic Leadership Award.

Black Achievers

- The Chestnut Street YMCA selected Infrastructure & Flood Protection Liaison **Rick Watkins** as the Adult Black Achiever of the Year.

Business and Professional Women of Kentucky

- I&FP Quality Analyst **Tori Coward** received the 2008 Choices Award.

Greater Louisville Inc. Customer Contact Center Network

- **Customer Relations** received the 2008 Vision Award for small contact centers.

Kentucky Association of Mapping Professionals

- **Curt Bynum** received the Service to the GIS and Mapping Community Award.

Kentucky Clean Fuels Coalition

- Physical Assets Director **James Hunt** was recognized for "Walking the 'Alternative Fuel' Walk."

Kentucky Society of Professional Engineers

- Project WIN Program Manager **Angela Akridge** was presented the Outstanding Contribution to Leadership PE Award.
- I&FP Senior Manager **Saeed Assef** received the Outstanding Achievement in Government Award.
- **Saeed Assef** was presented with the Engineer of the Year Award as well.

Kentucky-Tennessee Water Environment Association

- **Morris Forman Water Quality Treatment Center** — 2008 Beneficial Reuse of Biosolids Award — Operational Excellence Award
- **Hite Creek Water Quality Treatment Center** — Operational Excellence Award
- **Derek R. Guthrie Water Quality Treatment Center** — (formerly known as the West County Wastewater Treatment Plant) Operational Excellence Award

The National Association of Clean Water Agencies

- **Morris Forman Water Quality Treatment Center** recently received a Gold Peak Performance Award.
- **MSD** received eight of the 10 gold awards that were presented in Kentucky, and eight of the nine silver awards presented in the state.

National Biosolids Partnership

- **Morris Forman Water Quality Treatment Center** obtained certification for its Environmental Management System, which recognizes its effective biosolids management system for reducing environmental impacts and for continually improving performance.

Project One

- Executive Director **Bud Schardein** received the "Man of the Year" Award.

Public Relations Society of America and International Association of Business Communicators Bluegrass Chapter

- **The MSD 2007 Annual Report Team** was awarded the Iris Statue Award of Excellence in the Publications Category, and
- Award of Merit in the Writing Category.
- **Paul Meyer** received an Award of Merit in the Photography Category.
The Award of Merit was the highest award presented in 2008 for both the Writing and Photography categories.

U.S. Government Finance Officers Association

- **MSD Finance Division** received a Certificate of Achievement in Financial Reporting.



Rick Watkins is the Chestnut Street YMCA program's 2008 Adult Black Achiever of the Year.

MSD is governed by an eight-member citizen board appointed to oversee MSD's budget, rates, policies and initiatives. The Louisville Metro Mayor appoints the board members to represent different state senatorial districts in Louisville Metro, ensuring broad-based representation for the entire community. No more than five of the eight members can represent one political party, ensuring both political and geographic balance. They serve three-year overlapping terms and are eligible for reappointment. In 2008, Martin Hoehler, Benjamin Richmond and Doyle Stacy are reappointed for another term. In July 2008, both Beverly Wheatley and Audwin Helton were re-elected as Chair and Vice Chair, respectively.

Strategic Vision — MSD Board



FROM LEFT TO RIGHT: Arnold J. Celentano, P.E.; Jerome L. Clark; Marvin D. Stacy; Audwin A. Helton, Vice Chair; Beverly A. Wheatley, Chair; Benjamin K. Richmond; Martin D. Hoehler; and Charles E. Weiter, P.E.



MSD

Metropolitan Sewer District

700 West Liberty Street
Louisville, KY 40203-1911

Customer Relations
www.msdlouky.org
502-587-0603


DiverseWorks
DiverseWorks@msdlouky.org
502-540-6261

LOJIC
www.lojic.org
502-540-6000

Louisville Green
www.louisvillegreen.com
502-587-0603

MSD Facility Tours
www.msdlouky.org
502-587-0603

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 This annual report is printed on New Leaf Primavera Gloss, made with 80% recycled fiber, 60% post-consumer waste, elemental chlorine-free, and manufactured with electricity that is offset with Green-e certified renewable energy certificates. By using this environmental paper, MSD saved the following resources:

trees	water	energy	solid waste	greenhouse gases
25 fully grown	11,677 gallons	16 million BTUs	1,255 pounds	2,788 pounds

Calculations based on research conducted by Environmental Defense Fund and other members of the Paper Task Force.

*This year's report was
written by the following
MSD committee members:*

Pat Kirk - Chair

Becky Bennett

Robin Bowling

Julie Buckler

Steve Emly

Justin Gray

Tom Harlow

Loren Levitz

Paul Meyer - Photographer

Dana Price

Daymond Talley





MSD

Louisville and Jefferson County
Metropolitan Sewer District

WASTEWATER SERVICE CHARGES

EFFECTIVE FOR ALL BILLS ISSUED ON AND AFTER AUGUST 1, 2008

A. WASTEWATER SERVICE CHARGES

Applicable to all bills rendered.

Fixed charges by water service meter sizes applicable to all wastewater service charge billings:

<u>Meter Size</u> Inches	<u>Monthly</u> <u>Billing</u> \$/Bill	<u>Bi-Monthly</u> <u>Billing</u> \$/Bill	<u>Meter Size</u> Inches	<u>Monthly</u> <u>Billing</u> \$/Bill	<u>Bi-Monthly</u> <u>Billing</u> \$/Bill
5/8 or 3/4	13.07	17.02	6	281.05	552.38
1	22.77	34.18	8	422.43	828.58
1-1/2	34.18	56.86	10	552.38	1,088.55
2	43.89	77.99	12	801.95	1,603.92
3	92.83	173.86	15 or 16	972.08	1,944.11
4	146.24	281.11	18 or 20	1,275.83	2,551.66

Plus \$64.44 for each reading of each meter owned by a customer for the purpose of determining billable consumption. Service Charges may be pro-rated based on the number of actual days in a billing cycle.

B. WASTEWATER VOLUME CHARGES

Regular volume rates described below are calculated by using 85% of the actual metered water used by residential customers, providing an automatic year-long 15% discount for lawn watering and other uses of water which does not enter the sanitary sewer system. Automatic volume rate discounts of 10% for commercial customers and 5% for industrial customers are also provided. The "sewer only" volume rates exclude these automatic discounts and are used for customers who are charged for only the water entering the sanitary sewer system as determined by metering systems.

*May be modified from time to time by contractual agreement with individual customers.

1. Regular volume rate applicable to all water used and not meeting the requirements for the optional volume rate (see below):

Residential - \$2.34 per 1,000 gallons of volume billed
Commercial - \$2.69 per 1,000 gallons of volume billed
Industrial - \$2.80 per 1,000 gallons of volume billed

2. Optional (clean) volume rate available to customers whose average water use during any consecutive twelve-month period exceeds 1,000,000 gallons per month. Such customers may, until such volume is less than 1,000,000 gallons per month, have the option of being charged the following optional volume rate for water used plus quality charges for total properly certified and approved BOD and SS loadings.

\$1.59 per 1,000 gallons of volume billed; or

3. Sewer only volume rates applicable where billable volumes are based on either the wastewater discharged to the sewer system as determined by metering, or metered water use less exemptions approved by MSD for water not ultimately discharged to the sewer system as determined by separated metering.

Residential - \$2.68 regular rate
Commercial - \$3.00 regular rate or \$1.70 optional rate/1,000 gallons
Industrial - \$3.01 regular rate or \$1.70 optional rate/1,000 gallons

EXHIBIT J

F. UNUSUAL INCIDENT CHARGE

Any business, firm or individual introducing into MSD's sewer system substance detrimental to MSD's sewers, wastewater treatment facilities, pumping facilities or wastewater treatment processes, which result in abnormal costs for MSD, shall be charged and shall pay the actual total costs incurred as determined by MSD.

G. DEBT SERVICE ADJUSTMENT

Whenever MSD's net revenues are less than 1.10 times the debt service on MSD's outstanding revenue bonds for any consecutive six-month period, by order of the Board of MSD, a schedule of wastewater service charges shall be amended in order to maintain a 1.10 debt service coverage required by MSD's 1971 Bond Authorizing Resolution which was approved by the City of Louisville Ordinance Number 86, Series 1971; provided the aggregate of such adjustments for any twelve-month period shall not generate additional revenue from wastewater service charges in excess of 7%.

The term, "net revenues" is defined as gross revenue from wastewater service charges less operating expenses and debt payments other than debt service payments on MSD's outstanding revenue bonds.

H. CONNECTION FEES

1. MSD's Connection Fee is due and payable to MSD for connections to MSD's sanitary sewer system under any of the following circumstances:
 - a. whenever a physical connection from the property to be served to MSD's public sewer is required to be constructed;
 - b. a working and usable connection is present but there exists a previous commitment or obligation to pay a connection fee to MSD on the part of the current property owner or previous property owners;
2. MSD's Connection Fee is not due for connections to MSD's sanitary sewer system under any of the following circumstances.
 - a. a working and usable connection exists that serves the property that was constructed and accepted by MSD prior to August 1, 1998;
 - b. a property is being served by an MSD assessment project and the property is being assessed.
 - c. a property is being served as part of a new development being constructed under the provisions of an MSD's Lateral Extension (LE) Contract and the property owner is a third party beneficiary of the LE Contract;
 - d. connections to MSD's sewer system are exempted by a previously executed agreement with MSD;
 - e. the connection fee is exempted from payment by another provision of these Rates, Rental and Charges;
 - f. the connection fee has been specifically exempted by action of the MSD Board; or
 - g. Connection Fees are not applicable to homes:
 - i. built by, or on behalf of, an organization which is either exempt from Federal income tax under 26 U.S.C. & 501 (c)(3) of the Internal

- c. MSD-owned property;
- d. Public roads;
- e. All undeveloped parcels of land.

The following charges are hereby established and imposed for all parcels or real property within the drainage service area, excluding exempted properties.

Class A properties or Single-Family Residential

The single-family residential charge rate shall be \$5.35 per month for each parcel having one or two residential dwelling unit(s). This flat rate fee is based on each single-family residential parcel being equal to one equivalent service unit (ESU). MSD shall determine the number of single-family residential parcels in the drainage service area and designate each as a single ESU irrespective of the size of parcel is segregated or the use of the land is modified to other than single-family. Drainage Charges may be pro-rated based on the number of actual days in a billing cycle.

Class B or other Parcels

The charge for all other parcels within the drainage service area shall be based upon the number of square feet of measured impervious surface, as determined by MSD through aerial photography and surface feature evaluation processes, expressed in whole ESUs by rounding to the next highest ESU (an ESU has been determined to be 2,500 square feet of impervious surface). The charge for Class B property may be computed by multiplying the number of ESUs for a given parcel by the unit rate established by MSD of \$5.35 per month. Drainage Charges may be pro-rated based on the number of actual days in a billing cycle. Any owner of Class B property may request a drainage charge credit adjustment for approved on-site stormwater retention or detention facilities provided:

1. The property owner remains responsible for all costs of operation and maintenance of the facility;
2. The facility has been constructed in accordance with all approved plans; "and drainage service charges" following the term "Wastewater Service Charges" whenever said term appears in said provision.
3. The owner has obtained MSD required permits for the facility; and
4. MSD has access to the facility for purposes of inspecting for compliance with design, maintenance and operating standards.

If MSD approves a drainage charge credit for on-site stormwater retention or detention facilities, the credit will be applied by reducing the number of billable ESUs by the percent of reduction in stormwater runoff due to such on-site facilities, as determined by MSD. The net billable ESUs after such credit is applied shall be expressed in whole ESUs by rounding to the next highest ESU, and the adjusted drainage service charge shall not be less than 18% of the drainage service charge before the credit adjustment.

Other Drainage Fees

The Board of MSD may establish fees for the review and approval of plans or designs of drainage facilities, and for the inspection of the construction of drainage facilities, all in accordance with KRS Section 76.085, and may establish policies for the sharing of the costs of developing regional drainage systems serving multiple developments/properties.

Billing and Collection

Drainage service charges shall be billed and made payable using the same frequencies and billing cycles used by the Louisville Water Company for its billing system. The amounts to be billed shall be included as additions to the billings of the Louisville Water Company for water and/or sewer service, or by separate billings and billing cycles for accounts not maintained by the Louisville Water Company. Drainage Charges may be pro-rated based on the number of actual days in a billing cycle.

The owner(s), tenant(s) or person(s) responsible for the payment of water service charges and/or sewer service charges shall also be responsible for the payment of drainage service charges for the same parcel(s) except for multiple occupancy such as shopping centers, apartment, condominiums, etc., in which cases MSD may either allocate the drainage service charges among the occupants of the parcel or may deem that a single billing to the parcel's owner(s), agent or association is appropriate. In either case, the billed party shall be responsible for payment of drainage service charges. For properties not billed by the Louisville Water Company for water service charges and/or

M. ADJUSTMENT OF CHARGES AND APPEALS

Any owner who considers that wastewater or drainage charges applied to the owner's parcel are inaccurate or otherwise disagrees with the determination may apply to MSD's Financial Director for a rate review, stating in writing the grounds for the adjustment. The Financial Director will review the case and report findings to the Executive Director. The Executive Director shall consider the complaint and staff recommendations and determine whether an adjustment is necessary to provide for reasonable and equitable application of the charge(s).

Appeal of decisions made by the Executive Director may be brought before the MSD Board in writing with notice and substance of the appeal sent to the Board's secretary within fifteen (15) days after the owner receives the Executive Director's decision. Upon reviewing the documentation, the Board shall render a final decision.

Severability

If any section, clause or provision of this amendment be declared by the courts to be invalid, the same shall not affect the validity of the amendment as a whole or any part thereof, other than the part so declared to be invalid.



Louisville and Jefferson County
Metropolitan Sewer District

WASTEWATER SERVICE CHARGES

EFFECTIVE FOR ALL BILLS ISSUED ON AND AFTER AUGUST 1, 2009

A. WASTEWATER SERVICE CHARGES

Applicable to all bills rendered.

Fixed charges by water service meter sizes applicable to all wastewater service charge billings:

<u>Meter Size</u> Inches	<u>Monthly</u> <u>Billing</u> \$/Bill	<u>Bi-Monthly</u> <u>Billing</u> \$/Bill	<u>Meter Size</u> Inches	<u>Monthly</u> <u>Billing</u> \$/Bill	<u>Bi-Monthly</u> <u>Billing</u> \$/Bill
5/8 or 3/4	13.92	18.13	6	299.32	588.28
1	24.25	36.40	8	449.89	882.44
1-1/2	36.40	60.56	10	588.28	1,159.31
2	46.74	83.06	12	854.08	1,708.17
3	98.86	185.16	15 or 16	1,035.27	2,070.48
4	155.75	299.38	18 or 20	1,358.76	2,717.52

Plus \$68.63 for each reading of each meter owned by a customer for the purpose of determining billable consumption. Service Charges may be pro-rated based on the number of actual days in a billing cycle.

WASTEWATER VOLUME CHARGES

Regular volume rates described below are calculated by using 85% of the actual metered water used by residential customers, providing an automatic year-long 15% discount for lawn watering and other uses of water which does not enter the sanitary sewer system. Automatic volume rate discounts of 10% for commercial customers and 5% for industrial customers are also provided. The "sewer only" volume rates exclude these automatic discounts and are used for customers who are charged for only the water entering the sanitary sewer system as determined by metering systems.

*May be modified from time to time by contractual agreement with individual customers.

1. Regular volume rate applicable to all water used and not meeting the requirements for the optional volume rate (see below):

Residential - \$2.49 per 1,000 gallons of volume billed
 Commercial - \$2.86 per 1,000 gallons of volume billed
 Industrial - \$2.98 per 1,000 gallons of volume billed

2. Optional (clean) volume rate available to customers whose average water use during any consecutive twelve-month period exceeds 1,000,000 gallons per month. Such customers may, until such volume is less than 1,000,000 gallons per month, have the option of being charged the following optional volume rate for water used plus quality charges for total properly certified and approved BOD and SS loadings.

\$1.69 per 1,000 gallons of volume billed; or

3. Sewer only volume rates applicable where billable volumes are based on either the wastewater discharged to the sewer system as determined by metering, or metered water use less exemptions approved by MSD for water not ultimately discharged to the sewer system as determined by separated metering.

Residential - \$2.85 regular rate
 Commercial - \$3.20 regular rate or \$1.81 optional rate/1,000 gallons
 Industrial - \$3.21 regular rate or \$1.81 optional rate/1,000 gallons

F. UNUSUAL INCIDENT CHARGE

Any business, firm or individual introducing into MSD's sewer system substance detrimental to MSD's sewers, wastewater treatment facilities, pumping facilities or wastewater treatment processes, which result in abnormal costs for MSD, shall be charged and shall pay the actual total costs incurred as determined by MSD.

G. DEBT SERVICE ADJUSTMENT

Whenever MSD's net revenues are less than 1.10 times the debt service on MSD's outstanding revenue bonds for any consecutive six-month period, by order of the Board of MSD, a schedule of wastewater service charges shall be amended in order to maintain a 1.10 debt service coverage required by MSD's 1971 Bond Authorizing Resolution which was approved by the City of Louisville Ordinance Number 86, Series 1971; provided the aggregate of such adjustments for any twelve-month period shall not generate additional revenue from wastewater service charges in excess of 7%.

The term, "net revenues" is defined as gross revenue from wastewater service charges less operating expenses and debt payments other than debt service payments on MSD's outstanding revenue bonds.

H. CONNECTION FEES

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 - b. a working and usable connection is present but there exists a previous commitment or obligation to pay a connection fee to MSD on the part of the current property owner or previous property owners;
2. MSD's Connection Fee is not due for connections to MSD's sanitary sewer system under any of the following circumstances.
 - a. a working and usable connection exists that serves the property that was constructed and accepted by MSD prior to August 1, 1998;
 - b. a property is being served by an MSD assessment project and the property is being assessed.
 - c. a property is being served as part of a new development being constructed under the provisions of an MSD's Lateral Extension (LE) Contract and the property owner is a third party beneficiary of the LE Contract;
 - d. connections to MSD's sewer system are exempted by a previously executed agreement with MSD;
 - e. the connection fee is exempted from payment by another provision of these Rates, Rental and Charges;
 - f. the connection fee has been specifically exempted by action of the MSD Board; or
 - g. Connection Fees are not applicable to homes:
 - i. built by, or on behalf of, an organization which is either exempt from Federal income tax under 26 U.S.C. & 501 (c)(3) of the Internal

AMENDMENT NO. 1
ADDITIONS TO MSD WASTEWATER SERVICE CHARGES

I. CAPACITY CHARGE

MSD is the designated management agency for the implementation of the Master Plan for sewerage Jefferson County, and must eventually provide capacity within the comprehensive public sewerage system for all developed properties within Jefferson County. New development, even when using MSD's existing capacity, contributes to future capacity needs. Therefore, Capacity Charges shall be collected from developers of properties to help defray the future cost of providing Master Plan sewerage facilities.

When a developer of property wishes to provide sewer service by extension of or connection to MSD's sewer system, the developer, in addition to providing and paying for sewerage facilities necessary for the development, shall pay a Capacity Charge in advance of connection to MSD's wastewater treatment facilities. For developments served by MSD sewer extensions, the developer shall pay the applicable Capacity Charge irrevocable Letter of Credit from a local bank or other financial institution which guarantees MSD payment in full at MSD's request after the sewers are installed and connected to MSD's sewer system and before MSD issues its formal acceptance to the sewer extensions.

The Capacity Charge shall be calculated by multiplying the unit capacity charge times the gallons per day estimated to flow from a new development connecting to MSD's sewer system as determined by MSD. The unit capacity charge (value per gallon) shall be calculated by dividing MSD's Net Worth (system value) by MSD's total system-wide design capacity. For any calendar year, the unit capacity charge shall be based on MSD's net worth as reported in the Annual Audit Report for the fiscal year ended the June 30 prior to the calendar year.

Capacity Charges are not applicable to the following:

1. Existing developed properties connecting to MSD's system but previously served by another (non MSD) sewer system or on-lot wastewater disposal system.
2. Properties to be served by a new wastewater treatment plant to be owned by MSD and constructed and financed jointly by agreement between MSD and one or more developers; however, the prorated shares of the developers' capital costs based on their estimated use of design capacity, shall not be less than the amounts MSD would recover by using the Capacity Charge calculations. Properties in the service area not party to the agreement will pay the Capacity Charges.
3. Properties owned by the City of Louisville, Jefferson County, or joint agencies of the City of Louisville and Jefferson County.
4. Properties which connect prior to January 1, 1993 to an MSD sewer which was installed and available in an abutting right of way or easement as of January 1, 1987, provided said properties were annexed into MSD's wastewater service area at the written request of the owners dated and received by MSD prior to January 1, 1987, and provided the properties are being developed, or have recently been developed, at the time of connection.
5. Properties within the boundaries of the City of Louisville which, in 1946, transferred the then existing City sewerage system to MSD at no cost to MSD. Funds collected by the capacity charge shall be used to finance future sewerage expansion that will serve new development.
6. Property located within designated Louisville and Jefferson County Enterprise Zones is exempt from the Capacity Charge imposed by MSD on new property development pursuant to Metro Codified Ordinance Section 50.48(C).

J. DRAINAGE SERVICE CHARGES

A system and structure of drainage service charges to be applied to all developed parcels of land within the MSD drainage service area and other drainage service fees are hereby established in accordance with the following:

- c. MSD-owned property;
- d. Public roads;
- e. All undeveloped parcels of land.

The following charges are hereby established and imposed for all parcels or real property within the drainage service area, excluding exempted properties.

Class A properties or Single-Family Residential

The single-family residential charge rate shall be \$5.70 per month for each parcel having one or two residential dwelling unit(s). This flat rate fee is based on each single-family residential parcel being equal to one equivalent service unit (ESU). MSD shall determine the number of single-family residential parcels in the drainage service area and designate each as a single ESU irrespective of the size of parcel is segregated or the use of the land is modified to other than single-family. Drainage Charges may be pro-rated based on the number of actual days in a billing cycle.

Class B or other Parcels

The charge for all other parcels within the drainage service area shall be based upon the number of square feet of measured impervious surface, as determined by MSD through aerial photography and surface feature evaluation processes, expressed in whole ESUs by rounding to the next highest ESU (an ESU has been determined to be 2,500 square feet of impervious surface). The charge for Class B property may be computed by multiplying the number of ESUs for a given parcel by the unit rate established by MSD of \$5.70 per month. Drainage Charges may be pro-rated based on the number of actual days in a billing cycle. Any owner of Class B property may request a drainage charge credit adjustment for approved on-site stormwater retention or detention facilities provided:

1. The property owner remains responsible for all costs of operation and maintenance of the facility;
2. The facility has been constructed in accordance with all approved plans; "and drainage service charges" following the term "Wastewater Service Charges" whenever said term appears in said provision.
3. The owner has obtained MSD required permits for the facility; and
4. MSD has access to the facility for purposes of inspecting for compliance with design, maintenance and operating standards.

If MSD approves a drainage charge credit for on-site stormwater retention or detention facilities, the credit will be applied by reducing the number of billable ESUs by the percent of reduction in stormwater runoff due to such on-site facilities, as determined by MSD. The net billable ESUs after such credit is applied shall be expressed in whole ESUs by rounding to the next highest ESU, and the adjusted drainage service charge shall not be less than 18% of the drainage service charge before the credit adjustment.

Other Drainage Fees

The Board of MSD may establish fees for the review and approval of plans or designs of drainage facilities, and for the inspection of the construction of drainage facilities, all in accordance with KRS Section 76.085, and may establish policies for the sharing of the costs of developing regional drainage systems serving multiple developments/properties.

Billing and Collection

Drainage service charges shall be billed and made payable using the same frequencies and billing cycles used by the Louisville Water Company for its billing system. The amounts to be billed shall be included as additions to the billings of the Louisville Water Company for water and/or sewer service, or by separate billings and billing cycles for accounts not maintained by the Louisville Water Company. Drainage Charges may be pro-rated based on the number of actual days in a billing cycle.

The owner(s), tenant(s) or person(s) responsible for the payment of water service charges and/or sewer service charges shall also be responsible for the payment of drainage service charges for the same parcel(s) except for multiple occupancy such as shopping centers, apartment, condominiums, etc., in which cases MSD may either allocate the drainage service charges among the occupants of the parcel or may deem that a single billing to the parcel's owner(s), agent or association is appropriate. In either case, the billed party shall be responsible for payment of drainage service charges. For properties not billed by the Louisville Water Company for water service charges and/or

4. I/I surcharge fees will terminate at such time MSD terminates its Capacity Assurance Program.

L. RECAPTURE AGREEMENTS

MSD may negotiate and execute agreements with individuals and/or entities (herein "Developers") whereby Developers may construct and pay for regional sanitary sewer facilities that serve the Developers' property and other property located within a region determined by MSD (herein "Sewershed"). The Developer must submit plans for the proposed regional sanitary sewer facilities (herein "Facilities") to MSD and MSD must approve such plans prior to construction. The Developer also must receive approval from MSD that the Facilities' construction was in accordance with its prior approved plans and specifications. Developers must transfer right, title and interest of said Facilities to MSD at no cost. When other properties within the Sewershed are developed, MSD may charge customers located within that determined Sewershed, or other customers permitted by MSD to use such Facilities, Recapture Fees on behalf of the Developers in order to recapture the cost expended by the Developers in constructing such Facilities. MSD will calculate the Recapture Fees by determining the number of developable lots within the Sewershed and dividing it into the total final cost of the Facilities. MSD will collect the Recapture Fees and, after retaining a reasonable administrative fee from the Recapture Fees, remit the balance of the Recapture Fees to the Developers in accordance with the terms of the agreements and with this section. MSD will approve future developers to use the Facilities and collect the Recapture Fees as determined in this action.

M. SENIOR CITIZENS DISCOUNT

Senior Citizens are eligible for a 30% discount off wastewater service charges, wastewater volume charges and the EPA Consent Decree Surcharge. This discount will be made available to customers of MSD that are 65 years or older, have a household income of \$35,000 or less, and are the primary titleholder or leaseholder on the property subject to the bill. An application will be sent to those customers that request one and the discount shall begin on the billing period following the date that the application is approved by MSD. In order to qualify for this discount, proof of age such as a birth certificate or driver's license must be provided. In addition, proof of income such as a Federal Income Tax Form 1040 must be provided and proof of residency such as a warranty deed or lease agreement must be provided. Customers that qualify for this discount may be asked to complete a renewal application on an annual basis or as otherwise determined by MSD.

N. ADJUSTMENT OF CHARGES AND APPEALS

Any owner who considers that wastewater or drainage charges applied to the owner's parcel are inaccurate or otherwise disagrees with the determination may apply to MSD's Financial Director for a rate review, stating in writing the grounds for the adjustment. The Financial Director will review the case and report findings to the Executive Director. The Executive Director shall consider the complaint and staff recommendations and determine whether an adjustment is necessary to provide for reasonable and equitable application of the charge(s).

Appeal of decisions made by the Executive Director may be brought before the MSD Board in writing with notice and substance of the appeal sent to the Board's secretary within fifteen (15) days after the owner receives the Executive Director's decision. Upon reviewing the documentation, the Board shall render a final decision.

Severability

If any section, clause or provision of this amendment be declared by the courts to be invalid, the same shall not affect the validity of the amendment as a whole or any part thereof, other than the part so declared to be invalid.

Month	Monthly MSD Bill	Revenue - MSD Rates	Monthly Shadowwood Bill	Revenue - Shadowwood Rates	Difference
Sep-08	12.78	1,291.12	9.87	997.00	294.11
Oct-08	29.5	2,979.50	22.78	2300.78	678.72
Nov-08	29.5	2,979.50	22.78	2300.78	678.72
Dec-08	29.5	2,979.50	22.78	2300.78	678.72
Jan-09	29.5	2,979.50	22.78	2300.78	678.72
Feb-09	29.5	2,979.50	22.78	2300.78	678.72
Mar-09	29.5	2,979.50	22.78	2300.78	678.72
Apr-09	29.5	2,979.50	22.78	2300.78	678.72
May-09	29.5	2,979.50	22.78	2300.78	678.72
Jun-09	29.5	2,979.50	22.78	2300.78	678.72
Jul-09	29.5	2,979.50	22.78	2300.78	678.72
Aug-09	31.42	3,173.42	22.78	2300.78	872.64
Sep-09	31.42	3,173.42	22.78	2300.78	872.64
Oct-09	31.42	3,173.42	22.78	2300.78	872.64
Total		40,606.38		30,907.14	9,699.23

Note: calculations assume 101 customers billed for 6,000 gallons per month.
September 2008 calculation was based on 13 days.

Shadowwood STP costs 01/01/2005 - 11/17/2009					\$26,726.28	\$94,092.57	
Order Type	Functional loc.	Main WorkCtr	Order	Bas. start date	TotalPlnndCosts	Total act.costs	Description
PM03	SHADOW	E-ELEC	4009074	09/08/2005	0.00	1,339.67	Replacing Bad Timers due to Power Blips
PM03	SHADOW	M1-MECH	4011055	01/16/2007	215.84	2,347.78	Buffet to install city water to Cl2 chan
PM03	SHADOW	E-OPER	4011472	04/12/2007	0.00	1,273.76	repair private fence to treatment plt
PM03	SHADOW	M1-OPER	4012745	05/06/2008	234.16	393.84	clean baffles on clairifiers
PM03	SHADOW	M1-OPER	4012981	06/17/2008	234.16	325.00	cut and remove vegetation @ Shadow wood
PM03	SHADOW	M1-OPER	4013074	07/14/2008	0.00	450.00	Cherokee excavation (puddle of water)
PM03	SHADOW	M1-CTRL	4013250	08/25/2008	244.76	458.93	Power issues within telemetry panel. ODD
PM03	SHADOW	M1-CTRL	4013385	09/24/2008	244.76	3,168.15	SHADOWWOOD NO PUMP STARTS AND RUNTIMES/
PM03	SHADOW	M1-OPER	4013774	01/20/2009	244.76	944.84	Shaddow Wood ??????????????
PM03	SHADOW	M1-CTRL	4014162	05/26/2009	244.76	30.60	Call in Kopp. Comm fail Shadowwood stp.
PM03	SHADOW	M1-OPER	4014233	06/15/2009	244.76	446.26	SHADOW WOOD,STPB&H vac wet well 06/02/09
PM03	SHADOW	M1-CTRL	4014445	10/19/2009	245.96	245.96	UPS failure. Replaced J.Speaker.
PM01	SHADOW	E-MECH	5120551	03/27/2005	196.60	288.67	*Installed new belts.
PM01	SHADOW	E-ELEC	5120932	04/03/2005	0.00	695.30	*Installed new exhaust fan.
PM01	SHADOW	E-MECH	5121306	04/11/2005	294.90	753.26	Open sludge return, and make a scrapper.
PM01	SHADOW	E-MECH	5124002	06/05/2005	294.90	2,153.83	Lagoon blower header pipe leaking; insta
PM01	SHADOW	E-ELEC	5124724	06/19/2005	0.00	147.45	*Replaced burnt conductor; and a belt.
PM01	SHADOW	E-MECH	5124875	06/22/2005	196.60	540.39	PM blowers, and change filters.
PM01	SHADOW	E-MECH	5125731	07/08/2005	0.00	10,908.97	Repairing / replacing diffusers on the p
PM01	SHADOW	E-ELEC	5127561	08/13/2005	302.70	2,486.61	Upgrading blowers controls.
PM01	SHADOW	E-MECH	5128347	08/25/2005	201.80	403.60	#1 blower belt broke
PM01	SHADOW	E-ELEC	5128888	09/07/2005	201.80	100.90	Blower 1 & 2 would not start; jumped tim
PM01	SHADOW	E-MECH	5129531	09/18/2005	201.80	4,161.45	Plant is noisy; cause is blowers.
PM01	SHADOW	E-ELEC	5129922	09/22/2005	201.80	0.00	#7 blower will not run
PM01	SHADOW	E-ELEC	5129938	09/25/2005	201.80	100.90	*Branch cir. conductors shorted; pulled
PM01	SHADOW	E-MECH	5130281	09/28/2005	302.70	706.30	air header line leak @ surge tank
PM01	SHADOW	E-ELEC	5130352	10/02/2005	302.70	1,466.23	Upgrading blower controls w/new timers,
PM01	SHADOW	E-ELEC	5131596	10/23/2005	201.80	2,698.56	Replace stabilization tank pump control
PM01	SHADOW	E-MECH	5131605	10/23/2005	0.00	1,294.18	*Repaired air leak in the header on the
PM01	SHADOW	E-MECH	5131882	10/25/2005	201.80	0.00	#1 blower coupling broke
PM01	SHADOW	E-MECH	5132005	10/30/2005	0.00	403.60	*Replaced coupling rubber insert.
PM01	SHADOW	E-MECH	5134699	12/19/2005	201.80	100.90	*Blower 1 had a bad connection in the pe

PM01	SHADOW	E-MECH	5135652	01/09/2006	201.80	151.35	*Replaced some tank walkway grating - do
PM01	SHADOW	E-MECH	5136252	01/19/2006	0.00	302.70	*Cleaned both surge tank pumps - done
PM01	SHADOW	E-ELEC	5138955	03/03/2006	201.80	997.66	*Replaced 15hp motor.
PM01	SHADOW	E-ELEC	5140646	03/27/2006	201.80	1,647.50	*Repl'd commutator motor - finished.
PM01	SHADOW	E-MECH	5140660	03/24/2006	201.80	403.60	*Repaired brace for grating - finished.
PM01	SHADOW	E-ELEC	5146519	07/03/2006	215.84	269.80	Pump 1 inside surge tank tripping.
PM01	SHADOW	E-MECH	5147719	07/24/2006	0.00	107.92	*Repalced blower 1 belts - finsihed.
PM01	SHADOW	E-MECH	5149618	08/21/2006	215.84	0.00	air line leaking
PM01	SHADOW	E-MECH	5150139	08/31/2006	323.76	0.00	#2 Aeration blower has excessive vibrati
PM06	SHADOW	E-ELEC	5151954	09/28/2006	0.00	107.92	power fail install gen. on 9/27/6
PM01	SHADOW	E-MECH	5152591	10/09/2006	215.84	134.90	#1 blower belt broke
PM01	SHADOW	E-MECH	5152592	10/09/2006	215.84	242.82	#2 blower disc. line coupling broke
PM01	SHADOW	M1-MECH	5153474	10/24/2006	215.84	1,079.20	Water line leaking under sink...
PM01	SHADOW	E-ELEC	5153612	10/27/2006	215.84	161.88	*Replaced feeder terminal block - finish
PM01	SHADOW	M1-ELEC	5154029	11/03/2006	215.84	3,007.34	Connect flowmeter analog signal to telem
PM01	SHADOW	M1-MECH	5154364	11/08/2006	323.76	0.00	extend skim line from clarifer to dig.
PM01	SHADOW	E-CNT	5154696	11/14/2006	215.84	408.71	vactor behind baffle on clarifer.
PM01	SHADOW	E-ELEC	5155999	12/11/2006	215.84	430.98	*Repaired chemical room receptacle - fin
PM01	SHADOW	M1-MECH	5157158	12/28/2006	215.84	2,192.43	Air header leaking at surge tank
PM01	SHADOW	E-ELEC	5157360	01/02/2007	215.84	161.88	recepticle in CL2 room not working
PM01	SHADOW	M1-MECH	5157799	01/09/2007	215.84	0.00	skimmer line from clarifer to digester
PM01	SHADOW	E-CTRL	5157824	01/11/2007	215.84	269.80	Shadow Wood connect flow meter to Telem
PM01	SHADOW	E-ELEC	5161020	03/06/2007	215.84	755.44	unwire and pull pump out of contact tank
PM01	SHADOW	M1-MECH	5161062	03/07/2007	215.84	2,332.55	extend skim line from baffle to digester
PM01	SHADOW	M1-MECH	5162519	04/02/2007	215.84	0.00	place solid piece of diamond plate walkw
PM01	SHADOW	M1-MECH	5164080	04/25/2007	215.84	5,643.00	Extend plants walkway, handrails, and st
PM01	SHADOW	M1-OPER	5166649	06/11/2007	0.00	190.98	Vac out scum
PM01	SHADOW	M1-OPER	5166851	06/13/2007	0.00	165.02	vac out digester
PM01	SHADOW	M1-MECH	5167183	06/18/2007	215.84	2,051.37	install draw tube in holding tank
PM01	SHADOW	M1-CNT	5168826	07/18/2007	0.00	0.00	Shadow wood gate needs repair
PM01	SHADOW	M1-MECH	5170377	08/13/2007	234.16	0.00	cl2 water line leaking
PM01	SHADOW	M1-MECH	5171097	08/27/2007	234.16	1,090.30	Unclogged surge pump 2; and the grinder.
PM01	SHADOW	M1-MECH	5172490	09/14/2007	234.16	117.08	*Aeration blower 3 repl'd belts - finish
PM01	SHADOW	M1-MECH	5172724	09/17/2007	234.16	0.00	aeration blower belts (been repaired)

PM01	SHADOW	M1-MECH	5172725	09/17/2007	234.16	318.05	cl2 line leaking (been repaired)
PM01	SHADOW	M1-MECH	5172939	09/21/2007	234.16	117.08	*Repl'd belts on aeration blower 1 - fin
PM01	SHADOW	M1-ELEC	5173755	10/05/2007	234.16	175.62	*Repaired surge tank ammeter - Larry; fi
PM01	SHADOW	M1-MECH	5173761	10/08/2007	234.16	1,170.80	Pull surge pump 2 for cleaning.
PM01	SHADOW	M1-ELEC	5174391	10/15/2007	234.16	117.08	spare pump
PM01	SHADOW	M1-CTRL	5174448	10/16/2007	234.16	117.08	comm problem
PM01	SHADOW	M1-MECH	5174812	10/22/2007	234.16	234.16	#3 blower (belts broke)
PM01	SHADOW	M1-MECH	5176274	11/14/2007	234.16	175.62	replace pumps in surge tank
PM01	SHADOW	M1-ELEC	5176366	11/19/2007	234.16	3,499.68	Surge pump #2 failed; repl'd with a spar
PM01	SHADOW	M1-CNT	5177093	11/30/2007	0.00	1,190.40	Clean Surge Basin @ Shadow wood wwtp
PM01	SHADOW	M1-OPER	5178499	12/21/2007	0.00	222.32	clean scum baffles
PM01	SHADOW	M1-MECH	5179576	01/10/2008	0.00	0.00	repair inf.line
PM01	SHADOW	M1-OPER	5179577	01/10/2008	0.00	0.00	fill in sink holes around plt/ PS
PM01	SHADOW	M1-OPER	5179578	01/10/2008	234.16	626.00	repair fence next to ent gate
PM01	SHADOW	M1-MECH	5179607	01/11/2008	234.16	1,053.72	Repair hole on influent pipe; cap pvc st
PM01	SHADOW	M1-OPER	5180883	02/01/2008	468.32	1,528.00	Fill in sinkholes @ Shadow wood pumpstat
PM06	SHADOW	M1-OPER	5181140	02/05/2008	2,341.60	0.00	generator placement @ Shadow wood
PM01	SHADOW	M1-OPER	5181345	02/08/2008	351.24	1,400.00	Remove fallen tree@ Shadow wood wwtp
PM01	SHADOW	M1-OPER	5182770	02/27/2008	234.16	174.69	clean baffles
PM01	SHADOW	M1-MECH	5182980	03/03/2008	292.70	761.02	Communitor badly worn.
PM01	SHADOW	M1-OPER	5183214	03/05/2008	234.16	543.91	Clean clarifier @ Shadowwood 02/21/2008
PM01	SHADOW	M1-ELEC	5184305	03/24/2008	234.16	995.18	Inspected blowers electrically, and mech
PM01	SHADOW	M1-MECH	5189564	06/16/2008	234.16	5,214.25	Blower noisy - Gardener Denver model 450
PM01	SHADOW	M1-OPER	5190103	06/20/2008	234.16	245.00	ill sink hole @ Shadow wood wwtp
PM01	SHADOW	M1-MECH	5190832	07/02/2008	244.76	61.19	#1 pump needs to cleaned
PM01	SHADOW	M1-MECH	5190833	07/02/2008	244.76	122.38	#2 pump guide reel broke
PM01	SHADOW	M1-MECH	5190834	07/02/2008	244.76	0.00	air line for skimmer behind baffle
PM01	SHADOW	M1-OPER	5191246	07/10/2008	244.76	396.25	API vactored around shadow wood stp
PM01	SHADOW	M1-MECH	5191247	07/10/2008	244.76	183.57	skimmer line behind baffle in clarifer
PM01	SHADOW	M1-MECH	5194249	08/26/2008	244.76	244.76	#1 pump wont pump high hours
PM01	SHADOW	M1-MECH	5194858	09/04/2008	244.76	0.00	#1 surge tank pump keeps tripping.
PM06	SHADOW	M1-OPER	5195800	09/18/2008	2,447.60	681.50	Haul Shadow wood STP 09/15/2008
PM01	SHADOW	M1-CTRL	5195868	09/19/2008	244.76	0.00	Shadow Wood PS comm fail,
PM06	SHADOW	M1-ELEC	5195869	09/19/2008	244.76	665.14	Shaddow wood GenPL STP 9/16/0808

PM01	SHADOW	M1-CNT	5196328	09/25/2008	244.76	0.00	gate needs repaired
PM01	SHADOW	M1-MECH	5196846	10/01/2008	244.76	367.14	Repl'd belts - Jay & Mike - finished.
PM01	SHADOW	M1-OPER	5196863	10/01/2008	244.76	324.76	clean w/w API clarifiers
PM01	SHADOW	M1-CTRL	5200147	11/21/2008	244.76	305.95	Check calibration on flow meter. E. Brow
PM01	SHADOW	M1-OPER	5200919	12/03/2008	244.76	0.00	repair gate latch @ Shadwood
PM01	SHADOW	M1-CNT	5205195	02/06/2009	244.76	0.00	clean sludge return shadowood 01/21/09
PM01	SHADOW	M1-OPER	5205849	02/17/2009	244.76	910.00	tree Removal @ Shadow wood 02/08/09
PM01	SHADOW	M1-ELEC	5209147	04/13/2009	244.76	489.52	PM blowers.
PM01	SHADOW	M1-MECH	5212697	06/03/2009	244.76	0.00	replace chem pump shadow wood
PM01	SHADOW	M1-CTRL	5212723	06/04/2009	244.76	675.95	Replace flow meter. D. Short
PM01	SHADOW	M1-MECH	5215866	07/27/2009	245.96	3,524.78	Shadow Wood STP grinder motor bad
PM01	SHADOW	M1-MECH	5222100	11/05/2009	245.96	0.00	Shadow Wood STP blower 2 belts

Shadowwood Pump Station			01/01/2005 - 11/17/2009		\$3,698.19	\$17,743.85	
Order Type	Functional loc.	Main WorkCtr	Order	Bas. start date	TotalPlnndCosts	Total act. costs	Description
PM03	SHADWW	M1-ELEC	4011856	08/24/2007	234.16	1,229.34	*Repl'd power monitor, and a fuse - fini
PM03	SHADWW	M1-CTRL	4013269	08/29/2008	244.76	244.76	Call-In: Power Fail. Auclair
PM01	SHADWW	E-ELEC	5119815	03/13/2005	196.60	539.96	Replaced stop tilt switch.
PM01	SHADWW	E-ELEC	5120934	04/01/2005	0.00	346.66	*Repl'd fuse to allow pumps to run.
PM01	SHADWW	E-ELEC	5121364	04/13/2005	196.60	365.95	*Replaced pump 2 motor starter.
PM01	SHADWW	E-ELEC	5125011	06/22/2005	196.60	4,588.46	Neither pump is pumping.
PM01	SHADWW	E-ELEC	5125367	07/01/2005	0.00	2,871.42	Developing telemetry connections.
PM01	SHADWW	E-ELEC	5126901	07/31/2005	605.40	1,561.85	Replacing control panel.
PM01	SHADWW	E-ELEC	5129515	09/18/2005	0.00	50.45	*Called-in for a control fuse by telemet
PM01	SHADWW	E-MECH	5133350	11/18/2005	151.35	50.45	Pull and clean #2 pump, Shadow wood P.S.
PM01	SHADWW	E-ELEC	5137172	02/06/2006	201.80	403.60	*Pump 2 tripped; cleaned & repl'd fuse.
PM01	SHADWW	M1-OPER	5166650	06/11/2007	0.00	53.96	vac out scum well
PM01	SHADWW	E-MECH	5168911	07/23/2007	234.16	409.78	*Removed blockage from pump 2 - finished
PM01	SHADWW	M1-MECH	5171105	08/27/2007	234.16	1,522.04	Pump 2 not pumping good.
PM01	SHADWW	M1-OPER	5172414	09/13/2007	0.00	336.32	clean overflow baffle
PM01	SHADWW	M1-OPER	5172415	09/13/2007	0.00	168.16	vac out wetwell
PM01	SHADWW	M1-ELEC	5179608	01/11/2008	234.16	605.00	Replace bad GFI; remove disconnected til
PM01	SHADWW	M1-OPER	5179960	01/17/2008	0.00	260.84	service vacuum regulators @ Shadowwood
PM01	SHADWW	M1-MECH	5188611	05/30/2008	234.16	117.08	Pump 2 pumping a very little.
PM06	SHADWW	M1-ELEC	5195870	09/19/2008	244.76	1,344.68	Shadowwood PS GenPL 9/16/08 Cissel
PM01	SHADWW	M1-MECH	5197083	10/03/2008	244.76	305.95	#1 pump not pumping and hours.
PM01	SHADWW	M1-MECH	5197084	10/03/2008	244.76	367.14	#2 pump loose guide rail

“EXHIBIT N”
OF MSD’S SHADOWWOOD
APPLICATION
HARRODS CREEK/PROSPECT AREA STUDY
(SEE ACCOMPANYING BINDER)

TRANSMITTAL LETTER

HERITAGE ENGINEERING, LLC

To: MSD	DATE: NOVEMBER	JOB No.:	08051
		ATTENTION:	Paul Meyer
		SUBJECT:	Harrods Creek
		TRANSMITTAL No.:	6

We are sending the following:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Attached | <input type="checkbox"/> Shop Drawing(s) | <input checked="" type="checkbox"/> Plan(s) |
| <input type="checkbox"/> Under Separate Cover | <input type="checkbox"/> Sample(s) | <input type="checkbox"/> Copy of Letter |
| <input type="checkbox"/> Regular Mail | <input type="checkbox"/> Estimate(s) | <input type="checkbox"/> Proposal |
| <input type="checkbox"/> Overnight | <input type="checkbox"/> Specifications | <input checked="" type="checkbox"/> Other: |

COPIES	DESCRIPTION
4	Harrods Creek/Prospect Area Study
1	Set of Plans

The above inclusions are transmitted as indicated below:

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> For Approval | <input type="checkbox"/> For your Information/Filing | <input type="checkbox"/> Approved as Submitted |
| <input type="checkbox"/> For Your Use | <input type="checkbox"/> For Your Necessary Action | <input type="checkbox"/> Approved as Noted |
| <input type="checkbox"/> As Requested | <input type="checkbox"/> For Review and Comment | <input type="checkbox"/> Returned for Corrections |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

REMARKS:

Please let us know if you have any questions or comments.

COPY TO: file

SIGNED: William Sanders/AM
William H Sanders, P.E.

603 NORTH SHORE DRIVE, SUITE 204
JEFFERSONVILLE, IN 47130
PHONE: 812-280-8201
FAX: 812-280-8281

101 NORTH 7TH STREET
LOUISVILLE, KENTUCKY 40202
PHONE: 502-561-3404

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Harrods Creek/Prospect Area Study



Heritage Project No: 08051
10/30/2009

Prepared By:



101 N. 7th Street
Louisville, Ky 40202

Table of Contents

Executive Summary.....	ES-1
<i>Table 1: Summary of Costs</i>	ES-1
Objective.....	1
Previous Studies.....	1
Flow Rates.....	2
<i>Table 2: Summary of Equivalent Populations</i>	4
<i>Table 3: Average & Design Flows by Facility</i>	4
Scenario Development.....	5
Scenario Definition.....	5
Preliminary Scenarios.....	9
<i>Table 4: Summary of US 42/Harrods Creek Crossing Cost</i>	10
Cost Estimates.....	10
Results.....	11
<i>Table 5: Summary of Costs</i>	11
Benefits.....	12
Schedule.....	12
Other Design Considerations.....	13
Results & Recommendations.....	14
Appendix Table of Contents.....	15

Executive Summary

The main objective of this study is to determine the most cost effective and beneficial method to eliminate the Hunting Creek North, Hunting Creek South, Timberlake, Shadow Wood, and Ken Carla package wastewater treatment plants and convey the sewage to the Hite Creek WTP. The original concept developed during the Overflow Abatement Plan (IOAP) development was to construct one regional pump station near the existing Ken Carla Wastewater Treatment Plant (WTP) site and pump to the Hite Creek Wastewater Treatment Plant. The objective of this study was to determine if it would be more cost effective to construct a second pump station near the existing Timberlake WTP and eliminate the large diameter gravity sewer between the two stations. Various scenarios for eliminating the Shadow Wood WTP were also reviewed.

The analysis show that constructing one pump station and the large diameter sewer have lower 20-year and 50-year present worth values. Constructing the gravity line also provides the benefit of allowing for elimination of future additional pump stations, and eliminates MSD owning, operating, and maintaining an additional large pump station. The results of the analysis also show that eliminating the Shadow Wood WTP using a gravity sewer is the most cost effective solution. Therefore, Scenario 2.2, one pump station at the Ken Carla WTP site with gravity elimination of the Shadow Wood WTP is recommended. A schematic of this alternative can be found in Appendix IV.

Scenario	Initial Cost (x 1,000,000)	20-Year PW (x 1,000,000)	50-Year PW (x 1,000,000)
2.2 – One Regional Pump Station	17.7	24.1	25.1
4.A.2 – Two Pump Stations	17.0	28.6	30.7

* Scenario numbers refer to Scenarios developed in analysis.

The project schedule for the design and construction of the project is estimated at 2-2.5 years if all of the projects within this project are overlapped. However, obtaining permits from the Corps of Engineers and Division of Water, as well as acquiring easements, could potentially cause significant delays and lengthen the project duration.

Objective

The Integrated Overflow Abatement Plan (IOAP) includes a requirement that the five (5) existing package wastewater treatment plants in the Prospect Area be eliminated. These plants include Hunting Creek North, Hunting Creek South, Timberlake, Shadow Wood, and Ken Carla. Additionally, projects to eliminate Sanitary Sewer Overflows (SSOs) within the area were also submitted as part of the IOAP. Various configurations of force mains and gravity sewers will be used in combination with the two main alternatives.

The main objective of this study is to determine the most cost effective and beneficial method to eliminate the Hunting Creek North, Hunting Creek South, Timberlake, Shadow Wood, and Ken Carla package wastewater treatment plants and convey the sewage to the Hite Creek WTP, and to accommodate for SSO elimination projects in the area. To accomplish this, one pump station will be constructed in the vicinity of Harrods Creek near US 42, and potentially another pump station will be constructed near the existing Timberlake Pump Station.

Previous Studies

Several previous studies and design projects have been performed in the project area and have been used as references for this report. These include: 1) the Harrods Creek Interceptor Phase I and Phase II Designs, 2) the River Road Interceptor Design, 3) the Harrods Creek Force Main Design 4) the North County Area Action Plan Update, and 5) the Interim Overflow Abatement Plan (IOAP).

The Harrods Creek Interceptor Phase I and Phase II Designs were performed in 2001 by Tetra Tech. These were used to develop cost estimates for the interceptor in these areas. The River Road Interceptor Plans were prepared in 2001 by Jacobi, Toombs and Lanz (JTL). These plans were used to assist in cost estimating and to review flow rate projections. The Harrods Creek force main design was also performed in 2001 by Tetra Tech. This was used as a base for the force main alignment from the Shadow Wood WTP to the Ken Carla WTP.

The previous action plan and studies recommended that a proposed 7.5 MGD VFD Harrods Creek Pump Station be connected to the Ohio River Force Main (ORFM). This was used as a reference in the preliminary stages of the analysis.

During the IOAP process, several options were reviewed again, including connecting the HCPS to the ORFM and connecting the HCPS to the Hite Creek WTP. Results for the ORFM Analysis indicated the possibility of unacceptable pressures in the ORFM without a booster station. The cost of the infrastructure to convey flow to Oldham County was substantially more than the Hite Creek Option. Constructing the connection of the HCPS to the Hite Creek WTP was the recommended alternative in the IOAP.

Flow Rates

Flow rates were calculated using a variety of methods. Info Works CS models of each of the plants were developed by Stantech during the IOAP development. These models were calibrated to flow monitoring data and validated to known events. Flow rates for the areas currently served by sanitary sewers are based on modeling data, although the total equivalent population was calculated for reference. Flow rates for future areas were also based upon modeling data, adding the appropriate additional equivalent population based on land use. The overall area was broken into several sub-basins based mainly on current WTP service areas. Sub-basin areas are shown in Appendix I.

Existing Flow Rates

Average and peak flow rates for existing areas were based upon modeling data provided by Stantech. Existing flow rates in this study refers to the flow rate at the time of completion of the initial projects. Heritage provided the proposed projects to Stantech for inclusion in the model. After these projects were included, Stantech provided the modeling results to Heritage for preliminary design.

For reference, the existing equivalent population was calculated for each sub-basin. The following methodologies were used to calculate existing equivalent population:

Existing Single Family:	4 persons per single family connection
Multi – Family:	Based on MSD Design Manual by acreage
Commercial:	Based on MSD Design Manual by acreage
Commercial or Multi-Family to a small Pump Station:	Based on Pump Station Design Data

A detailed calculation of existing flow rates can be found in Appendix IV.

Future Flow Rates

Average and peak flow rates for future areas were based upon modeling data provided by Stantech. Future flow rate in this study refers to the projected additional ultimate future flow. Heritage provided future proposed projects to Stantech for inclusion in the Prospect Area model. Heritage also provided equivalent populations to be added to the model. After these projects and equivalent populations were included, Stantech provided the modeling results to Heritage. The results in this analysis are based on preliminary data supplied to Stantech. The populations have been slightly modified since then, and the final populations will be given to Stantech for final revisions and final flow rates will be included in the final report. These revisions to the populations should not change the conclusions of the analysis.

The service area in this part of the County has several types of land that would prohibit or limit future development of some of the undeveloped areas.

To more accurately project future flows, Heritage met with MSD plan review staff to estimate future flows for these undeveloped parcels. Each parcel greater than five (5) acres in size was analyzed and reviewed. The following methodology was used to determine the future equivalent populations:

- Existing single family clustered or parceled homes or subdivided vacant lots:
Assumed each of these properties would connect. Four (4) persons per home were used.
- Vacant Lot – No Flow: No flow was assigned to areas with limits to development, including properties significantly inundated by floodway, properties owned by municipalities or utilities, properties with recorded conservation easements, properties in very remote locations with difficult terrain, and golf courses.
- Vacant Lot – Existing Zoning: The projection for the majority of the remaining vacant parcels was based upon existing zoning by acreage based on the MSD Design Manual. This was used when MSD plan review staff determined that the existing zoning most accurately depicted the potential future land use.
- Vacant Lot – Increased Zoning Intensity: In some locations, MSD and Heritage determined that the zoning classification for sewer projection should be increased to a more intense use. This was based on location and/or previous development submittals on parcels.
- Vacant Lot – Decreased Zoning Intensity: In some locations, MSD and Heritage determined that the zoning classification for sewer projection should be decreased to a less intense use. This was based on location, terrain, and floodplain.
- Pump Station Data– Flow for areas upstream of pump stations with a significant portion of the area still undeveloped were based on the ultimate design calculations for the pump station.

Bub-basin maps in Appendix I show the breakdown of future areas. A summary calculation of flow rates is shown in Appendix II. The Calculated Future Conditions average flow rates were determined by multiplying the equivalent population by 100. “Ultimate Equivalent Population” was determined by adding the existing equivalent population and the future equivalent population.

Table 2 below lists the calculated existing and ultimate equivalent population for each of the areas.

Sub Basin	Existing Equivalent Population	Ultimate Equivalent Population
1	3,096	3,320
2	2,736	15,615
3	5,497	10,471
4	2,732	4,482
5	3,796	5,214

The design flow rates for each of the proposed facilities is the peak rate listed in Table 3. The peak rate is determined using the peak flow rate during the 2-year cloudburst storm. Once a final solution is selected, it will be entered into the Prospect model. The 5-year cloudburst will be simulated in the preferred solution to ensure that no overflows occur during this solution. Further upsizing of various components may be necessary to prevent overflows.

Facility	Size	Existing Flow Rate (MGD)		Ultimate Flow Rate (MGD)	
		Average	Peak	Average	Peak
Harrods Creek Int. I*	42"	0.2	1.3	1.7	6.8
Harrods Creek Int. II*	36"/24"	0.1	0.9	1.6	6.5
HCPS/Force Main (Scenarios 1 and 2)	20"/30"	0.6	2.8	3.0	12.1
HCPS/Force Main, Phase 1 (Scenarios 3 and 4)	20"	0.4	1.5	1.3	5.3
Timberlake Pump Station		0.2	1.3	1.7	6.8
Shadow Wood WTP Elimination	6" FM. 10" Gr.	0.05	0.2	0.2	0.7

*Sizes based on current design prepared by Tetra Tech. Harrods Creek I could be reduced to a 36" pipe, and upper ends of the Harrods Creek II interceptor could be reduced.

Scenario Development

There are several different projects within the overall project area. Each of the projects potentially have several solutions. The solutions in one project area, however, can impact the cost or possibility of a solution in another area. Under "Scenario Definition", each of the solutions for the individual project areas is listed. That is followed by grouping different solutions into larger Scenarios.

Scenario Definition

The elimination of the Hunting Creek North WTP and Hunting Creek South WTP will be the same for each scenario. Hunting Creek North will be pumped to the River Road Interceptor and flow into a new regional Harrods Creek Pump Station (HCPS) near the Ken Carla WTP. Hunting Creek South will connect to a proposed Harrods Creek Interceptor (HCInt2) and flow to the location of the existing Timberlake WTP site. Costs for these two options are not included in the overall cost estimates.

Several projects are combined to create the various scenarios. The individual project descriptions are listed below.

Harrods Creek Pump Station (HCPS)

The Harrods Creek Pump Station is proposed on a site adjacent to the existing Ken Carla WTP Site. This portion of the project is considered definite. However, the exact size of the pump station varies in different scenarios. The pump station wet well will be approximately 50' deep. A schematic of this pump station is shown in Appendix VII.

Timberlake Pump Station (TLPS)

The Timberlake Pump Station is proposed on the site of the existing Timberlake WTP. This pump station only is used in scenarios 3 and 4. The best location for the station on this site appears to be on the top of the existing wastewater treatment lagoon. If the lagoon elimination can't be performed prior to pump station completion, an alternative location on the site will need to be found. A schematic of this pump station is shown in Appendix VII.

Harrods Creek Interceptor/Force Main 1A (HCINT/FM1A)

This alternative includes the portion of the interceptor and or force main crossing from upstream of the harbor east of US 42 to the proposed HCPS site. In scenarios 1 and 2, this is a very deep 42" gravity sewer line with a 20/30" parallel force main in the same trench. In scenarios 3 and 4, it is a 20" force main. The proposed route crosses Harrods Creek across from the HCPS, crosses under the bridge at US 42, and then crosses Harrods Creek again upstream of the existing harbor. A plan and profile of this area is shown in Appendix VII.

Harrods Creek Interceptor/Force Main 1 (HCINT/FM1)

This alternative includes the remainder of the area defined in the Harrods Creek Interceptor Phase I plans. This line runs along Harrods Creek from the east side of the existing harbor to the existing Timberlake WTP site. In scenarios 1 and 2, this is a very deep 42" gravity sewer line with a 20"/30" parallel force main in the same trench. In scenarios 3 and 4, it is a 20" force main. A plan and profile of this area is shown in Appendix VII. Only the force main is shown in the profile. The cost estimate is based on the Harrods Creek Interception #1 plans prepared by Tetra Tech.

Harrods Creek Interceptor/Force Main 2

This alternative includes the majority of the current plan set area for the Harrods Creek Phase 2 interceptor. This line runs along Harrods Creek from the existing Timberlake WTP site to the existing Hunting Creek North WTP Site. In scenarios 1 and 3, a short segment of the line from the Timberlake site to the Harrods Creek Force Main, Phase 3, consists of a 36" deep line with a 20"/30" parallel force main in the same trench, while the remainder of the line consists of a deep 36" and 24" line. In scenarios 2 and 4, the entire length consists of the deep gravity sewer and the parallel 20"/30" force main in the same trench. In the cost estimates for the Harrods Creek Force Main, phase 3, the additional cost of the force main is added to each of the appropriate scenarios.

Harrods Creek Force Main 3 – Southern Route (HCFM3)

This is one of the cross-country from Harrods Creek to the Hite Creek WTP. This route is used in Scenarios 1 and 3. This route follows the south side of Harrods Creek for a short period and then cuts uphill following an existing creek and treeline. It cuts across private property to Wolf Pen Branch Road. It will follow Wolf Pen Branch Road east in the pavement around a bend. After the bend, it potentially can move into grass outside of the right-of-way if easement can be obtained. The route continues east to Wolf Pen Lane, then follows Wolf Pen Lane in the pavement for approximately 1,000 LF, where it can then move to the northern edge of the existing right-of-way. The route follows this right-of-way for a period, before it again goes cross-country, following a series of fence lines and property lines to Chamberlain Lane. The remainder of the route is the same as the North Route to the Hite Creek WTP. A plan and profile of this area is shown in Appendix VII. Within this route corridor, there are several potential alternative routes that can be evaluated.

Harrods Creek Force Main 3 – Northern Route (HCFM3)

This is the other cross-country from Harrods Creek to the Hite Creek WTP. This route is used in scenarios 2 and 4. This route will share a trench with the Harrods Creek II interceptor to the Hunting Creek South WTP. It will continue to follow the north side of the creek for a period before crossing. After crossing, it continues on the south side of the creek until it turns uphill. Once uphill, it follows a private driveway to Mint Spring Lane. The route will proceed east along Mint Spring Lane outside of the right-of-way in a proposed easement. From there, it will follow Chamberlain Lane for a period, just outside of the right-of-way. The route then will parallel the north side of I-71 in a proposed easement until it crosses Brownsboro Road.

After this crossing, it will continue along the north side of I-71 in an existing easement. It then goes under I-71 to the wastewater treatment plant. From Station 130+00, to the Hite Creek WTP, the route and alignment are the same as the southern route. A plan and profile of this area is shown in Appendix VII.

Shadow Wood WTP Elimination – Gravity

This route includes the gravity sanitary sewer to eliminate the existing Shadow Wood WTP and Pump Station. This route crosses through the multi-family complex in the existing driveways. Depending on the elevations, some of the existing property service connections may need to be reconnected to the new sewer along this route. The route then goes between two of the existing buildings and down a steep embankment. In Scenarios 1 and 2, this will connect into the Harrods Creek Interceptor 1. In Scenarios 3 and 4, this route will continue across Harrods Creek and tie into the HCPS. Three routes were initially reviewed, and this route was chosen for the analysis as it appeared to be least disruptive. If the gravity elimination is ultimately chosen, the exact route selection can be reviewed in further detail. A plan and profile of this area is shown in Appendix VII.

Shadow Wood WTP Elimination – Pump Station Force Main to HCPS

This route includes the pump station and force main to eliminate the existing Shadow Wood WTP and Pump Station. This route follows the same path as the gravity alignment. A new pump station is proposed at the existing WTP site. This route crosses through the multi-family complex in the existing driveways. The route then goes between two of the existing buildings and down a steep embankment. In Scenarios 1 and 2, this will connect into the Harrods Creek Interceptor 1. In Scenarios 3 and 4, this route will continue across Harrods Creek and tie into the HCPS. Three routes were initially reviewed, and this route was chosen for the analysis as it appeared to be least disruptive. If this elimination is ultimately chosen, the exact route selection can be reviewed in further detail. A plan and profile of this area is shown in Appendix VII.

Shadow Wood WTP Elimination – Force Main to Barbour Lane Pump Station

This route includes the pump station and force main to eliminate the existing Shadow Wood WTP and Pump Station and convey the flow to the existing Barbour Lane Pump Station. This route was analyzed and could be beneficial in Scenarios 3 and 4 by eliminating the Harrods Creek Crossing. This route goes through the multi-family complex in the existing driveways. It then proceeds along US Highway 42, mostly following the path of the HCPS Force Main designed in 2001. It then crosses US 42, and follows an existing sanitary sewer and drainage easement. If this route is selected, the IOAP may need to be updated. A plan and profile of this area is shown in Appendix VII.

Summary of Scenarios

The alternatives are divided up into 4 main scenarios. Scenarios 1 and 2 include one large pump station at the HCPS site, while Scenarios 3 and 4 include the HCPS and TLPS.

Scenario 2 is the same as Scenario 1, except that it follows the northern route of the HCFM3, and Scenario 4 is the same as Scenario 3, except that it follows the northern route of the HCFM3.

Below is a brief description of each of these scenarios. Schematics of these scenarios can be found in Appendix IV.

- Scenario 1: Construct the HCPS and the HCInt/FM 1A, 1, 2 and the southern alignment of HCFM3.
- 1.1) Construct a force main from the Shadow Wood WTP to the new HCInt1A.
 - 1.2) Construct a gravity line from the Shadow Wood WTP to the new HCInt1A.
 - 1.3) Construct a force main from the Shadow Wood WTP to the existing Barbour Lane Pump Station.
- Scenario 2: Construct the HCPS and the HCInt/FM 1A, 1, 2 and the northern alignment of HCFM3.
- 1.1) Construct a force main from the Shadow Wood WTP to the new HCInt1A.
 - 1.2) Construct a gravity line from the Shadow Wood WTP to the new HCInt1A.
 - 1.3) Construct a force main from the Shadow Wood WTP to the existing Barbour Lane Pump Station.
- Scenario 3: Construct the HCPS and the TLPS. Construct only the force main of HCFM 1 and 1A. Construct the southern alignment of HCFM3.
- 3a) The effluent force mains from TLPS would be manifolded to the force main(s) from the HCPS.
 - 3a.1) Construct a force main from the Shadow Wood WTP to the new HCPS Site.
 - 3a.2) Construct a gravity line from the Shadow Wood WTP to the new HCPS Site.
 - 3a.3) Construct a force main from the Shadow Wood WTP to the Barbour Lane Pump Station.
 - 3b) The HCPS force mains would discharge into the wet well for the TLPS. The TLPS would pump all of the flow.
 - 3c) The HCPS force mains would parallel the TLPS to the treatment plant.
- Scenario 4: Construct the HCPS and the TLPS. Construct only the force main of HCFM 1 and 1A. Construct the northern alignment of HCFM3.
- 4a) The effluent force mains from TLPS would be manifolded to the force main(s) from the HCPS.

- 4a.1) Construct a force main from the Shadow Wood WTP to the new HCPS Site.
- 4a.2) Construct a gravity line from the Shadow Wood WTP to the new HCPS Site.
- 4a.3) Construct a force main from the Shadow Wood WTP to the Barbour Lane Pump Station.
- 4b) The HCPS force mains would discharge into the wet well for the TLPS. The TLPS would pump all of the flow.
- 4c) The HCPS force mains would parallel the TLPS to the treatment plant.

Preliminary Scenarios

Prior to and during the course of the study, several solutions or sub-solutions were reviewed on an interim basis. These interim reviews eliminated some Scenarios from further consideration or simplified some sub-scenarios to one route. Summaries of these various interim studies are listed below.

Ohio River Force Main

At the onset of the project, the alternative to connect the HCPS to the ORFM was reviewed again. Additionally, connecting the HCPS to a proposed interceptor in Oldham County was reviewed. Cost estimates for several scenarios were prepared using the MSD Cost tool. The results of this analysis were presented to MSD and revised to reflect staff comments. The results concluded that sending the flow to the Hite Creek WTP instead of Oldham County or the ORFM was the most feasible solution. Detailed results of this analysis can be found in Appendix VIII.

Interim Review Memorandum and Flow Rates

On August 7, 2009, an interim review memorandum was prepared by Heritage at MSD's request. A copy of the memorandum can be found in Appendix III. Based on the results in the memorandum, MSD advised Heritage to include future flows from Norton Commons in the design for the pump station and gravity sewer options. Furthermore, MSD finalized the site for the HCPS near the Ken Carla WTP. Additionally, MSD noted that most MSD pump stations are in service for a much longer life than 20-years, and that a 50-year present worth analysis may be more accurate. The memorandum also eliminates some other scenarios that have been removed from further consideration.

Harrods Creek Force Main, I-265 Route

Early in the project, one of the force main routes considered was to follow US 42 to I-265, and follow I-265 to the Hite Creek WTP. However, after a meeting with Kentucky Transportation Cabinet (KYTC) to review their plans for the area, it was determined that this route was not feasible.

KYTC plans to use all of the current right-of-way for future expansion, and the right-of-way abuts immediately to a Louisville Water Company easement. Additionally, there isn't sufficient room between the LWC easement and the existing dwellings to construct the proposed force mains, and therefore, this route was eliminated.

Harrods Creek/US 42 Crossing

One of the more complex areas of the project is the connection of the gravity and/or force main lines from the west side of US 42 to the West side of US 42. The proposed HCPS is on the north side of Harrods Creek on the east side of US 42, and the proposed Harrods Creek Interceptor is on the north side of Harrods Creek past US 42. There is a wide harbor on the North Side of Harrods Creek between these two points. The crossing is further complicated by the crossing of US 42.

Three alternative routes through this area were reviewed to determine the most effective solution. Detailed layouts for each route are shown in Appendix VII. For the gravity option, only route 1 is possible. Routes 2 and 3 were considered for the proposed force main only. Costs were based both on the MSD Cost Tool and on a review with a contractor experienced in this type of work. A summary of these costs is shown in Table 4 below.

Route	Cost Tool (x 1,000,000)	Independent Cost Estimate (x 1,000,000)
1 – FM and Gravity	\$5.4	\$3.0
1 – FM Only	\$2.4	N/A
2	\$5.0	\$2.8
3	\$3.6	\$2.8

The results show that Route 1 is significantly cheaper for the force main only when using only the cost tool. The independent estimate, which isn't available for the force main only, verifies the results because route 1 with the gravity sewer included is only \$200,000 more than the other routes with the force main only. As a result, Route 1 is recommended and is used in the scenarios in this analysis.

Cost Estimates

A cost estimate for each scenario was calculated individually and can be found in *Appendix V*. The unit price for the deep gravity interceptor is based on unit costs from somewhat similar bids. However, this type of construction is not often encountered in the area and bid prices could vary substantially from the cost estimates.

Costs include design and construction costs as well as a contingency and bonds. Force account and inspection are not included. Costs common to all scenarios (e.g. Wastewater Treatment Plant Demolition, Harrods Creek Interceptor II, and the River Road Interceptor) are not included in the summary costs.

Annual operations and maintenance costs were also calculated for each pump station. Operations costs for electricity and odor control are based on a spreadsheet provided by MSD. Annual maintenance costs for the larger pump stations were estimated at \$30,000 for each of the larger pump stations. Additionally, at each pump station, 10% of the pump cost is estimated every 5 years for replacement of seals and other equipment, and full replacement of each pump is estimated every 20 years. Future upgrades are assumed to occur in 10 years.

Results

The individual cost estimates were combined into the cost estimate summary which included the initial capital cost, annual operations and maintenance costs of the pump station, and future upgrade capital cost and can be found in *Appendix VI*. A 20-year and 50-year present worth analysis was performed using an interest rate of 3%.

A summary of the cost for each Scenario is shown in Table 5.

Table 5
Summary of Costs

Scenario	Total Ultimate Capital Cost	Initial Capital Cost	Present Value Annual O&M Cost		Present Value Future Upgrade Capital Cost		Future Pump Station Equipment Replacement Cost		Total Present Worth	
			20 yrs.	50 yrs.	20 yrs.	50 yrs.	20 yrs.	50 yrs.	20 yrs.	50 yrs.
1.1	20.0	18.5	7.2	12.4	0.9	0.9	0.4	1.1	26.9	32.8
1.2	19.8	18.3	5.2	9.0	0.8	0.8	0.4	1.0	24.7	29.2
1.3	20.6	19.1	7.2	12.4	0.9	0.9	0.4	1.1	27.5	33.4
2.1	19.4	17.9	7.2	12.4	0.9	0.9	0.4	1.1	26.3	32.2
2.2	19.2	17.7	5.2	9.0	0.8	0.8	0.4	1.0	24.1	28.5
2.3	20.0	18.5	7.2	12.4	0.9	0.9	0.4	1.1	26.9	32.8
3a.1	19.2	17.4	8.3	14.4	1.0	1.0	0.7	1.6	27.5	34.4
3a.2	19.5	17.7	6.4	11.1	1.0	1.0	0.7	1.5	25.8	31.3
3a.3	19.7	17.9	8.3	14.4	1.0	1.0	0.7	1.6	28.0	34.9
4a.1	18.6	16.8	8.3	14.4	1.0	1.0	0.7	1.6	26.9	33.8
4a.2	18.9	17.0	6.4	11.1	1.0	1.0	0.7	1.5	25.1	30.6
4a.3	19.1	17.3	8.3	14.4	1.0	1.0	0.7	1.6	27.3	34.3

- Notes: (1) Costs x \$1,000,000
 (2) Costs do not include River Road Interceptor, Harrods Creek Interceptor Phase 2, or existing WTP elimination costs.

The analysis shows that scenario 4a.1 offers the lowest initial cost, but Scenario 2.2 offers the lowest 20-year and 50-year present value. Since the 2.x and the 4.x offer the lower cost compared to their respective counterparts it can be determined that the Northern route of Phase 3 is more cost effective. The options that use the gravity elimination of Shadow Wood WTP offer the lowest 20-year and 50-year per value in all Scenarios.

Benefits

In addition to the cost benefits, Scenarios 1 and 2, also offer the benefit of potentially eliminating some additional existing pump stations from service. This will reduce the overall number of pump stations and potential failure points in the MSD system. Furthermore, there is an additional advantage to MSD of having one pump station, rather than two.

The benefits of Scenarios 3 and 4, as opposed to Scenarios 1 and 2, is that the deep construction of the Harrods Creek I interceptor can be avoided. This type of construction allows for potential additional problems during construction, as well as the possibility for significant amounts of Inflow and Infiltration (I/I).

For the Shadow Wood WTP elimination alternatives, the gravity sewer has the benefit of not requiring an additional pump station. The benefit of the pumped elimination is that the construction through the existing neighborhood is somewhat less obtrusive. Furthermore, in Scenarios 3 and 4, the crossing of Harrods Creek is with a smaller bore. The elimination via Barbour Lane provides the benefit of not crossing Harrods Creek (which is only applicable in Scenarios 3 and 4).

Schedule

There are several projects within this project – the majority of these schedules can overlap, although some will need to be sequential.

Harrods Creek Pump Station:

- Design: 4-6 months
- Permitting: 3-6 months
- Construction: 12 months
- Total: 18 – 24 months

Harrods Creek Interceptor, Phase I and Parallel Force Main

- Design: 4-6 months

- Permitting (Including Environmental): 6 months
- Acquisition: 3 months
- Construction: 6 months
- Total: 18 – 21 months

Harrods Creek Interceptor, Phase II and Parallel Force Main

- Design: 4-6 months
- Permitting (Including Environmental): 6 months
- Acquisition: 3 months
- Construction: 6 months
- Total: 18 – 21 months

Harrods Creek Force Main, Phase III Force Main

- Design: 4-6 months
- Permitting (Including Environmental): 6 months
- Acquisition: 6 months
- Construction: 6 months
- Total: 22 – 24 months

Shadow Wood WTP Elimination, Phase II and Parallel Force Main

- Design: 4-6 months
- Permitting (Including Environmental): 6 months
- Acquisition: 3 months
- Construction: 6 months
- Total: 18 – 21 months

The design and construction of the Harrods Creek Pump Station will likely take the longest. Generally, each of the other projects could be overlapped with the pump station, resulting in a total project schedule of 24-30 months. However, potential additional delays could arise during environmental permitting. Furthermore, the State Division of Water will need to allow flow to be directed towards Hite Creek prior to approval. Delays are also possible during the easement and/or property acquisition phase. Construction delays are possible if significant flooding occurs during the construction period, since the Harrods Creek Interceptor 1 and 2 projects are located within the floodplain.

Other Design Considerations

There are several design considerations for the existing HCI and II Interceptors that MSD should review and determine how to address.

- The current design for the Harrods Creek I and II Interceptors is based on a previous design. Based on the current projected flows, the Harrods Creek I Interceptor could be reduced in size to a 36" interceptor. However, this would increase the slopes and deepen the pipe at the HCPS.
- Portions of the Harrods Creek I and II Interceptor are proposed parallel and within 50' of the top of bank of Harrods Creek. Based on the current Division of Water Regulations, an individual Water Quality Certification (401) will be required. To be within 50', justification must be provided to show that it cannot be further away.
- The manholes in the current design have proposed rims below the 100-year floodplain by greater than 20' in some locations. The current MSD design standards require manholes to be 2' minimum above the floodplain. Moving the alignment could add substantial cost increases to the project. A waiver to this requirement will be needed to allow the manholes to remain as currently designed.

Results/Recommendations.

While the analysis shows that constructing two pump stations has a lower initial cost than alternatives with one pump station, the cost analysis also shows that the 20-year and 50-year present value costs are lower for the project with one regional pump station. Constructing the gravity line also provides the benefit of allowing the elimination of additional pump stations. There is also an intangible benefit to MSD in owning, operating, and maintaining one pump station rather than two. Furthermore, each pump station increases the risk of failure or problems within the system.

The results of the analysis also show that eliminating the Shadow Wood WTP to the Harrods Creek Pump Station using a gravity sewer is the most cost effective and most desirable option. The exact alignment of the gravity sewer will be determined in discussions with the property owners.

Finally, the analysis demonstrates that the northern route of the force main options is the more cost effective. This is mainly due to sharing a portion of the alignment with the already proposed Harrods Creek Phase II Interceptor. However, the total cost differential is within 10% between the two alternatives, so the southern route could also be used if easement acquisition becomes difficult or if rock or other factors increase the cost of the Northern Route.

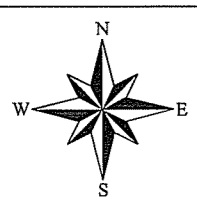
Based on these factors, the final recommended Scenario is Scenario 2.2. A schematic of this alternative can be found in Appendix IV, and overall plan set of the recommended solution can be found in Appendix IX.

Appendix Table of Contents

Appendix I: Sub Basin Area Maps.....	16
Appendix II: Equivalent Population of Individual Sub Basin Areas.....	17
Appendix III: Memorandum.....	18
Appendix IV: Alternate Scenario Maps.....	19
Appendix V: Cost Estimate of Sewer Sub-Sections.....	20
Appendix VI: Cost Estimate Summary.....	21
Appendix VII: Preliminary Plan and Profile Drawings of Multiple Alignments.....	22
Appendix VIII: Preliminary Cost Estimates for other Options.....	23
Appendix IX: Plan and Profile drawings of recommended alternatives.....	24

Appendix I:
Sub Basin Area Maps

08051 - Harrods Creek Pump Station / Prospect Area - Property Parcels and Zoning
Sub Basin Service Area



- Legend**
- ▲ Pump Station Inservice
 - ☒ Treatment Plant Inservice
 - HC FM Phase 1A
 - HC Int Phase 1A
 - HC FM Phase 1
 - HC Int Phase 1
 - HC FM Phase 3
 - HC Int Phase 2
 - Hunting Creek North FM
 - River Road Interceptor
 - Shadow Wood Interceptor
 - County Line
 - 0.00 - 8.00 Forcemain
 - 8.01 - 24.00 Forcemain
 - 24.01 - 200.00 Forcemain
 - <all other values>
 - HUNTING CREEK NORTH
 - HUNTING CREEK SOUTH
 - KEN CARLA
 - SHADOW WOOD
 - TIMBERLAKE
 - Streams
 - Major Roads
 - Parcels greater than 10 acres

SUB BASIN 3
EX. EQUIVALENT POPULATION: 5,497
ULT. EQUIVALENT POPULATION: 10,471

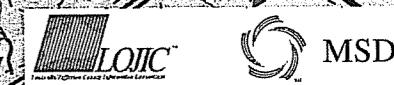
SUB BASIN 1
EX. EQUIVALENT POPULATION: 3,096
ULT. EQUIVALENT POPULATION: 3,320

SUB BASIN 2
EX. EQUIVALENT POPULATION: 2,736
ULT. EQUIVALENT POPULATION: 15,615

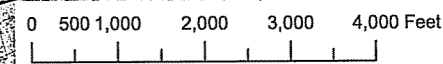
SUB BASIN 4
EX. EQUIVALENT POPULATION: 2,732
ULT. EQUIVALENT POPULATION: 4,482

SUB BASIN 5
EX. EQUIVALENT POPULATION: 3,796
ULT. EQUIVALENT POPULATION: 5,214

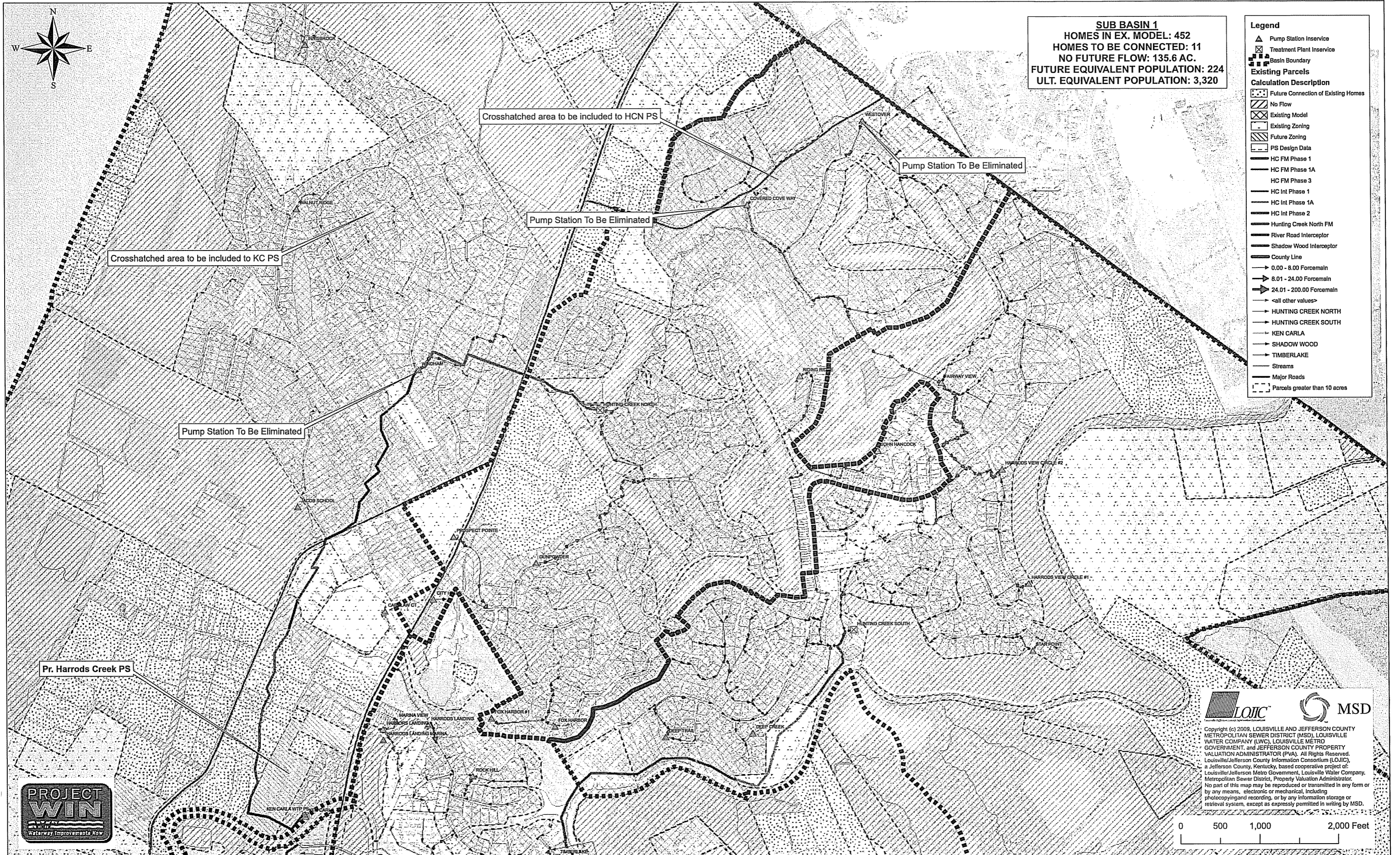
Pr. Harrods Creek PS



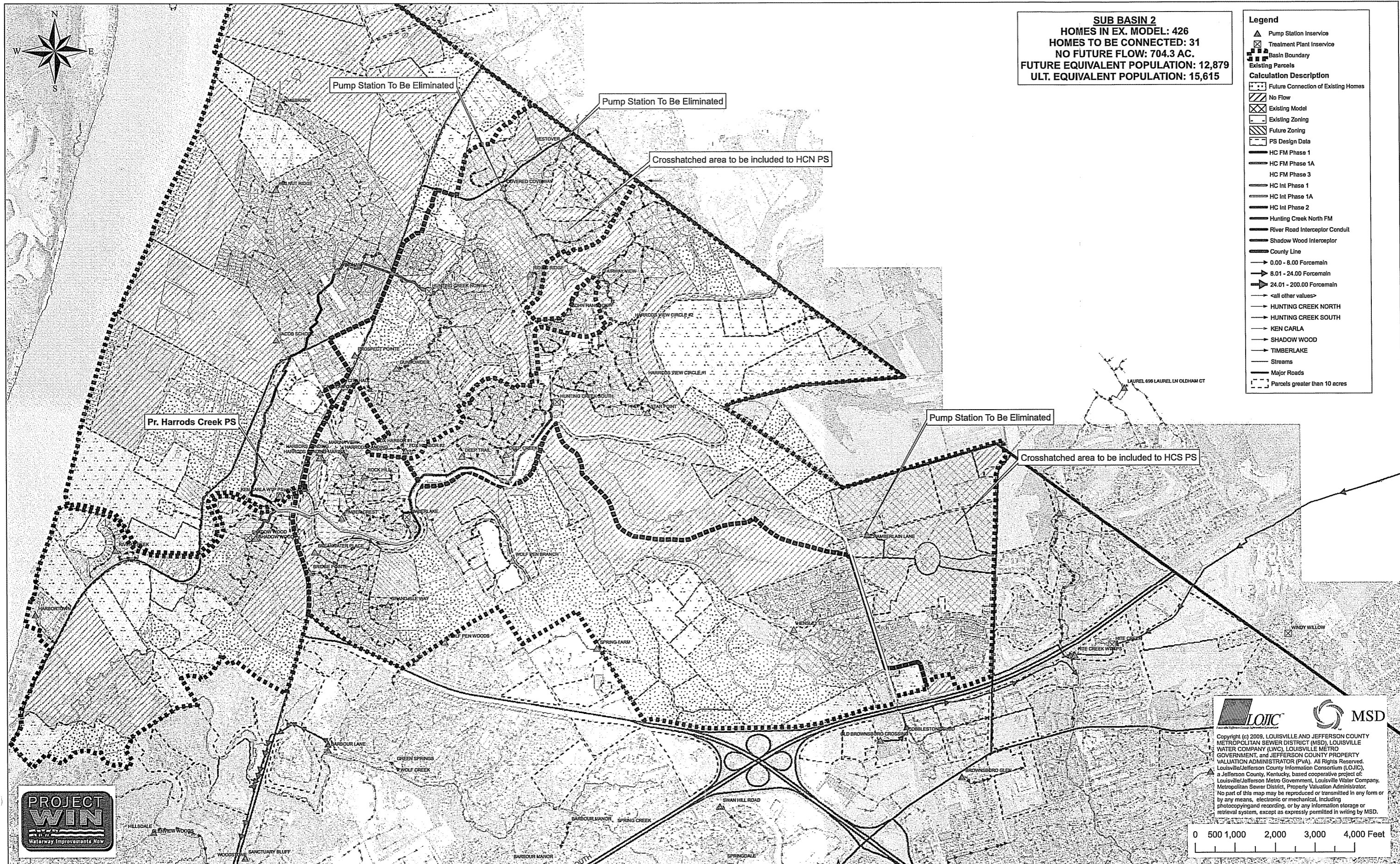
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08051 - Harrods Creek Pump Station / Prospect Area - Property Parcels and Zoning
Sub Basin 1 Service Area



08051 - Harrods Creek Pump Station / Prospect Area - Property Parcels and Zoning
Sub Basin 2 Service Area

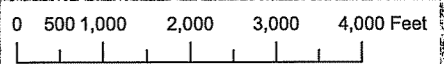


SUB BASIN 2
HOMES IN EX. MODEL: 426
HOMES TO BE CONNECTED: 31
NO FUTURE FLOW: 704.3 AC.
FUTURE EQUIVALENT POPULATION: 12,879
ULT. EQUIVALENT POPULATION: 15,615

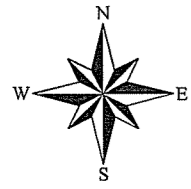
- Legend**
- ▲ Pump Station Inservice
 - ▲ Treatment Plant Inservice
 - ▬ Basin Boundary
 - ▬ Existing Parcels
 - Calculation Description**
 - ▬ Future Connection of Existing Homes
 - ▬ No Flow
 - ▬ Existing Model
 - ▬ Existing Zoning
 - ▬ Future Zoning
 - ▬ PS Design Data
 - ▬ HC FM Phase 1
 - ▬ HC FM Phase 1A
 - ▬ HC FM Phase 3
 - ▬ HC Int Phase 1
 - ▬ HC Int Phase 1A
 - ▬ HC Int Phase 2
 - ▬ Hunting Creek North FM
 - ▬ River Road Interceptor Conduit
 - ▬ Shadow Wood Interceptor
 - ▬ County Line
 - ▬ 0.00 - 8.00 Forcemain
 - ▬ 8.01 - 24.00 Forcemain
 - ▬ 24.01 - 200.00 Forcemain
 - ▬ <all other values>
 - ▬ HUNTING CREEK NORTH
 - ▬ HUNTING CREEK SOUTH
 - ▬ KEN CARLA
 - ▬ SHADOW WOOD
 - ▬ TIMBERLAKE
 - ▬ Streams
 - ▬ Major Roads
 - ▬ Parcels greater than 10 acres



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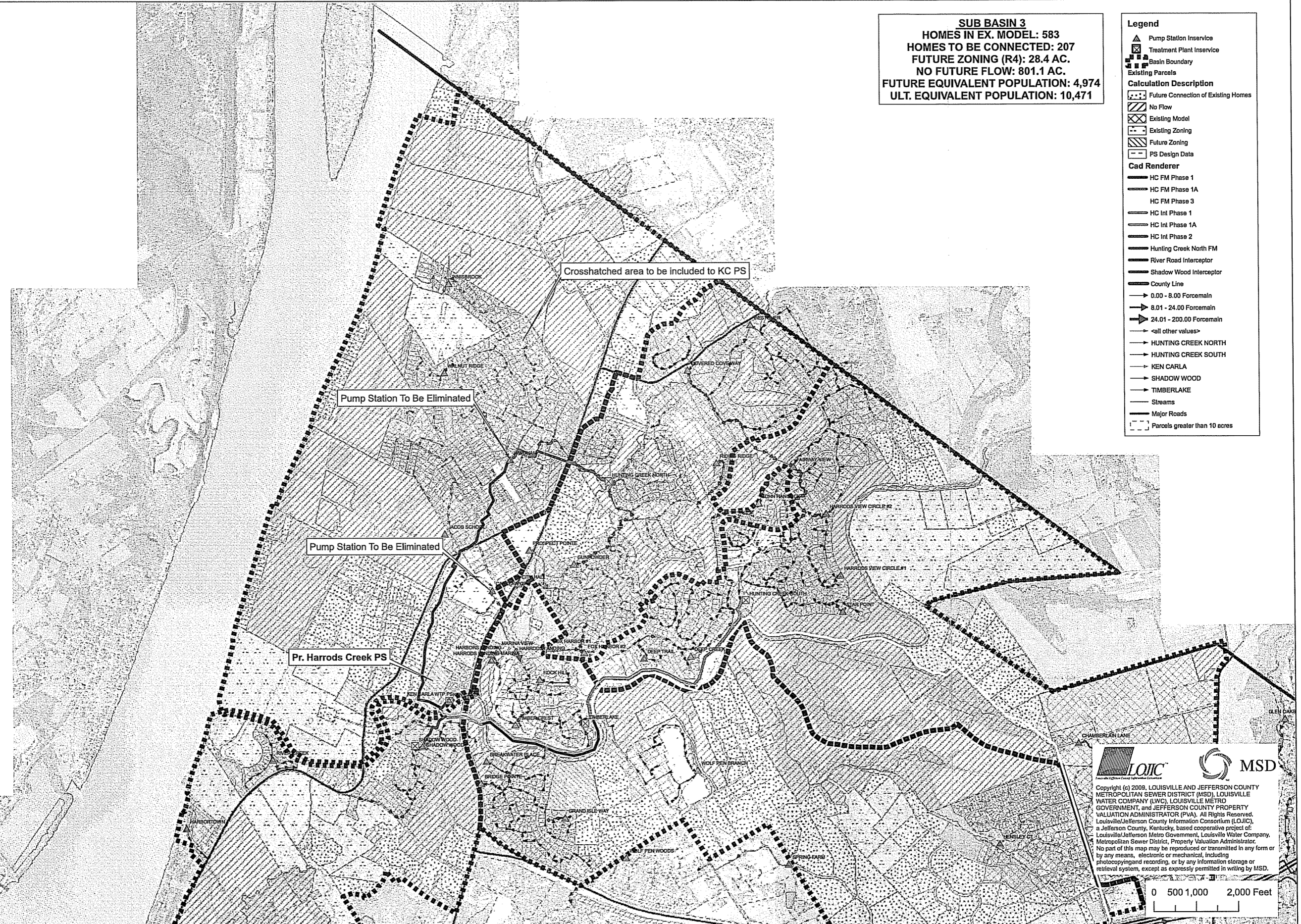


08051 - Harrods Creek Pump Station / Prospect Area - Property Parcels and Zoning
Sub Basin 3 Service Area

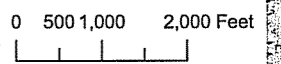


SUB BASIN 3
HOMES IN EX. MODEL: 583
HOMES TO BE CONNECTED: 207
FUTURE ZONING (R4): 28.4 AC.
NO FUTURE FLOW: 801.1 AC.
FUTURE EQUIVALENT POPULATION: 4,974
ULT. EQUIVALENT POPULATION: 10,471

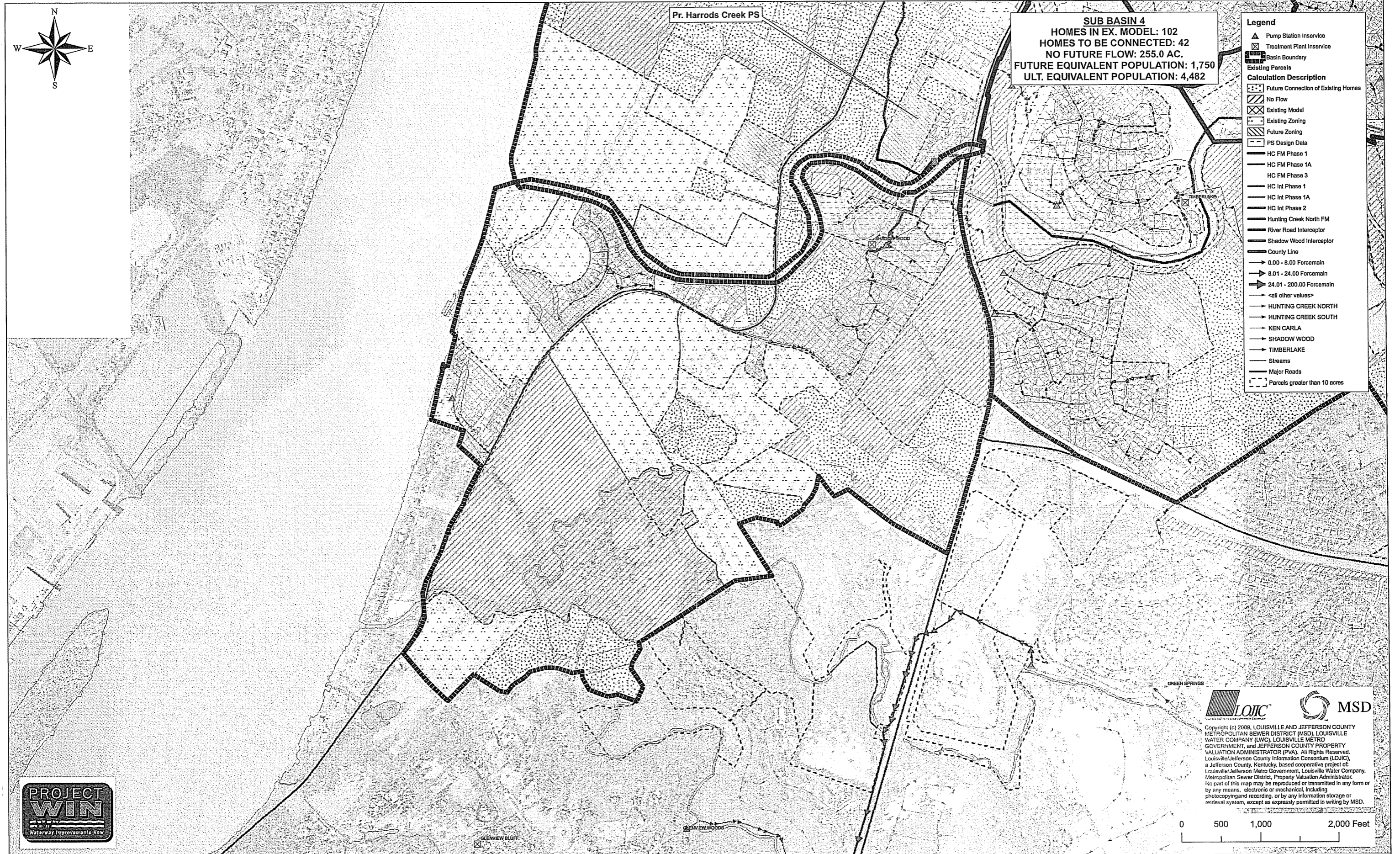
- Legend**
- Pump Station Inservice
 - Treatment Plant Inservice
 - Basin Boundary
 - Existing Parcels
 - Calculation Description**
 - Future Connection of Existing Homes
 - No Flow
 - Existing Model
 - Existing Zoning
 - Future Zoning
 - PS Design Data
 - Cad Renderer**
 - HC FM Phase 1
 - HC FM Phase 1A
 - HC FM Phase 3
 - HC Int Phase 1
 - HC Int Phase 1A
 - HC Int Phase 2
 - Hunting Creek North FM
 - River Road Interceptor
 - Shadow Wood Interceptor
 - County Line
 - 0.00 - 8.00 Forcemain
 - 8.01 - 24.00 Forcemain
 - 24.01 - 200.00 Forcemain
 - <all other values>
 - HUNTING CREEK NORTH
 - HUNTING CREEK SOUTH
 - KEN CARLA
 - SHADOW WOOD
 - TIMBERLAKE
 - Streams
 - Major Roads
 - Parcels greater than 10 acres



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08051 - Harrods Creek Pump Station / Prospect Area - Property Parcels and Zoning
Sub Basin 4 Service Area

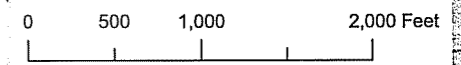


SUB BASIN 4
HOMES IN EX. MODEL: 102
HOMES TO BE CONNECTED: 42
NO FUTURE FLOW: 255.0 AC.
FUTURE EQUIVALENT POPULATION: 1,750
ULT. EQUIVALENT POPULATION: 4,482

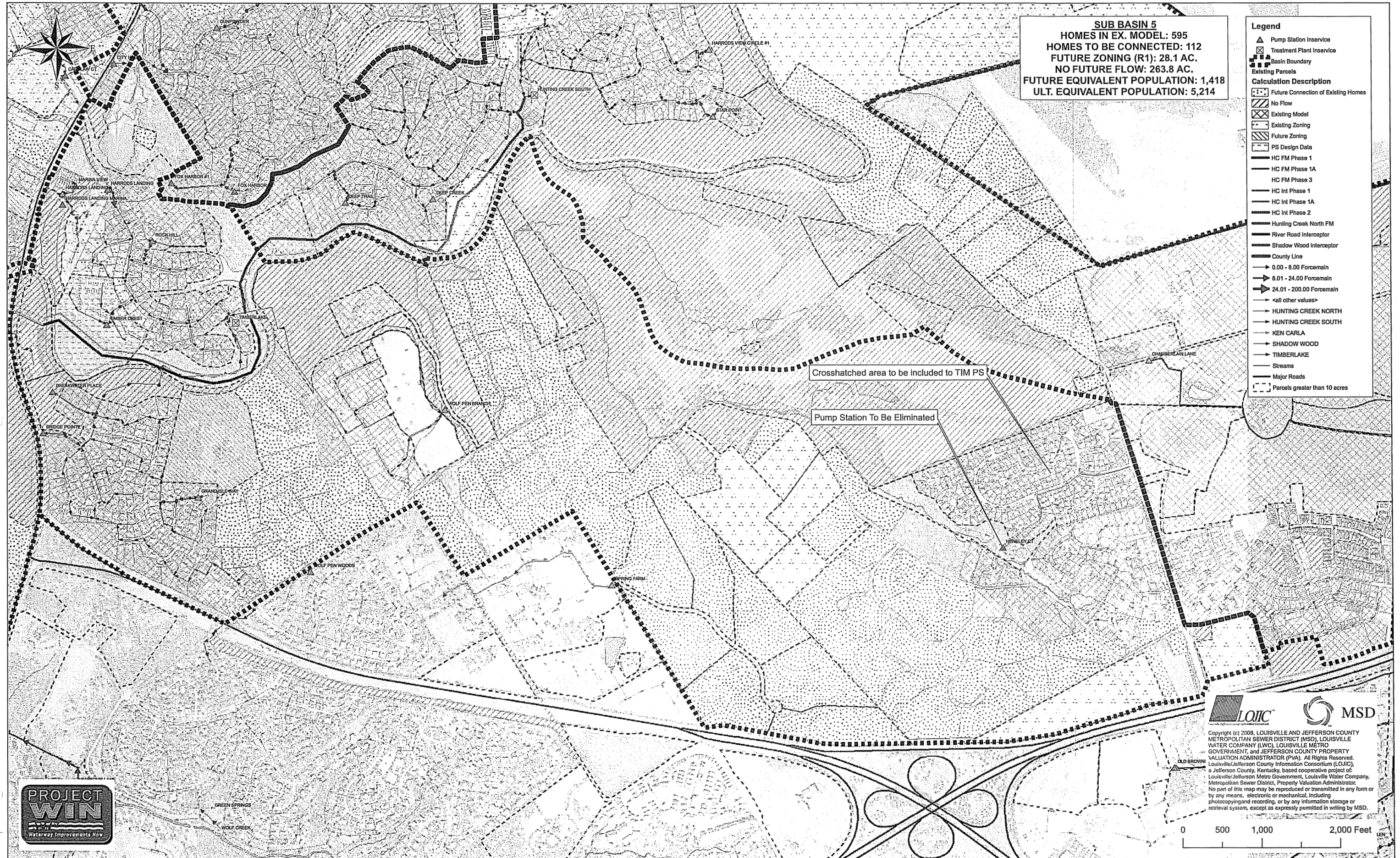
- Legend**
- ▲ Pump Station Inservice
 - Treatment Plant Inservice
 - ▭ Basin Boundary
 - ▭ Existing Parcels
 - Calculation Description**
 - ▭ Future Connection of Existing Homes
 - ▭ No Flow
 - ▭ Existing Model
 - ▭ Existing Zoning
 - ▭ Future Zoning
 - ▭ PS Design Data
 - HC FM Phase 1
 - HC FM Phase 1A
 - HC FM Phase 3
 - HC Int Phase 1
 - HC Int Phase 1A
 - HC Int Phase 2
 - Hunting Creek North FM
 - River Road Interceptor
 - Shadow Wood Interceptor
 - County Line
 - 0.00 - 8.00 Forcemain
 - 8.01 - 24.00 Forcemain
 - 24.01 - 200.00 Forcemain
 - <all other values>
 - HUNTING CREEK NORTH
 - HUNTING CREEK SOUTH
 - KEN CARLA
 - SHADOW WOOD
 - TIMBERLAKE
 - Streams
 - Major Roads
 - ▭ Parcels greater than 10 acres



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08051 - Harrods Creek Pump Station / Prospect Area - Property Parcels and Zoning
Sub Basin 5 Service Area



SUB BASIN 5
 HOMES IN EX. MODEL: 595
 HOMES TO BE CONNECTED: 112
 FUTURE ZONING (R1): 28.1 AC.
 NO FUTURE FLOW: 263.8 AC.
 FUTURE EQUIVALENT POPULATION: 1,418
 ULT. EQUIVALENT POPULATION: 5,214

- Legend**
- ▲ Pump Station Inservice
 - ⊠ Treatment Plant Inservice
 - ▬ Basin Boundary
 - ▭ Existing Parcels
- Calculation Description**
- ▭ Future Connection of Existing Homes
 - ▭ No Flow
 - ▭ Existing Model
 - ▭ Existing Zoning
 - ▭ Future Zoning
 - ▭ PS Design Data
 - ▬ HC FM Phase 1
 - ▬ HC FM Phase 1A
 - ▬ HC FM Phase 3
 - ▬ HC Int Phase 1
 - ▬ HC Int Phase 1A
 - ▬ HC Int Phase 2
 - ▬ Hunting Creek North FM
 - ▬ River Road Interceptor
 - ▬ Shadow Wood Interceptor
 - ▬ County Line
 - ▬ 0.00 - 8.00 Forcemain
 - ▬ 8.01 - 24.00 Forcemain
 - ▬ 24.01 - 200.00 Forcemain
 - ▬ <all other values>
 - ▬ HUNTING CREEK NORTH
 - ▬ HUNTING CREEK SOUTH
 - ▬ KEN CARLA
 - ▬ SHADOW WOOD
 - ▬ TIMBERLAKE
 - ▬ Streams
 - ▬ Major Roads
 - ▭ Parcels greater than 10 acres

Crosshatched area to be included to TIM PS

Pump Station To Be Eliminated



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Appendix II:
Equivalent Population and Flow Summary

Existing Conditions

Sub Basin	Ex. Homes in Model			Existing Zoning in Model													PS Design Data in Model		Total
	Acres	Quantity	Eq. Pop	Acres												Eq. Pop	Acres	Eq. Pop	Eq. Pop
				C1	C2	CM	CN	M1	OR3	R1	R4	R5A	R6	R7					
1	415.8	452	1,808	3.7	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,288	0.0	0	3,096
2	286.7	426	1,704	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	3.6	12.8	2.2	1,032	0.0	0	2,736
3	367.3	583	2,332	21.2	2.5	0.5	2.0	0.7	1.9	0.0	0.0	25.0	15.6	42.6	0.0	3,165	0.0	0	5,497
4	88.5	102	408	1.7	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	4.0	624	31.6	1,700	2,732	
5	282.5	595	2,380	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.3	7.6	8.1	0.0	1,416	0.0	0	3,796	
Sum	1440.8	2158	8,632	26.6	27.5	0.5	2.0	0.7	1.9	0.0	93.9	27.4	85.3	6.2	7,525	31.6	1,700	17,857	

Future Conditions

Sub Basin	Future Connection of Ex. Homes			Existing Zoning													PS Design Data		Future Zoning		No Future Flow		Total	
	Acres	Quantity	Eq. Pop	Acres												Eq. Pop	Acres	Eq. Pop	Acres	Eq. Pop	Acres	Eq. Pop	Eq. Pop	
				C1	C2	CM	CN	M1	OR3	R1	R4	R5A	R6	R7	R1									R4
1	40.6	11.0	44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	0.0	0.0	0.0	180	0.0	0	0.0	0.0	0.0	135.6	0	224
2	176.2	31	124	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	252.9	0.0	0.0	0.0	3795	374.8	8,960	0.0	0.0	0	704.3	0	12,879
3	299.3	207	828	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	229.6	0.0	0.0	0.0	3450	0.0	0	0.0	28.4	696	801.1	0	4,974
4	116.0	42	168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	119.0	74.3	0.0	0.0	1582	0.0	0	0.0	0.0	0	255.0	0	1,750	
5	498.6	112	448	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	12.2	0.0	0.0	280	26.2	270	28.1	0.0	420	263.8	0	1,418	
Sum	1130.7	403	1,612	0.0	0.0	0.0	0.0	0.0	0.0	0.0	144.0	580.4	0.0	0.0	9287	401.0	9,230	28.1	28.4	1116	2,160	0	21,245	

Ultimate Conditions

Sub Basin	Existing Eq. Pop	Existing ADF	Existing WWF	Future Eq. Pop	Future ADF	Future WWF	Ultimate Eq. Pop	Ultimate ADF	Ultimate WWF
1	3,096			224			3,320	0	0
2	2,736			12,879			15,615	0	0
3	5,497			4,974			10,471	0	0
4	2,732			1,750			4,482	0	0
5	3,796			1,418			5,214	0	0
Sum	17,857	0	0	21,245	0	0	39,102	0	0

Appendix III:

Memorandum

HERITAGE ENGINEERING, LLC

MEMORANDUM

Date: August 7, 2009
From: Bill Sanders
To: Paul Meyer
cc: Bob Woosley, Mark Johnson, Steve Emly, Dave Schaftlein
Subject: Draft Interim Comparative Cost Estimates for Prospect Area Eliminations

At the request of MSD, Heritage is preparing this interim submittal of comparative costs for the various Pump Station Configurations for the Prospect Plant Eliminations. For the overall scope of the project, Heritage is comparing different force main routes, analyzing the best method for elimination of the Shadow Wood WTP, and determining if one or two regional pump stations would be most cost effective for this area. The purpose of this memorandum is to present comparative costs for the construction of one or two pump stations. Therefore, detailed costs for the area between the Ken Carla Area and the Timberlake Area are prepared for this memorandum. Costs for the elimination of the Shadow Wood WTP are also presented in this memorandum, but these are not based on a detailed preliminary design at this point. This will be completed as part of the overall report.

There are two main scenarios being analyzed, with the second scenario having several sub-scenarios. The scenarios are:

- Scenario # 1: Construct One Regional Pump Station (HCPS) near the Ken Carla WTP Site. Construct a gravity interceptor (HCInt1) from the Timberlake WTP to the new HCPS Site.
- Scenario # 2: (Reserved for future analysis of different routes to Hite Creek WTP)
- Scenario # 3: Construct two Pump Stations – The HCPS and one at the Timberlake WTP Site. (TLPS)
 - 3a) The effluent force mains from TLPS would be manifolded to the force main(s) from the HCPS.
 - 3b) The HCPS force mains would discharge into the wet well for the TLPS. The TLPS would pump all of the flow.
 - 3c) The HCPS force mains would parallel the TLPS to the treatment plant.

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Additionally, MSD has requested Heritage to determine the potential additional construction cost if the system were designed to accommodate future flows from the east side of Harrods Creek, most notably the Norton Commons Pump Station. This analysis is performed on the most cost effective scenario only.

General Considerations:

Pump Station Siting: The HCPS would be located near the Ken Carla WTP site. Previously, MSD was in discussions with a private developer to acquire an easement for the pump station on an existing parcel adjacent to the Ken Carla subdivision (6618 R Del Haven Lane). However, we understand the developer has allowed the option to purchase the property expire. Therefore, MSD will need to consider purchasing the easement directly from the property owner or locating the pump station on an alternative site. As an alternative, if MSD purchased the property at 8701 Lynhall Court, next to the existing WWTP, this could provide a suitable site for the pump station. For cost estimating purposes, the exact site will have minimal impact on the cost of the pump station. However, it will slightly impact the cost of the gravity sewers and force mains. In all cost estimates used in this analysis, the costs are to the 6618 R Del Haven Lane property, as it results in the longest distance and more conservative costs.

The best site for a pump station at the Timberlake WTP Site appears to be at the existing lagoon after it has been drained and filled. A phasing plan will need to be prepared and approved to allow this to happen while the plant remains in operation. There are other onsite options should this prove to be impractical.

Flow Rates:

Flow Rates and Resultant Pipe Sizes are based upon a study of land uses and projected zoning in the gravity drainage area, excluding parcels that cannot be developed in the future. Flow rates and sizes in the comparison assume the Norton Commons (Chamberlain Lane Pump Station) flows will not flow to this pump station for ultimate flows. Flows from Oldham County are excluded from this analysis.

Present Value Analysis:

A present value analysis was performed on the pump stations to evaluate the present value of the annual operation and maintenance (O&M) costs and the present value of future pump station upgrades. The O&M costs for the pump stations were based on a spreadsheet provided by MSD. A 20-year present value analysis was performed using an interest rate of 6%. The pump station upgrades are assumed to occur in 10 years. \$.06/kW-hr was used for the rate of electricity.

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Results of Analysis:

The various scenarios and data used in the analysis are listed in Table 1 below.

Scenario	Pump Sizes			HCPS → TL Force Main Size	TL → HCPS Interceptor Size
	HCPS	TLPS	Shadow Wood PS		
1	4~2070 gpm pumps,	N/A	N/A	20"/24"	27"
3A	3~1840 gpm pumps,	3~1250 gpm pumps,	750,000 gpd PS	20"	N/A
3B	3~1840 gpm pumps,	4~2070 gpm pumps,	750,000 gpd pump station	20"	N/A
3C	3~1840 gpm pumps	3~1250 gpm pumps	750,000 gpd pump station	20"	N/A

The costs for the pump stations are based on one configuration to determine the pump costs. Several alternatives exist for both the design of the wetwell and the types of pumps used that may prove more cost effective.

The analysis shows that the Scenario 3A and Scenario 1 are very similar in Total Present Worth. In Scenario 3B, the decrease in the cost of the smaller HCPS is offset by the increase in capital and O&M costs at the TLPS. In Scenario 3C, all of the costs are comparable except that an additional force main would need to be laid from TLPS to the Hite Creek Plant to maintain minimum velocities for the initial flow. However, if this option were desired for the ultimate flows, the pump stations could be manifolded into one 20" initially, and then split into parallel flows as future flows increase. This would have the same costs as option 3A.

Scenario	Total Ultimate Capital Cost	Initial Capital Cost	Annual O&M Cost	Future Upgrade Capital Cost	Total Present Worth
1	\$12.2	\$11.4	\$0.33	\$0.81	\$15.6
3A	\$11.6	\$10.8	\$0.36	\$0.76	\$15.4
3B	\$12.6	\$10.4	\$0.52	\$0.21	\$17.6
3C	\$14.9	\$14.2	\$0.36	\$0.75	\$18.7

(Costs x \$1,000,000)

Based on the results above, Scenario 3A is the most cost effective option, but only slightly. There are additional benefits to Scenario 1 over Scenario 3A that aren't included in the above costs, including the possibility of eliminating two additional pump stations. Furthermore, the

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operations and maintenance costs for each of the pump stations may not be very conservative for the sizes of the pump stations. Based on this, it appears that Scenario 1 is the best option. However, this decision does not need to be made at this point. The analysis can continue and include fine-tuning the Shadow Wood WTP elimination costs and adding any additional costs for elimination of other pump stations.

Norton Commons (Chamberlain Lane) Pump Station

Two items are substantially impacted if the proposed system is designed to allow Norton Commons in the future: 1) The flows are increased, and thus the force main sizes and ultimate design pumping rate of the Timberlake pump station is increased, and 2) the Harrods Creek Interceptor, Phase II must be lowered to accept gravity flows under Harrods Creek. This results in a net total capital cost of \$3.8M. The present worth of the operation and maintenance cost for the Norton Commons Pump Station is \$2.6M. The analysis shows that allowing the pump station to remain in place is significantly more cost effective. MSD should determine if there are additional qualitative factors to consider for eliminating this pump station.

Summary

There are three main items to review in this memorandum, two of which are MSD action items.

- 1) The total present worth for constructing the Harrods Creek 1 interceptor and constructing two separate pump stations will be similar. The final decision on this will not hinder the progress of this study. Therefore, we recommend basing this decision on the final report, as it will incorporate some of the additional present worth values and benefits mentioned in this memorandum.
- 2) MSD should determine at this time if they would like to size and/or construct the HC II interceptor to accommodate future flows from the east side of Harrods Creek. MSD may also consider sizing the HCII and HCI interceptor and the force main for future flows, but keeping the depth of the HCII as currently designed. This would allow for some flexibility in the future, if necessary, to accommodate pumped flows from the other side of Harrods Creek or to accommodate flows from Oldham County, should that option change in the future.
- 3) MSD can begin to evaluate site selection for the HCPS. Heritage can provide additional documentation and a site plan to show how the pump station might look on the site.

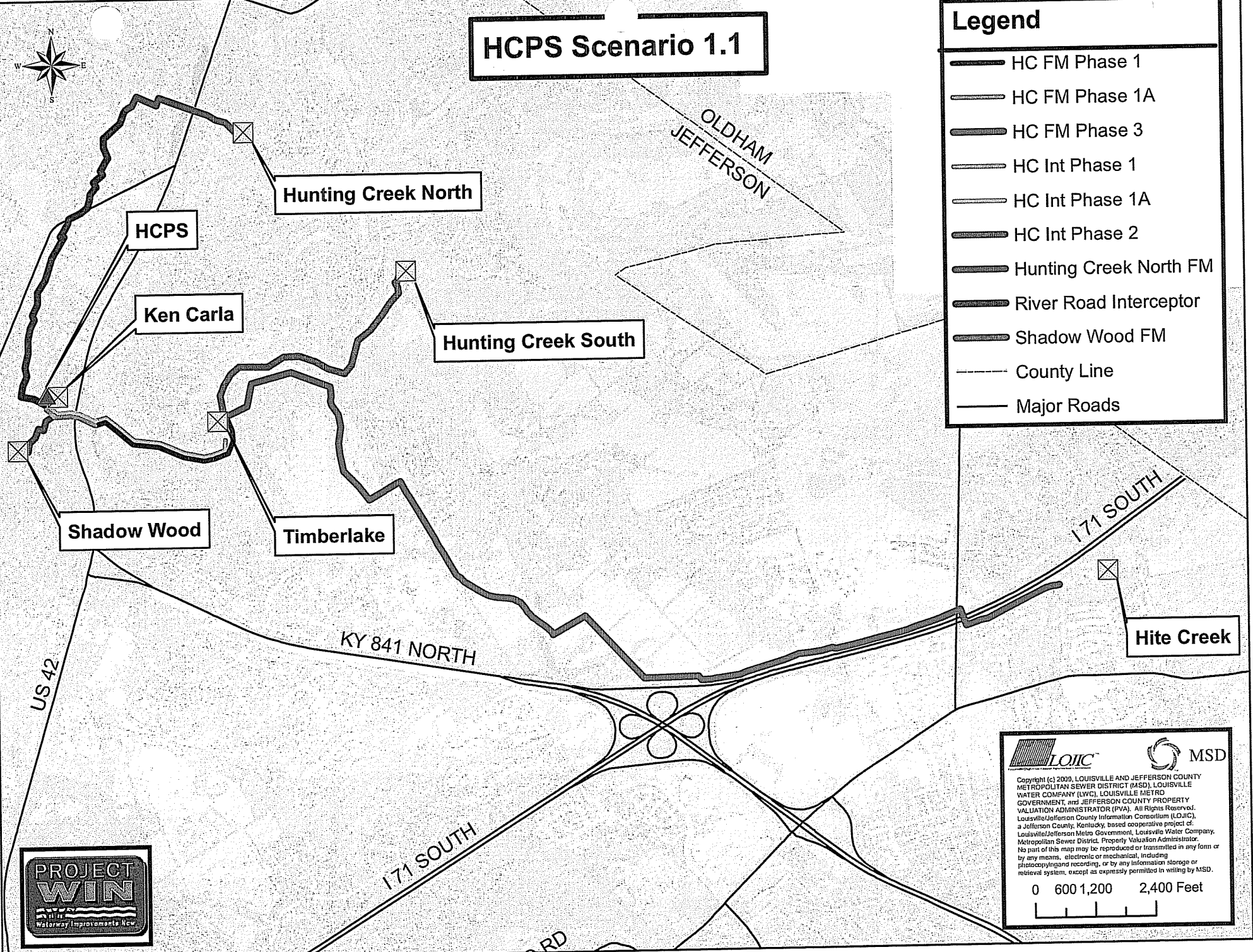
END OF MEMORANDUM

Appendix IV:
Alternate Scenario Maps

HCPS Scenario 1.1

Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 1
- HC Int Phase 1A
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood FM
- County Line
- Major Roads



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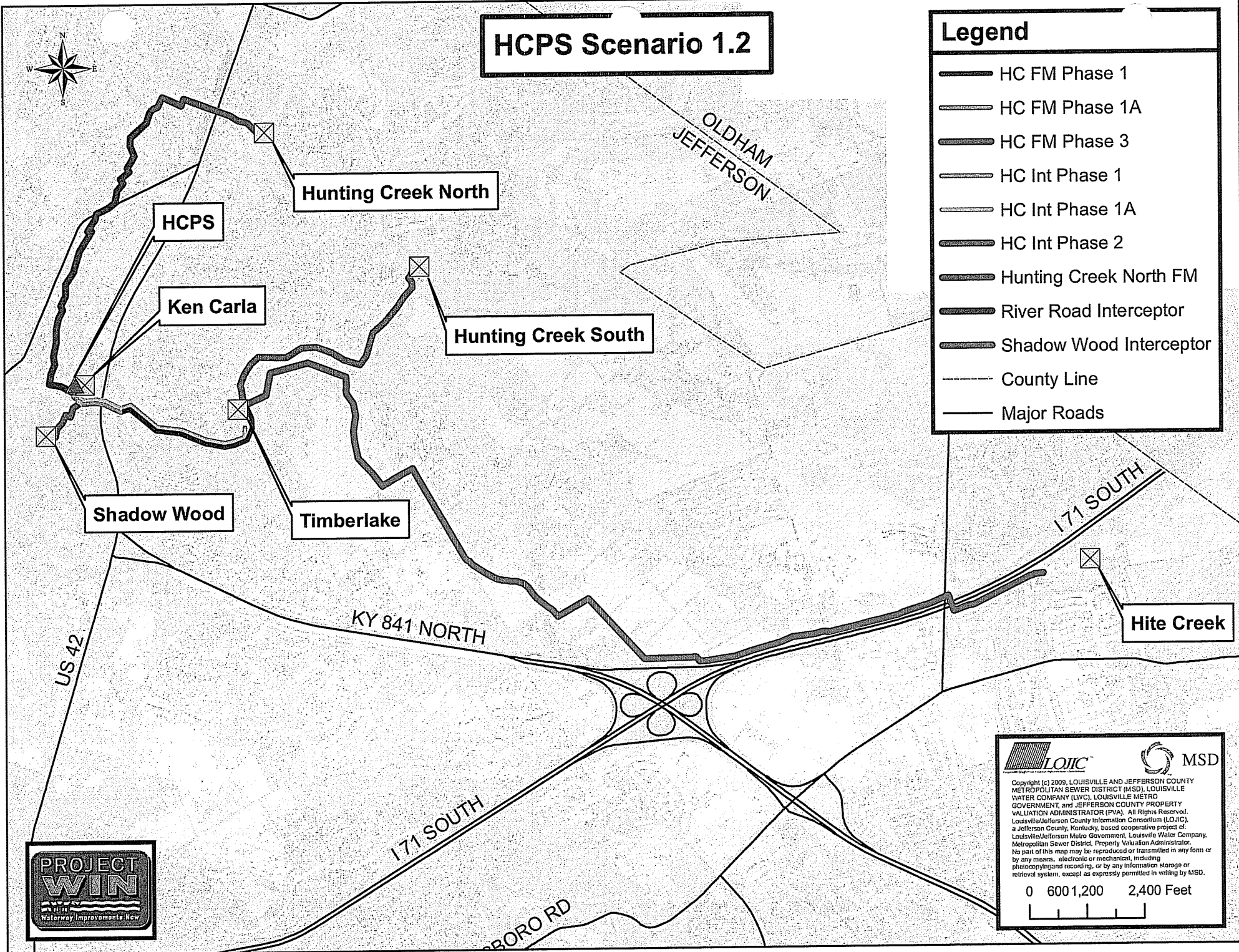
0 600 1,200 2,400 Feet



HCPS Scenario 1.2



Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 1
- HC Int Phase 1A
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood Interceptor
- County Line
- Major Roads

















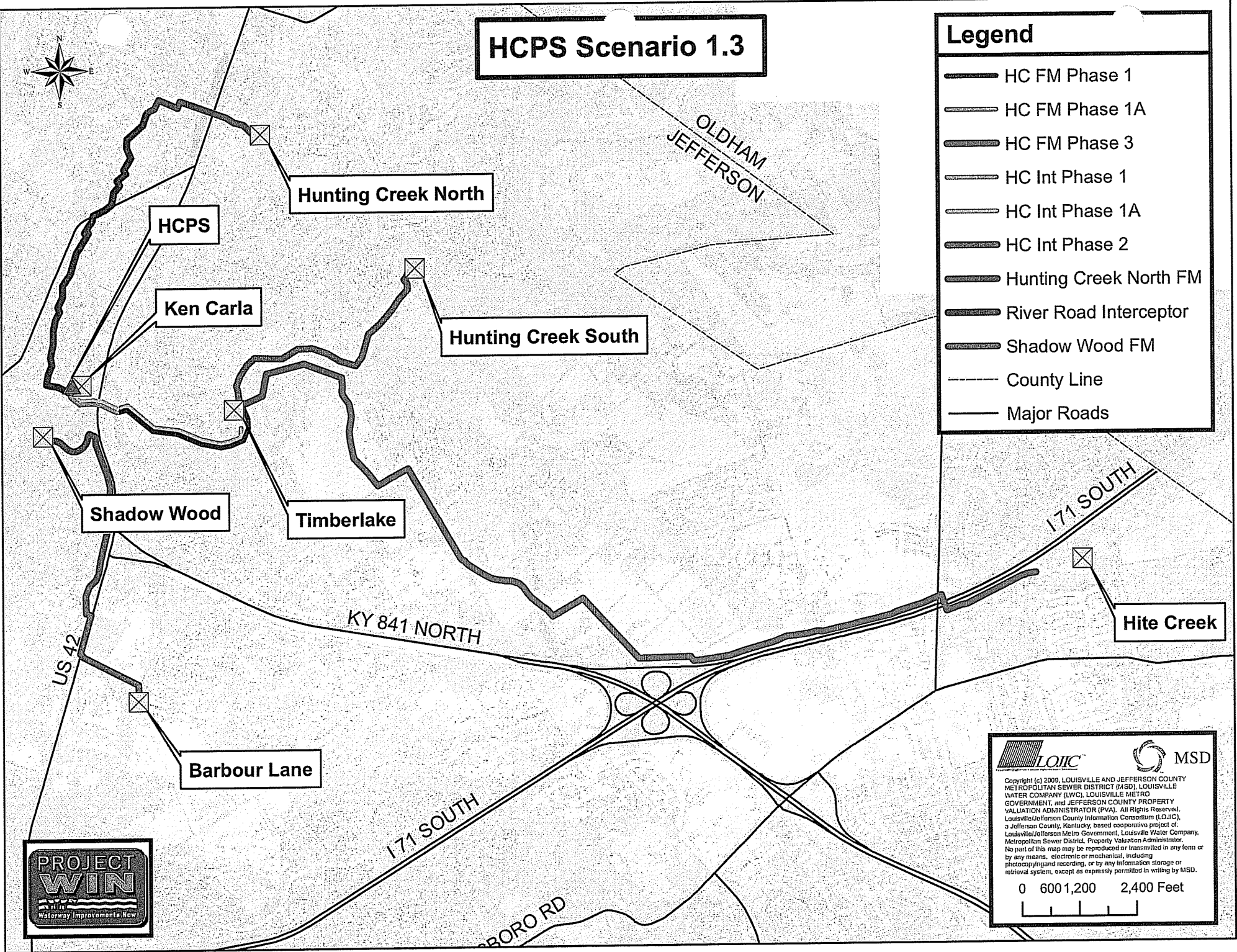
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0 600 1,200 2,400 Feet

HCPS Scenario 1.3

Legend

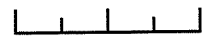
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-  HC FM Phase 1A
-  HC FM Phase 3
-  HC Int Phase 1
-  HC Int Phase 1A
-  HC Int Phase 2
-  Hunting Creek North FM
-  River Road Interceptor
-  Shadow Wood FM
-  County Line
-  Major Roads



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0 600 1,200 2,400 Feet

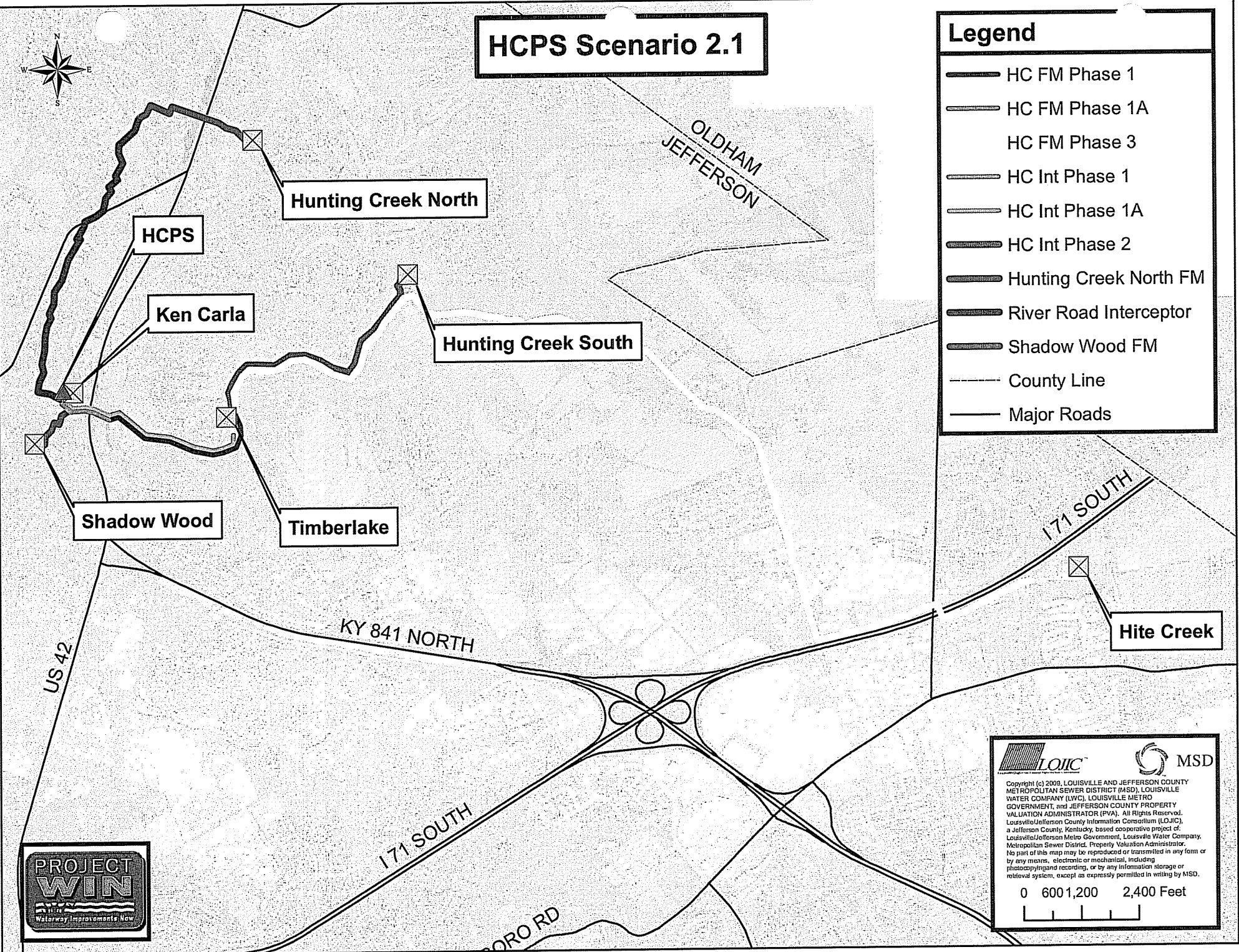


HCPS Scenario 2.1



Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 1
- HC Int Phase 1A
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood FM
- County Line
- Major Roads



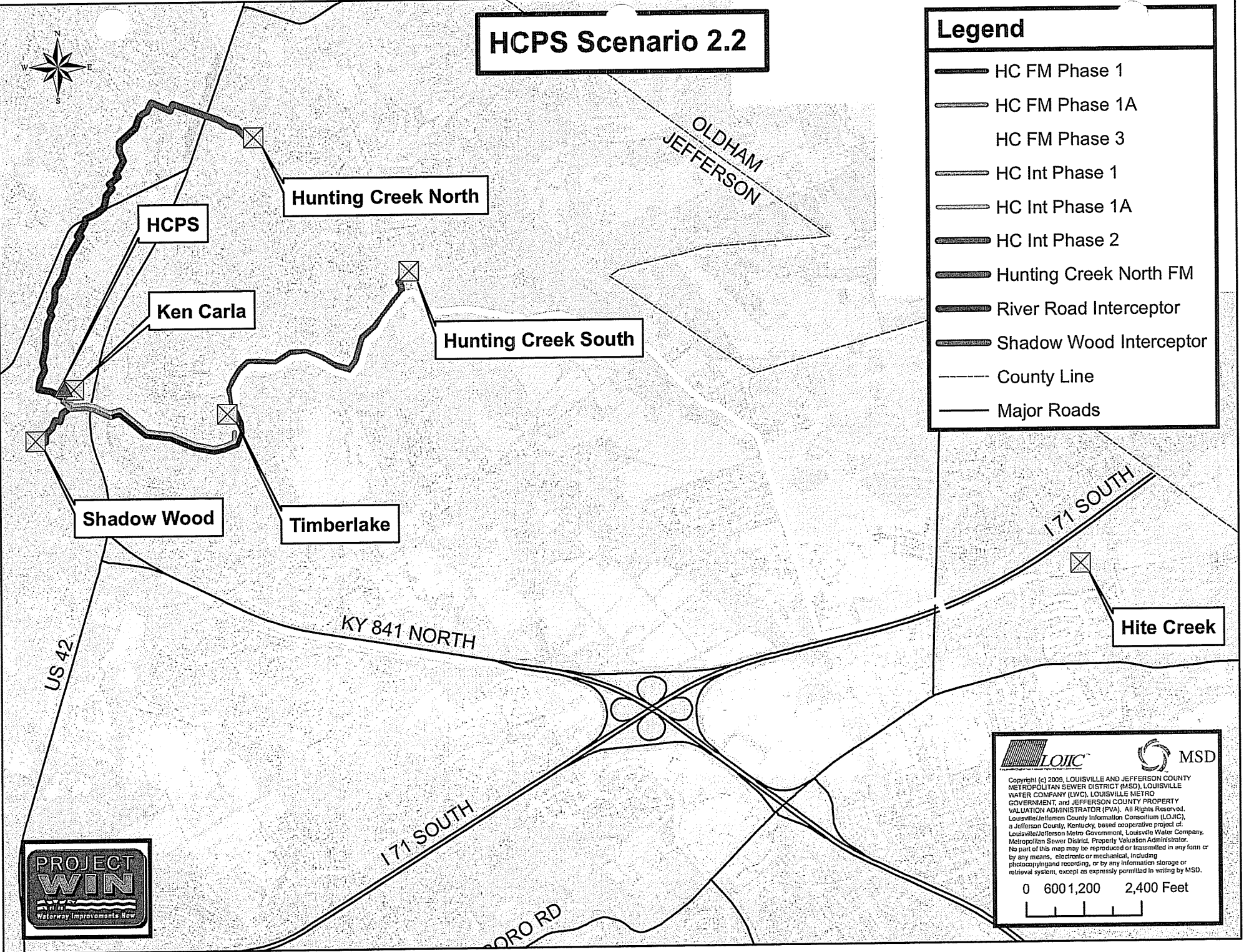
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0 600 1,200 2,400 Feet

HCPS Scenario 2.2

Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 1
- HC Int Phase 1A
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood Interceptor
- County Line
- Major Roads



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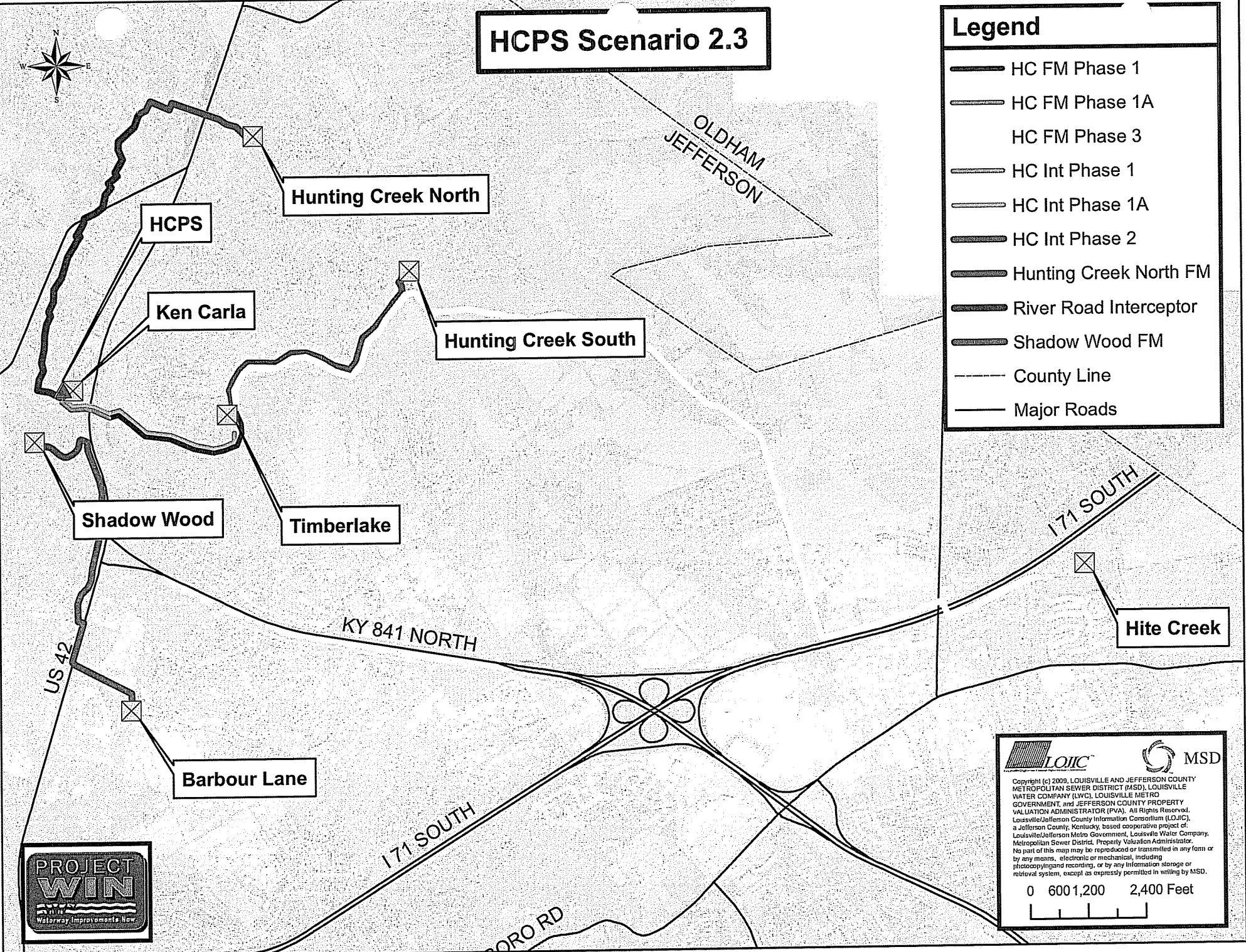
0 600 1,200 2,400 Feet

HCPS Scenario 2.3



Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 1
- HC Int Phase 1A
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood FM
- County Line
- Major Roads












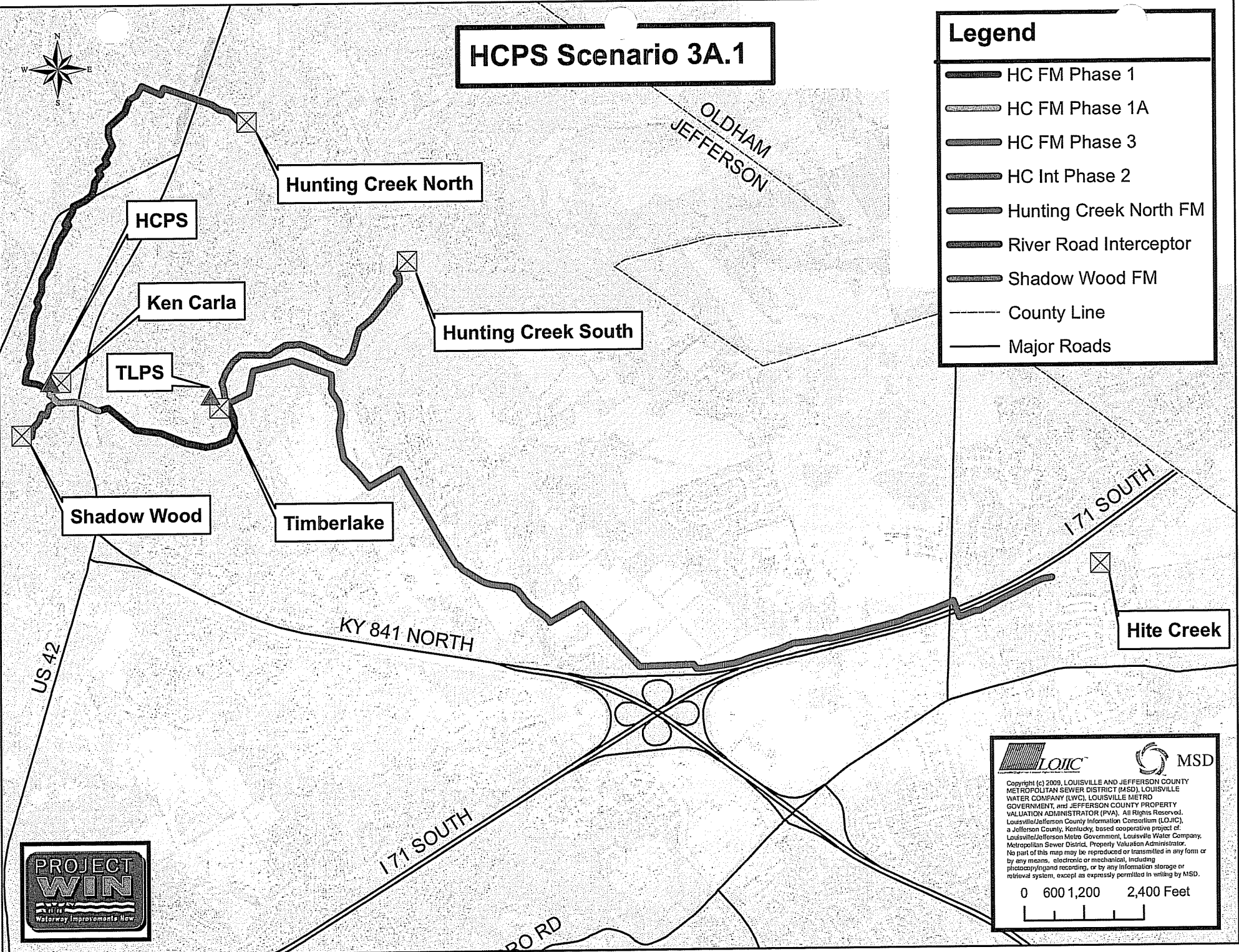

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0 600 1,200 2,400 Feet

HCPS Scenario 3A.1

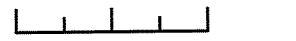
Legend

-  HC FM Phase 1
-  HC FM Phase 1A
-  HC FM Phase 3
-  HC Int Phase 2
-  Hunting Creek North FM
-  River Road Interceptor
-  Shadow Wood FM
-  County Line
-  Major Roads

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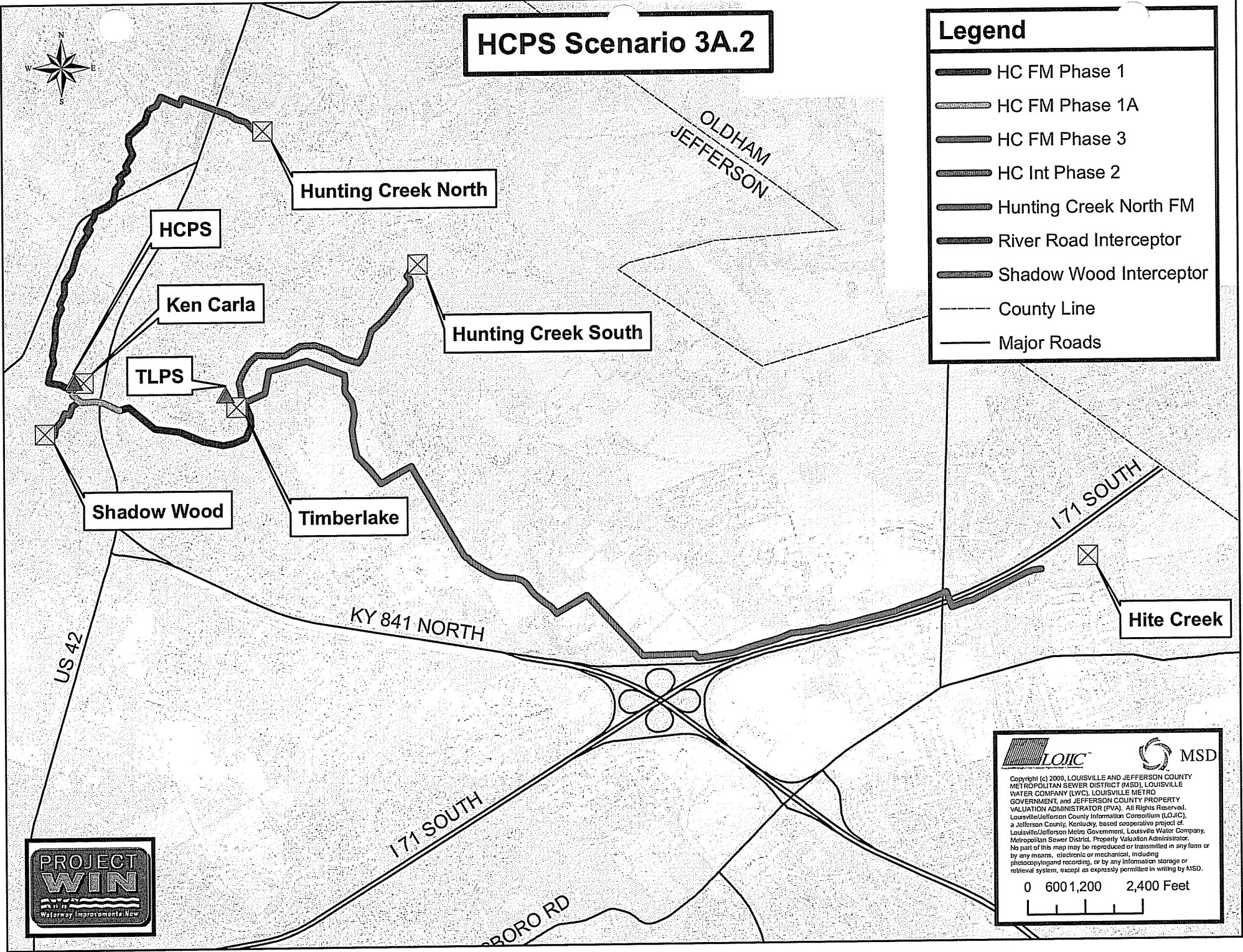
0 600 1,200 2,400 Feet



HCPS Scenario 3A.2

Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood Interceptor
- County Line
- Major Roads



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0 600 1,200 2,400 Feet

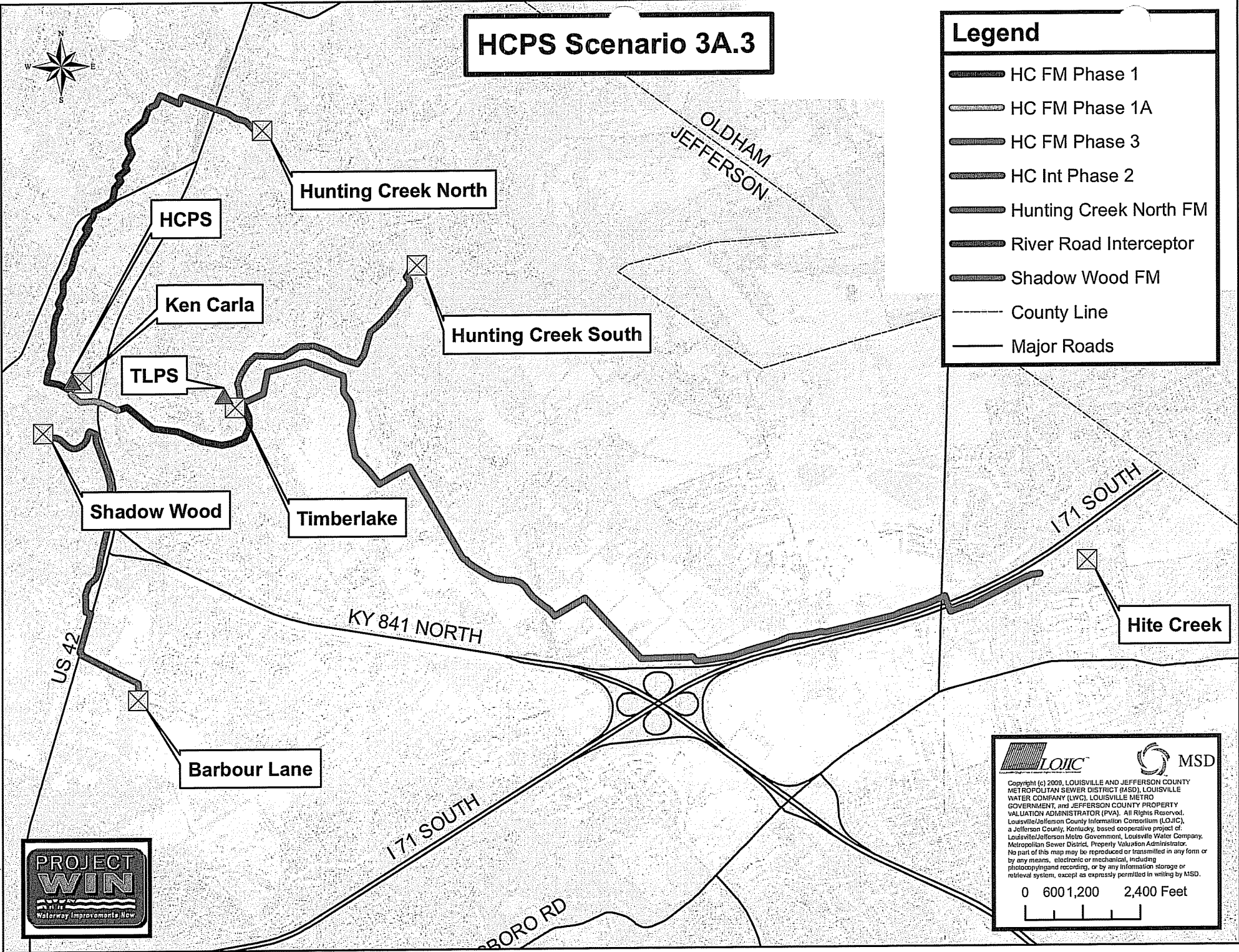


HCPS Scenario 3A.3



Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood FM
- County Line
- Major Roads



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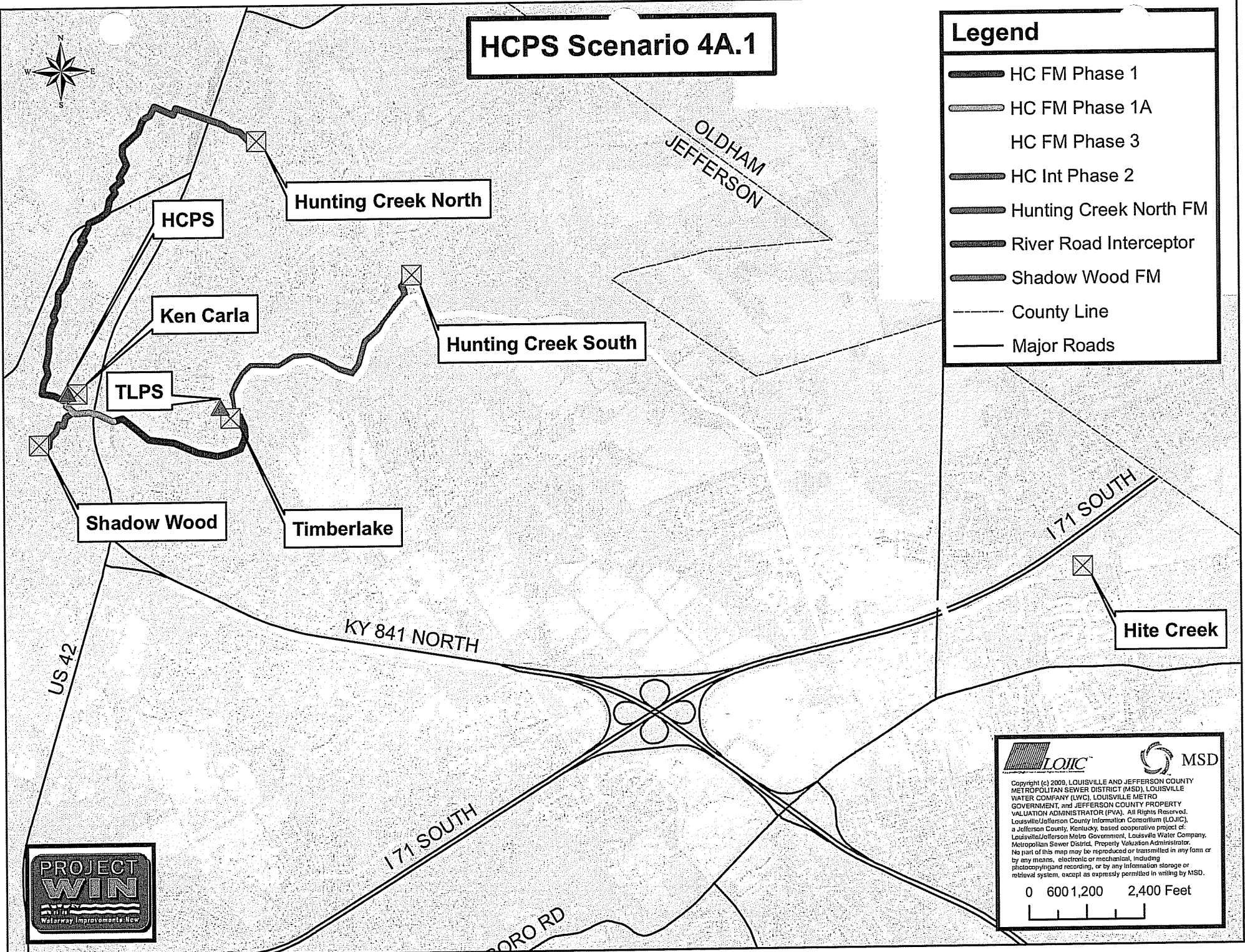
0 600 1,200 2,400 Feet

HCPS Scenario 4A.1



Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood FM
- County Line
- Major Roads



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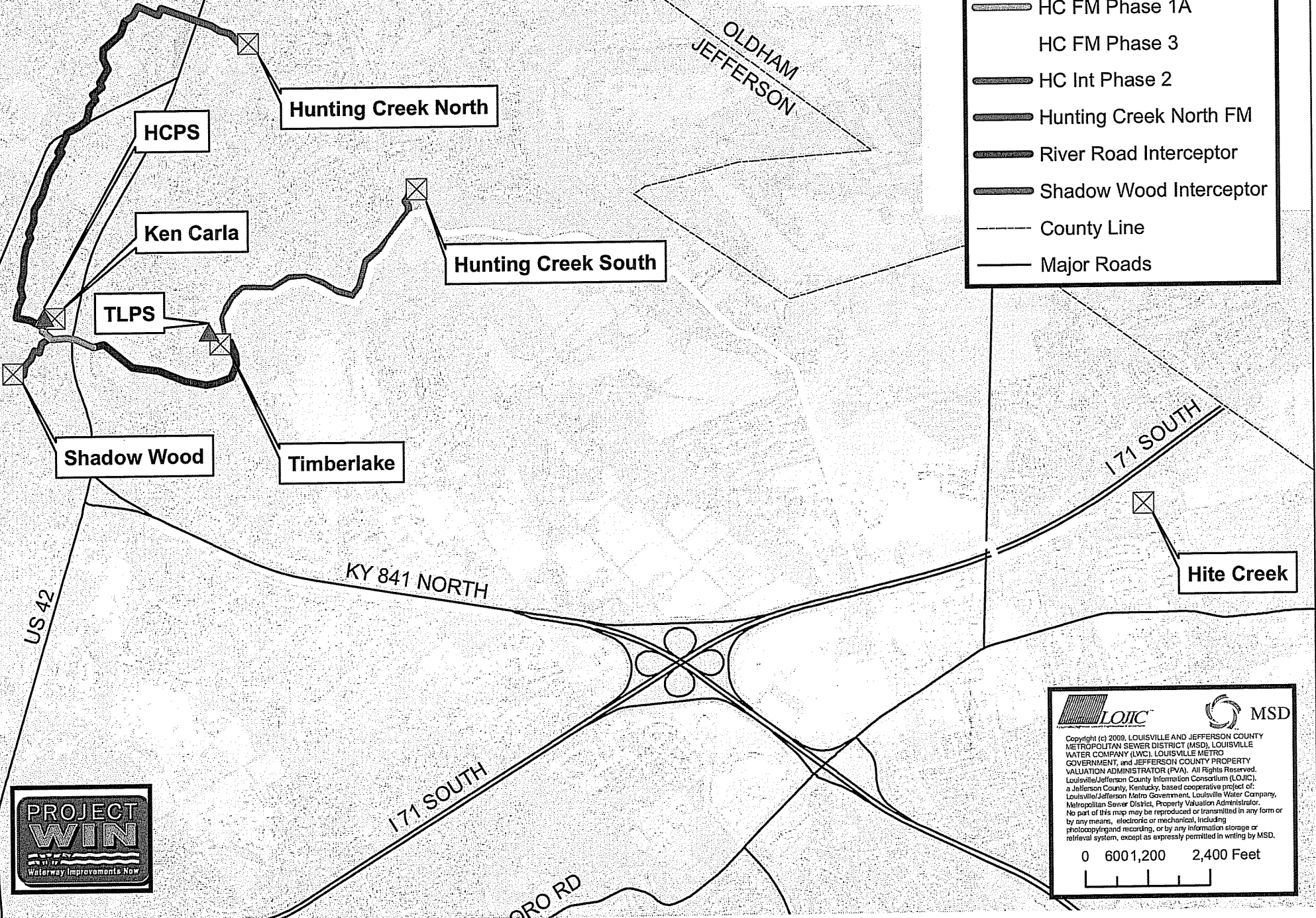
0 600 1,200 2,400 Feet

HCPS Scenario 4A.2



Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood Interceptor
- County Line
- Major Roads



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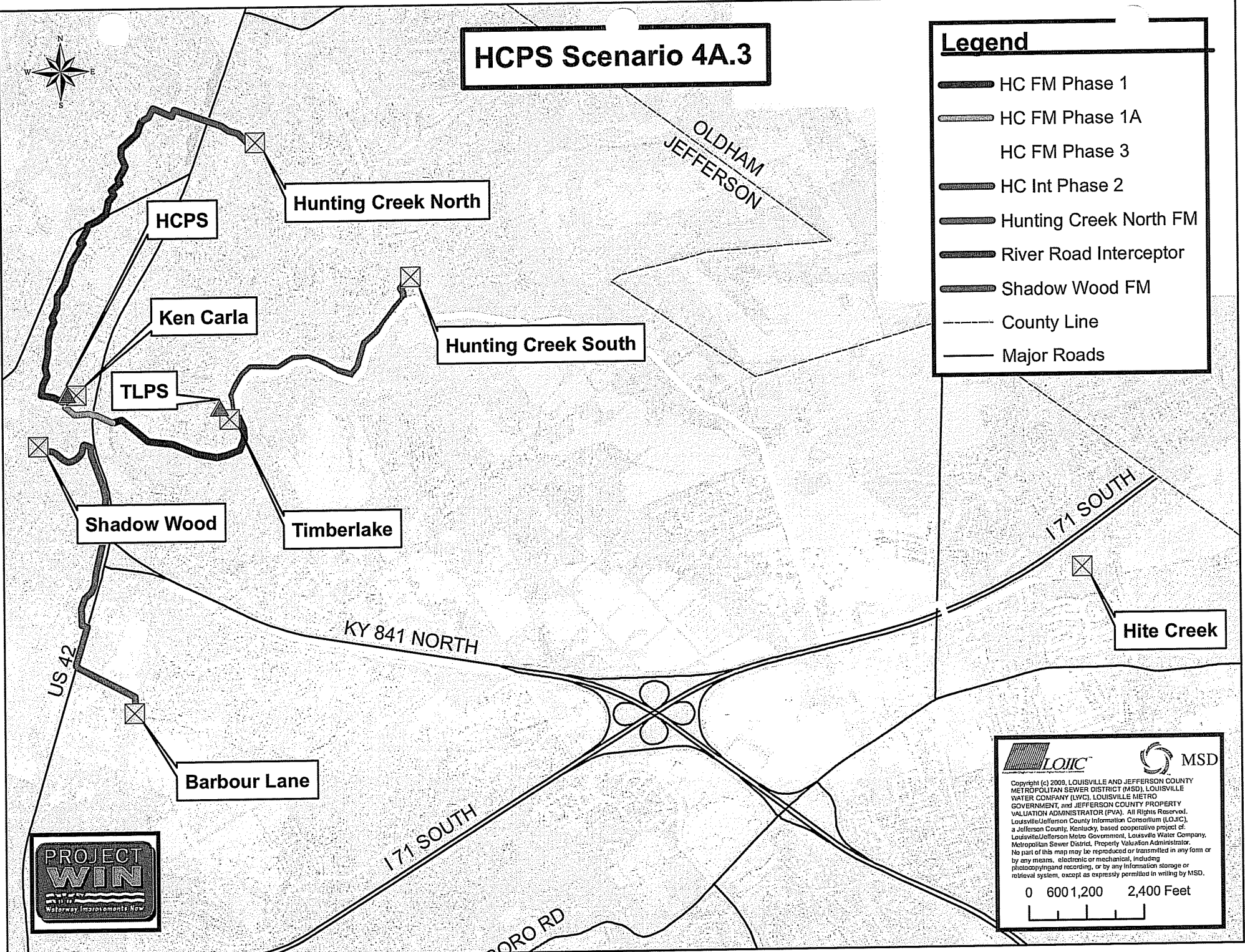
0 600 1,200 2,400 Feet

HCPS Scenario 4A.3



Legend

- HC FM Phase 1
- HC FM Phase 1A
- HC FM Phase 3
- HC Int Phase 2
- Hunting Creek North FM
- River Road Interceptor
- Shadow Wood FM
- County Line
- Major Roads



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0 600 1,200 2,400 Feet

Appendix V:
Cost Estimates of Sewer Sub-Sections

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST (JTL)**

Harrods Creek Interceptor/Force Main Phase 1A - Scenarios 1 & 2

Item Name	Units	Units Req.	Unit Price	Extension
Mobilization/Demobilization	L.S.		\$25,000.00	\$ -
Dewatering	L.S.	1	\$50,000.00	\$ 50,000.00
20"/30" Forcemain & 42" Gravity Sewer	L.F.	1,350	\$ 650.00	\$ 877,500.00
Clearing	AC	3	\$ 5,500.00	\$ 16,500.00
Ground Restoration	L.F.	3,190	\$ 5.25	\$ 16,747.50
Manhole/Casting	EA.	6	\$15,000.00	\$ 90,000.00
Utility Crossings	EA.		\$ 1,000.00	\$ -
Air Release Valves & Vault	EA.	6	\$12,000.00	\$ 72,000.00
42" Bore	L.F.	1,770	\$ 1,200.00	\$2,124,000.00
20" Bore	L.F.	1,770	\$ 450.00	\$ 796,500.00
30" Bore	L.F.	1,770	\$ 500.00	\$ 885,000.00
EPSC	L.S.	1	\$25,000.00	\$ 25,000.00
SUBTOTAL				\$4,953,247.50
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 75,000.00
Contingency (20%)				\$ 991,000.00
Design/Permitting/Acquisition (20%)				\$ 991,000.00
TOTAL				\$6,020,000.00

Items Not Included: Inspection and Force Account, Equipment, Labor

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST (JTL)**

Harrods Creek Interceptor/Force Main Phase 1A - Scenarios 3 & 4

Item Name	Units	Units Req.	Unit Price	Extension
Material & Misc. Costs				
Mobilization/Demobilization	L.S.		\$25,000.00	\$ -
Dewatering	L.S.	1	\$10,000.00	\$ 10,000.00
20" Force Main	L.F.	1,350	\$ 65.00	\$ 87,750.00
Utility Crossings	EA.		\$ 1,000.00	\$ -
Air Release Valves & Vault	EA.	6	\$ 8,000.00	\$ 48,000.00
20" Bore	L.F.	1,380	\$ 800.00	\$1,104,000.00
Clearing	AC	1.25	\$ 5,500.00	\$ 6,875.00
Ground Restoration	L.F.	1,836	\$ 5.25	\$ 9,639.00
SUBTOTAL				\$1,266,264.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 19,000.00
Contingency (20%)				\$1,267,000.00
Design/Permitting/Acquisition (20%)				\$1,267,000.00
TOTAL				\$3,820,000.00

Items Not Included: Inspection and Force Account, Equipment, Labor

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Harrods Creek Interceptor/Force Main Phase 1 - Scenarios 1 & 2

Item Name	Units	Units Req.	Unit Price	Extension
Mobilization/Demobilization	L.S.	1	\$ 25,000.00	\$ 25,000.00
De-watering	L.S.	1	\$100,000.00	\$ 100,000.00
Clearing	AC	7	\$ 4,000.00	\$ 28,000.00
20"/30" Force Main, 42" Gravity Sewer	L.F.	3,400	\$ 650.00	\$2,210,000.00
Manholes	EA.	10	\$ 15,000.00	\$ 150,000.00
Utility Crossings	EA.	1	\$ 1,000.00	\$ 1,000.00
Air Release Valve and Vault	EA.	2	\$ 12,000.00	\$ 24,000.00
Pavement Replacement	S.Y.	150	\$ 35.00	\$ 5,250.00
Ground Restoration	S.Y.	35,000	\$ 1.00	\$ 35,000.00
EPSC	L.S.	1	\$ 25,000.00	\$ 25,000.00
CONSTRUCTION SUBTOTAL				\$2,603,250.00
Easement (Assume 30' Easement)	S.F.	100,000	\$ 0.20	\$ 20,000.00
SUBTOTAL				\$2,623,250.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 39,000.00
Contingency (20%)				\$ 525,000.00
Design/Permittting/Acquisition (20%)				\$ 525,000.00
TOTAL				\$3,680,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Harrods Creek Interceptor/Force Main Phase 1 - Scenarios 3 & 4

Item Name	Units	Units Req.	Unit Price	Extension
Mobilization/Demobilization	L.S.	1	\$25,000.00	\$ 25,000.00
Clearing	AC	2	\$ 4,000.00	\$ 8,000.00
20" Force Main	L.F.	3,400	\$ 125.00	\$ 425,000.00
Utility Crossings	EA.	1	\$ 1,000.00	\$ 1,000.00
Air Release Valves and Vault	EA.	1	\$12,000.00	\$ 12,000.00
Pavement Replacement	S.Y.	35	\$ 35.00	\$ 1,225.00
Ground Restoration	S.Y.	7,600	\$ 1.00	\$ 7,600.00
EPSC	L.S.	1	\$15,000.00	\$ 15,000.00
CONSTRUCTION SUBTOTAL				\$ 494,825.00
Easement (Assume 20' Easement)	S.F.	70,000	\$ 0.20	\$ 14,000.00
SUBTOTAL				\$ 508,825.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 8,000.00
Contingency (20%)				\$ 102,000.00
Design/Permitting/Acquisition (20%)				\$ 102,000.00
TOTAL				\$ 720,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Harrods Creek Force Main Phase 3 (Southern Alignment) - Scenarios 1 & 3

Item Name	Units	Units Req.	Unit Price	Extension
Mobilization/Demobilization	L.S	1	\$25,000.00	\$ 25,000.00
De-watering	L.S	1	\$10,000.00	\$ 10,000.00
Clearing	AC	2	\$ 4,000.00	\$ 8,000.00
Additional 20"/30" Force Main on HC Int 2	L.F.	800	\$ 100.00	\$ 80,000.00
Force Main (20"/30" Parallel)	L.F.	17,000	\$ 200.00	\$3,400,000.00
20" Bore (HC)	L.F.	130	\$ 800.00	\$ 104,000.00
30" Bore (HC)	L.F.	130	\$ 450.00	\$ 58,500.00
Force Main (20"/30" Parallel) - Along North Route	L.F.	5,000	\$ 200.00	\$1,000,000.00
20" Bore (Brownsboro Rd., I-71, and Hite Creek)	L.F.	415	\$ 800.00	\$ 332,000.00
30" Bore (Brownsboro Rd. I-71, and Hite Creek)	L.F.	415	\$ 450.00	\$ 186,750.00
Utility Crossings	EA	15	\$ 1,000.00	\$ 15,000.00
Air Release Valves and Vault	EA	11	\$12,000.00	\$ 132,000.00
Pavement Replacement (6' Trench)	SY	1,655	\$ 35.00	\$ 57,925.00
Ground Restoration	SY	31,370	\$ 1.00	\$ 31,370.00
Small Creek Crossing	EA	1	\$10,000.00	\$ 10,000.00
EPSC	L.S.	1	\$25,000.00	\$ 25,000.00
CONSTRUCTION SUBTOTAL				\$5,475,545.00
Easement (Assume 20' Easement)	S.F.	288,300	\$ 0.20	\$ 57,660.00
SUBTOTAL				\$5,533,205.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob))				\$ 82,000.00
Contingency (20%)				\$1,107,000.00
Design/Permitting/Acquisition (20%)				\$1,107,000.00
TOTAL				\$7,750,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Harrods Creek Force Main Phase 3 (Northern Alignment) - Scenarios 2 & 4

Item Name	Units	Units Req.	Unit Price	Extension
20"/30" Force Main	L.F.	18,000	\$ 200.00	\$3,600,000.00
Additional 20"/30" Force Main on HC Int 2	L.F.	5,300	\$ 100.00	\$ 530,000.00
Air Release Valve and Vault	EA	5	\$ 2,000.00	\$ 10,000.00
20" Bore (Harrods Cr., Bboro Rd, I-71, and Hite Cr.)	L.F.	575	\$ 800.00	\$ 460,000.00
30" Bore (Harrods Cr., Bboro Rd, I-71, and Hite Cr.)	L.F.	575	\$ 450.00	\$ 258,750.00
Street Crossing	EA	2	\$ 1,000.00	\$ 2,000.00
Driveway Crossing	EA	12	\$ 600.00	\$ 7,200.00
Utility Crossing	EA	12	\$ 1,000.00	\$ 12,000.00
Creek Crossing	EA	2	\$10,000.00	\$ 20,000.00
EPSC	L.S.	1	\$35,000.00	\$ 35,000.00
Ground Restoration	S.Y.	60,000	\$ 1.00	\$ 60,000.00
Clearing	AC	2	\$ 4,000.00	\$ 8,000.00
De-watering	L.S.	1	\$10,000.00	\$ 10,000.00
CONSTRUCTION SUBTOTAL				\$5,012,950.00
Easement (Assume 30' Easement)	EA	28	\$ 2,000.00	\$ 56,000.00
SUBTOTAL				\$5,068,950.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 14,000.00
Contingency (20%)				\$1,014,000.00
Design/Permitting/Acquisition (20%)				\$1,014,000.00
TOTAL				\$7,100,000.00

Items Not Included: Inspection and Force Account

Notes:

- 1) Bore Cost for Second Bore is Reduced due to Launch and Receiving Pit Cost Savings

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Shadow Wood Elimination Force Main - Scenarios 1.1 & 2.1

Item Name	Units	Units Req.	Unit Price	Extension
6" Force Main	L.F.	1,325	\$ 40.00	\$ 53,000.00
Utility Crossing	EA.	4	\$ 1,000.00	\$ 4,000.00
Clearing	AC.	1	\$ 4,000.00	\$ 4,000.00
Pavement Replacement (6' Trench)	S.Y.	320	\$ 35.00	\$ 11,200.00
Ground Restoration	S.Y.	2,000	\$ 1.00	\$ 2,000.00
Air Release Valve and Vault	EA.	1	\$ 2,500.00	\$ 2,500.00
Mobilization/Demobilization	L.S.	1	\$15,000.00	\$ 15,000.00
De-watering	L.S.	1	\$ 5,000.00	\$ 5,000.00
EPSC	L.S.	1	\$10,000.00	\$ 10,000.00
CONSTRUCTION SUBTOTAL				\$ 106,700.00
Easement (20' Wide)	S.F.	42,200	\$ 0.20	\$ 8,440.00
SUBTOTAL				\$ 115,140.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 1,000.00
Contingency (20%)				\$ 24,000.00
Design/Permitting/Acquisition (20%)				\$ 24,000.00
TOTAL				\$ 170,000.00

Items Not Included: Inspection and Force Account

HARRODS CREEK/PROSPECT AREA ELIMINATION

OPINION OF PROBABLE COST

Shadow Wood Elimination Gravity - Scenarios 1.2 & 2.2

Item Name	Units	Units Req.	Unit Price	Extension
10" Pipe (5'-10' Deep)	L.F.	615	\$ 75.00	\$ 46,125.00
10" Pipe (10'-15' Deep)	L.F.	708	\$ 90.00	\$ 63,720.00
MH (5'-10' Deep)	EA.	1	\$ 3,000.00	\$ 3,000.00
MH (10'-15' Deep)	EA.	7	\$ 4,000.00	\$ 28,000.00
Utility Crossing	EA.	4	\$ 1,000.00	\$ 4,000.00
Clearing	AC.	1	\$ 4,000.00	\$ 4,000.00
Pavement Replacement (6' Trench)	S.Y.	320	\$ 35.00	\$ 11,200.00
Ground Restoration	S.Y.	2,810	\$ 1.00	\$ 2,810.00
Mobilization/Demobilization	L.S.	1	\$15,000.00	\$ 15,000.00
De-watering	L.S.	1	\$ 5,000.00	\$ 5,000.00
EPSC	L.S.	1	\$10,000.00	\$ 10,000.00
CONSTRUCTION SUBTOTAL				\$ 192,855.00
Easement (30' Wide)	S.F.	39,690	\$ 0.20	\$ 7,938.00
SUBTOTAL				\$ 200,793.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 3,000.00
Contingency (20%)				\$ 41,000.00
Design/Permitting/Acquisition (20%)				\$ 41,000.00
TOTAL				\$ 290,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Shadow Wood Elimination Force Main - Scenarios 3A.1 & 4A.1

Item Name	Units	Units Req.	Unit Price	Extension
6" Force Main	L.F.	2,100	\$ 40.00	\$ 84,000.00
6" Bore	L.F.	180	\$ 300.00	\$ 54,000.00
Utility Crossing	EA.	4	\$ 1,000.00	\$ 4,000.00
Clearing	AC.	1	\$ 4,000.00	\$ 4,000.00
Pavement Replacement (6' Trench)	S.Y.	320	\$ 35.00	\$ 11,200.00
Ground Restoration	S.Y.	3,280	\$ 1.00	\$ 3,280.00
Air Release Valve and Vault	EA.	3	\$ 2,500.00	\$ 7,500.00
Mobilization/Demobilization	L.S.	1	\$15,000.00	\$ 15,000.00
De-watering	L.S.	1	\$15,000.00	\$ 15,000.00
EPSC	L.S.	1	\$10,000.00	\$ 10,000.00
CONSTRUCTION SUBTOTAL				\$ 207,980.00
Easement (20' Wide)	S.F.	42,200	\$ 0.20	\$ 8,440.00
SUBTOTAL				\$ 216,420.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 2,000.00
Contingency (20%)				\$ 44,000.00
Design/Permitting/Acquisition (20%)				\$ 44,000.00
TOTAL				\$ 310,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Shadow Wood Elimination Gravity - Scenarios 3A.2 & 4A.2

Item Name	Units	Units Req.	Unit Price	Extension
10" Pipe (5'-10' Deep)	L.F.	615	\$ 75.00	\$ 46,125.00
10" Pipe (10'-20' Deep)	L.F.	708	\$ 90.00	\$ 63,720.00
10" Pipe (>50' Deep)	L.F.	785	\$ 350.00	\$ 274,750.00
MH (5'-10' Deep)	EA.	1	\$ 3,000.00	\$ 3,000.00
MH (10'-20' Deep)	EA.	7	\$ 4,000.00	\$ 28,000.00
MH (>50' Deep)	EA.	5	\$ 15,000.00	\$ 75,000.00
10" Pipe Bore	L.F.	180	\$ 350.00	\$ 63,000.00
Utility Crossing	EA.	4	\$ 1,000.00	\$ 4,000.00
Clearing	AC.	1	\$ 4,000.00	\$ 4,000.00
Pavement Replacement (6' Trench)	S.Y.	320	\$ 35.00	\$ 11,200.00
Ground Restoration	S.Y.	4,900	\$ 1.00	\$ 4,900.00
Mobilization/Demobilization	L.S.	1	\$ 15,000.00	\$ 15,000.00
De-watering	L.S.	1	\$ 20,000.00	\$ 20,000.00
EPSC	L.S.	1	\$ 10,000.00	\$ 10,000.00
CONSTRUCTION SUBTOTAL				\$ 622,695.00
Easement (30' Wide)	S.F.	63,000	\$ 0.20	\$ 12,600.00
SUBTOTAL				\$ 635,295.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 9,000.00
Contingency (20%)				\$ 128,000.00
Design/Permittting/Acquisition (20%)				\$ 128,000.00
TOTAL				\$ 900,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Shadow Wood Elimination (To Barbour Lane Pump Station)

Item Name	Units	Units Req.	Unit Price	Extension
Mobilization/Demobilization	L.S.	1	\$25,000.00	\$ 25,000.00
De-watering	L.S.	1	\$ 5,000.00	\$ 5,000.00
Clearing (4025 ft.)	AC.	2	\$ 3,000.00	\$ 6,000.00
6" Force Main	L.F.	7,835	\$ 40.00	\$ 313,400.00
Utility Crossings	EA.	9	\$ 1,000.00	\$ 9,000.00
Air Release Valves and Vault	EA.	4	\$ 5,000.00	\$ 20,000.00
Pavement Replacement (6' Trench)	S.Y.	1,453	\$ 35.00	\$ 50,855.00
Ground Restoration	S.Y.	14,200	\$ 1.00	\$ 14,200.00
EPSC	L.S.	1	\$25,000.00	\$ 25,000.00
CONSTRUCTION SUBTOTAL				\$ 468,455.00
Easement (Assume 20' Easement)	S.F.	103,800	\$ 0.20	\$ 20,760.00
SUBTOTAL				\$ 489,215.00
Bonds (1.5% of Construction Cost(w/o Mob/Demob)				\$ 14,000.00
Contingency (20%)				\$ 98,000.00
Design/Permitting/Acquisition (20%)				\$ 98,000.00
TOTAL				\$ 690,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK PUMP STATION
SCENARIO 1 & 2 - INITIAL COST FOR HCPS
INITIAL CAPACITY 2.8 MGD MINIMUM - 2,000 GPM
ULTIMATE PEAK FLOW 12.1 MGD - 8,400GPM
20" AND 30" FORCE MAIN FROM KEN CARLA TO HITE CREEK WWTP**

Capitol Engineering, Inc.
8200 East Highway 62, Suite 250
Jeffersonville, Indiana 47130
(812) 285-4731
FAX (812)-285-5521

Project: Harrods Creek pump Station
Scenario 1 & 2
Location: Jefferson County
Date: August 2009
Prepared by: Capitol Engineering, Inc.

NO.	ITEM	UNIT	UNIT PRICE	QUANTITIES	TOTAL PRICE
CONSTRUCTION COST LIMIT					
General Equipment					
1	Submersible Pumps, Firm Station Capacity - 6,200 gpm Minimum - 2,070 gpm/unit - Initially Install 2 Pumps With a Firm Capacity of 2,000 gpm Minimum	EA.	\$ 195,000	2	\$ 390,000
2	Pump Controls, Reduced Voltage Starting	EA.	\$ 65,000	2	\$ 130,000
3	Telemetry System and Local Controls, Pump Sequencing, Etc.	L.S.	\$ 75,000	1	\$ 75,000
4	Effluent Flow Meter	L.S.	\$ 30,000	1	\$ 30,000
5	Influent Flow Meter	L.S.	\$ 45,000	1	\$ 45,000
6	Standby power Generator Complete With Auto transfer Switch	L.S.	\$ 325,000	1	\$ 325,000
Wet Well and Valve Vault					
1	Steel Sheet Piling	TN.	\$ 1,500	305	\$ 457,500
2	Whalers for Sheet Piling	TN.	\$ 1,500	30	\$ 45,000
3	Excavation (Included Haul)	C.Y.	\$ 20	4,570	\$ 91,400
4	Backfill (Included Haul)	C.Y.	\$ 30	1,640	\$ 49,200
5	Dewatering Including Electrical and Maintenance	L.S.	\$ 50,000	1	\$ 50,000
6	Bypass Pumping/Temporary Force main Including Maintenance	L.S.	\$ 50,000	1	\$ 50,000
7	Concrete Base Slabs	C.Y.	\$ 550	360	\$ 198,000
8	Concrete Walls - Upper	C.Y.	\$ 750	175	\$ 131,250
9	Concrete Walls - Middle	C.Y.	\$ 700	200	\$ 140,000
10	Concrete Walls - Lower	C.Y.	\$ 650	300	\$ 195,000
11	Concrete Top Slab	C.Y.	\$ 800	75	\$ 60,000
12	Concrete Baffle	C.Y.	\$ 1,200	8	\$ 9,600
13	Base 90 and associated Discharge Piping, Guide Rails, Lifting Chain	EA.	\$ 15,000	4	\$ 60,000
14	Check/Plug Valves, Pressure Gauges, and Associated Discharge Piping	EA.	\$ 15,000	4	\$ 60,000
15	Access Hatches	EA.	\$ 3,000	4	\$ 12,000
16	Safety Grating	EA.	\$ 2,000	4	\$ 8,000
17	Valve Vault Sump Pump and Discharge Line	EA.	\$ 7,500	4	\$ 30,000
18	Holst System and Loading System	L.S.	\$ 7,500	4	\$ 30,200
Control Building - 25' x 50' = 1,250 sf					
1	Concrete Footings and Foundation	C.Y.	\$ 600	45	\$ 27,000
2	Excavation	C.Y.	\$ 10	250	\$ 2,500
3	Backfill	C.Y.	\$ 15	200	\$ 3,000
4	Floor Slab	C.Y.	\$ 600	35	\$ 21,000
5	CMU Walls	L.S.	\$ 65,000	1	\$ 65,000
6	Brick Veneer	L.S.	\$ 35,000	1	\$ 35,000
7	Roof System Complete, Trusses, Sheeting, Roofing	S.F.	\$ 15	1,400	\$ 21,000
8	Building Insulation	S.F.	\$ 5	1,250	\$ 6,250
9	Painting	S.F.	\$ 5	1,250	\$ 6,250
10	Building Architectural	S.F.	\$ 18	1,250	\$ 22,500
11	Building Mechanical	S.F.	\$ 18	1,250	\$ 22,500
12	Building HVAC	S.F.	\$ 22	1,250	\$ 27,500
13	Building Electrical (Lighting, HVAC, Etc.)	S.F.	\$ 22	1,250	\$ 27,500
Site Work					
1	Demolition	L.S.	\$ 25,000	1	\$ 25,000
2	Grading	L.S.	\$ 15,000	1	\$ 15,000
3	Access Road and Apron - Gravel Base	TN.	\$ 20	600	\$ 12,000
4	Access Road and Apron - Asphalt	TN.	\$ 85	170	\$ 14,450
5	Erosion Control Measures Including Permitting and Maintenance	L.S.	\$ 20,000	1	\$ 20,000
6	Seeding/Sodding	L.S.	\$ 15,000	1	\$ 15,000
7	Landscaping	L.S.	\$ 15,000	1	\$ 15,000
8	Fencing	L.S.	\$ 15,000	1	\$ 15,000

9	Access Gates	L.S.	\$ 15,000	1	\$ 15,000
	General				
1	Pump Startup and Training	L.S.	\$ 20,000	1	\$ 20,000
2	Spare Parts	L.S.	\$ 20,000	1	\$ 20,000
3	Cost to Bring Power to Site	L.S.	\$ 20,000	1	\$ 20,000
4	Electrical Work	L.S.	\$ 317,000	1	\$ 317,000
5	Performance and Payment Bonds	L.S.	\$ 48,000	1	\$ 48,000
6	Mobilize/demobilize	L.S.	\$ 80,000	1	\$ 80,000
7	Contingency at 10%	L.S.	\$ 317,000	1	\$ 317,000
	Total Estimated Construction Costs				\$ 3,927,400
	NON CONSTRUCTION COSTS				
1	Engineering	L.S.	\$ 314,200	1	\$ 314,200
2	General Inspection	L.S.	\$ 117,900	1	\$ 117,900
3	Resident Inspection	L.S.	\$ 196,400	1	\$ 196,400
	Total Estimated Non Construction Costs				\$ 628,500
	Total Estimated Project Costs				\$ 4,555,900

**HARRODS CREEK PUMP STATION
SCENARIO 1 & 2 - ULTIMATE COST FOR HCPS
ULTIMATE PEAK FLOW 12.1 MGD - 8,400GPM
20" AND 30" FORCE MAIN FROM KEN CARLA TO HITE CREEK WWTP**

Capitol Engineering, Inc.
6200 East Highway 62, Suite 250
Jeffersonville, Indiana 47130
(812) 285-4731
FAX (812)-285-5521

Project: Harrods Creek pump Station
Scenario 1 & 2
Location: Jefferson County
Date: August 2009
Prepared by: Capitol Engineering, Inc.

NO.	ITEM	UNIT	UNIT PRICE	QUANTITIES	TOTAL PRICE
CONSTRUCTION COST LIMIT					
General Equipment					
1	Submersible Pumps, Firm Station Capacity - 8,400 gpm Minimum - 2,100 gpm/unit - Initially Install 2 Pumps With a Firm Capacity of 2,000 gpm Minimum	EA.	\$ 195,000	5	\$ 975,000
2	Pump Controls, Reduced Voltage Starting	EA.	\$ 65,000	5	\$ 325,000
3	Telemetry System and Local Controls, Pump Sequencing, Etc.	L.S.	\$ 75,000	1	\$ 75,000
4	Effluent Flow Meter	L.S.	\$ 30,000	1	\$ 30,000
5	Influent Flow Meter	L.S.	\$ 45,000	1	\$ 45,000
6	Standby power Generator Complete With Auto transfer Switch	L.S.	\$ 325,000	1	\$ 375,000
Wet Well and Valve Vault					
1	Steel Sheet Piling	TN.	\$ 1,500	328	\$ 492,000
2	Whalers for Sheet Piling	TN.	\$ 1,500	33	\$ 49,500
3	Excavation (Included Haul)	C.Y.	\$ 20	5,390	\$ 107,800
4	Backfill (Included Haul)	C.Y.	\$ 30	1,820	\$ 54,600
5	Dewatering Including Electrical and Maintenance	L.S.	\$ 50,000	1	\$ 50,000
6	Bypass Pumping/Temporary Force main Including Maintenance	L.S.	\$ 50,000	1	\$ 50,000
7	Concrete Base Slabs	C.Y.	\$ 550	420	\$ 231,000
8	Concrete Walls - Upper	C.Y.	\$ 750	200	\$ 150,000
9	Concrete Walls - Middle	C.Y.	\$ 700	225	\$ 157,500
10	Concrete Walls - Lower	C.Y.	\$ 650	330	\$ 214,500
11	Concrete Top Slab	C.Y.	\$ 800	85	\$ 68,000
12	Concrete Baffle	C.Y.	\$ 1,200	8	\$ 9,600
13	Base 90 and associated Discharge Piping, Guide Rails, Lifting Chain	EA.	\$ 15,000	5	\$ 75,000
14	Check/Plug Valves, Pressure Gauges, and Associated Discharge Piping	EA.	\$ 15,000	5	\$ 75,000
15	Access Hatches	EA.	\$ 3,000	5	\$ 15,000
16	Safety Grating	EA.	\$ 2,000	5	\$ 10,000
17	Valve Vault Sump Pump and Discharge Line	EA.	\$ 7,500	5	\$ 37,500
18	Holst System and Loading System	L.S.	\$ 7,500	5	\$ 37,500
Control Building - 25' x 50' = 1,250 sf					
1	Concrete Footings and Foundation	C.Y.	\$ 600	45	\$ 27,000
2	Excavation	C.Y.	\$ 10	250	\$ 2,500
3	Backfill	C.Y.	\$ 15	200	\$ 3,000
4	Floor Slab	C.Y.	\$ 600	35	\$ 21,000
5	CMU Walls	L.S.	\$ 65,000	1	\$ 65,000
6	Brick Veneer	L.S.	\$ 35,000	1	\$ 35,000
7	Roof System Complete, Trusses, Sheeting, Roofing	S.F.	\$ 15	1,400	\$ 21,000
8	Building Insulation	S.F.	\$ 5	1,250	\$ 6,250
9	Painting	S.F.	\$ 5	1,250	\$ 6,250
10	Building Architectural	S.F.	\$ 18	1,250	\$ 22,500
11	Building Mechanical	S.F.	\$ 18	1,250	\$ 22,500
12	Building HVAC	S.F.	\$ 22	1,250	\$ 27,500
13	Building Electrical (Lighting, HVAC, Etc.)	S.F.	\$ 22	1,250	\$ 27,500
Site Work					
1	Demolition	L.S.	\$ 25,000	1	\$ 25,000
2	Grading	L.S.	\$ 15,000	1	\$ 15,000
3	Access Road and Apron - Gravel Base	TN.	\$ 20	600	\$ 12,000
4	Access Road and Apron - Asphalt	TN.	\$ 85	170	\$ 14,450
5	Erosion Control Measures Including Permitting and Maintenance	L.S.	\$ 20,000	1	\$ 20,000
6	Seeding/Sodding	L.S.	\$ 15,000	1	\$ 15,000
7	Landscaping	L.S.	\$ 15,000	1	\$ 15,000
8	Fencing	L.S.	\$ 15,000	1	\$ 15,000
9	Access Gates	L.S.	\$ 15,000	1	\$ 15,000

General					
1	Pump Startup and Training	L.S.	\$ 20,000	1	\$ 20,000
2	Spare Parts	L.S.	\$ 20,000	1	\$ 20,000
3	Cost to Bring Power to Site	L.S.	\$ 20,000	1	\$ 20,000
4	Electrical Work	L.S.	\$ 421,000	1	\$ 421,000
5	Performance and Payment Bonds	L.S.	\$ 64,000	1	\$ 64,000
6	Mobilize/demobilize	L.S.	\$ 106,000	1	\$ 106,000
7	Contingency at 10%	L.S.	\$ 421,000	1	\$ 421,000
Total Estimated Construction Costs					\$ 5,214,950
NON CONSTRUCTION COSTS					
1	Engineering	L.S.	\$ 417,200	1	\$ 417,200
2	General Inspection	L.S.	\$ 156,500	1	\$ 156,500
3	Resident Inspection	L.S.	\$ 260,800	1	\$ 260,800
Total Estimated Non Construction Costs					\$ 834,500
Total Estimated Project Costs					\$ 6,049,450

HARRODS CREEK PUMP STATION
SCENARIO 3A & 4A - INITIAL COSTS FOR HCPS AND TLPS
INITIAL CAPACITY 1.5 MGD MINIMUM AT HCPS AND 1.3 MGD AT TLPS
INITIAL STATION DESIGN CAPACITY AT BOTH STATIONS = 2,000 GPM TO MAINTAIN MINIMUM VELOCITY IN FORCE MAIN
20" FORCE MAIN FROM HCPS TO TLPS, 20" AND 24" FORCE MAIN FROM TLPS TO HITE CREEK WWTP
HCPS AND TLPS LIFT STATIONS ARE MANIFOLD TO A COMMON FORCE MAIN SYSTEM

Capitol Engineering, Inc.
6200 East Highway 82, Suite 250
Jeffersonville, Indiana 47130
(812) 285-4731
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Project: Harrods Creek pump Station
Scenario 3A & 4A
Location: Jefferson County
Date: August 2009
Prepared by: Capitol Engineering, Inc.

NO.	ITEM	UNIT	UNIT PRICE	QUANTITIES	TOTAL PRICE
CONSTRUCTION COST LIMIT					
HCPS LIFT STATION					
General Equipment					
1	Submersible Pumps, Firm Station Capacity - 3,580 gpm Minimum - 1,840 gpm/unit - Initially Install 2 Pumps With a Firm Capacity of 2,000 gpm	EA.	\$ 195,000	2	\$ 390,000
2	Pump Controls, Reduced Voltage Starting	EA.	\$ 65,000	2	\$ 130,000
3	Telemetry System and Local Controls, Pump Sequencing, Etc.	L.S.	\$ 75,000	1	\$ 75,000
4	Effluent Flow Meter	L.S.	\$ 30,000	1	\$ 30,000
5	Influent Flow Meter	L.S.	\$ 45,000	1	\$ 45,000
6	Standby power Generator Complete With Auto transfer Switch	L.S.	\$ 245,000	1	\$ 245,000
Wet Well and Valve Vault					
1	Steel Sheet Piling	TN.	\$ 1,500	205	\$ 307,500
2	Whalers for Sheet Piling	TN.	\$ 1,500	21	\$ 31,500
3	Excavation (Included Haul)	C.Y.	\$ 20	3,100	\$ 62,000
4	Backfill (Included Haul)	C.Y.	\$ 30	1,100	\$ 33,000
5	Dewatering Including Electrical and Maintenance	L.S.	\$ 50,000	1	\$ 50,000
6	Bypass Pumping/Temporary Force main Including Maintenance	L.S.	\$ 50,000	1	\$ 50,000
7	Concrete Base Slabs	C.Y.	\$ 550	245	\$ 134,750
8	Concrete Walls - Upper	C.Y.	\$ 750	120	\$ 90,000
9	Concrete Walls - Middle	C.Y.	\$ 700	135	\$ 94,500
10	Concrete Walls - Lower	C.Y.	\$ 850	200	\$ 130,000
11	Concrete Top Slab	C.Y.	\$ 800	50	\$ 40,000
12	Concrete Baffle	C.Y.	\$ 1,200	8	\$ 9,600
13	Base 90 and associated Discharge Piping, Guide Rails, Lifting Chain	EA.	\$ 15,000	3	\$ 45,000
14	Check/Plug Valves, Pressure Gauges, and Associated Discharge Piping	EA.	\$ 15,000	3	\$ 45,000
15	Access Hatches	EA.	\$ 3,000	3	\$ 9,000
16	Safety Grating	EA.	\$ 2,000	3	\$ 6,000
17	Valve Vault Sump Pump and Discharge Line	EA.	\$ 7,500	3	\$ 22,500
18	Hoist System and Loading System	L.S.	\$ 7,500	3	\$ 22,500
Control Building - 20' x 40' = 800 sf					
1	Concrete Footings and Foundation	C.Y.	\$ 600	34	\$ 20,400
2	Excavation	C.Y.	\$ 10	190	\$ 1,900
3	Backfill	C.Y.	\$ 15	150	\$ 2,250
4	Floor Slab	C.Y.	\$ 800	27	\$ 18,200
5	CMU Walls	L.S.	\$ 49,000	1	\$ 49,000
6	Brick Veneer	L.S.	\$ 27,000	1	\$ 27,000
7	Roof System Complete, Trusses, Sheeting, Roofing	S.F.	\$ 17	900	\$ 15,300
8	Building Insulation	S.F.	\$ 6	800	\$ 4,800
9	Painting	S.F.	\$ 6	800	\$ 4,800
10	Building Architectural	S.F.	\$ 20	800	\$ 16,000
11	Building Mechanical	S.F.	\$ 20	800	\$ 16,000
12	Building HVAC	S.F.	\$ 25	800	\$ 20,000
13	Building Electrical (Lighting, HVAC, Etc.)	S.F.	\$ 25	800	\$ 20,000
Site Work					
1	Demolition	L.S.	\$ 25,000	1	\$ 25,000
2	Grading	L.S.	\$ 15,000	1	\$ 15,000
3	Access Road and Apron - Gravel Base	TN.	\$ 20	600	\$ 12,000
4	Access Road and Apron - Asphalt	TN.	\$ 85	170	\$ 14,450
5	Erosion Control Measures Including Permitting and Maintenance	L.S.	\$ 20,000	1	\$ 20,000
6	Seeding/Sodding	L.S.	\$ 15,000	1	\$ 15,000
7	Landscaping	L.S.	\$ 15,000	1	\$ 15,000

8	Fencing	L.F.	\$ 40	350	\$ 14,000
9	Access Gates	L.S.	\$ 15,000	1	\$ 15,000
	General				
1	Pump Startup and Training	L.S.	\$ 20,000	1	\$ 20,000
2	Spare Parts	L.S.	\$ 20,000	1	\$ 20,000
3	Cost to Bring Power to Site	L.S.	\$ 20,000	1	\$ 20,000
4	Electrical Work	L.S.	\$ 252,000	1	\$ 252,000
5	Performance and Payment Bonds	L.S.	\$ 38,000	1	\$ 38,000
6	Mobilize/demobilize	L.S.	\$ 63,000	1	\$ 63,000
7	Contingency at 10%	L.S.	\$ 252,000	1	\$ 252,000
	Subtotal HCPS Lift Station Estimated Construction Costs				\$ 3,121,950
	TLPS LIFT STATION				
	General Equipment				
1	Submersible Pumps, Firm Station Capacity - 2,500 gpm Minimum - 1,250 gpm/unit - Initially install 2 Pumps With a Firm Capacity of 2,000 gpm	EA.	\$ 195,000	2	\$ 390,000
2	Pump Controls, Reduced Voltage Starting	EA.	\$ 65,000	2	\$ 130,000
3	Telemetry System and Local Controls, Pump Sequencing, Etc.	L.S.	\$ 75,000	1	\$ 75,000
4	Effluent Flow Meter	L.S.	\$ 30,000	1	\$ 30,000
5	Influent Flow Meter	L.S.	\$ 45,000	1	\$ 45,000
6	Standby power Generator Complete With Auto transfer Switch	L.S.	\$ 245,000	1	\$ 245,000
	Wet Well and Valve Vault				
1	Steel Sheet Piling	TN.	\$ 1,500	155	\$ 232,500
2	Whalers for Sheet Piling	TN.	\$ 1,500	16	\$ 24,000
3	Excavation (Included Haul)	C.Y.	\$ 20	2,350	\$ 47,000
4	Backfill (Included Haul)	C.Y.	\$ 30	850	\$ 25,500
5	Dewatering Including Electrical and Maintenance	L.S.	\$ 50,000	1	\$ 50,000
6	Bypass Pumping/Temporary Force main Including Maintenance	L.S.	\$ 50,000	1	\$ 50,000
7	Concrete Base Slabs	C.Y.	\$ 550	185	\$ 101,750
8	Concrete Walls - Upper	C.Y.	\$ 750	90	\$ 67,500
9	Concrete Walls - Middle	C.Y.	\$ 700	105	\$ 73,500
10	Concrete Walls - Lower	C.Y.	\$ 650	150	\$ 97,500
11	Concrete Top Slab	C.Y.	\$ 800	40	\$ 32,000
12	Concrete Baffle	C.Y.	\$ 1,200	8	\$ 9,600
13	Base 90 and associated Discharge Piping, Guide Rails, Lifting Chain	EA.	\$ 15,000	3	\$ 45,000
14	Check/Plug Valves, Pressure Gauges, and Associated Discharge Piping	EA.	\$ 15,000	3	\$ 45,000
15	Access Hatches	EA.	\$ 3,000	3	\$ 9,000
16	Safety Grating	EA.	\$ 2,000	3	\$ 6,000
17	Valve Vault Sump Pump and Discharge Line	EA.	\$ 7,500	3	\$ 22,500
18	Hoist System and Loading System	L.S.	\$ 7,500	3	\$ 22,500
	Control Building - 20' x 40' = 800 sf				
1	Concrete Footings and Foundation	C.Y.	\$ 600	34	\$ 20,400
2	Excavation	C.Y.	\$ 10	190	\$ 1,900
3	Backfill	C.Y.	\$ 15	150	\$ 2,250
4	Floor Slab	C.Y.	\$ 600	27	\$ 16,200
5	CMU Walls	L.S.	\$ 49,000	1	\$ 49,000
6	Brick Veneer	L.S.	\$ 27,000	1	\$ 27,000
7	Roof System Complete, Trusses, Sheeting, Roofing	S.F.	\$ 17	900	\$ 15,300
8	Building Insulation	S.F.	\$ 6	800	\$ 4,800
9	Painting	S.F.	\$ 8	800	\$ 4,800
10	Building Architectural	S.F.	\$ 20	800	\$ 16,000
11	Building Mechanical	S.F.	\$ 20	800	\$ 16,000
12	Building HVAC	S.F.	\$ 25	800	\$ 20,000
13	Building Electrical (Lighting, HVAC, Etc.)	S.F.	\$ 25	800	\$ 20,000
	Site Work				
1	Demolition	L.S.	\$ 35,000	1	\$ 35,000
2	Grading	L.S.	\$ 40,000	1	\$ 40,000
3	Access Road and Apron - Gravel Base	TN.	\$ 20	1,100	\$ 22,000
4	Access Road and Apron - Asphalt	TN.	\$ 85	340	\$ 28,900
5	Erosion Control Measures including Permitting and Maintenance	L.S.	\$ 35,000	1	\$ 35,000
6	Seeding/Sodding	L.S.	\$ 20,000	1	\$ 20,000
7	Landscaping	L.S.	\$ 20,000	1	\$ 20,000
8	Fencing	L.S.	\$ 35	1,450	\$ 50,750
9	Access Gates	L.S.	\$ 15,000	1	\$ 15,000
	General				

1	Pump Startup and Training	L.S.	\$ 20,000	1	\$ 20,000
2	Spare Parts	L.S.	\$ 20,000	1	\$ 20,000
3	Cost to Bring Power to Site	L.S.	\$ 20,000	1	\$ 20,000
4	Electrical Work	L.S.	\$ 242,000	1	\$ 242,000
5	Performance and Payment Bonds	L.S.	\$ 37,000	1	\$ 37,000
6	Mobilize/demobilize	L.S.	\$ 61,000	1	\$ 61,000
7	Contingency at 10%	L.S.	\$ 242,000	1	\$ 242,000
Subtotal TLPS Lift Station Estimated Construction Costs					\$ 2,998,150
Total Estimated Construction Costs					\$ 6,120,100
NON CONSTRUCTION COSTS					
1	Engineering	L.S.	\$ 489,700	1	\$ 489,700
2	General Inspection	L.S.	\$ 183,700	1	\$ 183,700
3	Resident Inspection	L.S.	\$ 306,100	1	\$ 306,100
Total Estimated Non Construction Costs					\$ 979,500
Total Estimated Project Costs					\$ 7,099,600

HARRODS CREEK PUMP STATION
SCENARIO 3A & 4A - ULTIMATE COSTS FOR HCPS AND TLPS
INITIAL CAPACITY 1.3 MGD MINIMUM AT HCPS AND 1.3 MGD AT TLPS
INITIAL STATION DESIGN CAPACITY AT BOTH STATIONS = 2,000 GPM TO MAINTAIN MINIMUM VELOCITY IN FORCE MAIN
ULTIMATE PEAK FLOW TO HCPS = 5.3 MGD - TLPS = 6.8 MGD
20" FORCE MAIN FROM HCPS TO TLPS, 20" AND 30" FORCE MAIN FROM TLPS TO HITE CREEK WWTP
HCPS AND TLPS LIFT STATIONS ARE MANIFOLD TO A COMMON FORCE MAIN SYSTEM

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Project: Harrods Creek pump Station
Scenario 3A & 4A
Location: Jefferson County
Date: August 2009
Prepared by: Capitol Engineering, Inc.

NO.	ITEM	UNIT	UNIT PRICE	QUANTITIES	TOTAL PRICE
	CONSTRUCTION COST LIMIT				
	HCPS LIFT STATION				
	General Equipment				
1	Submersible Pumps, Firm Station Capacity - 3,680 gpm Minimum - 1,840 gpm/unit	EA.	\$ 195,000	3	\$ 585,000
2	Pump Controls, Reduced Voltage Starting	EA.	\$ 65,000	3	\$ 195,000
3	Telemetry System and Local Controls, Pump Sequencing, Etc.	L.S.	\$ 75,000	1	\$ 75,000
4	Effluent Flow Meter	L.S.	\$ 30,000	1	\$ 30,000
5	Influent Flow Meter	L.S.	\$ 45,000	1	\$ 45,000
6	Standby power Generator Complete With Auto transfer Switch	L.S.	\$ 245,000	1	\$ 245,000
	Wet Well and Valve Vault				
1	Steel Sheet Piling	TN.	\$ 1,500	205	\$ 307,500
2	Whalers for Sheet Piling	TN.	\$ 1,500	21	\$ 31,500
3	Excavation (Included Haul)	C.Y.	\$ 20	3,100	\$ 62,000
4	Backfill (Included Haul)	C.Y.	\$ 30	1,100	\$ 33,000
5	Dewatering Including Electrical and Maintenance	L.S.	\$ 50,000	1	\$ 50,000
6	Bypass Pumping/Temporary Force main Including Maintenance	L.S.	\$ 50,000	1	\$ 50,000
7	Concrete Base Slabs	C.Y.	\$ 550	245	\$ 134,750
8	Concrete Walls - Upper	C.Y.	\$ 750	120	\$ 90,000
9	Concrete Walls - Middle	C.Y.	\$ 700	135	\$ 94,500
10	Concrete Walls - Lower	C.Y.	\$ 650	200	\$ 130,000
11	Concrete Top Slab	C.Y.	\$ 800	50	\$ 40,000
12	Concrete Baffle	C.Y.	\$ 1,200	8	\$ 9,600
13	Base 90 and associated Discharge Piping, Guide Rails, Lifting Chain	EA.	\$ 15,000	3	\$ 45,000
14	Check/Plug Valves, Pressure Gauges, and Associated Discharge Piping	EA.	\$ 15,000	3	\$ 45,000
15	Access Hatches	EA.	\$ 3,000	3	\$ 9,000
16	Safety Grating	EA.	\$ 2,000	3	\$ 6,000
17	Valve Vault Sump Pump and Discharge Line	EA.	\$ 7,500	3	\$ 22,500
18	Holst System and Loading System	L.S.	\$ 7,500	3	\$ 22,500
	Control Building - 20' x 40' = 800 sf				
1	Concrete Footings and Foundation	C.Y.	\$ 600	34	\$ 20,400
2	Excavation	C.Y.	\$ 10	190	\$ 1,900
3	Backfill	C.Y.	\$ 15	150	\$ 2,250
4	Floor Slab	C.Y.	\$ 600	27	\$ 16,200
5	CMU Walls	L.S.	\$ 49,000	1	\$ 49,000
6	Brick Veneer	L.S.	\$ 27,000	1	\$ 27,000
7	Roof System Complete, Trusses, Sheeting, Roofing	S.F.	\$ 17	900	\$ 15,300
8	Building Insulation	S.F.	\$ 6	800	\$ 4,800
9	Painting	S.F.	\$ 6	800	\$ 4,800
10	Building Architectural	S.F.	\$ 20	800	\$ 16,000
11	Building Mechanical	S.F.	\$ 20	800	\$ 16,000
12	Building HVAC	S.F.	\$ 25	800	\$ 20,000
13	Building Electrical (Lighting, HVAC, Etc.)	S.F.	\$ 25	800	\$ 20,000
	Site Work				
1	Demolition	L.S.	\$ 25,000	1	\$ 25,000
2	Grading	L.S.	\$ 15,000	1	\$ 15,000
3	Access Road and Apron - Gravel Base	TN.	\$ 20	600	\$ 12,000
4	Access Road and Apron - Asphalt	TN.	\$ 85	170	\$ 14,450
5	Erosion Control Measures Including Permitting and Maintenance	L.S.	\$ 20,000	1	\$ 20,000
6	Seeding/Sodding	L.S.	\$ 15,000	1	\$ 15,000

7	Landscaping	L.S.	\$ 15,000	1	\$ 15,000
8	Fencing	L.F.	\$ 40	350	\$ 14,000
9	Access Gates	L.S.	\$ 15,000	1	\$ 15,000
General					
1	Pump Startup and Training	L.S.	\$ 20,000	1	\$ 20,000
2	Spare Parts	L.S.	\$ 20,000	1	\$ 20,000
3	Cost to Bring Power to Site	L.S.	\$ 20,000	1	\$ 20,000
4	Electrical Work	L.S.	\$ 278,000	1	\$ 278,000
5	Performance and Payment Bonds	L.S.	\$ 42,000	1	\$ 42,000
6	Mobilize/demobilize	L.S.	\$ 70,000	1	\$ 70,000
7	Contingency at 10%	L.S.	\$ 278,000	1	\$ 278,000
Subtotal HCPS Lift Station Estimated Construction Costs					\$ 3,444,950
TLPS LIFT STATION					
General Equipment					
1	Submersible Pumps, Firm Station Capacity - 4,700 gpm Minimum - 1,580 gpm/unit	EA.	\$ 195,000	4	\$ 780,000
2	Pump Controls, Reduced Voltage Starting	EA.	\$ 65,000	4	\$ 260,000
3	Telemetry System and Local Controls, Pump Sequencing, Etc.	L.S.	\$ 75,000	1	\$ 75,000
4	Effluent Flow Meter	L.S.	\$ 30,000	1	\$ 30,000
5	Influent Flow Meter	L.S.	\$ 45,000	1	\$ 45,000
6	Standby power Generator Complete With Auto transfer Switch	L.S.	\$ 325,000	1	\$ 325,000
Wet Well and Valve Vault					
1	Steel Sheet Piling	TN.	\$ 1,500	230	\$ 345,000
2	Whalers for Sheet Piling	TN.	\$ 1,500	23	\$ 34,500
3	Excavation (Included Haul)	C.Y.	\$ 20	3,450	\$ 69,000
4	Backfill (Included Haul)	C.Y.	\$ 30	1,230	\$ 36,900
5	Dewatering Including Electrical and Maintenance	L.S.	\$ 50,000	1	\$ 50,000
6	Bypass Pumping/Temporary Force main Including Maintenance	L.S.	\$ 50,000	1	\$ 50,000
7	Concrete Base Slabs	C.Y.	\$ 550	270	\$ 148,500
8	Concrete Walls - Upper	C.Y.	\$ 750	135	\$ 101,250
9	Concrete Walls - Middle	C.Y.	\$ 700	150	\$ 105,000
10	Concrete Walls - Lower	C.Y.	\$ 650	225	\$ 146,250
11	Concrete Top Slab	C.Y.	\$ 800	75	\$ 60,000
12	Concrete Baffle	C.Y.	\$ 1,200	8	\$ 9,600
13	Base 90 and associated Discharge Piping, Guide Rails, Lifting Chain	EA.	\$ 15,000	4	\$ 60,000
14	Check/Plug Valves, Pressure Gauges, and Associated Discharge Piping	EA.	\$ 15,000	4	\$ 60,000
15	Access Hatches	EA.	\$ 3,000	4	\$ 12,000
16	Safety Grating	EA.	\$ 2,000	4	\$ 8,000
17	Valve Vault Sump Pump and Discharge Line	EA.	\$ 7,500	4	\$ 30,000
18	Holst System and Loading System	L.S.	\$ 7,500	4	\$ 30,000
Control Building - 20' x 40' = 800 sf					
1	Concrete Footings and Foundation	C.Y.	\$ 600	34	\$ 20,400
2	Excavation	C.Y.	\$ 10	190	\$ 1,900
3	Backfill	C.Y.	\$ 15	150	\$ 2,250
4	Floor Slab	C.Y.	\$ 800	27	\$ 16,200
5	CMU Walls	L.S.	\$ 49,000	1	\$ 49,000
6	Brick Veneer	L.S.	\$ 27,000	1	\$ 27,000
7	Roof System Complete, Trusses, Sheeting, Roofing	S.F.	\$ 17	900	\$ 15,300
8	Building Insulation	S.F.	\$ 6	800	\$ 4,800
9	Painting	S.F.	\$ 6	800	\$ 4,800
10	Building Architectural	S.F.	\$ 20	800	\$ 16,000
11	Building Mechanical	S.F.	\$ 20	800	\$ 16,000
12	Building HVAC	S.F.	\$ 25	800	\$ 20,000
13	Building Electrical (Lighting, HVAC, Etc.)	S.F.	\$ 25	800	\$ 20,000
Site Work					
1	Demolition	L.S.	\$ 35,000	1	\$ 35,000
2	Grading	L.S.	\$ 40,000	1	\$ 40,000
3	Access Road and Apron - Gravel Base	TN.	\$ 20	1,100	\$ 22,000
4	Access Road and Apron - Asphalt	TN.	\$ 85	340	\$ 28,900
5	Erosion Control Measures Including Permitting and Maintenance	L.S.	\$ 35,000	1	\$ 35,000
6	Seeding/Sodding	L.S.	\$ 20,000	1	\$ 20,000
7	Landscaping	L.S.	\$ 20,000	1	\$ 20,000
8	Fencing	L.S.	\$ 35	1,450	\$ 50,750
9	Access Gates	L.S.	\$ 15,000	1	\$ 15,000
General					

1	Pump Startup and Training	L.S.	\$ 20,000	1	\$ 20,000
2	Spare Parts	L.S.	\$ 20,000	1	\$ 20,000
3	Cost to Bring Power to Site	L.S.	\$ 20,000	1	\$ 20,000
4	Electrical Work	L.S.	\$ 342,000	1	\$ 342,000
5	Performance and Payment Bonds	L.S.	\$ 52,000	1	\$ 52,000
6	Mobilize/demobilize	L.S.	\$ 86,000	1	\$ 86,000
7	Contingency at 10%	L.S.	\$ 342,000	1	\$ 342,000
Subtotal TLPS Lift Station Estimated Construction Costs					\$ 4,233,300
Total Estimated Construction Costs					\$ 7,676,250
NON CONSTRUCTION COSTS					
1	Engineering	L.S.	\$ 614,300	1	\$ 614,300
2	General Inspection	L.S.	\$ 230,400	1	\$ 230,400
3	Resident Inspection	L.S.	\$ 384,000	1	\$ 384,000
Total Estimated Non Construction Costs					\$ 1,228,700
Total Estimated Project Costs					\$ 8,906,950

**HARRODS CREEK PUMPING STATION
SHADOW WOOD ELIMINATION TO HARRODS CREEK PUMP STATION
LOUISVILLE METROPOLITAN SEWER DISTRICT**

Capitol Engineering, Inc.
6200 East Highway 62, Suite 250
Jeffersonville, Indiana 47130
(812) 285-4731
FAX (812)-285-5521

Project: Harrods Creek pump Station
Shadow Wood Elimination to Harrods Creek
Location: Jefferson County
Date: October 2009
Prepared by: Capitol Engineering, Inc.

NO.	ITEM	UNIT	UNIT PRICE	QUANTITIES	TOTAL PRICE
CONSTRUCTION COST LIMIT					
1	6' Diameter Precast Concrete Wet Well Including Excavation (20' Deep Per Station)	L.S.	\$ 20,000	1	\$ 20,000
2	6' Diameter Precast Valve vault	L.S.	\$ 15,000	1	\$ 15,000
3	6' Top Slab with Safety Grating and Aluminum Traffic Lid	EA.	\$ 3,500	1	\$ 3,500
4	Submersible Pumps (Approximately 190 gpm/unit)	EA.	\$ 12,500	2	\$ 25,000
5	Wet Well Discharge Piping	L.S.	\$ 12,500	1	\$ 12,500
6	Valves and Piping	L.S.	\$ 11,500	1	\$ 11,500
7	Pump Controls	EA.	\$ 20,000	1	\$ 20,000
8	Telemetry System	EA.	\$ 15,000	1	\$ 15,000
9	Standby Power Generator	EA.	\$ 35,000	1	\$ 35,000
10	Security Fencing	EA.	\$ 6,500	1	\$ 6,500
11	Building to House Controls	EA.	\$ 25,000	1	\$ 25,000
12	Influent Piping Modifications to Divert Flow to New Lift Station	EA.	\$ 15,000	1	\$ 15,000
13	Pump Startup and Training	EA.	\$ 3,500	1	\$ 3,500
14	Spare Parts	EA.	\$ 3,500	1	\$ 3,500
15	Pavement and Pavement Restoration	EA.	\$ 4,500	1	\$ 4,500
16	Electrical Work	EA.	\$ 25,000	1	\$ 25,000
17	Site Grading/Cleanup	EA.	\$ 5,500	1	\$ 5,500
18	Performance and Payment Bonds	L.S.	\$ 4,000	1	\$ 4,000
19	Mobilize/demobilize	L.S.	\$ 7,000	1	\$ 7,000
20	Contingency at 10%	L.S.	\$ 25,000	1	\$ 25,000
Total Estimated Construction Cost					\$ 282,000
CONSTRUCTION COST TO INCREASE PUMP CAPACITY TO MEET FUTURE CONDITION					
1	Replace Pump Impellers to Increase Capacity to 265 gpm	EA.	\$ 5,500	2	\$ 11,000
2	Pump Startup and Testing	L.S.	\$ 3,500	1	\$ 3,500
Total Estimated Construction Cost to Increase Capacity to Meet Future Condition					\$ 14,500
NON CONSTRUCTION COSTS					
1	Engineering	L.S.	\$ 33,900	1	\$ 33,900
2	General Inspection	L.S.	\$ 8,500	1	\$ 8,500
3	Resident Inspection	L.S.	\$ 17,000	1	\$ 17,000
Total Estimated Non Construction Costs					\$ 59,400
Total Estimated Project Costs					\$ 341,400

**HARRODS CREEK PUMPING STATION
SHADOW WOOD ELIMINATION TO BARBOUR LANE PUMP STATION
LOUISVILLE METROPOLITAN SEWER DISTRICT**

Capitol Engineering, Inc.
8200 East Highway 62, Suite 250
Jeffersonville, Indiana 47130
(812) 285-4731
FAX (812)-285-5521

Project: Harrods Creek pump Station
Shadow Wood Elimination to Barbour Lane
Location: Jefferson County
Date: October 2009
Prepared by: Capitol Engineering, Inc.

NO.	ITEM	UNIT	UNIT PRICE	QUANTITIES	TOTAL PRICE
CONSTRUCTION COST LIMIT					
1	6' Diameter Precast Concrete Wet Well Including Excavation (20' Deep)	L.S.	\$ 20,000	1	\$ 20,000
2	6' Diameter Precast Valve vault	L.S.	\$ 15,000	1	\$ 15,000
3	6' Top Slab with Safety Grating and Aluminum Traffic Lid	EA.	\$ 3,500	1	\$ 3,500
4	Submersible Pumps (Approximately 190 gpm/unit)	EA.	\$ 22,500	2	\$ 45,000
5	Wet Well Discharge Piping	L.S.	\$ 12,500	1	\$ 12,500
6	Valves and Piping	L.S.	\$ 11,500	1	\$ 11,500
7	Pump Controls	EA.	\$ 32,000	1	\$ 32,000
8	Telemetry System	EA.	\$ 15,000	1	\$ 15,000
9	Standby Power Generator	EA.	\$ 50,000	1	\$ 50,000
10	Security Fencing	EA.	\$ 6,500	1	\$ 6,500
11	Building to House Controls	EA.	\$ 25,000	1	\$ 25,000
12	Influent Piping Modifications to Divert Flow to New Lift Station	EA.	\$ 15,000	1	\$ 15,000
13	Pump Startup and Training	EA.	\$ 3,500	1	\$ 3,500
14	Spare Parts	EA.	\$ 3,500	1	\$ 3,500
15	Pavement and Pavement Restoration	EA.	\$ 4,500	1	\$ 4,500
16	Electrical Work	EA.	\$ 35,000	1	\$ 35,000
17	Site Grading/Cleanup	EA.	\$ 5,500	1	\$ 5,500
18	Performance and Payment Bonds	L.S.	\$ 5,000	1	\$ 5,000
19	Mobilize/demobilize	L.S.	\$ 8,000	1	\$ 8,000
20	Contingency at 10%	L.S.	\$ 31,000	1	\$ 31,000
Total Estimated Construction Cost					\$ 347,000
CONSTRUCTION COST TO INCREASE PUMP CAPACITY TO MEET FUTURE CONDITION					
1	Replace Pump Impellers to Increase Capacity to 265 gpm	EA.	\$ 7,000	2	\$ 14,000
2	Pump Startup and Testing	L.S.	\$ 3,500	1	\$ 3,500
Total Estimated Construction Cost to Increase Capacity to Meet Future Condition					\$ 17,500
NON CONSTRUCTION COSTS					
1	Engineering	L.S.	\$ 41,700	1	\$ 41,700
2	General Inspection	L.S.	\$ 10,500	1	\$ 10,500
3	Resident Inspection	L.S.	\$ 20,900	1	\$ 20,900
Total Estimated Non Construction Costs					\$ 73,100
Total Estimated Project Costs					\$ 420,100

HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST
HCPS Operations & Maintenance (Scenario 1 & 2)

Item Name	Units	Units/Year	Unit Price	Extension
Electricity	kW	744,000	\$ 0.06	\$ 44,640.00
<i>455 hp motor running 6 hrs/day</i>				
Deodorize	gal	146,000	\$ 1.85	\$ 270,100.00
<i>0.3 to 1,000 mix ratio</i>				
Man Power	hr	600	\$ 50.00	\$ 30,000.00
TOTAL				\$ 350,000.00

Items Not Included: Inspection and Force Account

HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST
HCPS Operations & Maintenance (Scenario 3 & 4)

Item Name	Units	Units/Year	Unit Price	Extension
Electricity	kW	744,000	\$ 0.06	\$ 44,640.00
<i>455 hp motor running 6 hrs/day</i>				
Deodorize	gal	90,500	\$ 1.85	\$ 167,425.00
<i>0.3 to 1,000 mix ratio</i>				
Man Power	hr	600	\$ 50.00	\$ 30,000.00
TOTAL				\$ 250,000.00

Items Not Included: Inspection and Force Account

HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST
TLPS Operations & Maintenance (Scenario 3 & 4)

Item Name	Units	Units/Year	Unit Price	Extension
Electricity	kW	744,000	\$ 0.06	\$ 44,640.00
<i>455 hp motor running 6 hrs/day</i>				
Deodorize	gal	55,900	\$ 1.85	\$ 103,415.00
<i>0.3 to 1,000 mix ratio</i>				
Man Power	hr	600	\$ 50.00	\$ 30,000.00
TOTAL				\$ 180,000.00

Items Not Included: Inspection and Force Account

**HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST**

Shadow Wood Elimination Pump Station Operations & Maintenance

Item Name	Units	Units/Year	Unit Price	Extension
Electricity	kW	572,000	\$ 0.06	\$ 34,320.00
<i>350 hp motor running 6 hrs/day</i>				
Deodorize	gal	42,000	\$ 1.85	\$ 77,700.00
<i>0.3 to 1,000 mix ratio</i>				
Man Power	hr	200	\$ 50.00	\$ 10,000.00
TOTAL				\$ 130,000.00

Items Not Included: Inspection and Force Account

HARRODS CREEK/PROSPECT AREA ELIMINATION
OPINION OF PROBABLE COST
Future Pump Replacement Costs

HCPS - Scenarios 1 & 2				
Year	Original Pump	Future Pump	Sum	PV
5	\$ 39,000.00	\$ -	\$ 39,000.00	\$ 34,000.00
10	\$ 39,000.00	\$ -	\$ 39,000.00	\$ 30,000.00
15	\$ 39,000.00	\$ 58,500.00	\$ 97,500.00	\$ 63,000.00
20	\$ 390,000.00	\$ 58,500.00	\$448,500.00	\$ 249,000.00
20 Year PV				\$ 376,000.00
25	\$ 39,000.00	\$ 58,500.00	\$ 97,500.00	\$ 47,000.00
30	\$ 39,000.00	\$585,000.00	\$624,000.00	\$ 258,000.00
35	\$ 39,000.00	\$ 58,500.00	\$ 97,500.00	\$ 35,000.00
40	\$ 390,000.00	\$ 58,500.00	\$448,500.00	\$ 138,000.00
45	\$ 39,000.00	\$ 58,500.00	\$ 97,500.00	\$ 28,000.00
50	\$ 39,000.00	\$585,000.00	\$624,000.00	\$ 143,000.00
50 Year PV				\$ 1,023,000.00

TLPS - Scenarios 3A & 4A				
Year	Original Pump	Future Pump	Sum	PV
5	\$ 39,000.00	\$ -	\$ 39,000.00	\$ 34,000.00
10	\$ 39,000.00	\$ -	\$ 39,000.00	\$ 30,000.00
15	\$ 39,000.00	\$ 39,000.00	\$ 78,000.00	\$ 51,000.00
20	\$ 390,000.00	\$ 39,000.00	\$429,000.00	\$ 238,000.00
20 Year PV				\$ 353,000.00
25	\$ 39,000.00	\$ 39,000.00	\$ 78,000.00	\$ 38,000.00
30	\$ 39,000.00	\$390,000.00	\$429,000.00	\$ 177,000.00
35	\$ 39,000.00	\$ 39,000.00	\$ 78,000.00	\$ 28,000.00
40	\$ 390,000.00	\$ 39,000.00	\$429,000.00	\$ 132,000.00
45	\$ 39,000.00	\$ 39,000.00	\$ 78,000.00	\$ 21,000.00
50	\$ 39,000.00	\$390,000.00	\$429,000.00	\$ 98,000.00
50 Year PV				\$ 847,000.00

HCPS - Scenarios 3A & 4A				
Year	Original Pump	Future Pump	Sum	PV
5	\$ 39,000.00	\$ -	\$ 39,000.00	\$ 34,000.00
10	\$ 39,000.00	\$ -	\$ 39,000.00	\$ 30,000.00
15	\$ 39,000.00	\$ 19,500.00	\$ 58,500.00	\$ 38,000.00
20	\$ 390,000.00	\$ 19,500.00	\$409,500.00	\$ 227,000.00
20 Year PV				\$ 329,000.00
25	\$ 39,000.00	\$ 19,500.00	\$ 58,500.00	\$ 28,000.00
30	\$ 39,000.00	\$195,000.00	\$234,000.00	\$ 97,000.00
35	\$ 39,000.00	\$ 19,500.00	\$ 58,500.00	\$ 21,000.00
40	\$ 390,000.00	\$ 19,500.00	\$409,500.00	\$ 126,000.00
45	\$ 39,000.00	\$ 19,500.00	\$ 58,500.00	\$ 16,000.00
50	\$ 39,000.00	\$195,000.00	\$234,000.00	\$ 54,000.00
50 Year PV				\$ 671,000.00

Shadow Wood Elimination to HCPS				
Year	Original Pump	Future Pump	Sum	PV
5	\$ 2,500.00	\$ -	\$ 2,500.00	\$ 3,000.00
10	\$ 2,500.00	\$ -	\$ 2,500.00	\$ 2,000.00
15	\$ 2,500.00	\$ 1,100.00	\$ 3,600.00	\$ 3,000.00
20	\$ 25,000.00	\$ 1,100.00	\$ 26,100.00	\$ 15,000.00
20 Year PV				\$ 23,000.00
25	\$ 2,500.00	\$ 1,100.00	\$ 3,600.00	\$ 2,000.00
30	\$ 2,500.00	\$ 11,000.00	\$ 13,500.00	\$ 6,000.00
35	\$ 2,500.00	\$ 1,100.00	\$ 3,600.00	\$ 2,000.00
40	\$ 25,000.00	\$ 1,100.00	\$ 26,100.00	\$ 9,000.00
45	\$ 2,500.00	\$ 1,100.00	\$ 3,600.00	\$ 1,000.00
50	\$ 2,500.00	\$ 11,000.00	\$ 13,500.00	\$ 4,000.00
50 Year PV				\$ 47,000.00

Shadow Wood Elimination to Barbour Ln PS				
Year	Original Pump	Future Pump	Sum	PV
5	\$ 4,500.00	\$ -	\$ 4,500.00	\$ 4,000.00
10	\$ 4,500.00	\$ -	\$ 4,500.00	\$ 4,000.00
15	\$ 4,500.00	\$ 1,400.00	\$ 5,900.00	\$ 4,000.00
20	\$ 45,000.00	\$ 1,400.00	\$ 46,400.00	\$ 26,000.00
20 Year PV				\$ 38,000.00
25	\$ 4,500.00	\$ 1,400.00	\$ 5,900.00	\$ 3,000.00
30	\$ 4,500.00	\$ 14,000.00	\$ 18,500.00	\$ 8,000.00
35	\$ 4,500.00	\$ 1,400.00	\$ 5,900.00	\$ 3,000.00
40	\$ 45,000.00	\$ 1,400.00	\$ 46,400.00	\$ 15,000.00
45	\$ 4,500.00	\$ 1,400.00	\$ 5,900.00	\$ 2,000.00
50	\$ 4,500.00	\$ 14,000.00	\$ 18,500.00	\$ 5,000.00
50 Year PV				\$ 74,000.00

Appendix VI:
Cost Estimate Summary

Total Costs

	Scenario 1.1	Scenario 1.2	Scenario 1.3	Scenario 2.1	Scenario 2.2	Scenario 2.3	Scenario 3A.1	Scenario 3A.2	Scenario 3A.3	Scenario 4A.1	Scenario 4A.2	Scenario 4A.3
HC Interceptor/FM Phase 1A	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00
HC Interceptor/FM Phase 1	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00
HC FM Phase 3	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,100,000.00	\$ 7,100,000.00	\$ 7,100,000.00	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,100,000.00	\$ 7,100,000.00	\$ 7,100,000.00
Shadow Wood	\$ 170,000.00	\$ 290,000.00	\$ 690,000.00	\$ 170,000.00	\$ 290,000.00	\$ 690,000.00	\$ 310,000.00	\$ 900,000.00	\$ 690,000.00	\$ 310,000.00	\$ 900,000.00	\$ 690,000.00
Pump Stations	\$ 6,400,000.00	\$ 6,050,000.00	\$ 6,470,000.00	\$ 6,400,000.00	\$ 6,050,000.00	\$ 6,470,000.00	\$ 9,250,000.00	\$ 8,910,000.00	\$ 9,330,000.00	\$ 9,250,000.00	\$ 8,910,000.00	\$ 9,330,000.00
Sum	\$ 24,020,000.00	\$ 23,790,000.00	\$ 24,610,000.00	\$ 23,370,000.00	\$ 23,140,000.00	\$ 23,960,000.00	\$ 21,850,000.00	\$ 22,100,000.00	\$ 22,310,000.00	\$ 21,200,000.00	\$ 21,450,000.00	\$ 21,660,000.00

Initial Capital Costs

	Scenario 1.1	Scenario 1.2	Scenario 1.3	Scenario 2.1	Scenario 2.2	Scenario 2.3	Scenario 3A.1	Scenario 3A.2	Scenario 3A.3	Scenario 4A.1	Scenario 4A.2	Scenario 4A.3
HC Interceptor/FM Phase 1A	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 6,020,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00	\$ 3,820,000.00
HC Interceptor/FM Phase 1	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 3,680,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00	\$ 720,000.00
HC FM Phase 3	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,100,000.00	\$ 7,100,000.00	\$ 7,100,000.00	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,750,000.00	\$ 7,100,000.00	\$ 7,100,000.00	\$ 7,100,000.00
Shadow Wood	\$ 170,000.00	\$ 290,000.00	\$ 690,000.00	\$ 170,000.00	\$ 290,000.00	\$ 690,000.00	\$ 310,000.00	\$ 900,000.00	\$ 690,000.00	\$ 310,000.00	\$ 900,000.00	\$ 690,000.00
Pump Stations	\$ 4,900,000.00	\$ 4,560,000.00	\$ 4,980,000.00	\$ 4,900,000.00	\$ 4,560,000.00	\$ 4,980,000.00	\$ 7,450,000.00	\$ 7,100,000.00	\$ 7,520,000.00	\$ 7,450,000.00	\$ 7,100,000.00	\$ 7,520,000.00
Sum	\$ 22,520,000.00	\$ 22,300,000.00	\$ 23,120,000.00	\$ 21,870,000.00	\$ 21,650,000.00	\$ 22,470,000.00	\$ 20,050,000.00	\$ 20,290,000.00	\$ 20,500,000.00	\$ 19,400,000.00	\$ 19,640,000.00	\$ 19,850,000.00

Annual Operation and Maintenance Costs

	Scenario 1.1	Scenario 1.2	Scenario 1.3	Scenario 2.1	Scenario 2.2	Scenario 2.3	Scenario 3A.1	Scenario 3A.2	Scenario 3A.3	Scenario 4A.1	Scenario 4A.2	Scenario 4A.3
HCPS	\$ 350,000.00	\$ 350,000.00	\$ 350,000.00	\$ 350,000.00	\$ 350,000.00	\$ 350,000.00	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00
TLPS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00
Shadow Wood PS	\$ 130,000.00	\$ -	\$ 130,000.00	\$ 130,000.00	\$ -	\$ 130,000.00	\$ 130,000.00	\$ -	\$ 130,000.00	\$ 130,000.00	\$ -	\$ 130,000.00
Sum	\$ 480,000.00	\$ 350,000.00	\$ 480,000.00	\$ 480,000.00	\$ 350,000.00	\$ 480,000.00	\$ 560,000.00	\$ 430,000.00	\$ 560,000.00	\$ 560,000.00	\$ 430,000.00	\$ 560,000.00
Present Worth (20 years, i = 3%)	\$ 7,150,000.00	\$ 5,210,000.00	\$ 7,150,000.00	\$ 7,150,000.00	\$ 5,210,000.00	\$ 7,150,000.00	\$ 8,340,000.00	\$ 6,400,000.00	\$ 8,340,000.00	\$ 8,340,000.00	\$ 6,400,000.00	\$ 8,340,000.00
Present Worth (50 years, i = 3%)	\$ 12,360,000.00	\$ 9,010,000.00	\$ 12,360,000.00	\$ 12,360,000.00	\$ 9,010,000.00	\$ 12,360,000.00	\$ 14,410,000.00	\$ 11,070,000.00	\$ 14,410,000.00	\$ 14,410,000.00	\$ 11,070,000.00	\$ 14,410,000.00

Future Capital Costs (Pump Station Upgrade in 10 Years)

	Scenario 1.1	Scenario 1.2	Scenario 1.3	Scenario 2.1	Scenario 2.2	Scenario 2.3	Scenario 3A.1	Scenario 3A.2	Scenario 3A.3	Scenario 4A.1	Scenario 4A.2	Scenario 4A.3
HCPS	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 1,500,000.00	\$ 380,000.00	\$ 380,000.00	\$ 380,000.00	\$ 380,000.00	\$ 380,000.00	\$ 380,000.00
TLPS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,440,000.00	\$ 1,440,000.00	\$ 1,440,000.00	\$ 1,440,000.00	\$ 1,440,000.00	\$ 1,440,000.00
Shadow Wood PS	\$ 20,000.00	\$ -	\$ 20,000.00	\$ 20,000.00	\$ -	\$ 20,000.00	\$ 20,000.00	\$ -	\$ 20,000.00	\$ 20,000.00	\$ -	\$ 20,000.00
Sum	\$ 1,520,000.00	\$ 1,500,000.00	\$ 1,520,000.00	\$ 1,520,000.00	\$ 1,500,000.00	\$ 1,520,000.00	\$ 1,840,000.00	\$ 1,820,000.00	\$ 1,840,000.00	\$ 1,840,000.00	\$ 1,820,000.00	\$ 1,840,000.00
Present Worth (20 years, i = 3%)	\$ 850,000.00	\$ 840,000.00	\$ 850,000.00	\$ 850,000.00	\$ 840,000.00	\$ 850,000.00	\$ 1,030,000.00	\$ 1,020,000.00	\$ 1,030,000.00	\$ 1,030,000.00	\$ 1,020,000.00	\$ 1,030,000.00
Present Worth (50 years, i = 3%)	\$ 850,000.00	\$ 840,000.00	\$ 850,000.00	\$ 850,000.00	\$ 840,000.00	\$ 850,000.00	\$ 1,030,000.00	\$ 1,020,000.00	\$ 1,030,000.00	\$ 1,030,000.00	\$ 1,020,000.00	\$ 1,030,000.00

Future Operation and Maintenance Costs (20 Year PV, i = 3%) - See Future Pump Replacement Costs Sheet for Details

	Scenario 1.1	Scenario 1.2	Scenario 1.3	Scenario 2.1	Scenario 2.2	Scenario 2.3	Scenario 3A.1	Scenario 3A.2	Scenario 3A.3	Scenario 4A.1	Scenario 4A.2	Scenario 4A.3
HCPS	\$ 376,000.00	\$ 376,000.00	\$ 376,000.00	\$ 376,000.00	\$ 376,000.00	\$ 376,000.00	\$ 329,000.00	\$ 329,000.00	\$ 329,000.00	\$ 329,000.00	\$ 329,000.00	\$ 329,000.00
TLPS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 353,000.00	\$ 353,000.00	\$ 353,000.00	\$ 353,000.00	\$ 353,000.00	\$ 353,000.00
Shadow Wood PS	\$ 23,000.00	\$ -	\$ 38,000.00	\$ 23,000.00	\$ -	\$ 38,000.00	\$ 23,000.00	\$ -	\$ 38,000.00	\$ 23,000.00	\$ -	\$ 38,000.00
Sum	\$ 399,000.00	\$ 376,000.00	\$ 414,000.00	\$ 399,000.00	\$ 376,000.00	\$ 414,000.00	\$ 705,000.00	\$ 682,000.00	\$ 720,000.00	\$ 705,000.00	\$ 682,000.00	\$ 720,000.00

Future Operation and Maintenance Costs (50 Year PV, i = 3%) - See Future Pump Replacement Costs Sheet for Details

	Scenario 1.1	Scenario 1.2	Scenario 1.3	Scenario 2.1	Scenario 2.2	Scenario 2.3	Scenario 3A.1	Scenario 3A.2	Scenario 3A.3	Scenario 4A.1	Scenario 4A.2	Scenario 4A.3
HCPS	\$ 1,023,000.00	\$ 1,023,000.00	\$ 1,023,000.00	\$ 1,023,000.00	\$ 1,023,000.00	\$ 1,023,000.00	\$ 671,000.00	\$ 671,000.00	\$ 671,000.00	\$ 671,000.00	\$ 671,000.00	\$ 671,000.00
TLPS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 847,000.00	\$ 847,000.00	\$ 847,000.00	\$ 847,000.00	\$ 847,000.00	\$ 847,000.00
Shadow Wood PS	\$ 47,000.00	\$ -	\$ 74,000.00	\$ 47,000.00	\$ -	\$ 74,000.00	\$ 47,000.00	\$ -	\$ 74,000.00	\$ 47,000.00	\$ -	\$ 74,000.00
Sum	\$ 1,070,000.00	\$ 1,023,000.00	\$ 1,097,000.00	\$ 1,070,000.00	\$ 1,023,000.00	\$ 1,097,000.00	\$ 1,565,000.00	\$ 1,518,000.00	\$ 1,592,000.00	\$ 1,565,000.00	\$ 1,518,000.00	\$ 1,592,000.00

Total 20-Year Present Worth	\$30,919,000	\$28,726,000	\$31,534,000	\$30,269,000	\$28,076,000	\$30,384,000	\$30,125,000	\$28,392,000	\$30,590,000	\$29,475,000	\$27,742,000	\$29,940,000
Total 50-Year Present Worth	\$36,800,000	\$33,173,000	\$37,427,000	\$36,150,000	\$32,523,000	\$36,777,000	\$37,055,000	\$33,898,000	\$37,532,000	\$36,405,000	\$33,248,000	\$36,882,000

Appendix Appendix VII:
Preliminary Plan and Profile Drawings
Of Multiple Alignments

Appendix VIII:

**Preliminary Cost Estimates for
Other Options**

Prospect Wastewater Treatment Plant Elimination

Comparison Table for Elimination Options

Option	Description	Segments Included	Ultimate Cost	Force Main Cost	Pump Station Cost	Gravity Sewer Cost	Boring Cost	Total - Construction Cost	Additional ORFM Cost	Additional O.C. Costs	Additional CSS Costs	Total Costs	Current Capital Costs	Ex. Costs
0	All Area to Hite Creek via Regional PS at Ken Carla.	E, F, H	\$ 21,445,000	\$ 6,670,000	\$ 7,370,000	\$ 6,470,000	\$ 935,000	\$ 21,445,000	\$ -	\$ -		\$ 21,445,000	\$ 14,275,000	\$ 12,260,000.00
1	All Area to ORFM via Regional PS at Ken Carla.	A, B, E, H	\$ 38,880,000	\$ 2,715,000	\$ 7,370,000	\$ 6,470,000	\$ 325,000	\$ 16,880,000	\$ 12,000,000	\$ -	\$ 10,000,000	\$ 38,880,000	\$ 12,390,000	\$ 9,565,000.00
2	SW to ORFM, all others to Hite Creek WTP	A, E, F, H	\$ 21,885,000	\$ 7,110,000	\$ 7,370,000	\$ 6,470,000	\$ 935,000	\$ 21,885,000	\$ -	\$ -		\$ 21,885,000	\$ 13,765,000	\$ 11,750,000.00
3	SW to ORFM, HCN to Oldham County, all others to Hite Creek WTP	A, D, E, F, H	\$ 25,670,000	\$ 8,790,000	\$ 9,040,000	\$ 6,010,000	\$ 830,000	\$ 24,670,000	\$ -	\$ 1,000,000		\$ 25,670,000	\$ 18,065,000	\$ 15,640,000.00
4	SW to ORFM, HCN/KC to Oldham County, TL/HCS to Hite Creek WTP	A, D, G, H	\$ 19,630,000	\$ 8,230,000	\$ 8,430,000	\$ 1,220,000	\$ 750,000	\$ 18,630,000	\$ -	\$ 1,000,000		\$ 19,630,000	\$ 14,960,000	\$ 11,140,000.00
5	SW/KC to ORFM, HCN to Oldham County, TL/HCS to Hite Creek WTP	A, B, D, G, H	\$ 20,060,000	\$ 8,070,000	\$ 9,740,000	\$ 760,000	\$ 490,000	\$ 19,060,000	\$ -	\$ 1,000,000		\$ 20,060,000	\$ 15,490,000	\$ 12,360,000.00
6	SW/KC/HCN to ORFM, TL/HCS to Hite Creek WTP	A, B, G, H	\$ 28,225,000	\$ 7,005,000	\$ 8,430,000	\$ 1,220,000	\$ 570,000	\$ 17,225,000	\$ 8,100,000	\$ -	\$ 2,900,000	\$ 28,225,000	\$ 12,400,000	\$ 9,235,000.00
7	All Plants to Oldham County	B, C, D, E, G, H	\$ 22,225,000	\$ 5,310,000	\$ 7,440,000	\$ 6,470,000	\$ 605,000	\$ 19,825,000	\$ -	\$ 2,400,000		\$ 22,225,000	\$ 17,855,000	\$ 13,715,000.00
8	SW/KC/HCN to Oldham County TL/HCS to Hite Creek WTP	B, C, D, G, H	\$ 19,705,000	\$ 8,270,000	\$ 8,430,000	\$ 1,220,000	\$ 785,000	\$ 18,705,000	\$ -	\$ 1,000,000		\$ 19,705,000	\$ 15,035,000	\$ 11,250,000.00
0-Alt	All Area to Hite Creek - Small Pump Station at Ken Carla and Additional Pump Station at Timberlake.	F, G, H	\$ 18,005,000	\$ 7,700,000	\$ 8,430,000	\$ 1,220,000	\$ 655,000	\$ 18,005,000	\$ -			\$ 18,005,000	\$ 13,525,000	\$ 8,940,000.00
	Notes:													
	1) Costs for Construction of Force Mains, Gravity Sewers, Pump Stations and Bores are based on the cost tool using LOJIC Data													
	2) Costs for ORFM Improvements in Option 6 are approximate using the cost tool. The additional costs of the pumps are estimated based on additional head that would be required. Additional Costs for the ORFM are referenced to Option 0, which is the recommend alternative in the IOAP.													
	3) Costs common to each alternative are not listed, including the cost of Harrods Creek Interceptor #1, the reversal of the force main at Hunting Creek North, and any demolition of the existing treatment plants													
	4) Costs listed are construction costs only, with no design, property acquisition, force account or contingencies accounted for. These are intended to be used for comparison purposes rather than determining final costs.													
	5) Costs for the CSS upgrades at 13th and Rowan in option 6 are based on a model run for the annual year performed by O'Brien & Gere. Costs for the CSS upgrades in option 1 are extracted from that													
	6) There are multiple sub-scenarios of each scenario listed. Those items will be explored in greater detail after a scenario is selected.													

Prospect Wastewater Treatment Plant Elimination
Comparison Table for Elimination Options/Current and Ultimate Costs

Ultimate Option	Total Cost	Total Cost without Phasing	Additional Money Spent	Initial Configuration	Initial Costs	Initial Pipes Constructed	Initial Pumps Constructed	Oldham County Interceptor Upsize	Additional Costs for Ultimate		
4	\$ 20,485,000	\$ 19,630,000	\$ 855,000	Existing HCN, KC, SW to ORFM; HCS, TL - HC	\$ 13,505,000	A3-Ex, B3-Ex, C1, D0, E0, F0, G1, H1 \$ 7,715,000	KC 5- Ex, SW-Ex, TL-Ex \$ 4,790,000	OC Int \$ 1,000,000	Total \$ 6,980,000	D2, G1(Diff) \$ 3,340,000	KC5(Diff), SW(Diff), TL(Diff) \$ 3,640,000
5	\$ 20,955,000	\$ 20,060,000	\$ 895,000	Existing HCN, KC, SW to ORFM; HCS, TL - HC	\$ 12,415,000	A3-Ex, B3-Ex, C0, D0, E0, F0, G1, H2 \$ 6,625,000	KC5 - Ex, SW-Ex, TL-Ex \$ 4,790,000	\$ 1,000,000	\$ 8,540,000	D1, G1(Diff) \$ 3,150,000	SW(Diff), TL (Diff), HCN \$ 5,390,000
7	\$ 23,120,000	\$ 22,225,000	\$ 895,000	Existing All to ORFM	\$ 14,750,000	A3-Ex, B3-Ex, C3, D0, E1, F0, G0, H1 \$ 9,030,000	KC1 - Ex, SW-Ex \$ 3,320,000	\$ 2,400,000	\$ 8,370,000	D4 \$ 4,250,000	KC1(Diff), SW (Diff) \$ 4,120,000
4	\$ 24,640,000	\$ 19,630,000	\$ 5,010,000	Existing All to ORFM	\$ 11,655,000	A4-Ex, B4-Ex, C1, D0, E1-ex, F0, G0, H1 \$ 7,395,000	KC2 - Ex, SW-Ex \$ 3,260,000	\$ 1,000,000	\$ 12,985,000	D2, G1 \$ 7,815,000	SW (Diff), TL, KC5(Diff) \$ 5,170,000
0	\$ 22,160,000	\$ 21,445,000	\$ 715,000	Existing All to ORFM	\$ 11,580,000	A4-Ex, B4-Ex, D0, E1, F0, G0, H1 \$ 8,320,000	KC2 - Ex, SW-Ex \$ 3,260,000		\$ 10,580,000	F3 \$ 6,470,000	SW (Diff), KC2(Diff) \$ 4,110,000
0/Alt	\$ 22,645,000	\$ 18,005,000	\$ 4,640,000	Existing All to ORFM	\$ 10,105,000	A4-Ex, B4-Ex, C0, D0, E1-Ex, F0, G0, H1 \$ 6,845,000	KC2 - Ex, SW-Ex \$ 3,260,000		\$ 12,540,000	F4, G1 \$ 7,370,000	SW (Diff), TL, KC5(Diff) \$ 5,170,000

Appendix IX:

**Plan and Profile Drawings of
Recommended Alternatives**