STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF ENFORCEMENT
300 FAIR OAKS LANE
FRANKFORT KENTUCKY 40601
www.kentucky.gov

CERTIFIED MAIL 70082810000043164367
RETURNED RECEIPT REQUESTED

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

Re: Approval of the Elimination Plan for Wastewater Treatment Plants Serving the Prospect Area

Dear Mr. Schardein:

The Kentucky Department for Environmental Protection (KDEP) and the United States Environmental Protection Agency (EPA) have reviewed the Elimination Plan for Wastewater Treatment Plants Serving the Prospect Area, submitted on March 31, 2009. The Plan was developed for the elimination of the Hunting Creek North Water Quality Treatment Center (WQTC), the Hunting Creek South WQTC, the Shadow Wood WQTC, the Ken Carla WQTC, and the Timberlake WQTC, as required by paragraph 27 of the Consent Decree.

On June 10, 2009, KDEP sent MSD a letter granting a wasteload allocation to allow for the expansion of the Hite Creek WQTC from 6.0 mgd to 8.8 mgd in expectation of the increased flow from the elimination of the aforementioned WQTCs. MSD is also required to conduct various corrective actions at these facilities prior to their elimination as outlined in the approved version of the Integrated Overflow Abatement Plan. Recognizing these conditions, KDEP and EPA hereby approve the Elimination Plan for Wastewater Treatment Plants Serving the Prospect Area and incorporate it into the Consent Decree as an enforceable requirement.

If there are any questions, you may contact Mr. Gary Levy of KDEP at (502) 564-3410, or you may contact Mr. Sean Ireland of EPA at (404) 562-9776.

Sincerely,

Jeff Cummins, Acting Director
Division of Enforcement
KY Department for Environmental Protection

Douglas F. Mundrick, P.E., Chief
Clean Water Enforcement Branch
Water Protection Division
EPA Region 4

STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

June 10, 2009

W. Brian Bingham
Regulatory Services Director
Louisville and Jefferson County
Metropolitan Sewer District
700 West Liberty Street
Louisville, Kentucky 40203-1911

Re: Hite Creek Wastewater Treatment Plant
Waste Load Allocation Request
KPDES No.: KY0022420
Jefferson County, Kentucky

Dear Mr. Bingham:

This is in response to your March 30, 2009 letter, requesting a waste load allocation (WLA) for expansion of the subject facility from 6.0 MGD to 8.8 MGD. Discharge is to remain at mile point 1.9 of Hite Creek, a tributary of Harrods Creek, segment number 08050. Per your correspondence, this WLA request assumes the elimination of loads from the following Prospect area wastewater treatment plants (WWTPs):

- KY0029106 / Hunting Creek North WWTP
- KY0029114 / Hunting Creek South WWTP
- KY0022497 / Ken Carla WWTP
- KY0031810 / Shadow Wood WWTP
- KY0043087 / Timberlake WWTP

The MSD/OCSD Regional Wastewater Facilities Plan, approved by the Division of Water (DOW) on July 19, 2002, recommended elimination of these facilities, with flows routed through the Ohio River Force Main to the Morris Forman WWTP. However, in response to a Federal Consent Decree, MSD subsequently developed an Integrated Overflow Abatement Plan (IOAP), dated December 31, 2008. The IOAP concluded that eliminating the Prospect WWTPs and pumping the flows to Hite Creek WWTP could be accomplished at a lower present worth cost than sending the flows to the Morris Forman WWTP. Therefore, this WLA request assumes elimination of the abovementioned facilities, but with flows pumped to an expanded Hite Creek WWTP instead of pumping to Morris Forman WWTP. The WLA information provided will be utilized in preparation of an amended Regional Wastewater Facilities Plan, including a revision of the Hite Creek WWTP service area.

It is noted that this proposal concurs with the approved Harrod's Creek TMDL, which recommends expansion of the Hite Creek WWTP and extending sewer lines to eliminate the abovementioned facilities. Effluent from Hite Creek travels over five (5) miles before reaching the impaired backwater area of Harrod's Creek. This flow is believed to be beneficial since it provides a steady inflow of high quality water. Considering the abovementioned information, the wastewater treatment facilities must be designed to produce the following effluent concentrations.

Design Capacity = 8.8 MGD

Parameter	May 1 - October 31	November 1 - April 30
$CBOD_5$	10 mg/l	10 mg/l
Total Suspended Solids	30 mg/l	30 mg/l
Ammonia Nitrogen	2 mg/l	5 mg/l
Dissolved Oxygen	7 mg/l	7 mg/l
Total Phosphorus	1 mg/l	2 mg/l
Total Nitrogen	Monitor, mg/l	Monitor, mg/l
Total Residual Chlorine	0.011 mg/l	0.011 mg/l
Toxicity	1.0 TUc	1.0 TUc

Reliability Classification = Grade 2

In addition to the above requirements, the monthly average and weekly maximum values of E. coli shall be at or below 130 colonies per 100 milliliters or 240 colonies per 100 milliliters, respectively, the year around. If a form of chlorine is proposed to disinfect the wastewater, then de-chlorination will likely be needed to achieve the chlorine residual. It should be noted that limitations for total phosphorus remain unchanged from the currently effective KPDES permit. However, monitoring requirements for total nitrogen have been added to further assess the impacts of nutrients on the backwater area of Harrod's Creek. Additional effluent limitations and water quality standards are contained in the Division of Water Regulations.

These preliminary design effluent limitations are valid for one (1) year from the date of this letter, and are subject to change as a result of additional information which may be presented during the public notice phase of the KPDES permitting process. As such, this letter does not convey any authorization or approval to proceed with the construction or operation of the proposed WWTP. Construction and KPDES permit applications must be submitted to request such authorization or approval. Nor does this letter ensure issuance of either permit. During the review processes of these permits the Division of Water will further evaluate the viability of the project.

Should you have any questions regarding this letter, please contact Courtney Seitz at (502) 564-8158, extension 4914 or E-mail at Courtney.Seitz@ky.gov.

Sincerely,

Jory M. Becker, P.E.
Environmental Engineer Branch Manager
Surface Water Permits Branch
Division of Water

JMB:CS
c: Compliance and Technical Assistance
Branch, Louisville Section
Division of Water Files

MSD

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

March 31, 2009

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington DC 20044-7611

Jeff Cummins, Acting Director
Division of Enforcement
Department of Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

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

Subject: Elimination Plan for Wastewater Treatment Plants Serving the Prospect Area
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

The Louisville and Jefferson County Metropolitan Sewer District (MSD) has developed this Elimination Plan to address the decommissioning and rerouting of wastewater flows from the Hunting Creek North Wastewater Treatment Plant (WWTP), the Hunting Creek South WWTP, the Shadow Wood WWTP, the Ken Carla WWTP, and the Timberlake WWTP. These five WWTPs serve portions of the Prospect area in northeast Jefferson County. An Elimination Plan for these WWTPs is required by Paragraph 27 of the Amended Consent Decree filed with the Federal Court on March 4, 2009. While this Amended Consent Decree has not been accepted by the presiding judge or entered as an enforceable order, MSD has prepared this Elimination Plan acting in good faith consistent with the intent of the current version of the Amended Consent Decree, and in accordance with the schedule negotiated.

Background

The elimination of the Prospect WWTPs has been recommended in previous studies conducted by MSD, including most recently the Regional Wastewater Facilities Plan developed in cooperation with Oldham County to address wastewater facilities needs in northeast Jefferson County and southwest Oldham County. This plan was submitted to the Kentucky Department of Environmental Protection (KDEP) in January of 2002, and approved by KDEP on July 19, 2002. This plan

recommended elimination of the Prospect WWTPs, with flows routed through the Ohio River Force Main to the Morris Forman WWTP.

This plan also addressed a phased approach to expansion of the Hite Creek WWTP. The plan identified the need to expand the Hite Creek WWTP from 4.4 MGD to 8.0 MGD to serve capacity requirements in the defined service area through the year 2022. This expansion was phased with an immediate expansion to 6.0 MGD that was anticipated to be adequate to meet capacity requirements up through 2015.

Integrated Overflow Abatement Plan

The Prospect WWTP issue was re-evaluated as part of MSD's Integrated Overflow Abatement Plan (IOAP), dated December 31, 2008, and submitted in accordance with the original Consent Decree of August 12, 2005. The IOAP determined that eliminating the Prospect WWTPs, collecting the wastewater at a pump station site near the existing Ken Carla WWTP and pumping the flows to MSD's existing Hite Creek WWTP could be accomplished at a lower present worth cost than sending the flows to the Morris Forman WWTP. A Benefit/Cost evaluation conducted in accordance with the procedures used in the IOAP also confirmed that routing flows to the Hite Creek WWTP was the preferred elimination approach.

This proposed approach assumed that the Hite Creek WWTP would be able to be expanded to accommodate the flows projected from the revised service area. Waste Load Allocations (WLA) requested as part of the Regional Wastewater Facilities Plan indicated that if the Hite Creek WWTP were expanded to 12 MGD the anticipated effluent limits would be achievable using the current treatment processes used at the plant. The Prospect area is projected to require approximately 4 MGD of wastewater treatment capacity at build-out. If this capacity cannot be cost-effectively provided at the Hite Creek WWTP due to WLA limitations, then this alternative is not viable.

The IOAP proposed the Prospect WWTP elimination approach in Chapter 4 of Volume 3 – Final Sanitary Sewer Discharge Plan. The approach was described in a planning-level project fact sheet titled "Prospect WWTP Eliminations" and in three maps showing prelimimary pump station, force main, and gravity sewer alignments to eliminate all five plants and deliver the flow to the Hite Creek WWTP.

Proposed Elimination Approach

Subsequent to submittal of the IOAP, MSD evaluated in more detail the alternatives for elimination of the Prospect WWTPs. This further evaluation confirmed the IOAP proposal to eliminate the WWTPs and route the wastewater flows to the Hite Creek WWTP. The preliminary routing of sewers and force mains needed to eliminate the five plants was re-evaluated, along with the proposed pump and force main system to deliver the flows to the Hite Creek WWTP. This further evaluation identified additional options for gravity sewer routing, and suggested that a the pumping system could include either a single pump station at the existing Ken Carla WWTP site, or the Ken Carla WWTP pump station plus an additional pump station at the Timberlake WWTP.

Selection of the exact pump station and force main configuration will be determined as part of the preliminary engineering study, along with a more detailed evaluation of construction costs, stream

crossing and related permitting issues, and easement acquisition needs. The basic concept proposed in the IOAP will be followed, but piping configurations could vary. Figures 1 and 2 show preliminary pump station locations, force main routing and gravity sewer routing for the one-pump and the two-pump station configurations.

Hite Creek WWTP Capacity Evaluation

MSD evaluated the existing capacity at the Hite Creek WWTP, concluding that the existing plant has adequate treatment capacity to accept the current Prospect WWTP loads without requiring an immediate expansion. The Regional Wastewater Facilities Plan anticipated the Hite Creek WWTP would be treating average day flows of 4.8 MGD by the year 2010. MSD's System Capacity Assurance Plan (SCAP) shows that Hite Creek WWTP average day flows in 2008 were 3.9 MGD, and current flows plus the flows projected from approved new connections will raise that flow to approximately 4.4 MGD. Current flows from the five Prospect WWTPs total approximately 0.68 MGD, confirming that capacity is available in the existing Hite Creek WWTP for the existing Prospect flows. Adding the Prospect flows will, however, bring the Hite Creek WWTP flows up to 85 percent of plant capacity, indicating the need to begin planning for a plant expansion in the near future.

As noted previously, during preparation of the Regional Wastewater Facilities Plan MSD requested a WLA evaluation be performed to establish effluent discharge limits applicable to expansion of the Hite Creek WWTP to several different capacity levels. The results of that WLA are included as Attachment 1. Since the Regional Wastewater Facilities Plan did not include the current and future flows from the Prospect area in the Hite Creek expansion scenarios, a new WLA request has been submitted to KDEP for consideration, and included as Attachment 2. In support of the WLA request, MSD conducted preliminary water quality modeling that suggests water quality in Harrods Creek will be slightly improved if the Prospect WWTPs flows are transferred upstream to the Hite Creek WWTP. This Elimination Plan assumes that the updated WLA will result in effluent discharge standards similar to those shown in the Regional Wastewater Facilities Plan. If the resultant Hite Creek effluent discharge standards are significantly more stringent, requiring modifications to the level of treatment currently provided, MSD reserves the right to revisit the rerouting plan.

Project Phasing

The project is proposed to be divided into 5 separate phases to allow work to proceed on portions of the project while easements, land acquisition and permitting proceeds on other areas. The five phases currently envisioned are shown on Figure 3 and are as follows:

- North Hunting Creek Pump Station and Force Main – this pump station and force main deliver flow from the Hunting Creek North Plant to the River Road Interceptor.
- River Road Interceptor – this is a gravity interceptor that takes flow from the North Hunting Creek Force Main to the proposed Ken Carla pump station site.
- Shadow Wood Pump Station and Force Main – this pump station and force main deliver flow from the Shadow Wood WWTP to the proposed Ken Carla pump station site.

- Harrod's Creek Interceptor – this gravity interceptor delivers flow from the South Hunting Creek WWTP to the Timberlake WWTP site. If the two-pump station configuration is chosen, this interceptor will deliver flow to the pump station at the Timberlake WWTP site. If a single-pump station is chosen the interceptor will pick up flow from the Timberlake WWTP and deliver the flow from both plants to the Ken Carla pump station site. These two options are referred to as "Phase 1" and "Phase 2" of this project, but this will be constructed as one project with the length dependent on the pump station configuration.
- Harrod's Creek Pump Station and Force Main – this project includes a pump station near the existing Ken Carla WWTP, and a force main from there to the Hite Creek WWTP. Depending on the pump station configuration ultimately chosen, this project may also include a second pump station at the existing Timberlake WWTP site.

Project Schedule

The schedule for the Elimination Plan is included in Figure 3. This schedule shows design and easement acquisition starting in April, 2009, for the River Road Interceptor. All phases of the project are complete by December 31, 2015, in accordance with the current version of the Amended Consent Decree.

This schedule is significantly impacted by the following issues:

- At least two pipe crossings of Harrods Creek are required, presenting significant permitting and public acceptance issues.
- Approximately 47,000 lineal feet of permanent and construction easements are required, requiring negotiation of over 150 separate permanent and construction easements.
- The Harrods Creek Pump Station and Force Main is the critical path phase of this project's completion. None of the other four projects can be put in service until the pump station and force main to the Hite Creek WWTP is complete and ready to deliver flow.
- Since the routing of the Prospect flows represents a change from the concept presented in the Regional Wastewater Facilities Plan, an amendment to that Plan may be required. It is not known what extent of documentation will be required by KDEP to approve this amendment. Implementation of this Elimination Plan is contingent upon approval of the Facilities Plan Amendment. MSD will proceed with implementation of the portions of the work that would apply whether the flows are routed to the Morris Forman WWTP or the Hite Creek WWTP. Commitments of significant resources towards a Hite Creek WWTP solution will be deferred until KDEP approval is secured for the Regional Wastewater Facilities Plan amendment.

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.

If you have questions or need additional information, please contact me at (502) 649-3850.

Sincerely,

W. Brian Bingham
Regulatory Services Director

cc: H. J. Schardein, Jr.
Mark Johnson
Paula Purifoy
Laurence J. Zielke

MSD
Louisville / Jefferson County Metropolitan Sewer District

SSO SSDP
Project Fact Sheet

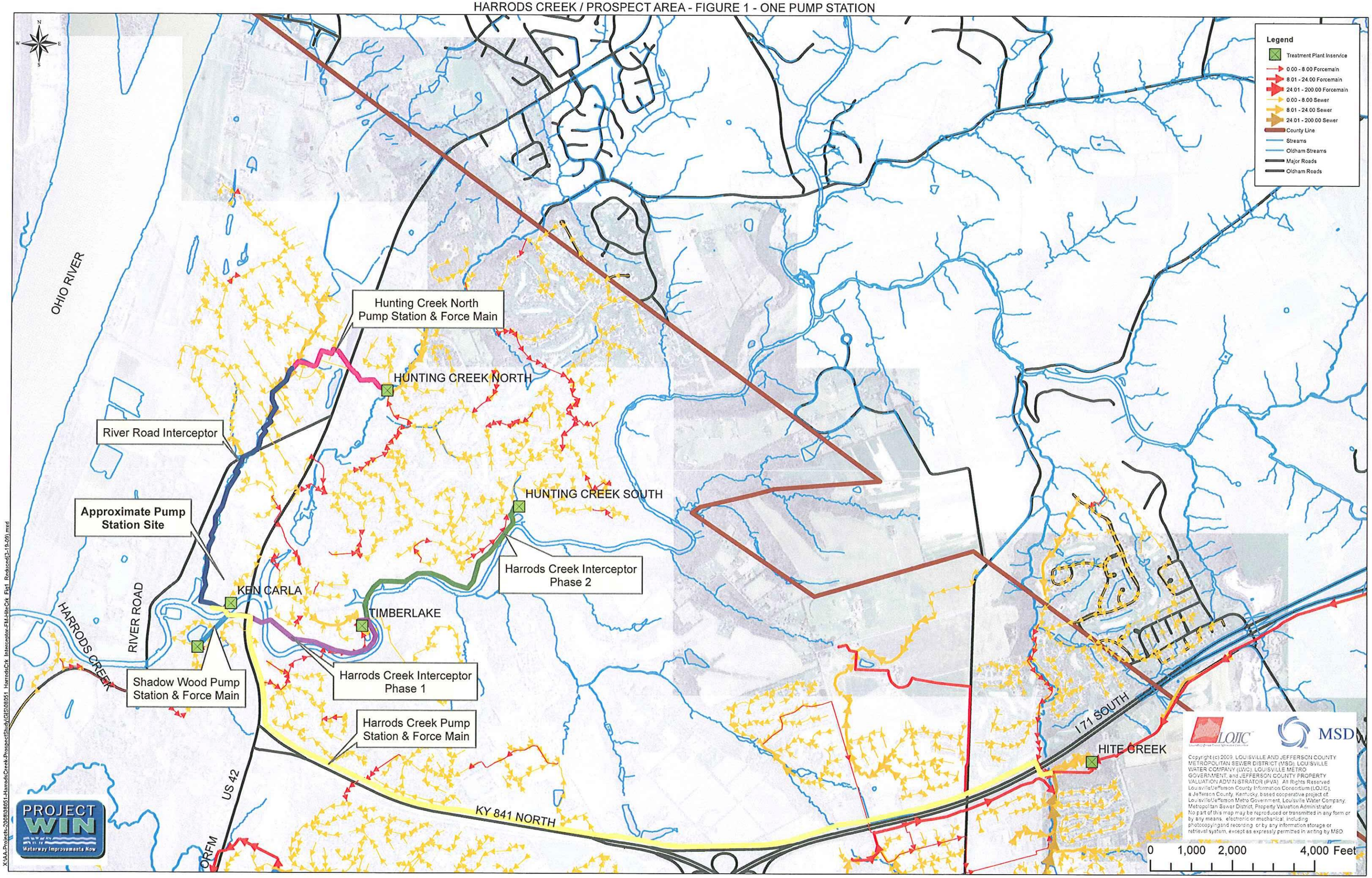
PROJECT WIN
Waterway Improvements Now

SSO Project Number:	S_OR_MF_NB04_M_03_B_B
Project Name:	Prospect WWTP Eliminations
Project Type:	New Pump Station, Force Main, and Interceptor
Receiving Stream:	Harrods Creek
Project Description:	This project will eliminate five existing Prospect small WWTPs. Hunting Creek North will be eliminated by reversing the existing force main and connecting to a new gravity interceptor that will flow to a new regional Harrods Creek PS near the existing Ken Carla WWTP. The Ken Carla WWTP will also be eliminated by gravity flow to the new Harrods Creek PS. The Shadow Wood WWTP will be eliminated using a pump station to connect to the force main at the Harrods Creek PS. The Hunting Creek South WWTP will be eliminated by an interceptor to the area near the Timberlake Wastewater Treatment Plant. This interceptor will either continue to the location of the Harrods Creek PS or an additional pump station will be constructed at Timberlake with the force main manifolded to the force main at Harrods Creek PS. This force main will continue to the existing Hite Creek WWTP.
Reason for Overflow:	WWTP capacity
Design Parameters / Assumptions:	This solution is based on a 2.25 inch cloudburst rain event
Project Constraints:	None at this time
Capital Projects:	River Road Interceptor, Harrods Creek Interceptor 2
Estimated Capital Cost (2008 $):	$31,300,000
Scheduled Completion:	December 2015

Overflow Points Addressed:

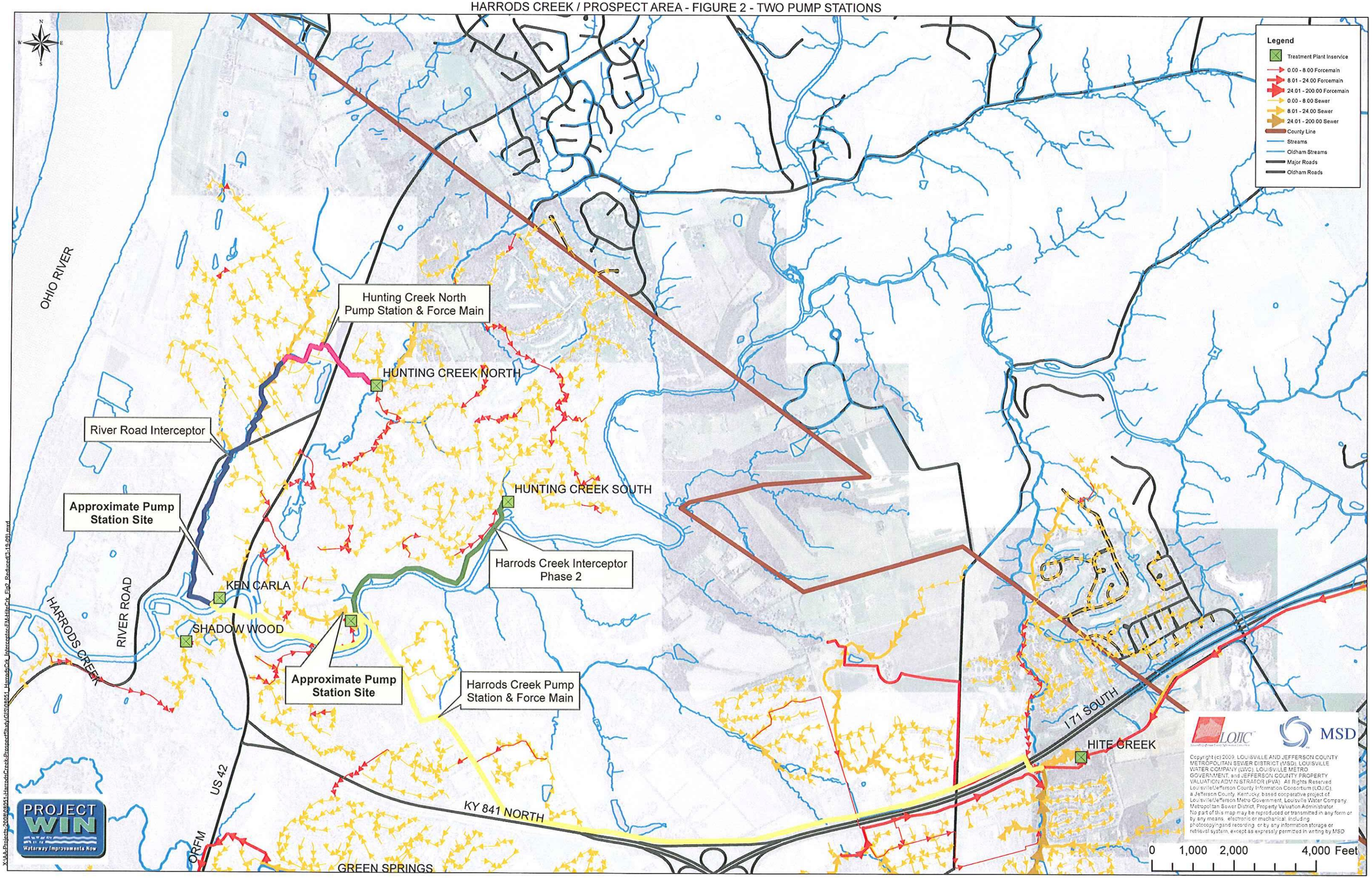
SSO	SSO Name	Service Area	Overflow Type	Discharge To	Average Overflow / Incident (gallons)
MSD0292	Hunting Creek South WWTP	Hunting Creek South	Treatment Plant	Stream	117,436

HARRODS CREEK / PROSPECT AREA - FIGURE 1 - ONE PUMP STATION

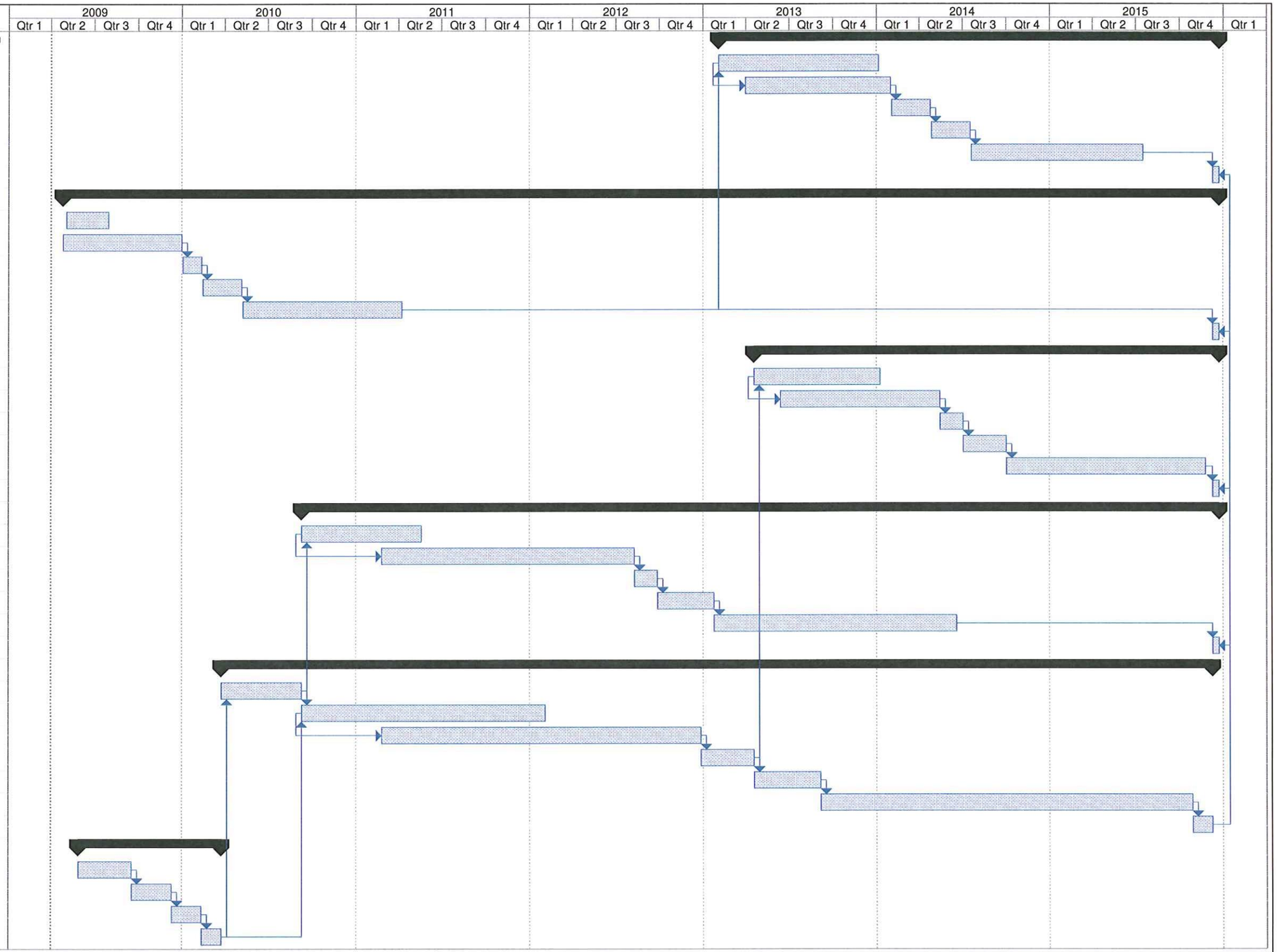


X:\AA-Projects-2008\08051-HarrodsCreek-ProspectStudy\GIS\08051_HarrodsCrk_Interceptor-FM-HiteCrk_Fig1_Reduced(3-19-09).mxd

HARRODS CREEK / PROSPECT AREA - FIGURE 2 - TWO PUMP STATIONS



ID	Task Name
1	**North Hunting Creek Pump Station and Force Main**
2	Study and 90% Design
3	Easements and Permits
4	Design Completion
5	Bid and Award
6	Construction
7	Commissioning
8	**River Road Interceptor**
9	90% Design
10	Easements and Permits
11	Design Completion
12	Bid and Award
13	Construction
14	Commissioning
15	**Shadow Wood Pump Station and Force Main**
16	Study and 90% Design
17	Easements and Permits
18	Design Completion
19	Bid and Award
20	Construction
21	Commissioning
22	**Harrods Creek Interceptor**
23	Study and 90% Design
24	Easements and Permits
25	Design Completion
26	Bid and Award
27	Construction
28	Commissioning
29	**Harrods Creek Pump Station and Force Main**
30	Study
31	90% Design
32	Easements and Permits
33	Design Completion
34	Bid and Award
35	Construction
36	Commissioning
37	**Regional Wastewater Facilities Plan Amendment**
38	Draft Plan
39	Review
40	Finalize Plan
41	Review and Approval



Project: Prospect Elimination Plan fina
Date: Tue 3/31/09

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

Figure 3 – Prospect Elimination Plan Schedule

ATTACHMENT 1

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

December 16, 1999

William R. Marshall, P.E.
PDR Engineers, Inc.
462 South 4th Avenue
Suite 400, Meidinger Tower
Louisville, Kentucky 40202

Re: Expansion Request
Hite Creek WWTP
Jefferson County, Kentucky

Dear Mr. Marshall:

We have completed our review of your request for expansion of the Hite Creek wastewater treatment plant. The request is for various design capacities, which are noted below. The facility will continue to discharge to Hite Creek, segment number 08050, mile point 1.9.

We concur in this proposal with the following provisions:

The wastewater treatment facilities must be designed to produce the following effluent concentrations at a flow of 6.6 mgd.

	May 1-Oct. 31	Nov. 1-April 30
$CBOD_5$	10 mg/l	10 mg/l
Suspended Solids	30 mg/l	30 mg/l
Ammonia Nitrogen	2 mg/l	5 mg/l
Dissolved Oxygen	7 mg/l	7 mg/l
Total Phosphorus	1.0 mg/l	1.0 mg/l
Reliability Classification	Grade 2	

The wastewater treatment facilities must be designed to produce the following effluent concentrations at a flow of 8.0 mgd.

	May 1-Oct. 31	Nov. 1-April 30
$CBOD_5$	10 mg/l	10 mg/l
Suspended Solids	30 mg/l	30 mg/l
Ammonia Nitrogen	2 mg/l	5 mg/l
Dissolved Oxygen	7 mg/l	7 mg/l
Total Phosphorus	1.0 mg/l	1.0 mg/l
Reliability Classification	Grade 2	

The wastewater treatment facilities must be designed to produce the following effluent concentrations at a flow of 10.0 mgd.

	May 1-Oct. 31	Nov. 1-April 30
$CBOD_5$	10 mg/l	10 mg/l
Suspended Solids	30 mg/l	30 mg/l
Ammonia Nitrogen	2 mg/l	5 mg/l
Dissolved Oxygen	7 mg/l	7 mg/l
Total Phosphorus	0.75 mg/l	0.75 mg/l
Reliability Classification	Grade 2	

The wastewater treatment facilities must be designed to produce the following effluent concentrations at a flow of 12.0 mgd.

	May 1-Oct. 31	Nov. 1-April 30
$CBOD_5$	10 mg/l	10 mg/l
Suspended Solids	30 mg/l	30 mg/l
Ammonia Nitrogen	2 mg/l	5 mg/l
Dissolved Oxygen	7 mg/l	7 mg/l
Total Phosphorus	0.50 mg/l	0.50 mg/l
Reliability Classification	Grade 2	

In addition to the above, the monthly average and weekly maximum values of fecal coliform shall be at or below 200 or 400, respectively, the year around. If a form of chlorine is proposed for use to disinfect the wastewater, then dechlorination will be required by your Kentucky Pollutant Discharge Elimination System (KPDES) permit. Additional effluent limitations and water quality standards are contained in the Division of Water Regulations.

These preliminary design effluent limits are valid for one (1) year from this date and are subject to change as a result of additional information, which may be presented during the public notice phase of the KPDES permitting procedure and do not guarantee issuance of a permit. These preliminary effluent limits are contingent upon the validity, accuracy, and completeness of the data and information which you have submitted.

This letter does not approve the design details of the treatment system and does not authorize construction of these facilities. Some suitable form of effluent post aeration may also be necessary in order to produce the required dissolved oxygen concentration. This design should be included in the plans and specifications for the treatment system.

Approval of this project will be subject to the rules and regulations set forth by the Cabinet for submission of plans and specifications as well as the necessary legal documents.

If you have any questions concerning this correspondence, do not hesitate to call Dave Leist at (502) 564-2225, extension 456.

Sincerely,

R. Bruce Scott, P.E.
Environmental Engineer Branch Manager
KPDES Branch
Division of Water

RBS:DL:pg

c: Facilities Construction Branch
Louisville Regional Office
Division of Water Files

ATTACHMENT 2

MSD

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

March 30, 2009

Jory Becker, PE
Division of Water
Department of Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Subject: Hite Creek Wastewater Treatment Plant
Waste Load Allocation Request

Mr. Becker:

In January, 2002, MSD submitted to the Kentucky Division of Water a Regional Wastewater Facilities Plan developed in cooperation with Oldham County, to address wastewater facilities needs in northeast Jefferson County and southwest Oldham County. This plan was approved by KDOW on July 19, 2002. This plan recommended elimination of five wastewater treatment plants (WWTPs) that serve the Prospect area, with flows routed through the Ohio River Force Main to the Morris Forman WWTP.

In response to a Federal Consent Decree, MSD developed an Integrated Overflow Abatement Plan (IOAP), dated December 31, 2008. The IOAP determined that eliminating the Prospect WWTPs, and pumping the flows to MSD's existing Hite Creek WWTP could be accomplished at a lower present worth cost than sending the flows to the Morris Forman WWTP. This proposed approach assumed that the Hite Creek WWTP would be able to be expanded to accommodate the flows projected from the revised service area. MSD will be preparing an amendment to the Regional Wastewater Facilities Plan to address this proposed revision of the Hite Creek WWTP service area.

This letter requests a waste load allocation evaluation and the development of effluent standards for the Hite Creek WWTP, KPDES Permit # KY0022420, currently rated at 6.0 MGD, discharging into Hite Creek (a tributary of Harrods Creek) at mile point 1.9. We are requesting these effluent standards address plant a capacity of 8.8 MGD. This flow rate is intended to address the anticipated next phase of plant expansion as defined in the Regional Wastewater Facilities Plan, plus the anticipated short-term loads from the Prospect area.

The amendment to the Regional Wastewater Facilities Plan will evaluate additional phasing of expansion plans to address projections of build-out loads for the proposed expanded Hite Creek WWTP service area. A cursory evaluation of build-out conditions indicates that approximately 16

MGD of treatment capacity may eventually be required to serve the expanded service area of the Hite Creek WWTP.

This WLA request assumes the elimination of loads from the following locations:

- Hunting Creek North WWTP, KPDES Permit #KY0029106, rated at an annual average flow of 0.358 MGD, discharging to an unnamed tributary of Harrods Creek that eventually reaches Harrods Creek at mile point 1.57.
- Hunting Creek South WWTP, KPDES Permit #KY0029114, rated at an annual average flow of 0.215 MGD, discharging to Harrods Creek at mile point 3.4.
- Ken Carla WWTP, KPDES Permit #KY0022497, rated at an annual average flow of 0.010 MGD, discharging to Harrods Creek at mile point 1.43.
- Shadow Wood WWTP, KPDES Permit #KY0031810, rated at an annual average flow of 0.085 MGD, discharging to Harrods Creek at mile point 0.90.
- Timberlake WWTP, KPDES Permit # KY0043087, rated at an annual average flow of 0.200 MGD, discharging to Harrods Creek at mile point 2.45.

Note that during preparation of the Regional Wastewater Facilities Plan, MSD requested a WLA evaluation be performed to establish effluent discharge limits applicable to expansion of the Hite Creek WWTP to several different capacity levels. The results of that WLA are included as Attachment 1.

In support of this WLA request, MSD conducted preliminary water quality modeling. Simulations were conducted under existing conditions and for eliminating the five WWTPs and expanding the Hite Creek WWTP design flow from 4.4 MGD to 8.8 MGD at the present NPDES permit limits of 10 mg/l CBOD5, 2 mg/l NH3-N, 7 mg/l dissolved oxygen and 1 mg/l total phosphorous.

The results suggest water quality in Harrods Creek will be slightly improved if the Prospect WWTPs flows are transferred upstream to the Hite Creek WWTP, and the plant is expanded to 8.8 MGD. This improvement is demonstrated when compared to current conditions or to current conditions with the Prospect loads removed from the Harrods Creek watershed (as would be the case if the flows were sent to the Morris Forman WWTP). The removal of the five WWTPs and transfer to Hite Creek WWTP will not harm water quality in the lower 3.5 miles of Harrods Creek. However, this portion of Harrods Creek is impacted by backwater from the Ohio River and, as such, will continue to experience water quality excursions. A summary of these results is included as Attachment 2.

As a result of Federal Consent Decree deadlines, MSD must eliminate the Prospect plants by the end of 2015. To comply with this date, MSD must begin implementation of the elimination plan immediately. Since the viability of the plan relies on the ability of the Hite Creek WWTP to serve the expanded service area proposed, information regarding potential effluent limits is needed at the earliest possible date. We appreciate your cooperation in this matter.

If you have questions or need additional information, please contact me at (502) 649-3850.

Sincerely,

W. Brian Bingham
Regulatory Services Director

cc: H. J. Schardein, Jr.
Mark Johnson
Paula Purifoy
Laurence J. Zielke
Gary Levy/KDEP
Jeff Cummins/KDEP

ATTACHMENT 1

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

November 14, 2001

William R. Marshall,P.E.
PDR Engineers, Inc.
462 South 4th Avenue
Suite 400, Meidinger Tower
Louisville, Kentucky.40202

Re: Expansion Request
Hite Creek WWTP
Jefferson County, Kentucky

Dear Mr. Marshall:

A site survey has been completed for the above referenced proposed wastewater treatment plant. The plant will have a design capacity of 8.0 MGD and will discharge to Hite Creek, segment number 08050 mile point 1.9.

We concur in this proposal with the following provisions:

The wastewater treatment facilities must be designed to produce the following effluent concentrations.

	May 1-Oct. 31	Nov. 1-April 30
$CBOD_5$	10 mg/1	10 mg/1
Suspended Solids	30 mg/1	30 mg/1
Ammonia Nitrogen	2 mg/1	5 mg/1
Dissolved Oxygen	7 mg/1	7 mg/1
Total Phosphorus	1 mg/1	2/mg/1
Reliability Classification	Grade 2	

In addition to the above, the monthly average and weekly maximum values of fecal coliform shall be at or below 200 or 400, respectively, the year around. If a form of chlorine is proposed for use to disinfect the wastewater treatment plant (WWTP) effluent and the capacity of the proposed WWTP is 100,000 GPD or greater, or the proposed WWTP is owned by a municipality then dechlorination will be required by your KPDES permit.

Additional effluent limitations and water quality standards are contained in the Division of Water Regulations.

These preliminary design effluent limits are valid for one year from this date and are subject to change as a result of additional information which may be presented during the public notice phase of the Kentucky Pollutant Discharge Elimination System (KPDES) permitting procedure and do not guarantee issuance of a permit. These preliminary effluent limits are contingent upon the validity, accuracy and completeness of the data and information which you have submitted.

This letter does not approve the design details of the treatment system and does not authorize construction of these facilities. Floodplain approval should be obtained from this Division. Some suitable form of effluent post aeration may also be necessary in order to produce the required dissolved oxygen concentration. This design should be included in the plans and specifications for the treatment system.

Approval of this project will be subject to the rules and regulations set forth by the Cabinet for submission of plans and specifications as well as the necessary legal documents.

If you have any questions concerning this correspondence, do not hesitate to call Paul A. Bridges at (502) 564-2225, extension 483.

Sincerely,

William B. Gatewood, P.E., Manager
Facilities Construction Branch
Division of Water

WBG/PAB

cc: Louisville Regional Office

ATTACHMENT 2

Harrods Creek QUAL2E Model Results