



**Environmental  
Protection Agency**

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korleski, Director



\*1PE0000220100407\*

BUTLER

HAMILTON WATER RECLAMATION FACILITY

SARLE, EDWARD

2010/04/07

sewage



**Environment  
Protection Agency**

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korteski, Director

April 7, 2010

Mr. Mark Brandenburger  
City of Hamilton  
One Renaissance Building  
345 High Street  
Hamilton, Ohio 45011

**Re: Butler County, Hamilton WWTP; Compliance Evaluation Inspection**

Dear Mr. Brandenburger:

On March 15, 2010, Joe Miller and I conducted a Compliance Evaluation Inspection at this facility (NPDES Permit No. OH0025445; OEPA Permit No. 1PE00002\*MD). Rich Engle, Dan Arthur, Billy Slaven, Greg Hildebrand and Bill Decker were representing this facility. A copy of my inspection report is enclosed.

The Records / Reports section was rated unsatisfactory as a result of the failure to correctly report all sewage bypasses. The Operations & Maintenance section was rated unsatisfactory as a result of the numerous water in basement events and sewage bypasses due to sewer blockages.

The areas noted in the report summary will require a written response by May 7, 2010. The response should include a description of the actions proposed to correct the noted areas and the dates anticipated for completion of these actions.

If you have any questions, please call me at (937) 285 - 6096.

Sincerely,

Ned Sarle  
Division of Surface Water  
Permits Section

Enclosure

cc: Rich Engle, City of Hamilton  
Billy Slaven, City of Hamilton





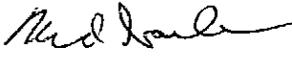
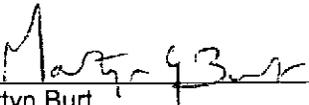
State of Ohio Environmental Protection Agency  
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PE00002*MD	OH0025445	3/15/2010	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
City of Hamilton WWTP 2451 River Road Hamilton, OH 45015	9:10 A.M.	9/1/2009
	Exit Time	Permit Expiration Date
	3:30 P.M.	7/31/2014
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Rich Engel, Acting Director of Public Works	(513) 785-7273	
Dan Arthur, Acting City Engineer	(513) 785-7286	
Billy Slaven, Water Reclamation Superintendent	(513) 868-5971	
Greg Hildebrand, Asst. Water Reclamation Supt.	(513) 868-5971	
Bill Decker, Laboratory Superintendent	(513) 868-5971	
Name, Address and Title of Responsible Official	Phone Number	
Mark Brandenburg, Acting City Manager One Renaissance Building 345 High Street Hamilton, Ohio 45011	(513) 785-7000	

Section C: Areas Evaluated During Inspection					
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	S	Flow Measurement	N	Pretreatment
U	Records/Reports	N	Laboratory	S	Compliance Schedule
U	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	N	Other
S	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)	
See Attached Summary of Findings / Comments.	
Inspector	Reviewer
 Ned Sarie Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
4/7/10 Date	4/7/2010 Date

NPDES Permit #: OH002045  
OEPA Permit #: 1PE00002\*MD

Sections E thru K: Complete on all inspections as appropriate  
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

**Section E: Permit Verification**

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee ..... Y
- (b) Flows and loadings conform with NPDES permit..... Y
- (c) Treatment processes are as described in permit application... Y
- (d) All discharges are permitted..... Y
- (e) Number and location of discharge points are as described  
in permit..... Y
- (f) Storm water discharges properly permitted..... Y

Comments/Status:

See Attached Summary of Findings / Comments.

**Section F: Compliance**

- (a) Any significant violations since the last inspection..... N
- (b) Appropriate Non-compliance notification of violations..... Y
- (c) Permittee is taking actions to resolve violations..... Y
- (d) Permittee has a compliance schedule..... Y
- (e) Compliance schedule contained in...Consent Decree
- (f) Permittee is in compliance with schedule..... Y
- (g) Has biomonitoring shown toxicity in discharge since last inspection N

Comments/Status:

See Attached Summary of Findings / Comments.

**Section G: Operation & Maintenance**

**Treatment Works:**

Treatment facility properly operated and maintained

(a) Standby power available.....generator  or dual feed ..... Y

i. What does the back-up power source operate.....

The City of Hamilton is planning on installing a backup generator late next year.

ii. How often is the generator tested under load.....

N/A.

(b) Which components have an alarm system available for power or equipment failures.....

The WWTP has staffing 24 hours a day for 7 days a week. A SCADA system is provided to alert the operators of any alarm system. The monitoring system is for the whole WWTP.

(c) All treatment units in service other than backup units..... N

(d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....

A computer program is used by maintenance staff for providing this maintenance.

(e) Any major equipment breakdown since last inspection..... Y

(f) Operation and maintenance manual provided and maintained..... Y

(g) Any plant bypasses since last inspection..... N

(h) Any plant upsets since last inspection..... N

**Comments/Status:**

See Attached Summary of Findings / Comments.

**Section G: Operation & Maintenance con't**

**Record Keeping/Operator of Record:**

- (a) Wastewater Treatment Works classification (OAC 3745-7)..... IV
- (b) Operator of Record holds unexpired license of class required by Permit..... Y
- (c) Copy of certificate of Operator of Record displayed on-site..... Y
- (d) Has the Operator of Record submitted an ORC Notification form. Y
- (e) Minimum operator staffing requirements fulfilled (OAC 3745-7).... Y
- (f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met..... N/A
- (g) Operator of Record log book provided..... Y
- (h) Format of log book (e.g. computer log, hard bound book)
 

Hard bound books are maintained by each shift operator.
- (i) Log book kept onsite (in an area protected from weather)..... Y
- (j) Log book contains the following:
  - I. Identification of treatment works..... Y
  - II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... Y
  - iii. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)..... Y
  - iv. Laboratory results (unless documented on bench sheets)... Y
  - v. Identification of person making entries..... Y
- (k) Has the Operator of Record submitted written notifications to the permittee, Ohio EPA and, if applicable, any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred..... Y

Comments/Status:

None.

**Section G: Operation & Maintenance con't**

**Collection System:**

- (a) Are there pump stations in the collection system..... Y
  - i. How many publicly-owned pump stations equipped with permanent standby power or equivalent.....7
  - ii. How many pump stations have telemetered alarms.....7
  - iii. How many pump stations have operable alarms.....7
  
- (b) Any chronic collection system overflows since last inspection..... Y
- (c) Regulatory agency notified of all overflows..... Y
- (d) Are there CSOs in the collection system..... N/A  
if so, what is the LTCP status.....
- (e) How are CSOs monitored (chalk, block, level sensor, etc.).....
- (f) Portable pumps available for collection system maintenance..... Y
- (g) RDII Program established and active..... Y
- (h) Any WIB complaint received since last inspection..... Y
- (i) Is there a WIB response plan..... Y
- (j) Is any portion of the collection system at or near dry weather capacity..... N

**Comments/Status:**

See Attached Summary of Findings / Comments.

**Section H: Sludge Management**

(a) Method of Sludge Disposal...

- Land Application
- Haul to Another NPDES Permittee
- Haul to a Mixed Solid Waste Landfill

\*if one of the selected methods is land application, complete applicable charts.  
**Class A - Exception Quality Sewage Sludge (monitoring station 584)**

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options							
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 - Aerobic Bench Scale Analysis	Option 4 - Specific Oxygen Uptake Rate	Option 5 - Aerobic Time and Temperature	Option 6 - Alkali Addition	Option 7 - >75% Percent Solids without Unstabilized Solids	Option 8 - >75% Percent Solids with Unstabilized Solids
Alternative 1 - Time and Temperature Regime (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - High pH and High Temperature (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 - Other Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 4 - Unknown Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Composting (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Drying (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Treatment (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Thermophilic Aerobic Digestion (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Beta Ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Gamma ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Pasteurization (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 6 - Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Class B Sewage Sludge (monitoring station 581)**

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options									
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 - Aerobic Bench Scale Analysis	Option 4 - Specific Oxygen Uptake Rate	Option 5 - Aerobic Time and Temperature	Option 6 - Alkali Addition	Option 7 - >75% Percent Solids without Unstabilized	Option 8 - >75% Percent Solids with Unstabilized	Option 9 - Land Injection	Option 10 - Immediate Incorporation
Alternative 1 - Geometric Mean of Seven Fecal Samples (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Aerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Air Drying (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Anaerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Composting (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Lime Treatment (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 - Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (b) Has amount of sludge generated changed significantly since the last inspection..... Y
- (c) How much sludge storage is provided at the plant.....  

The sludge thickener provides 6 days, and the composting facility provided 21 days.
- (d) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... Y
- (e) Any complaints received in last year regarding sludge..... N
- (f) 5/8" screen at headworks for facilities that land apply sludge..... Y
- (g) Are sludge application sites inspected to verify compliance with NPDES permit..... Y
- (h) Is a contractor used for sludge disposal..... Y  
 If so, what is the name of the contractor.....  

Evan Landscaping - Compost; Synagro - Land application / landfill.

**Comments/Status:**

See Attached Summary of Findings / Comments.

**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):  
Radar and open channel.
- (b) Flow meter calibrated annually ..... Y  
(Date of last calibration: 4/29/2009)
- (c) 24-hour recording instruments operated and maintained..... Y
- (d) Flow measurement equipment adequate to handle full range of flows..... Y
- (e) All discharged flow is measured..... Y

**Comments/Status:**

Flow monitoring equipment may measure between 0 - 70 MGD.

**Section I: Self-Monitoring Program (con't)**

**Sampling:**

- (a) Sampling location(s) are as specified by permit..... Y
- (b) Parameters and sampling frequency agree with permit..... Y
- (c) Permittee uses required sampling method..... Y  
(see GLC page)
- (d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e, continuous monitoring instrumentation, calibration and maintenance records)..... Y

**Comments/Status:**

None.

**Section I: Self-Monitoring Program (con't)**

**Laboratory:**

*General*

- (a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite..... N/E
- (b) Do SOP's include the following if applicable..... N/E
  - Title
  - Scope and Application
  - Summary
  - Sample Handling and Preservation
  - Interferences
  - Apparatus and Materials
  - Reagents
  - Procedure
  - Calculations
  - Quality Control
  - Maintenance
  - Corrective Action
  - Reference (Parent Method)

*Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of known precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.*

- (c) EPA approved analytical testing procedures used (40 CFR 136.3).. N/E
- (d) If alternate analytical procedures are used, proper approval has been obtained..... N/E
- (e) Analyses being performed more frequently than required by permit. N/E
- (f) If (e) is yes, are results in permittee's self-monitoring report..... N/E
- (g) Satisfactory calibration and maintenance of instruments/equipment. N/E (see score from GLC page)
- (h) Commercial laboratory used..... N/E  
Parameters analyzed by commercial lab:

Lab name:

*Discharge Monitoring Report Quality Assurance (DMRQA)*

- (a) Participation in latest USEPA quality assurance performance sampling..... N/E  
Date:
- (b) Were any parameters "Unsatisfactory"..... N/E
- (c) Reasons for "Unsatisfactory" parameters.....

**Comments/Status:**

**Section J: Effluent/Receiving Water Observations**

Outfall # 001

Outfall Description: Effluent pipe discharge.

Receiving Stream: Great Miami River.

Receiving Stream Description: No adverse conditions were noted.

**Comments/Status:**

None.

**Section K: Multimedia Observations**

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
- (d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
- (e) Do you notice any unusual odors or strong chemical smells..... N
- (f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

If any of the above are observed, ask the following questions:

- (1) What is the cause of the condition?
- (2) Is the observed condition or source a waste product?
- (3) Where is the suspected contaminant normally disposed?
- (4) Is this disposal permitted?
- (5) How long has the condition existed and when did it begin?

**Comments/Status:**

None.

## **Summary of Findings / Comments**

### Areas Requiring a Response

The annual report required by the Consent Order (CO) was received on February 13, 2010. For 2009, 228 water in basement (WIB) events were reported due to a 500 year rain event. An additional 38 WIB events were reported as a result of sewer blockages. Of these 38 events, seven resulted in sewage bypasses to the streets. For the 2008 report, 91 WIB events were reported due to a 25 year rain event. An additional 40 WIB events were reported as a result of sewer blockages. Of these 40 events, seven also resulted in sewage bypasses to the streets. During the 500 year rain event, three portable pumps were used to pump sewage out of the sanitary sewers. The pumping locations were near the intersection of Carlisle Avenue and Fairhaven Avenue, at Park Avenue and N. "C" Street, and at the end of Rutledge Court. In 2008 and 2009, Hamilton failed to report the sewage bypasses to the streets and the pumping events as required by the NPDES Permit, CO, and the Overflow Emergency Response Plan (OERP). The bypass reporting requirements are addressed on pages 12 and 13 of the approved OERP. Please confirm that future bypasses will be reported as required.

The high number of basement backups and sewage bypasses to the streets due to these sewer blockages is also an Ohio EPA concern. These events are not concentrated in any single area. Hamilton asked how their number of WIB events compared to other local communities. For 2009, the City of Fairfield reported no WIB events for their 175 mile system; Butler County reported 12 WIB events for their 700 mile system; the City of Middletown reported 16 WIB events for their 208 mile system; and the City of Oxford reported 1 WIB event for their 70 mile system.

The Hamilton sewage collection system is approximately 240 miles. In 2009, Hamilton cleaned 75,926 feet or 6% of the sanitary sewers. Hamilton also visually inspected 49,896 feet or 4% of the sanitary sewers. During the last inspection, Hamilton indicated only 2% of the sanitary sewers were cleaned and inspected. The Ohio EPA is concerned that the current sanitary sewer cleaning schedule may not be adequate to prevent these basement backups and sewage bypasses to the streets. Many communities in Butler County clean their sanitary sewers once every 5 to 10 years. The Hamilton sanitary sewers are being cleaned only once every 17 years based on the 6% rate. Cleaning the sanitary sewers on a more frequent basis must be considered to prevent these events. Hamilton is required to address how they will take additional action to minimize or eliminate the basement backups and sewage bypasses to the streets.

### Areas Not Requiring a Response

A review of the Monthly Operating Reports (MORs) for the period of January 2009 through January 2010 indicated one chlorine violation. This violation has been adequately addressed. Future violations must continue to be reported as required by the NPDES Permit as detailed in Part III.12 titled "Noncompliance Notification."

NPDES Permit #: OH0020445  
OEPA Permit #: 1PE00002\*MD

On January 19, 2007, a new Consent Order (CO) became effective for Hamilton. Hamilton was in violation of the previous CO due to bypasses from the sewage collection and treatment system. The new CO requires Hamilton to take action to address these bypasses.

All Sanitary Sewer Overflows (SSOs) are required to be reported in accordance to the NPDES Permit, CO and OERP. Hamilton must report the SSOs in accordance to the NPDES Permit as detailed in Part III, Section 11 titled "Unauthorized Discharges" and in Part III, Section 12 titled "Noncompliance Notification." The CO also requires SSOs from overflow locations 002, 014, 022, 027 and 037 to be reported on the Monthly Operating Reports (MORs).

For the SSOs addressed in the CO, Attachment I lists the bypasses reported for January 2009 through January 2010. Future SSOs must continue to be reported in accordance to the NPDES Permit, CO and OERP.

A Permit to Install application for a new sanitary sewer to eliminate overflow location 002 has been approved. Construction on this relief sanitary sewer was started earlier this year and should be completed by June 2010. Another Permit to Install application for new sanitary sewers to eliminate overflow locations 014 and 022 has been approved. Bidding on these relief sewers ended on March 31, 2010. The bid should be awarded in April 2010. Construction should be completed later this year.

The relief sewer to eliminate overflow locations 027 and 037 is currently being designed. To address these overflow locations, a new 60 inch trunk sewer will be constructed from overflow location 027 to the WWTP. The trunk sewer will be approximately 18,000 feet long. A Permit to Install application for this relief sewer should be submitted early next summer. Easement acquisitions are also underway for this project. Construction should start in the fall of 2011 and should be completed by late 2013.

The CO also requires the internal WWTP bypasses be reported on the MORs at station 603. No internal WWTP bypasses were reported for January 2009 through January 2010.

The quarterly reports required by the CO were received on June 29, 2009; September 30, 2009; and December 29, 2009.

A System Evaluation and Capacity Assurance Plan (SECAP) required by the CO was received by the Ohio EPA on December 28, 2007. Final revisions on this plan were received on March 3, 2009. The Ohio EPA approved this plan on July 11, 2009.

The WWTP is designed for an average daily flow rate of 32.0 MGD. A review of the MORs for January 2009 through January 2010 indicated the average daily flow was

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OEPA Permit #: 1PE00002\*MD

12.08 MGD. The peak daily flow rate was reported as 26.63 MGD. Smart Papers contributed approximately 2.5 MGD for this past year.

For many years, the Hamilton WWTP has experienced color pass through as a result of two local industrial dischargers. The resulting WWTP discharges alter the Great Miami River's color and are violations of the NPDES Permit and the Water Quality Standards. Since the last inspection, color pass through events have not been reported. In April 2009, Smart Papers LLC sold their color paper line to Mohawk Papers. Problems with Mohawk Paper's discharge have not been as problematic. Hopefully, this change will greatly reduce or eliminate these events.

Sludge produced at the Hamilton WWTP is land applied, composted or landfilled. Synagro land applies the lime stabilized sludge. They are also contracted to haul the sludge to Rumpke landfill. The composted sludge is removed by Evans Landscaping and is taken to their Hamilton County facility. The composted sludge is then used as a soil amendment and is sold around the state. In 2009, 1190 dry tons of sludge was lime stabilized and then land applied. The composting facility processed 641 dry tons of sludge. Finally, 1280 dry tons of sludge was hauled to the landfill.

A surface aerator shaft was noted as shearing off and falling into the aeration tank. NPDES Permit violations have not been reported as a result of this equipment failure. During a low flow period later this summer, all wastewater will be directed to one aeration basin while this surface aerator is repaired.

The city has 6 portable pumps and two vacuum trucks to use during emergency operation. During June 2009, a 500 year rain event occurred, and the power was out for most of the city for 16 hours. Bypasses did not occur from these pump stations during this rain event and power outage.

On July 7, 2009, the Ohio EPA approved using an archaea solution as a wastewater additive to the WWTP. This solution contains bugs that do a superior job of consuming wastewater biosolids. Since adding this material to the aeration tanks influent, the biosolids generated at the WWTP have decreased by 50 percent.

The WWTP effluent was noted as being consistently below 1.0 mg/l for phosphorus. Wastewater staff believed these low concentrations were the result of adding ferric chloride and hydrogen peroxide to the sludge thickeners. These compounds are added for odor control. When the sludge is dewatered, these wastewater additives are then returned to the WWTP headworks.

The sludge landfill groundwater continues to be monitored on a semiannual basis. Some of the monitoring wells have shown an increase in nitrites. One monitoring well has been documented on several occasions to have levels above the drinking water standards. High ammonia concentrations have also been routinely detected at several of the monitoring wells. To possibly reduce the groundwater impacts, Hamilton could consider planting cottonwoods and willow trees along the edges of the old landfill. These trees could increase the groundwater uptake in this area. Finally, the Great

NPDES Permit #: OH0025445  
OEPA Permit #: 1PE00002\*MD

Miami River is monitored at a downstream location as part of the semiannual groundwater sampling program. Hamilton was requested to move this location further downstream to accurately capture any impacts this old landfill has on the river. Another suitable location that is mutually agreeable has been found.

The WWTP will be upgraded in the next several years to address the WWTP bypasses. These improvements will be broken up into three phases. The first phase is to replace the aeration equipment in the activated sludge tank, construct a new vector dump station, and add a new backup generator for the WWTP. This phase is currently being designed. Construction should start and be completed in 2011. The second phase is to construct the bio actiflow high rate treatment system. This will be designed in 2011. Construction should start and be completed in 2012. The third phase will be to upgrade the Hamilton pump station, the primary clarifier effluent flow splitter box, the piping to the aeration tanks, the return activated sludge pumps, and the secondary clarifiers. This phase will be designed in 2012. Construction will start in 2013 and should be completed in 2014.

In the past, a bottle neck upstream of the aeration tanks has been noted. As currently designed, the aeration tanks and secondary clarifiers can only receive 21 MGD of flow from the city and the Smart Paper flow. Smart Paper is only generating 2.5 MGD of flow. The limitation is the piping between the primary clarifier effluent splitter box and the wastewater pumps that discharge to the aeration tanks. Any flow in excess of the 21 MGD is first redirected to the old WWTP. Once these tanks are full, wastewater is then bypassed. This bottleneck will be addressed as part of the phase III WWTP improvements. Hamilton should construct these improvements as soon as possible.

Attachment I  
 Sewage Collection System Bypasses  
 January 2009 through January 2010

Station	Parameter	Units	Date	Reported Value
2	Overflow Volume	Million Gallons	6/26/2009	0.3698
14	Overflow Volume	Million Gallons	6/25/2009	0.0082
14	Overflow Volume	Million Gallons	6/26/2009	0.1762
22	Overflow Volume	Million Gallons	6/25/2009	0.0031
22	Overflow Volume	Million Gallons	6/26/2009	0.0847
27	Overflow Volume	Million Gallons	5/13/2009	0.0439
27	Overflow Volume	Million Gallons	6/26/2009	AD
27	Overflow Volume	Million Gallons	8/4/2009	0.17467
27	Overflow Volume	Million Gallons	10/9/2009	0.1346
27	Overflow Volume	Million Gallons	10/23/2009	0.0425
37	Overflow Volume	Million Gallons	5/13/2009	0.3292
37	Overflow Volume	Million Gallons	5/14/2009	0.016
37	Overflow Volume	Million Gallons	6/25/2009	0.12
37	Overflow Volume	Million Gallons	6/26/2009	6.842
37	Overflow Volume	Million Gallons	6/27/2009	0.0468
37	Overflow Volume	Million Gallons	8/4/2009	0.15674
37	Overflow Volume	Million Gallons	10/9/2009	0.1414
37	Overflow Volume	Million Gallons	10/23/2009	0.1854
37	Overflow Volume	Million Gallons	10/28/2009	0.0107
37	Overflow Volume	Million Gallons	12/13/2009	0.03968

