



**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

*We Protect Hoosiers and Our Environment.*

100 N. Senate Avenue • Indianapolis, IN 46204  
(800) 451-6027 • (317) 232-8603 • [www.idem.IN.gov](http://www.idem.IN.gov)

Eric J. Holcomb  
*Governor*

January 19, 2018

Bruno L. Pigott  
*Commissioner*

Via Certified Mail No.: 7016 3010 0001 0291 0427

Shawna Koons, Attorney  
City of Greenwood  
Legal Department  
300 South Madison Avenue  
Greenwood, IN 46143

Dear Ms. Koons:

Re: Approval of Additional Action Plan  
Commissioner, Indiana Department of  
Environmental Management

v.

City of Greenwood  
Case No. 2011-20446-W  
Greenwood, Johnson County

The Indiana Department of Environmental Management (IDEM) has completed the review of the Respondent's Additional Action Plan. It is hereby approved and incorporated into the Agreed Order and shall be deemed an enforceable part thereof. Respondent should continue to implement the approved Additional Action Plan and adhere to all milestone dates contained therein.

If you have further questions, please contact Edward Judson, Environmental Manager, Water Enforcement Section, at (317) 234-7456 or [ejudson@idem.in.gov](mailto:ejudson@idem.in.gov).

Sincerely,

Samantha Groce, Chief  
Water Enforcement Section  
Surface Water, Operations &  
Enforcement Branch  
Office of Water Quality

cc: Johnson County Health Department  
<http://www.in.gov/idem>





January 15, 2018

Edward C. Judson  
Senior Environmental Manager  
Inspection Section – Drinking Water Branch  
Indiana Department of Environmental Management  
100 North Senate Avenue  
Indianapolis, Indiana 46204  
[ejudson@idem.in.gov](mailto:ejudson@idem.in.gov)

Re: Request for Additional Information

Dear Mr. Judson,

The City of Greenwood Sanitary Sewer Utility provides the following response to your request for additional information, dated January 3, 2018, with respect to submittal of the Utility's Additional Action Plan on or about December 4, 2017.

1. Homeowners should call the Sanitary Sewer Utility field emergency response line in the event of sanitary sewer overflows. This number is provided on customer's monthly utility bills and on the Utility's website.
2. The processes utilized by the utility to identify surcharged sewers and sanitary sewer overflows are outlined in Board of Public Works and Safety Resolution 12-29 "Ratifying System of Reading, Recording, Monitoring, and Tracking Collection System Data For Sanitary Sewer Utility" and Board of Public Works and Safety Resolution 13-04 "Ratifying and Adopting Comprehensive Response Plan to Overflow Events for Sanitary Sewer Utility." Both of these resolutions have previously been provided to IDEM and additional copies are enclosed herewith for your convenience.
3. The process employed by the Utility to immediately respond to reports of sanitary sewer overflows and backups is included in Board of Public Works and Safety Resolution 13-04 "Ratifying and Adopting Comprehensive Response Plan to Overflow Events for Sanitary Sewer Utility." A copy of this resolution has previously been provide to IDEM and an additional copy as enclosed herewith for your convenience.
4. The process employed by the Utility to report sanitary sewer overflows and backups to IDEM is also contained within Board of Public Works and Safety Resolution 13-04 "Ratifying and Adopting



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Comprehensive Response Plan to Overflow Events for Sanitary Sewer Utility." As noted in prior correspondence, the Utility is engaging in refresher training for employees on this resolution and reporting process.

5. As noted in the Utility's Semi-Annual reports to IDEM, the Utility has engaged in a variety of programs to encourage increased compliance with sump pump regulations. These programs include:
  - a. Pilot Programs in targeted neighborhoods including: Alden Place, Carefree North and Carefree South, El Dorado, Greenwood Commons and Whispering Trails Subdivisions and portions of Pearl Street, whereby the Utility offered free inspections by an engineering firm of sump pump and downspout connections and reimbursements up to \$500.00 for the cost of correcting improper connections.
  - b. Find it Fix it Credit program throughout 2017, whereby the Utility provided property owners who demonstrated compliance with a \$100 one time billing credit to their sanitary sewer account.
  - c. Public outreach and education campaigns including the creation of marketing materials and a social media campaign.

Going forward, the Utility has committed in its Additional Action Plan to hire a financial advisory firm to develop a two-tiered rate structure that will provide a lower rate for properties that have demonstrated compliance and a higher rate for those that have not provided evidence of compliant connections.

6. The Utility acknowledges IDEM's request for notifications within 10 days after completion of each project listed in the Additional Action Plan and requests additional clarification. Specifically, the Utility commits to:
  - a. Providing an update within 10 days of substantial completion on relining and replacement of sanitary sewer projects.
  - b. Providing a semi-monthly update on its illicit connection compliance efforts. Because these efforts are ongoing and involve thousands of properties, it does not seem particularly efficient or practical to provide an update each time a sump pump is disconnected or a particular property is brought into compliance.
  - c. Providing a semi-monthly update on the property acquisition process for the Western Regional Interceptor program. The Utility receives reports from its contractor on a semi-monthly basis and provides a property acquisition update to the Board of Public Works and Safety on a semi-monthly basis. Because the project involves the acquisition of 171 property easements, it does not seem particularly efficient or practical to update IDEM each time a particular easement moves to the next stage of acquisition.
  - d. Providing an update within 10 days of completion within all other milestones listed in the Compliance Plan and Additional Action Plan.

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Please let us know if the alternative reporting schedule described in Paragraphs 6(b) and (c) are acceptable to IDEM.

Please let us know if the above and enclosed fully satisfies IDEM's request for additional information. We are happy to provide additional information as needed. Thank you.

Sincerely,



Shawna Koons

City Attorney



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December 4, 2017

Edward Judson, Enforcement Case Manager  
Surface Water, Operations & Enforcement Branch  
Indiana Department of Environmental Management  
Office of Water Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204

RE: City of Greenwood, Indiana's Additional Action Plan (Agreed Ord.: 2011-20446-W)

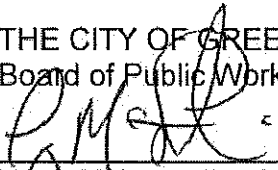
Dear Mr. Judson:

Enclosed please find a copy of the City of Greenwood's proposed Additional Action Plan in accordance with our discussions on November 17, 2017 and pursuant to the Agreed Order entered into between the City and the Indiana Department of Environmental Management ("IDEM").

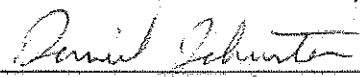
On December 4, 2017, the Board of Public Works & Safety, at a public meeting, approved submittal of the proposed Additional Action Plan and delegated authority to the City's Deputy Mayor, Sanitation Superintendent, City Engineer, and Corporation Counsel to finalize the Additional Action Plan and submit the proposed Plan on its behalf. The enclosed Plan is submitted in accordance with this delegation of authority. We would be happy to meet with you to discuss the Additional Action Plan or to answer any questions.

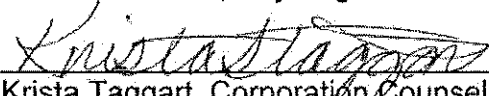
Sincerely,

THE CITY OF GREENWOOD, by and through its  
Board of Public Works & Safety

  
\_\_\_\_\_  
Terry McLaughlin, Deputy Mayor

  
\_\_\_\_\_  
Keith Meier, Sanitation Superintendent

  
\_\_\_\_\_  
Daniel Johnston, City Engineer

  
\_\_\_\_\_  
Krista Taggart, Corporation Counsel



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# City of Greenwood, Indiana Additional Action Plan

Case No. 2011-20446-W



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## EXECUTIVE SUMMARY

On March 8, 2012, the Greenwood Board of Public Works and Safety ("BPW") passed Resolution 12-10, approving entry into Agreed Order No. 2011-20446-W, dated March 23, 2012, with the Indiana Department of Environmental Management ("IDEM"). The Agreed Order required the Sanitary Sewer Utility ("Utility") to submit a Compliance Plan which was approved by IDEM on July 27, 2012 (the "Compliance Plan"). The Utility has diligently pursued the deadlines and targets contained in the Compliance Plan. This Additional Action Plan outlines the City's proposed continued actions towards operations and capacity improvements throughout its system and highlights the progress made to date towards the goals and requirements contained in the Compliance Plan.

## SECTION 1: MAINTENANCE PROGRAM

### 1.1. Actions Taken to Date

#### A. *Preventive Maintenance Plan*

The Utility developed a comprehensive preventive maintenance schedule to be performed on its system to keep facilities in good working order. Ongoing preventive maintenance measures have been implemented and are continually documented to monitor the condition of pipes and equipment and anticipate needs for maintenance and/or replacement. The Utility's Preventive Maintenance Program was adopted by the BPW via Resolution 12-20 on October 1, 2012.

The Utility has also adopted and implemented an aggressive relining and replacement program for sanitary sewer lines, dedicating between \$1.5 million and \$3 million each year to such efforts.





### *B. Critical Components and Inventory*

The Utility developed and identified a critical component list of system operation and maintenance. This list was adopted and approved by the BPW via Resolution 12-21 on October 1, 2012. Additionally, the Utility developed and maintains a critical inventory of consumable component parts needed for maintenance and replacement and a centralized system of documenting and collecting inventory records. The inventory list and documentation system was adopted and approved by the BPW via Resolution 12-33 on December 3, 2012.

### *C. Inflow and Infiltration Reduction Measures*

A primary focus of the Utility's Compliance Plan efforts centered upon the reduction of inflow and infiltration into the sanitary sewer collection system. A flow study was conducted across the collection system and critical areas were identified as part of the Utility's Capital Improvement Plan. Processes and procedures for monitoring, reviewing, and analyzing flow data on a regular basis were adopted and approved by the BPW via Resolution 13-29 on December 16, 2013.

Inspections of manholes and televised pipe inspections of targeted areas began pursuant to a schedule adopted by the BPW via Resolution 13-02 on January 7, 2013 and remains ongoing in earnest.

The Utility engaged HWC Engineering to develop a ten (10) year Capital Improvement Plan to outline a comprehensive plan to eliminate inflow and infiltration from the system. As part of this Plan, the City has adopted and pursued the aggressive relining and replacement program for sanitary sewer lines highlighted in Section 1.1.A above.

The Utility has also taken significant steps towards the design of a Western Regional Interceptor ("WRI"). The WRI is a major capital improvement project that will provide needed relief and balance to the Utility's current system. The project consists of approximately ten (10) miles of sewer pipeline installed on the west side of the system. It is anticipated to channel as much as 7 to 9 million gallons of graywater per day away



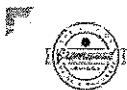
from the Pleasant Run Interceptor, which is currently operating at capacity. Total cost of the project is estimated to range between \$60 million to \$70 million and will allow the removal of ten (10) existing lift stations in the service area.

The WRI Project is currently at 95% design and has made substantial project on needed land acquisition for the project. Currently, 54 of the necessary 164 easements have been secured. The majority of the remaining parcels have been appraised and are in the negotiation phase of acquisition. The BPW approved a Preliminary Engineering Report for the WRI Project on July 5, 2017 for submittal to the State Revolving Fund for financing of the Project. The Utility conducted a rate study in 2016 and the Common Council adopted Ordinance 16-66 to adopt the rate structure necessary to fund the WRI Project and additional Compliance Plan actions.

A variety of efforts have been undertaken to address identifying and removing illegal connections, including sump pumps and downspouts, from the system. These efforts included Sump Pump Pilot Programs wherein the Utility offered free home inspections for illicit connections and reimbursement for the costs of repairing illicit connections in the following neighborhoods: Alden Place, El Dorado, The Commons, Carefree North, Carefree South, Whispering Trails, and Pearl Street. In addition, the Utility enacted a one year \$100 Find it Fix it credit for the 2017 calendar year where residents who provided proof of compliance are provided a one-time \$100 credit to their sanitary sewer bill. The Utility also engaged in a multi-year public education and outreach campaign under the Find it Fix it umbrella including buck slips, social media posts, website materials, public meetings, and outreach at public festivals and events.

## 1.2 Additional Actions

The Utility will continue to dedicate approximately an average of \$2 million per year on sanitary sewer relining and replacement projects in targeted areas for the calendar years 2018-2021. This is an important component of the City's efforts to reduce infiltration into the system through old and faulty pipes.



The Utility will proceed forward with the WRI Project with land acquisition concluding in 2018; construction beginning in late 2018, and construction concluding by December 31, 2021. The WRI will address long term structural and capacity issues on the western side of the system and allow for a more balanced system relieving the overburdened Pleasant Run Interceptor.

The Utility will continue its public outreach and education efforts on illicit inflows into the system and will propose to the Common Council a two tiered rate structure or penalty for properties which have not demonstrated compliance on or before December 31, 2020.

Inspection of manholes and televised inspections of pipes in targeted areas will continue on a routine basis.

The Utility will continue to comply with its maintenance, inventory, and documentation requirements adopted to date as part of the Compliance Plan.

## **SECTION 2: OPERATIONS AND CAPACITY MANAGEMENT PROGRAM**

### **2.1 Actions Taken to Date**

#### *A. Assessment of Structural Integrity and Capacity*

The Utility developed and implemented a program to provide for ongoing monitoring of the structural integrity and capacity of the sanitary sewer collection system, including the reporting, monitoring, and analysis of reports of sewage back-ups, overflows, and other capacity related events as adopted and approved by the BPW via Resolution 13-04 on January 7, 2013.

The Utility also engaged HWC Engineering to develop a ten (10) year capital improvement plan which was approved and adopted by the BPW via Resolution 13-29 on



December 16, 2013. After adoption, the Utility began immediate implementation of the capital improvement plan which remains ongoing.

*B. Identification and Prioritization of Structural and Hydraulic Deficiencies*

The Utility engaged an engineering firm to conduct a study of hydraulic deficiencies in the collection system. The results of the hydraulic study were incorporated into the capital improvement plan and are utilized to determine the targeted areas for its relining and replacement program.

*C. Collection System Monitoring*

The Utility developed a list of parameters to be monitored on a daily basis relating to its collection system that was adopted and approved by the BPW via Resolution 12-29 on November 7, 2012. Concurrently, it developed a system of recording and tracking the results of its monitoring program that was adopted and approved by the BPW via Resolution 13-03 on January 7, 2013. This ongoing monitoring has allowed the Utility to identify problem areas and the impact of wet weather on the collection system in order to prioritize areas for its relining and replacement program and sump pump outreach efforts.

*D. Procedures for Response and Operation During Conditions Likely to Result in a Collection System Discharge*

The Utility developed and adopted a plan to respond to and operate during major rain events and other conditions likely to result in a collection system discharge that was approved by the BPW via Resolution 12-22 on October 1, 2012. All overflow events are, and will continue to be, reported immediately to IDEM pursuant to IDEM's standard policies and procedures.

2.2 Additional Actions

The Utility will continue to dedicate approximately an average of \$2 million per year on sanitary sewer relining and replacement projects in targeted areas identified by its hydraulic study and ongoing monitoring of the collection system in wet weather events for



the calendar years 2018-2021. This is an important component of the City's efforts to reduce infiltration into the system through old and faulty pipes.

The Utility will proceed forward with the WRI Project with land acquisition concluding in 2018; construction beginning in late 2018, and construction concluding by December 31, 2021. The WRI will address long term structural and capacity issues on the western side of the system and allow for a more balanced system relieving the overburdened Pleasant Run Interceptor.

The Utility will continue to comply with collection system monitoring and wet weather response requirements adopted to date as part of the Compliance Plan.

### **SECTION 3: INFORMATION MANAGEMENT PROGRAM**

#### **3.1 Actions Taken to Date**

##### *A. Collection System Map*

The Utility created a comprehensive GIS mapping system, using Esri products, for the collection system. The mapping system includes all sanitary sewer manholes, gravity sewer mains, lift stations, and force mains. Private laterals are added as resources allow. The mapping system is continually updated using field verification and as-built drawings.

##### *B. Monthly Operating Reports*

The Utility established a standardized monthly operating report form that was approved and adopted by the BPW via Resolution 12-22 on October 1, 2012. All collection system discharge events are documented in monthly operating reports as well as reported to IDEM within 24 hours of occurrence.



### *C. Procedures for Response to an Overflow Event*

The Utility developed and implemented a comprehensive plan for responding to overflow events. This plan was adopted and approved by the BPW via Resolution 13-04 on January 7, 2013.

### *D. Electronic Maintenance of Records, System Problems and Complaints*

The Utility has developed a detailed electronic system of maintaining records through its GIS mapping system and Cityworks, as GIS based asset management software program. Sanitary data records are tracked with the use of service requests, work orders, inspections. Service requests are used to track sanitary system complaints while work orders and inspections record the work for maintenance and system problems. All records are searchable electronically by database or geographic parameters.

## 3.2 Additional Actions

The Utility will continue to update, improve, and monitor its GIS mapping system and electronic recordkeeping through Cityworks.

The Utility will continue to comply with all information management requirements adopted to date as part of its Compliance Plan requirements.

## **SECTION 4: TRAINING PROGRAM**

### 4.1 Actions Taken to Date

The Utility has established a uniform system of initial and refresher training for each member of staff. The training program was adopted and approved by the BPW via Resolution 12-30 on November 7, 2012.



The Sanitation Superintendent, City Engineer, Deputy Mayor, and Corporation Counsel conduct annual reviews of the Utility's Compliance Plan. An annual report is presented to the BPW and Common Council each year.

#### 4.2 Additional Actions

The Utility will continue to comply with its Employee Training Program.

Senior staff will continue to annually review progress on the Additional Action Plan and make an annual report to the BPW and Common Council.

### **SECTION 5: ADDITIONAL ACTION PLAN MONITORING**

#### 5.1 Additional Action Plan Monitoring

Monitoring of the Additional Action Plan's effectiveness and progress shall be performed through routine meetings and analysis by senior staff and preparation of an annual report.

#### 5.2 Modification and Update of Additional Action Plan

The Sanitary Superintendent, City Engineer, Deputy Mayor, and Corporation Counsel shall meet regularly to evaluate progress under the Additional Action Plan and to determine the need for any modifications and/or updates to the Additional Action Plan.

#### 5.3 Reporting to IDEM during Additional Action Plan Development and Implementation

The Utility will provide IDEM with updates every six months, on or before January 30 and July 31 of each year, regarding its progress with respect to its implementation of the Additional Action Plan.



## SECTION 6: IMPLEMENTATION SCHEDULE

The implementation and completion schedule for the Additional Action Plan is presented in Table 1. The Utility has scheduled the Additional Action Plan to occur from the date of expiration of its Original Compliance Plan, December 31, 2017 to December 31, 2021. Pursuant to Paragraph 3d of the Agreed Order, the Utility must demonstrate a 12 month period with no overflows within 18 months of completion of the implementation schedule. This is currently schedule to start in July 2022, which is 6 months after the Additional Action Plan implementation is anticipated to be complete.

Item	Duration	Start Date	Anticipated Completion Date
Annual pipe relining and replacement program	48 months	January 1, 2018 (ongoing as part of CP)	December 31, 2021
Western Regional Interceptor Land Acquisition Process	12 months	January 1, 2018 (ongoing as part of CP)	December 31, 2018
Western Regional Interceptor Construction	36 months	September 1, 2018	December 31, 2020
Public Outreach and education on illicit inflows	48 months	January 1, 2018 (ongoing as part of CP)	December 31, 2021
Implement two tiered rate or credit for compliant homes	24 months	January 1, 2020	December 31, 2021
Visually inspect all manholes and televise targeted areas of system	48 months	January 1, 2018 (ongoing as part of CP)	December 31, 2021

