

Filed in Clerk's Office  
APR 29 2015  
JOHN VOORDE  
CITY CLERK, SOUTH BEND, IN

2014

# PUBLIC WORKS

ANNUAL REPORT

*Revised*

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JOHN VOORDE  
CITY CLERK, SOUTH BEND, IN

ERIC HORVATH, DIRECTOR OF PUBLIC WORKS  
CITY OF SOUTH BEND

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# 1 PUBLIC WORKS ORGANIZATION

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## 1.1 STAFF UPDATES

### 1.1.1 Engineering

The following individuals were hired for their positions in 2014:

- Kara Boyles – Deputy Director (New Position)
- Corbitt Kerr – City Engineer
- Roger Nawrot – Assistant City Engineer
- Lee Bene – Secretary V
- Elizabeth Horvath – Part-Time Secretary

## 1.2 INTERNSHIP PROGRAMS

### 1.2.1 Engineering

A total of seven interns worked for the division of engineering during the summer of 2014. One of these interns was a student of John Adams High School, who participated as part of the JAG WorkONE program. Two interns also worked part-time during the school year. The interns worked closely with the engineering staff on a number of projects that gave them valuable work experience and contributed to our internship mission which is threefold:

- Provide an opportunity for them to learn about their field and help develop engineers of tomorrow.
- Challenge them to produce and provide a measureable service to the City of South Bend and its community.
- Foster an appreciation for the City of South Bend and hopefully instill a desire in them to remain and build a future here.

In addition, one of the engineering interns won the Evan J. Sears Annual Memorial Scholarship, which is an annual scholarship that recognizes safety in the workplace. On August 2, 1999, Evan Sears, an intern with the Division of Traffic and Lighting, was fatally injured by a vehicle while setting out traffic counters on Pleasant Street in South Bend. Because of this accident, the City of South Bend reviewed and enhanced its Safety Policies. Also, in cooperation with Evan's mother Marci Sears, each year the city offers summer interns and college employees a scholarship of \$750 to help keep Evan's memory alive and to ensure safety remains a priority in the workplace.

## 1.3 LICENSES AND CERTIFICATIONS

### 1.3.1 Engineering

- Four employees received INDOT LPA Employee in Responsible Charge Certification
- All registered Professional Engineers and Land Surveyors renewed their Licenses with the State of Indiana

## 1.4 TRAINING

### 1.4.1 Engineering

Employees from the division of engineering received training via a variety of formats in 2014. Some training was performed via the web, some training occurred by traveling and attending workshops or conferences. These included but were not limited to:

- LTAP Stormwater Drainage Conference
- Purdue Road School
- Indiana Boundary Waters Land Surveying Seminar
- IGIC's Annual Indiana GIS Conference

- Miscellaneous GIS Webinars from ESRI
- Miscellaneous ASCE Webinars
- Use of Constructed Wetlands for Wet Weather Flow Management Webinar
- Green Infrastructure for Localized Flood management Webinar

#### 1.4.2 Central Services

The Print Shop technician completed three (3) software training certificates in Adobe Photoshop techniques, and Photoshop Mastery totaling 15.25 hours. The superintendent completed and received a certificate in Adobe InDesign CS6 Essential Training totaling 4 hours during this period.

Radio Services had members of its team pass the Mobile Communications and Electronics Installer certification exam, attended the Motorola Training Academy and received training on how to install and repair the RFID system used by Solid Waste. The end result of this training was demonstrated in lower costs and faster turnaround times for services performed on four Solid Waste trucks.

#### 1.4.3 Environmental Services

The Maintenance work group was professionally trained to do laser alignments on pumps and motors so that in the future this work can be done in-house.

#### 1.4.4 Solid Waste

The Solid Waste Manager attended the 2014 Fleet Management Expo. Staff members, including drivers, attended numerous vehicle inspection training seminars. The Financial Specialist attended an excel workshop.

#### 1.4.5 Water Works

Water Works staff received training on maintenance of valves and fire hydrants. In addition, the Construction/Maintenance Department was instructed by DIPRA on the proper installation of DIP (ductile iron pipe) using V-Bio polywrap to protect the metal from corrosion.

#### 1.4.6 Sustainability

The Office of Sustainability attended GreenTown Chicago and MACOG Livable Communities meetings. The Director attended the National League of Cities' Sustainability Coordinator's Workshop. Staff have participated in numerous webinars, met with sustainability and energy staff from other cities, and received training on UtilityTrac energy management software.

## 2 CITY GOALS and COMMUNITY ENGAGEMENT

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### 2.1 Basics are Easy

City government provides those things that people cannot live without - from drinking water to police protection - as they go about their lives. The Mayor's vision is to provide these basics of life so well, so seamlessly, that citizens can take them for granted and focus on what's really important in their lives.

Within the Department of Public Works, there are numerous examples of how it takes major effort behind the scenes to make the basics seem easy. It matters that Water Works delivers billions of gallons of clean water to the people of South Bend each year and with the implementation of Smart Sewers, the City has eliminated the discharge of sewer overflow into the St. Joseph River by 50% since 2011.



## 2.2 Good Government

Good government concerns not just what we do, but how we do it. Adapting and reforming City government has been a top priority since the first day the Mayor took office. The Mayor's office initiated a "Mayor's Night Out" program which allows the community an opportunity to discuss issues of concern and to work together with department heads to solve problems, making officials directly and personally available to residents. The City maintains a 311 call center so that citizens no longer have to guess which phone number to call for a pothole and which number for a question on their water bill. Good government also means making sure our city purchasing is more reflective of the diversity of our community - an effort led by the creation of the Diversity Utilization Board.

## 2.3 Economic Development

Growth and development are occurring across different corners of our city at all times. From Smart Streets to the ongoing work at Ignition Park, the City continues to develop for the future. Work at Ignition Park meant repopulating the long-dormant Studebaker land and creating jobs in new industries such as the new ND Turbo Plant. Smart Streets in 2014 took some of our one-way streets and converted them into a two-way pattern that is more suitable to retail, pedestrian traffic, and other economically desirable activity. Being a smarter city means looking at the bigger picture, and we cannot expect people to linger downtown if a four-lane highway shoots people out of the heart of our city.

## 2.4 Community Engagement

As part of each engineering project, Public Works staff works with stakeholders and the public to ensure proper education and community involvement. Recent successes of strong outreach during project development and execution include the Southwood Sewer and Jefferson Blvd Streetscape projects, where staff has received numerous examples of positive notes of appreciation from the public.

Employees from the division of engineering also participated in numerous community engagement opportunities during 2014. This included but was not limited to:

- Presenting at GIS Day, hosted by the University of Notre Dame
- Several class presentations at the University of Notre Dame and at Riley High School
- CommUniversity Day, hosted by the University of Notre Dame
- Bowman Creek Project, a focus group devoted to the environmental, social, and economic improvement of the Bowman Creek watershed.

# 3 BUDGET

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The Department of Public Works presented a balanced budget for 2014. The Common Council approved a series of 5% annual rate increases (3 years) as part of the funding to be provided for the City's consent decree related to the Combined Sewer Overflow Long Term Control Plan (CSO LTCP). No other rate increases were requested for 2014.

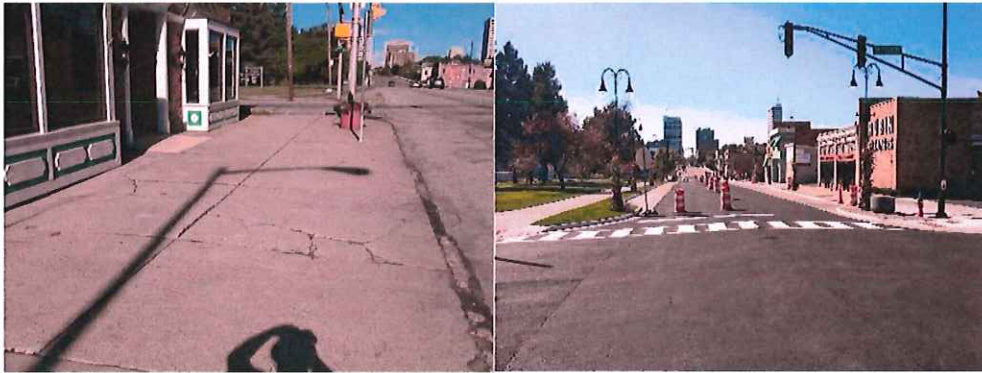
## 4 DIVISION OF ENGINEERING

### 4.1 SMART STREETS INITIATIVE

The Division of Engineering has been heavily involved in the smart streets initiative, working closely with the Department of Community Investment among other city and community groups. The following projects are indicative of the city embracing the “Complete Streets” philosophy. This entails the mantra that the pedestrian should be the focus of our transportation system and public areas, and that by centralizing around a person instead of an automobile, the ability to account for the motorist, bicyclist, public transportation, residency, and business, the system has less conflicts and greater opportunities.

#### 4.1.1 Jefferson Boulevard Improvements

Streetscape, pavement rehabilitation, and sewer separation was completed between Niles Avenue and Saint Peter Street. Jefferson Boulevard was put on a road diet consisting of one lane of traffic in each direction and a continuous left hand turn lane from Niles Avenue to east of Frances Street with on-street parking added along Howard Park. Street trees were planted from Niles Avenue to east of Frances Street. Low impact storm water design was used in the streetscape area with the use of porous pavers and a storm sewer infiltration stone drain in the Howard Park area.



#### 4.1.2 Lafayette & Williams 2way Conversion

The one-way pair of Lafayette Boulevard and William Street in the Downtown area was converted to bi-directional traffic with left turn lanes at each cross street intersection. On Lafayette Boulevard the 2- way conversion was made from Western Avenue to Madison Street and the existing traffic signals at the Wayne Street and the Madison Street intersections. The 2-way conversion on William Street was made between Western Avenue and Washington Street with the existing traffic signals at Wayne Street and Jefferson Boulevard intersections removed.



#### **4.1.3 Bartlett Street Roundabout**

Design was started on the Bartlett Street roundabout at the Michigan Street intersection that will replace the existing traffic signal. On the west side of Michigan Street the project will impact the front entrance to Memorial Hospital. For this reason the project has been split into two phases. Phase 1 will realign Bartlett Street from Lafayette Boulevard to just east of Main Street along with reconstructing Memorial's front entrance vehicle access and Phase 2 will build the roundabout at Michigan Street.

#### **4.1.4 Colfax Avenue Streetscape**

Design of portions of new sidewalks, street trees, and decorative lighting will be added along the block of Colfax Avenue from Niles Avenue to Hill Street. The sidewalk work will be done in the northwest quadrant of the Colfax Avenue and Hill Street intersection in conjunction with the new 3 story multi-use building that is under construction. Colfax Avenue will have the pavement markings adjusted to allow for increased on-street parking.

#### **4.1.5 Lincolnway West Corridor Improvements**

The design and bidding for putting Lincolnway West on a road diet from Maplewood Avenue to William Street got under way. Lincolnway West will be converted into a 3 lane street that includes a continuous left turn lane with on-street parking. Bike lanes will be striped between Maplewood Avenue and Sherman Avenue. The existing traffic signals at Maplewood Avenue, Johnson Street and Blaine Avenue will be removed. Solar powered automatic speed indication signs will be installed in two key locations for traffic calming. Over 330 street trees will be planted along the corridor.

#### **4.1.6 Western Avenue Corridor Improvements**

A traffic and improvement study was done on Western Avenue from Mayflower Road to William Street. The goals are to increase on-street parking, provide a 3 lane street that includes a continuous left turn lane, plant street trees and install bike lanes where possible. The road diet will be implemented from east of Sheridan Street to Olive Street. Where the existing pavement and right-of-way is much wider between Olive Street and Kosciuszko Street, existing pavement will be removed and a landscaped median installed. A 3 lane street will be defined by changing the pavement markings between Kosciuszko Street and William Street.

#### **4.1.7 Marion Street and Madison Street Two-Way Conversion**

Marion and Madison Streets are an existing one-way pair of adjacent streets that will be changed to two-way traffic from Martin Luther King Drive to Lafayette Boulevard. A connector intersection will be built for Madison Street just north of Lincolnway West. Existing sidewalk will be replaced where needed. Existing deteriorated trees will be removed and new street trees will be planted.

#### **4.1.8 Marion Street Roundabout**

Design was started on the roundabout at the Marion Street, Main Street, and Michigan Street intersection that will eliminate the current traffic signal and pavement configuration. The one-way pair of Main and Michigan Streets will be changed to two-way traffic from LaSalle Avenue to Marion Street. Throughout the project new sidewalks and streetscapes with decorative lighting will be installed. Bike facilities will be provided in the project area.

#### **4.1.9 Downtown Two-Way Relinquishment**

Ongoing discussions continue with the Indiana Department of Transportation about the conversion of the one-way pair of Main Street and Michigan St./St. Joseph Street, which is SR 933, to two-way traffic with bicycle facilities. The portion of streets that is being discussed is from Sample Street through the Bartlett Street intersection.

#### **4.1.10 Bowen Street Sidewalk**

This project consists of building new sidewalks and curbing on the south side of Bowen Street from the east side of Erskine Plaza to Miami Street. This new sidewalk provides access between Erskine Plaza and Erskine Village which is on the east side of Miami Street.



#### **4.1.11 Chippewa Street Intersection Improvements**

This project involves reconfiguring the existing Chippewa Street and Main Street intersection to be capable of handling two-way traffic on Main Street to the north, and building a roundabout at the Michigan Street intersection with Chippewa Street. The existing traffic signal at Chippewa Street and Michigan Street will be eliminated. The project will include new street lighting, sidewalks and bicycle facilities.

#### **4.1.12 Two-Way Conversion Traffic Study**

This study provided traffic justification for changing of Main Street and Michigan/St. Joseph Street from a one-way to bidirectional traffic on both streets. These streets were studied from Chippewa Street on the south to Bartlett Street on the north. The origin and destination of the traffic using these streets was determined by location of cellphone users. The traffic counting was done by portable cameras that were mounted at each intersection. All of the traffic data is being computer modeled and calibrated to the local conditions.

#### **4.1.13 Smart Streets Design Review**

This project is quality assurance review of the plan development process for the Smart Streets projects. The review provides for maintenance of the conceptual planning through the project development stages to construction of the Smart Streets projects.

#### **4.1.14 Downtown Two-Way Design – Phase I**

Phase 1 of the design provided an engineering study that determined the feasibility of implementation of the conceptual planning work done for the conversion to two-way traffic for Main Street and Michigan/St. Joseph Street. The study provided conceptual design, pavement analysis and cost analysis.

#### **4.1.15 Western Avenue Streetscape – Phase I**

The design of a streetscape project for two blocks of Western Avenue between Dundee Street and Liberty Street, this project will replace the existing curbing and sidewalk along these two blocks. Street trees will be planted where right-of-way permits, and ornamental lighting will be installed.

## **4.2 TRANSPORTATION IMPROVEMENT PROGRAM**

The following projects are supported by the Michiana Area Council of Governments (MACOG), our Metropolitan Planning Organization (MPO) for the South Bend Urban Area and the Elkhart/Goshen Urban Area. These projects are part of a federal match program and follow the federal process for design, procurement, and construction. As such, these projects typically span several years.

#### **4.2.1 Olive & Sample Overpass**

The design of the reconstruction of this major transportation facility which will include the concrete pavement replacement and re-decking of the two bridges over the Canadian National Railroad. The existing traffic signal will be replaced with a roundabout. Street trees will be added along both streets where space is available.

#### **4.2.2 Olive Street Road Reconstruction**

The design for the pavement replacement or rehabilitation on Olive Street from Delaware Street to the Norfolk Southern Railroad, which is a project termini for the Olive-Sample Overpass project. Drainage improvements will be provided.

#### **4.2.3 Bendix Drive: Road Reconstruction**

The design of the concrete pavement rehabilitation using an un-bonded concrete overlay, this project will be from north of Lathrop Drive to the Indiana Toll Road bridges. Drainage improvements will be provided.

#### **4.2.4 Boland Drive Multi-Use Path**

Boland Drive Multi Use Path will connect the path on Portage Avenue to the path along Riverside Drive. The new path will follow Boland Drive and overlook Pinhook Park. The design and survey work was started last fall.

#### **4.2.5 Coquillard Primary School Safe Routes to School**

The focus will be the sidewalks and curb ramps in a 4-5 radius of the Harrison Primary Center. An investigation of the surrounding blocks determined the areas of sidewalk in poor condition and in need of repair, and curb ramps that are not in ADA compliance. These items will be replaced with the design of this project starting in the beginning of 2015 and constructed in the same year in the fall.

#### **4.2.6 Harrison Primary Center Safe Routes to School**

The focus will be the sidewalks and curb ramps in a 4-5 block radius of the Harrison Primary Center. An investigation of the surrounding blocks determined the areas of sidewalk in poor condition and in need of repair, and curb ramps that are not in ADA compliance. These items will be replaced with the design of this project starting in the beginning of 2015 and constructed in the same year in the fall.

### **4.3 VACANT & ABANDONED**

The Vacant & Abandoned Properties Initiative called for 1,000 abandoned houses to be addressed in 1,000 days beginning February 27, 2013 with a goal completion date of November 24, 2015. The Division of Engineering has worked closely with Code Enforcement, Community Investment, and the Mayor's Office to develop specifications, procure the services of demolition contractors, and carry out the inspections.

#### **4.3.1 Demolition of 42 V & A Homes Phase I**

The Division of Engineering assisted Code, and Community Investment with the preparation of construction documents and the procurement of services for the demolition of 42 vacant and abandoned homes. Construction began in February and completed in December of 2014.



#### 4.3.2 Demolition of 112 V & A Homes Phase I

The Division of Engineering assisted Code, and Community Investment with the preparation of construction documents and the procurement of services for the demolition of 84 vacant and abandoned homes. Construction began in February and was completed in December of 2014.



#### 4.3.3 Demolition of 60 V & A Homes Phase III

The Division of Engineering assisted Code, and Community Investment with the preparation of construction documents and the procurement of services for the demolition of 60 vacant and abandoned homes. Construction began in May and was completed in October of 2014.



#### 4.3.4 Demolition of 84 More or Less V & A Homes

The Division of Engineering assisted Code Enforcement and Community Investment with the preparation of construction documents and the procurement of services for the demolition of 82 vacant and abandoned homes. Demolition began in August and was completed in November of 2014.



#### 4.3.5 Deconstruction of 10, More or Less V & A Homes

The Division of Engineering assisted Code Enforcement and Community Investment with the preparation of construction documents and the procurement of services for the deconstruction of 10 vacant and abandoned homes. Deconstruction began in May and was completed in November.



#### 4.3.6 Demolition of 118, More or Less, V & A Homes

The Division of Engineering assisted Code Enforcement and Community Investment with the preparation of construction documents and the procurement of services for the demolition of 118 vacant and abandoned homes. Demolition began in January and is slated to be completed by May of 2015.

### 4.4 LTCP

As part of the City of South Bend's consent decree with the EPA for its Combined Sewer Overflow Long Term Control Plan (CSO LTCP), the city has a number of requirements to adhere to. Included in this section are projects either outlined in that consent decree or representing a benefit to the City with regards to our implementation of the LTCP.

#### 4.4.1 Beck's Lake Control Valve and Irrigation System

As part of a Notre Dame senior design project there was a concept of installing a CSONet smart valve on the low level overflow outlet of Beck's Lake. This outlet allows water to be discharged into the combined sewer. Reviewing actual real time depth data from the lake and CSO diversion structures it was concluded that a control valve would not be a cost effective solution at this time. However the lake level will be monitored over the next several months because the low level overflow has been temporarily plugged to see how the lake responds during wet weather.

#### 4.4.2 Oliver Plow Phase III Consent Decree Assistance

Greeley and Hansen completed a study looking at if there was a need to install an overflow storm sewer from the Oliver Plow retention basin as part of the Combined Sewer Long Term Control Plan. It was determined that the overflow pipe was not needed as part of this Combined Sewer Long Term Control Plan but could be needed in the future if more storm water is drained to the pond. This recommendation will be used to request that the Oliver Plow Phase 3 project be removed from the CSO consent decree.

#### 4.4.3 East Bank V Sewer Separation

The final phase of the East Bank sewer separation is East Bank 5. Phase 5 would separate approximately 64.7 acres. The project will be coordinated with the TRANSCO site development and the new Notre Dame boathouse. A condition based assessment is being completed on existing city utilities to determine if anything needs to be repaired or replaced. Design for this project has already been started and will be completed the spring of 2015. Construction is planned for summer of 2015. This project is listed in the LTCP consent decree and needs to be completed by the end of 2017.

#### 4.4.4 Prairie Avenue Sewer Separation

The original plans were to separate 570 acres of combined sewers in the residential area bound by Ewing Avenue, William Street, Indiana Avenue and Grant Street. These areas have experienced basement flooding due to the insufficient capacity in the local collector sewers. During the preliminary design process it was determined that a smaller area could be separated and not affect the Combined Sewer Long Term Control Plan. Three pilot areas will be selected to study how effective LID technology such as inlet restrictions, pave drain, and curb turnouts are for reducing flow to the combined sewer. The selected sites will have real time flow monitoring installed prior to construction to monitor pre and post construction results.

#### 4.4.5 Downspout Disconnect Program

The Downspout Disconnect Program has been facing lowering applicants with each year of the program. Engineering is looking for different ways to educate the residents of the City and find different alternates to maximize the potential for Downspout disconnection. In the summer, a group of interns looked at the City's CSO regions and determined the potential area to disconnect with the greater density of homes that need disconnecting. The group collected locations of potential disconnect properties. A further marketing strategy is currently being developed with partnering students at Notre Dame with intended implementation in the Spring/Summer of 2015.

#### 4.4.6 LTCP Reassessment

In the spring of 2014, the city sent out a request for proposals to reassess the City of South Bend LTCP. A number of proposals were submitted to the city and a thorough review and scoring of the proposals was performed along with interviews and presentations. A consultant was selected to reassess the City's LTCP, with an expected early 2015 notice to proceed.

#### 4.4.7 Southwood Sewer Separation

The project entailed the construction of new roadways with permeable pavers, and storm sewers. The work consisted of construction of approximately 3,876 feet of new pavement; 7,152 feet of permeable pavers, 4,886 feet of new



storm sewers, manholes, and inlets; replacement of sidewalk transitions and approaches to back of sidewalks on Belmont Avenue, Southwood Avenue, and Hoover Avenue from Twyckenham Drive to Greenlawn Avenue.

Work also included a storm sewer and manholes along the alleyway at the intersection of Southwood Ave and Twyckenham Drive southwest to Sunnyside Drive. This work shall also include the removal and replacement of pavement, curb, pavers, approaches, pavement markings, topsoil and sod, and disconnection of existing storm sewers to existing sanitary sewer.



## 4.5 EQUIPMENT PURCHASES

The Division of Engineering has assisted the Department of Community Investment in the procurement of equipment for the purposes of economic development agreements through the Board of Public Works. This has included working with the development of the specifications and the proper adherence to Board of Public Work's processes.

### 4.5.1 Lippert Components Trailers

Public Works purchased six (6) tractor trailers that will be used for Lippert Components at their newly renovated South Bend warehouse.

### 4.5.2 Corn Oil Separator for Noble Americas South Bend Ethanol

Public Works purchased a corn oil separator that will be used in the currently renovated former New Energy Ethanol plant. The separator is scheduled to be installed in the facility of fall 2015. Once installed, it yields a high-purity bio-oil in the production of ethanol.

### 4.5.3 ND/GE Turbine Project

Public Works is partnering with Notre Dame, KFI Engineering, and Community Investment to purchase Equipment to be used in the new facility that will house test cells for turbo machinery.

## 4.6 ECONOMIC DEVELOPMENT

The Division of Engineering has assisted the Department of Community Investment on a number of economic development projects which typically included design review, procurement of services, and construction inspection.

### 4.6.1 Hill and Colfax Drainage Improvements

This project consists of a new underground storm sewer, concrete curbing, asphalt pavement, pavement markings and signage within the parking lot at the vacant lots in the northwest corner of Hill Street and Colfax Avenue. All the

underground work has been completed and the curbing, asphalt, and pavement markings will be completed in late spring 2015.



#### 4.6.2 Removal of Asbestos at Ivy Tower

Work included Asbestos Removal and Disposal on Buildings 84, 112 and 113 at the IVY Tower located at 625 South Lafayette Blvd.

#### 4.6.3 Ivy Tower Removal of Lead Based Paint Phase I

This project consists of the removal of lead-based paint from the exterior and interior of Buildings 112 and 113, Floors 1, 2, and 3 of Building 84; and the Loading Dock/Open Courtyard between Buildings 84 and 113 at the IVY Tower located at 625 South Lafayette Boulevard. This project is slated to be completed in 2015.



#### 4.6.4 Ignition Park South Phase V Demolitions

The project consisted of the demolition of two buildings located at 1505 Kendall Street and 1510 S. Taylor Street. The work entailed demolishing the two structures, removing the basements, backfilling and finishing the site with topsoil and seeding.

#### 4.6.5 Demolition of Hamilton Towing

This project consisted of demolishing the former Hamilton Towing building located at 915/917 S. Lafayette and included the demolition of the existing building, removing the foundation, grading, placing topsoil on the whole site and hydro-seeding.



#### **4.6.6 Five Points Utility Relocation**

In an effort to promote smart growth and development around the old Five Points intersection the city started to plan out and coordinate with key stakeholders on the need to relocate city owned utilities at the intersection of Corby, Eddy, and South Bend Avenue. The design has been put on hold until the external stakeholders have a better understanding of their plans for the existing properties.

#### **4.6.7 Removal and Disposal of Hazardous/Nonhazardous Waste at IVY Tower**

This project consisted of removal, transportation and disposal of hazardous/nonhazardous materials and containers from the 6th floor at the Ivy Tower Bldg. located at 625 S. Lafayette Boulevard.

#### **4.6.8 Memorial Hospital Parking Lot**

This project consists of reconstructing Memorial Hospital's north parking lot under the Hospital TIF. The existing Hospital's building north of Bartlett Street and west of Michigan Street will be razed and the existing parking lot regraded. New drainage improvements will be made and all of the existing aerial utilities removed. The new asphalt lot will be curbed, have new lighting installed and have a single access off of Main Street. The new parking lot will have a total of 268 spaces for visitor and valet parking.

#### **4.6.9 Ignition Park Buildings 1 & 2**

This project consisted of the design and construction of water, sanitary, and storm water utilities for Buildings 1 and 2 of Lot 7 in Ignition Park. The remaining site work portion of this project is expected to be constructed in 2015.

#### **4.6.10 Ignition Park Infrastructure**

This project consisted of designing the infrastructure improvements for Ignition Park between Sample Street, Franklin Street, Prairie Avenue, Stull Street, Cotter Street, and Ignition Circle. This includes a new road (Ignition Drive South), and reconstruction of Franklin Street and parts of Stull and Cotter Streets. Permeable pavement and green infrastructure options are heavily utilized. In addition, the project includes lighting, sidewalks, trees, and other complete streets philosophy features.

#### **4.6.11 Erskine Pond Timber Railing**

This project will remove the existing earth berm and landscaping along the south side of the retention basin that is located adjacent to Erskine Plaza parking lot. The design is over half done for the installation of a wooden guard rail that will replace the existing fence and berm.

## 4.7 NEIGHBORHOOD REVITALIZATION

Engineering worked on a number of neighborhood revitalization projects in 2014. The objective of these projects is to revitalize neighborhoods by either improving aesthetics, functionality, or safety.

### 4.7.1 Traffic Calming

There have been discussions with various neighborhood groups about speeding vehicles using their residential streets. In the Walnut Grove area a temporary closing of 27<sup>th</sup> Street was tried but the traffic moved to the neighborhood on Tuxedo Drive so the street was reopened. In the Harter Heights neighborhood on Stanfield Street the stop sign configuration was changed at three intersections. In the Kennedy Park area an all-way stop intersection was made on Westmoor Street and a stop sign configuration was changed on Frederickson Street.

### 4.7.2 Hill Street Improvements

This project consists of improvements from Crescent Street to Corby Boulevard. The work includes construction of the alleys west of Hill Street including clearing, earthwork, compacted aggregate base, asphalt pavement and concrete alley approaches.

## 4.8 LIGHT-UP SOUTH BEND

### 4.8.1 Neighborhood Initiatives

This program was aimed at improving residential neighborhood safety by providing adequate street lighting with the addition of lights to existing electric poles, or in some cases, new light and pole combinations. Two (2) pilot neighborhood areas were chosen in 2014 as part of the initial study: LaSalle Park and Keller Park. For each area, the location of each street light included in the City's current inventory was verified. Using ArcGIS software, a radial buffer was created around each street light denoting the coverage area for each light. New lighting was identified and placed within gaps identified within the buffer zones. A total of 41 new lights (9 on existing poles, 32 with new poles) were installed in LaSalle Park and 26 new lights in Keller Park (13 on existing poles, 13 with new poles).

### 4.8.2 Yard Lamppost Program

Engineering resurrected the Yard Lamppost Program that ended in 2007. The focus is to bring affordable yard lamppost for residents for purchase at inexpensive rate. The lampposts will have a LED bulb for virtually a maintenance free worry for 10 years or more. The program will start with 100 applications for 2015 and has potential for growth.

## 4.9 PARKING GARAGES

The City of South Bend owns and operates several parking garages. These garages routinely require design, maintenance, and repair services which the Division of Engineering procures, reviews, and inspects. Engineering works closely with the Department of Community Investment on these projects.

### 4.9.1 Wayne Street Parking Garage Façade Replacement

This project consists of the removal and disposal of all existing precast panels and grinding and cleaning the existing cast-in-place outward facing surfaces. The finish work will consist of patching any loose surfaces applying silicon sealants to exposed joints or cracks in the existing cast-in place outward facing surfaces (as necessary). The last step is applying an elastomeric coating to the existing outward facing surfaces which will provide a clean painted surface.



#### 4.9.2 Parking Garages Structural Evaluation

A consultant was hired to assess the structural conditions of the Leighton, Wayne, and Main/Colfax Garages. The consultant prepared a report that noted the structural issues of each of the garages and made recommendations for short-term and long-term improvements. The findings of this report will be the basis for the parking garage improvements planned for 2015 and later.

### 4.10 CENTURY CENTER

The Division of Engineering assists the Century Center Board with the procurement of services and inspection of services for projects at the Century Center.

#### 4.10.1 Exhibit Halls A and B Floor Finish Improvements

Work included the installation of a new fluid-applied epoxy floor finish system to the Main Level Exhibition Hall 'A' and 'B' at Century Center. This new floor finish will better serve Century Center for its future events.

#### 4.10.2 Passenger Elevator Modernization

Work includes the modernization and upgrade of an existing 3500 pound capacity passenger elevator located in the Century Center Building. This project includes replacement of the hydraulic and control systems in the existing machine room, rehabbing the elevator cab, and replacing the old electrical wiring system. The elevator is scheduled to be in operation by the end of February.

#### 4.10.3 River Suites Carpet Replacement

This project consisted of removing and installing new carpeting in the River Suites Level at Century Center.



#### 4.10.4 Exterior Column & Sidewalk Repairs

This project entailed providing and installing concrete enclosure shells around existing concrete columns and removal and replacement of an existing sidewalk at the northwest Century Center entrance under the overhead bridge walk to the Double Tree by Hilton Hotel.

#### 4.11 FIRE DEPARTMENT

The Division of Engineering provided design review, procurement, and inspection services for the Fire Department.

##### 4.11.1 South Bend Fire Department Training Center

Public Works inspected the new Fire Department Training Facility located at 710 E Sample Street. The site included the demolition of an existing building and a complete re-grading of the site. Two contractors were contracted with the City; one for the construction of the Classroom and CPAT building along with all the site work, and the other for construction of two Training buildings including a 6 story tower and a 2 story residential building.

## 5 DIVISION OF CENTRAL SERVICES

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### 5.1 ORGANIZATION OF CENTRAL SERVICES

Central Services consists of five (5) cost centers that provide a variety of services to other City departments along with several local County, State, and Federal agencies. Each cost center is internally funded by fees charged for services provided; thus, Central Services is run much like a private business. Each cost center must generate revenue to cover the cost of operation, yet remain competitive with the outside market. Central Services competes with other service providers in the area for business from other local government agencies in an effort to increase revenue.

The cost centers include:

- Equipment Services
- Print Shop
- Central Stores
- Radio Communication
- Building Maintenance

#### 5.1.1 Equipment Services

Equipment Services provides the management and maintenance for over 1100 pieces of equipment with a value of \$40M. The diversified fleet consists of a variety of equipment, from small-engine equipment to heavy-construction equipment such as loaders and graders. Central Services is also responsible for managing all aspects of purchasing, ownership and disposal of city vehicles and equipment. For 2014, Equipment Services provided services to outside agencies which produced over \$205,455 in revenue.

#### 5.1.2 Print Shop/Central Stores

The Print Shop provides printing services to all City departments. City policy requires that all printing requests come to the Print Shop and then Print Shop personnel will determine the most cost-effective method to provide

the service. Employees no longer have to spend valuable time shopping for printing services and can be sure they are getting the best price. Additional services provided to outside agencies produced \$2,200 in additional revenue. The Central Store provides a wide variety of paper products, janitorial, and first aid items to City departments at a cost-savings through volume-buying. Along with cost-savings, the store also delivers items ordered from the internal inventory; again, saving the user department's valuable time.

### 5.1.3 Radio Communications

Radio Communications provides all necessary services to operate and maintain the City's fifteen (15) two-way radio communication systems. Included in these services are the 911 Emergency Dispatch Center, base stations, repeater systems, mobile and hand-held units. Radio Communications is also responsible for the installation, maintenance and removal of two-way radios; emergency lighting; and equipment used in most City vehicles. Services to outside agencies in 2014 produced \$12,000 in additional revenue.

### 5.1.4 Building Maintenance

Building Maintenance provides facility maintenance for the Sample Street location, two City-owned fueling islands, and 11 fire stations. Using Central Services in lieu of an outside vendor, the calculated savings in labor costs was approximately \$70,000.

### 5.1.5 Neighborhood Enforcement Action Team

In early 2014, Central Services began managing what was formerly known as the Code Enforcement Cleanup Crew. The first goal was to establish procedures to record and track each cleanup, which demonstrated that over 60% of the cleanups were classified as illegal dumps and were not billed. The decision was made to give the crew leader the authority to issue citations where ownership of a dump could be established. This change alone reduced the number of non-billed illegal dumps to less than 3%.

During 2014, the Cleanup Crew established a new brand name, Neighborhood Enforcement Action Team or NEAT. The team now uses iPads to document each job. This allows paperless tracking from start to finish including attaching the necessary pictures. Some of the NEAT accomplishments include walking 998 alleys and picking up 829,400 lbs. of trash in just 5 weeks after the harsh winter of 2014. For the year the team picked up more than 5 million pound of trash along with 3,600 tires providing Code Enforcement with documentation to bill \$497,000 for our services.

### 5.1.6 Customer Service

Office personnel are cross trained in various tasks to continue to provide quality customer service during peak periods and employee absences. Through team work, forms and spreadsheets have been revised and job duties rearranged to help improve both quality and productivity. These duties include, but are not limited to: monthly billings for services, fuel purchasing/inventory and auditing transactions, budget preparation, equipment maintenance records, vehicle financing, etc. Central Services also provides licensing services to all taxi-cab companies and taxi-drivers.

### 5.1.7 Major Accomplishments in 2014

- Exceeded our goal by purchasing 49 of 64 (76%) vehicles that will run on compressed natural gas.
- A new compressed natural gas monitoring and air exchange system was installed in our Sample Street shop.
- CNG compressor and fueling site at Solid Waste upgraded from 5 gallons per hour (GPH) to 30 GPH.
- Radio Shop transition from a budgeted allocation to a billed for service operation and using the AS400 for all work orders.
- Neighborhood Enforcement Action Team, NEAT, went to paperless job orders using iPads and provided documentation for billing \$497,000 in services.
- The Division produced \$219,000 in revenue by providing services to other municipalities.

### 5.1.8 Our Goals for 2015

- Continue new vehicles with CNG or Hybrid, conversion of 2012 & newer vehicles to CNG-25% of fleet.
- Present a business plan for centralizing building maintenance, continue education and training classes.
- AVL installation of all new radios without loss of service to departments.
- More centralizing of office supplies, OfficeMax is changing website for users, provide training for employees.
- Continuing training – online classes, renew machines – new leases.

## 5.2 EQUIPMENT SERVICES

Equipment Services is the largest of five (5) cost centers that make up the division of Central Services. Equipment Services is an internally funded department that is responsible for purchasing, maintaining, and fueling the City of South Bend's fleet of 1,195 pieces of equipment. The City owned fleet is made up of a large variety of vehicles and equipment including police cars, fire trucks, medic units, dump trucks, Solid Waste trucks, heavy equipment such as front end loaders, backhoes, pavers, and asphalt rollers. Along with this responsibility, we also maintain and repair equipment for several external customers.

Our main goal is to maintain the City fleet so it is always available for the user departments and to keep downtime to a minimum. By establishing and conducting a good preventative maintenance program, we accomplished our goal of 98% fleet availability while preserving South Bend's major capital investment in fleet. In 2014, we completed more than 2,345 preventative maintenance services which consist of a 70 point inspection providing vehicles that are safe, reliable, and environmentally sound.

Equipment Services provides behind the scenes support for all City departments large and small, this is accomplished by operating two facilities. Our main site is located at 1045 West Sample Street. The administrative staff consisting of the Director, Fleet Manager, and two Financial Specialists are located at this facility as well as three Supervisors, seventeen Technicians, three Parts Clerks, and a Parts Chaser.

Hours of operation are from 6:00 a.m. to 12:00 midnight, Monday through Friday, March through November, and 12:00 midnight Sunday till 12:00 midnight Friday, December through March. We also provide 24 hour on call Supervisors and Technicians to cover Fire Apparatus emergency repairs during after hours, weekends, and holidays. Equipment Services personnel including seventeen Technicians and three Supervisors are on a rotating stand-by status during the winter months to repair vehicles essential to snow removal. This facility is approximately 47,000 square feet and includes a 10,000 gallon indoor pump testing bay to pump test fire apparatus on an annual basis.

Our satellite operation facility is located at 3113 Riverside Drive, which is staffed by a Supervisor and four technicians. The hours of operation are 2:00 p.m. to 10:00 p.m. Monday through Thursday, and 10:00 a.m. to 6:00 p.m. on Friday. This facility maintains all Solid Waste, Waste Water, and Organic Resources equipment.

Equipment Services encourages Technicians to become ASE (Automotive Service Excellence) and EVT (Emergency Vehicle Technician) Certified. We currently have five technicians with a double master (Automotive and Heavy Truck) and six single masters, four with Heavy Truck and two with Automotive and several others that have single certifications. With the diversity of the City fleet, Equipment Services provides training for Technicians. Some of the training is simple refresher courses on brakes and drivability and yet other training is more specialized like air conditioning and transmissions.



Equipment Services is responsible for all City Vehicles from cradle to grave. We start this process by writing specifications for all equipment which is then advertised on the City of South Bend web page and various newspapers. Bids and quotes are reviewed and a recommendation is given to the Board of Public Works to purchase the equipment that meets the City's needs, from the lowest most responsive and responsible bidder.

In 2014, we purchased 64 vehicles and assorted equipment at a cost of \$5.6 million. The new unit is first checked to make sure it meets specification, then any warning lights or two-way radios are installed along with graphics to mark the unit and any other necessary add on equipment, it is then placed into service. Detailed financial records are kept to show what each vehicle costs per hour or mile to operate. These records are reviewed to determine when it's too costly to retain the unit and time to replace by trade or auction.

In addition to City vehicles, we provide services to Memorial Hospital, South Bend Housing Authority, Du Comb Center, along with Liberty Township, Madison Township, Penn Township, Osceola, and Notre Dame Fire Departments. By providing services to outside customers, we were able to produce additional revenue in the amount of \$205,455. Many City departments are supported by tax dollars from the General Fund while others are revenue generating like Sewer, Solid Waste, and Water. Equipment Services is an internally funded Division which means our user departments pay for the services we provide. A study was done to analyze our cost of operation including wages, benefits, and building operation (lights, heat, etc.). Then we formulated a billing rate along with a markup for parts that would cover these costs.

Another aspect of our operation is distributing fuel to the City Fleet. This service is provided at three locations: 701 West Sample, 3113 Riverside Drive, and 4340 Trade Drive. In 2014, we distributed 844,925 gallons of fuel.

Equipment Services has an in-house parts department that is staffed by a Supervisor, three counter people, and a part-time parts chaser. We have over 6,000 items in stock with a total value of approximately \$540,000. This inventory is essential for completion of repairs to vehicles in a timely fashion.

In 2014, we purchased two more Solid Waste trucks and a roll off for Organic Waste that run on CNG (Compressed Natural Gas). We also purchased thirty-five Police cars, seven pickups, and 1 flatbed that was converted to run on both gasoline and CNG. We also purchased 4 more hybrid cars. These hybrids along with the dedicated CNG trucks and the dual fuel cars are going to help reduce fuel consumption in the City of South Bend.

2015 Goals:

- Continue to purchase dedicated compressed natural gas vehicles and convert part of the fleet to dual fuel.
- Continue purchasing more hybrid vehicles.

### 5.3 PRINT SHOP

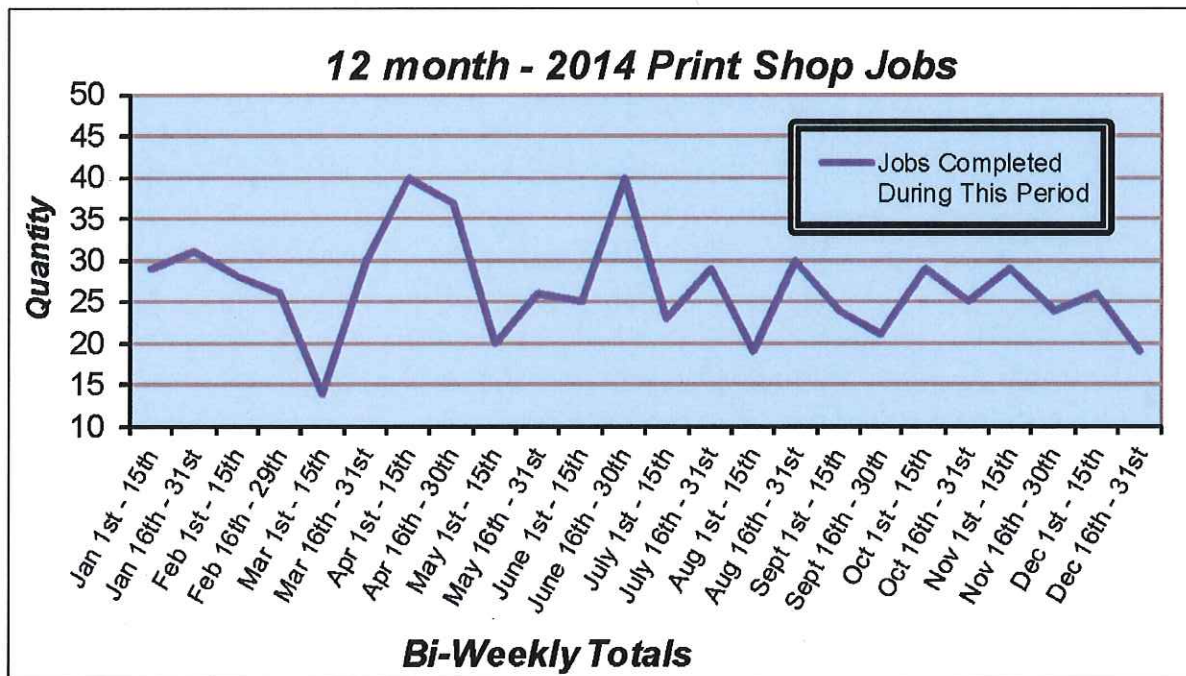
The Print Shop provides printing services and graphics design layouts for city departments. Two digital duplicators, a high speed color copier, and design software are the tools that help turn ideas into professional reports, programs, posters, and fliers. The allocated budget is funded from each user department. Internal user departments are billed for supplies only for each job performed. Jobs are created and electronically filed for future use. Graphic logos and design layouts are created in simple to complex file styles to allow for multiple uses. The design and layout is no additional cost to user departments which is not the case for work done on the outside. Our office has one full time employee and 25% of a supervisor's salary that is split with two other service sections within the Central Services Division.

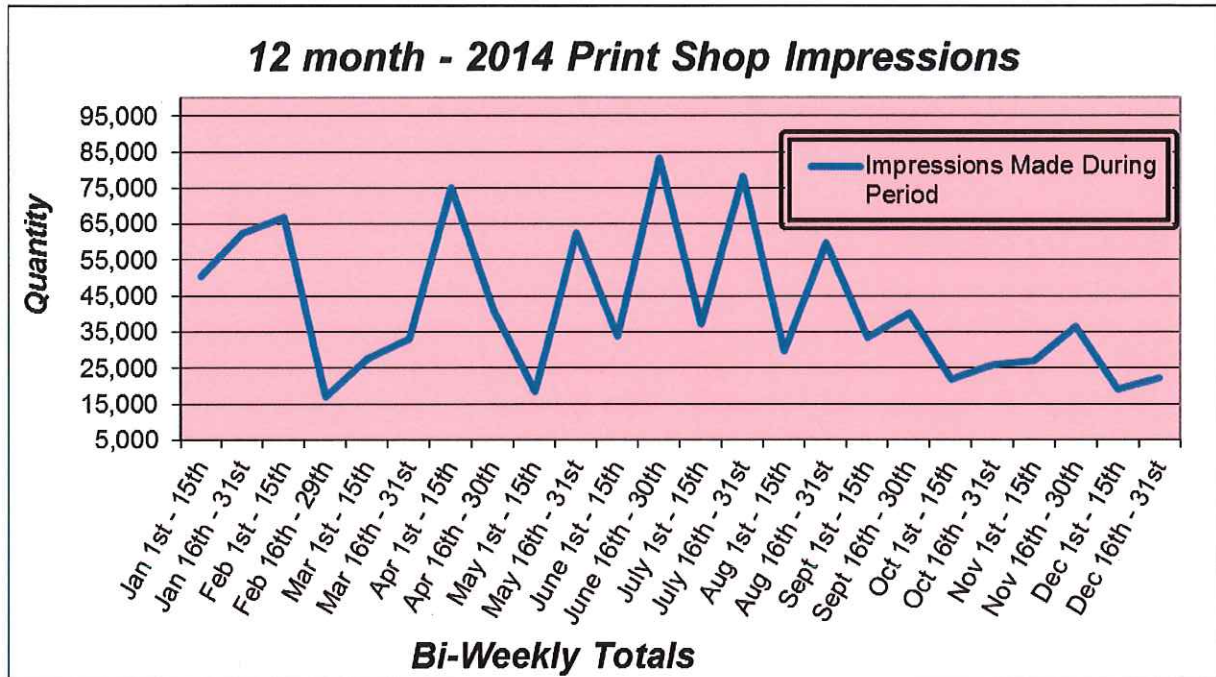
In 2014, the digital duplicating machines are in the fourth year of operation and have reduced operating supply costs approximately \$3,000 annually (\$15,000 plus for the life of the machines). The high speed color copier is a

cost efficient way for departments to apply a professional look to projects. Funds for the duplicating machines and color copier are paid through the budget allocation with a multiple year lease plan. All three machines are leased into the 2015 budget year.

Job requests are common between user departments with business cards, letterhead, envelopes and departmental forms. All files are stored for easy format changes and proof copy printing. Along with common job orders, many job requests are printed for a one- time event. The Morris Performing Arts has advertising inserts, flyers, and posters for each performance. The Bistro menus are printed for specific programs and dates. Police and Fire departments have candidate applications, training manuals, certificates, and other specialty forms. The CAFR report and executive summary are printed annually for the controller’s office. Parks & Recreation has several programs, flyers, brochures, booklets, manuals, fitness passes, and golf passes. Although the water billing insert is printed and mailed by an outside agency, the Print Shop continues to design the layout monthly for an electronic version.

In 2014, the Print Shop processed 644 job orders consisting of just over 1 million copies. Our goal is to complete job requests on time (within 3 to 5 business days – 99.5% goal). The job requests were completed at a rate of 99.22%. Our office billed four outside agencies, which generated \$2,256 in revenue.





## 5.4 CENTRAL STORE

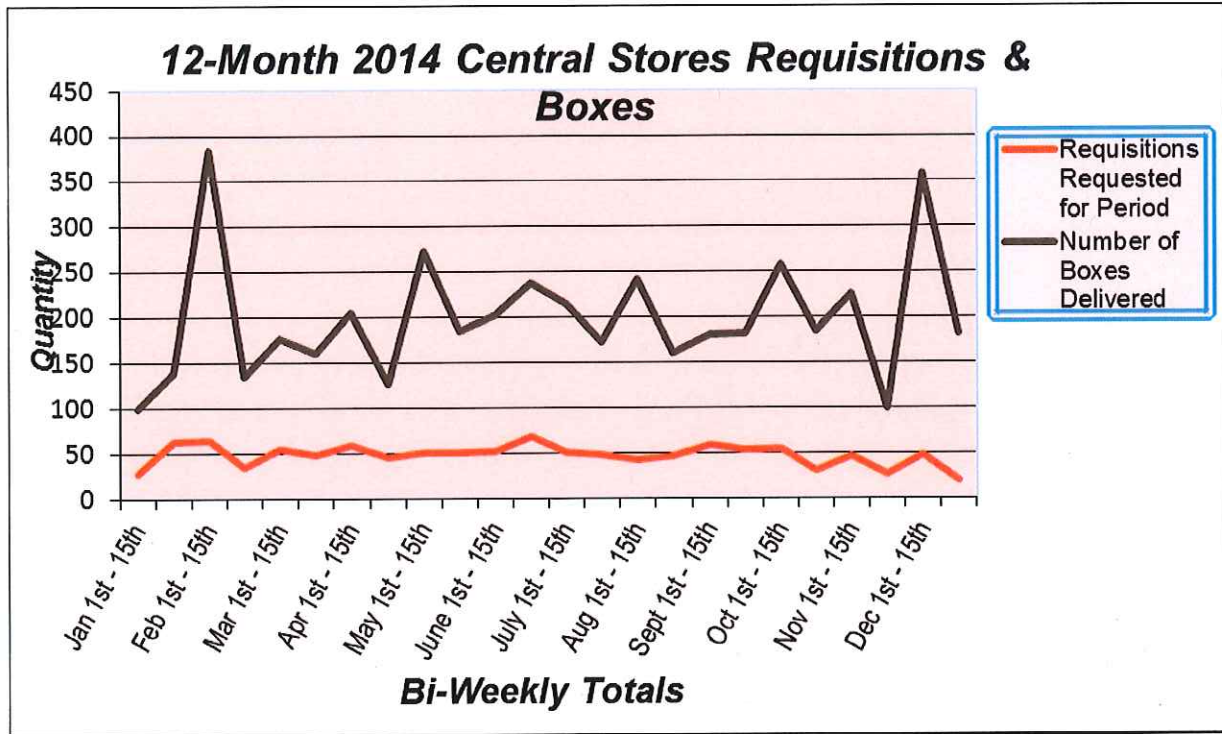
Central Stores provides City wide cost savings of products and goods through volume buying of common items such as paper products, janitorial, first aid and safety items. Bulk products are purchased by the bid and quote process. Our office is dedicated to providing the most cost efficient product at the lowest cost available. Central Stores has an internal budget that is funded through an allocation from each user department. The office has one full time employee and 25% of a supervisor's salary that is split with two other service sections within the Central Services Division.

In 2014, Central Stores processed 4,354 transactions totaling \$182,816. 3.81% of City purchase orders are processed for bulk buying, which speeds the process of customer receipt. Our goal for 2014 was to complete deliveries by the next business day (100% goal). The job completion rate for on time deliveries for Central Stores in 2014 was 100%. The total job requisitions were 1,140. 4,783 boxes were delivered for printing jobs and Central Stores orders (including all janitorial supplies to all fire stations).

The Central Stores supervisor organizes and compiles all general janitorial supply needs for the City. The janitorial supply bid is placed once a year for a 12 month period from July through June of the following year. Copy paper is purchased at skid prices and sold by the case or ream to user departments. Bulk tee shirt ordering for union employees is quoted in early spring. First aid supplies are quoted in the spring with pricing carried through to the end of the year. Safety supplies consist of traffic vests, ear plugs, safety glasses, work and medical gloves. The medical gloves are purchased on a bulk buy order and shipped directly from the factory with free shipping on orders.

In December 2013, the Central Stores acquired the office supply ordering accounts. The overhaul of the Office Max program has continued through 2014. Office supply orders (234 for 2014) are checked and approved by the Central Stores Supervisor. Web-based ordering is in the process of a change over to another site. The superintendent is working closely with Office Max and they transition into a merger and become Office Depot.

The transition is ongoing and will consist of a new web-based site, city administrative controls, and a way to process activity for supplies per user department. The final transition date is set for fall of 2015.



In March 2014, Central Stores established a program with Office Max to recycle ink and toner cartridges directly to a recycling center. All ink and toner cartridges picked up throughout the year by our inventory clerk were recycled through this program. All cartridges in the program are remanufactured or completely recycled and no items are sent to the landfill. (No copier canisters are accepted through this program however, Central Stores is looking into a solution for these toner tubes.)

The Store redistributes used furniture including tables, chairs, file cabinets, and desks to city departments who need replacement furniture, which can eliminate buying new furniture. The delivery route continues to be a four day full service Monday through Thursday with a limited route on Friday. The Friday Green Day provides limited interoffice mail delivery and emergency orders while reducing the route by 50%.

The superintendent completed one (1) software training certificate in Microsoft Excel 2010 Essential Training totaling 6 hours and one (1) Leadership Course (Building the Public Sector) which is ongoing.

**2014 Goals and Results:**

- Continue to reorganize for centralized purchasing and distribution of office supplies - 234 Office Max order approvals for departments, approximately 148 items added to contract through online ordering, and 9 new users added to the ordering system.

## 5.5 RADIO SHOP

The general duties and responsibilities of the South Bend Radio Services can be summarized as "*providing the installation, maintenance, and purchasing for the City's two-way radio systems.*" Every resident of the City relies on the radio communications systems to be operational. Each member of Radio Services takes this responsibility seriously and works hard to provide the level of service and quality expected by our residents.

### 5.5.1 Responsibilities

Radio Services is responsible for supporting the following City of South Bend departments: South Bend Police, South Bend Fire, Emergency Medical Services, Building, Code Enforcement, and Public Works. Radio Services had a 10% increase in outside revenue. \$12,000 in additional revenue was earned by providing services to the following outside agencies: St. Joseph County Highway, St. Joseph County Jail, and the South Bend Community School Corporation.

South Bend Radio Services is staffed by 2 technicians and 1 working manager. Our department has a combined total of 78 years of experience in both the civilian and military work environments. Each staff member holds an FCC license. This license is required to service the communications equipment used by the City of South Bend. Additional training and credentials includes successful completion of Motorola Training Academies, online radio systems training, FEMA courses, NIMS training, IDHS training, and Department of Defense security clearances. Our department has one technician on call 365 days a year.

### 5.5.2 Services

Our services to the community go beyond normal daily maintenance and repair of equipment for departments such as the 911 Dispatch Center. Included is the responsibility to provide information to department managers that will be used for the long term planning of our communication systems in order to better serve the community as we continue to grow in the future. It is our responsibility to apply for and maintain all radio licenses required by the FCC. Currently the City of South Bend has 29 different licenses in use. Radio Services completed 29 new vehicle installations in 2014. Please see the attached table to reference the quantity and types of equipment serviced by Radio Services.

### 5.5.3 Projects

A major project this year involved the five (5) towers that the City utilizes for radio communications. The towers located at the Police Department, Fire Station 3, Fire Station 6, Fire Station 11, and Water Works all received some form of repairs and upgrades. Radio Services assisted in the opening of the Fire Training Center by installing a station monitor, installing a PA system, and helped to modify the alarm system, which eliminated monthly telephone fees.

In 2014 Radio Services programed the Police Departments first ever encrypted radios to be used by the SOS officers. The School Resource Officers of SBCS received over 50 radios that were repaired, tested, and programmed by our department.

A performance related accomplishment is related to the in-vehicle video system used by the Police Department. A 30% reduction in reported malfunctions has occurred since tracking began in 2012.

## 5.6 BUILDING MAINTENANCE

Our Building Maintenance operation provides maintenance functions at Central Services, along with the eleven (11) Fire Stations and the Luther Taylor Training Center. We also provide building maintenance repairs at our North Garage and our CNG Station, along with repair and maintaining of fuel pumps at our three (3) locations, 701 West Sample Street., 3113 Riverside Drive, and 4340 Trade Drive. Building Maintenance personnel consists of a Building Maintenance Manager, Maintenance Foreman, General Laborer, and a part time summer help employee.

### 5.6.1 Responsibilities

The Building Maintenance Manager oversees and directs our maintenance personnel; inspects the building and grounds for problems or conditions and takes remedial action if necessary; estimates labor, material costs, and maintains records of repairs and accountability; and assists with repairs, grounds keeping and janitorial work to make sure deadlines are met. We work together as a team to provide the best possible services for the City of South Bend. As well as Building Maintenance operations, he assists our garage by being on call one week a month supervising mechanics in mechanical repairs of City owned equipment.

Our Maintenance Foreman's responsibilities involve similar duties as the Maintenance Manager with exceptions of being on call for the garage. His essential job functions include plumbing; unplugging sewer drains, electrical repairs, preventative maintenance, repairs of shop heaters, furnaces, carpentry, and gives direction to our other maintenance workers.

Our General Laborer's duties includes janitorial and grounds keeping. He also performs repairs of electrical, mechanical, plumbing, and heating. During the summer months we employ temporary help for janitorial, grounds keeping, painting, etc. to free up our General Laborer so he can assist with repairs.

Preventative maintenance is being done annually on all types of equipment such as waste oil burners, shop air compressors, diesel generator, floor drains, shop floor scrubbers, snow and lawn equipment, along with HVAC systems within our fourteen facilities in addition to maintain fuel pumps at three locations and the CNG Station at Riverside Drive.

Central Services Building Maintenance now oversees thirty-three City owned generators. Herrman & Goetz has a three year contract for Preventive Maintenance and on call services while Equipment Services does repairs as needed during our regular working hours to help keep repair costs down.

With the purchase of compressed natural gas vehicles, building maintenance had the responsibility of making sure both garages were CNG compliant and safe for our workers to maintain these vehicles by installing a system in both locations that would continuously monitor the garage air. If CNG is present, these systems will sound an alarm, turn on exhaust fans, and shut down all heaters in the building. These systems are designed to exchange the air in the buildings four times a minute to make sure it's a safe working environment.

Maintenance continues to focus on energy savings by replacement of old T12 light fixtures with more efficient T5 and T8 ones. At Central Services alone in 2014 we changed out 70 T12 light fixtures with T5's and T8's.

#### 2014 Building Maintenance Cost Savings

Month	Total Hours	Our Labor Cost	Industry Labor Cost	Total Savings
January	44.50	\$1780.00	\$4132.97	\$2352.97
February	46.50	\$1860.00	\$3701.92	\$1841.92
March	31.00	\$1240.00	\$2290.72	\$1050.00
April	35.00	\$1400.00	\$2665.62	\$1265.62
May	19.50	\$780.00	\$1721.79	\$941.79

June	23.50	\$940.00	\$1665.88	\$725.88
July	50.50	\$2020.00	\$3823.02	\$1803.02
August	69.00	\$2760.00	\$5350.37	\$2590.37
September	18.00	\$720.00	\$1526.14	\$806.14
October	31.50	\$1260.00	\$2687.01	\$1427.01
November	33.00	\$1320.00	\$2654.78	\$1334.78
December	27.50	\$1100.00	\$2415.70	\$1315.70
<b>Totals</b>	<b>429.50</b>	<b>\$17,180.00</b>	<b>\$34,635.92</b>	<b>\$17,455.90</b>

### 2014 Fire Department Maintenance Cost Savings

Month	Total Hours	Our Labor Cost	Industry Labor Cost	Total Savings
January	47.50	\$1900.00	\$4193.24	\$2293.24
February	68.50	\$2740.00	\$6259.80	\$5299.95
March	60.00	\$2400.00	\$5811.07	\$3351.07
April	111.5	\$4460.00	\$9867.08	\$5407.08
May	73.00	\$2920.00	\$6644.69	\$3724.69
June	36.50	\$1460.00	\$3309.09	\$1849.09
July	115.00	\$4600.00	\$11056.78	\$6456.78
August	144.50	\$5780.00	\$12213.28	\$6433.28
September	85.00	\$3400.00	\$7883.92	\$5771.48
October	52.00	\$2080.00	\$5001.73	\$2921.73
November	72.50	\$2900.00	\$6588.33	\$3688.33
December	143.5	\$5740.00	\$12223.78	\$6483.78
<b>Totals</b>	<b>1,009.5</b>	<b>\$40,380.00</b>	<b>\$91,052.79</b>	<b>\$53,680.50</b>

## 5.7 NEIGHBORHOOD ENFORCEMENT ACTION TEAM (NEAT)

In 2014, the former Code Cleanup Crew (CCC) consisted of five (5) employees housed within Central Services. The CCC picked up 3,632 tires and over 5 million pounds of trash. One of the largest violations included 1408 Elwood Avenue (i.e., The Old Brewery). The CCC removed 38 loads, 137,980 pounds, and 177 tires. The CCC helped Code Enforcement remove 11 garages. In 2014, there were 1,976 violations and only 23 illegal dumps. To demonstrate the impact this team had on the City, in only five short weeks, these employees' cleaned 998 alleys, transported 149 loads of debris and trash (amounting to 829,411 pounds).

In 2014, the Code Cleanup crew changed its name to NEAT, or the Neighborhood Enforcement Action Team. Numerous changes in 2014 helped benefit the City. The most substantial change was June 18, 2014 when NEAT and the Department of Code Enforcement (Code) teamed up to hold residents responsible and accountable for their actions (i.e, to keep their properties clean). Since that time, Code has billed over \$497,075 in invoices related to code violations.

NEAT does so much more than assist with code violations and illegal dumps; for example, Neat helped the Street Department with storm damage this past summer, assisted Solid Waste on various projects, and cleared trees and branches from obstructing traffic. In the winter months, NEAT removed snow from the sidewalks of the City's 13 bridges. In the spring, NEAT performed a city-wide alley clean-up. The goal for 2015 is to continue making the City of South Bend a cleaner place to live.

## 6 DIVISION OF ENVIRONMENTAL SERVICES

### 6.1 OVERVIEW

The South Bend Wastewater Treatment Plant operates under a National Pollutant Discharge Elimination System (NPDES) permit. This NPDES permit, issued December 1, 2011 by the Indiana Department of Environmental Management, allows the plant to discharge treated wastewater to the St. Joseph River in accordance with permit conditions. The NPDES Permit was modified on May 1, 2013 to include a Streamline Mercury Variance and a Pollutant Minimization Plan. In 2014, the South Bend Wastewater Treatment Plant treated a total of 11.680 billion gallons, which converts to an average daily flow of 32.0 million gallons per day.

Through the wastewater treatment processes of aerobic and anaerobic digestion, the solids that were removed during treatment were converted to high quality bio-solids, rich in fertilizer and soil conditioning value. Through December of 2014, the wastewater plant produced 2649.7 dry tons of bio-solids. This material is beneficially used through land application on farm fields saving the Division approximately a half million dollars in landfill costs.

Permit Parameter	Average Influent Concentration (mg/L)	Average Effluent Concentration (mg/L)	Permit Monthly Average Final Effluent Limit (mg/L)	Average % Removed	% Compliance w/ NPDES
cBOD	90	3	20 (summer) 25 (winter)	97	100%
TSS	103	6	20 (year round)	95	100%
Phosphorus	2.2	0.55	1 (year round) and meet required % removal	75	100%
Ammonia	8.2	0.11	2 (summer) 2.9 (winter)	99	100%
E. Coli	N/A	19 average MPN/100mL	125 (Apr.-Oct) MPN/100mL	N/A	100%



## 6.2 OPERATIONS

In 2014, the WWTP facility underwent numerous construction upgrades, engineering designs, and prepared for additional plant-related upgrades. The projects included the following:

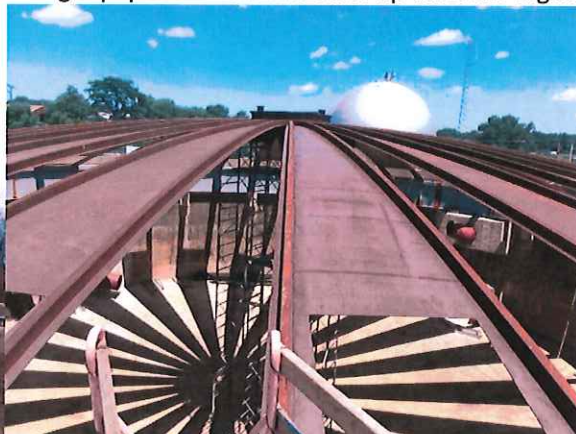
### Primary Clarifier Rehabilitation

The primary rehabilitation project is currently underway. Piping and Rotork Actuators for Tanks 3 through 8 were completed. Interior equipment replacements for Primary Tanks 5, 6 and 7 are completed with work on Tank 8 to begin in early January 2015.



### Primary Digester #2 Upgrade

Digester upgrade and improvements are nearing completion with seeding of the new Primary Digester #2 to happen in January 2015 with startup of the gas cleaning equipment slated to start up once the digester is on-line.



### Ferric Chloride Facility

The permanent ferric chloride feed facility was completed in 2014 and is currently in operation. Better control and monitoring capabilities allow for more successful phosphorous treatment as required by the NPDES permit.



Operations Key Performance Indicators for 2014 are as follows:

- |  |       |
|--|-------|
| • NPDES Permit Violations                  | 0     |
| • Operations Staff Work Requests Generated | 522   |
| • Total Work Orders Complete               | 2,385 |

### 6.3 MAINTENANCE

In 2014, the WWTP continued efforts to improve and sustain the maintenance process for equipment reliability. The following items are maintenance highlights:

#### HVAC Improvements

HVAC improvements Phase I in the Administration Building was completed in 2014. Phase II was awarded and the work began in 2014 and is slated for completion in 2015.

#### Geyer Ditch

In 2014, due to a force main break in a 12-inch line, a repair had to be made in an emergency situation in the overnight hours next to a waterway. The repair was made quickly with the aid of other City departments and an outside contractor. At no point during this emergency was there an infiltration into the waterway.



#### Air Release Valves

In 2014, Maintenance began the replacement of aging air release valves on 30-inch force mains.



#### Regional Lift Station Valve Replacements

In 2014, Maintenance began replacing aging check-valves at large regional lift stations. The lift stations have been in service for more than 20 years and show significant signs of aging. This work was completed internally by the Maintenance work group.



### Mercury Compliance

In conjunction with compliance and regulatory requirements, the Maintenance work group continued to reduce the number of mercury floats throughout the system as well as the replacement of light fixtures containing mercury.

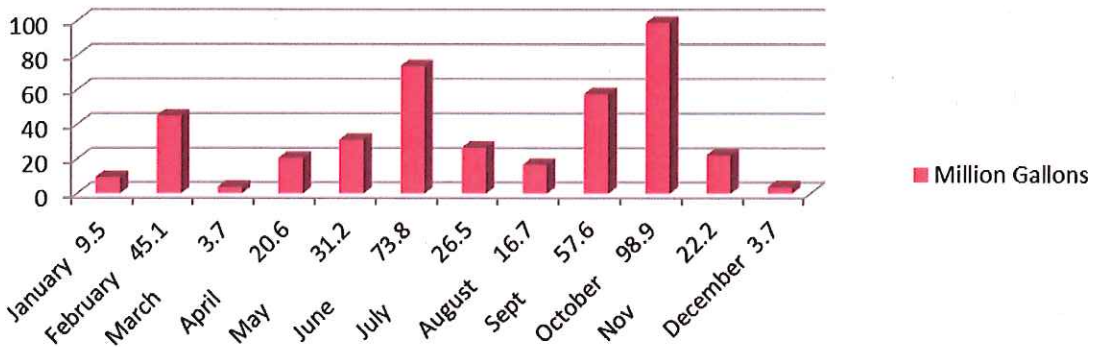
Maintenance KPIs' include:

- Number of Preventative Work Requests Completed 5,756
- Work Order Backlog Hours Monthly Average 813
- Number of After Hour Emergency Calls 76

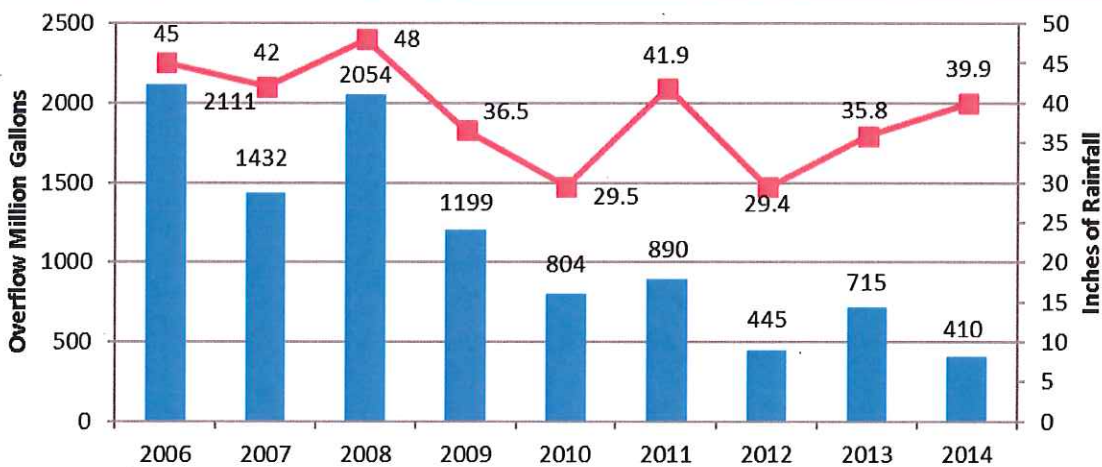
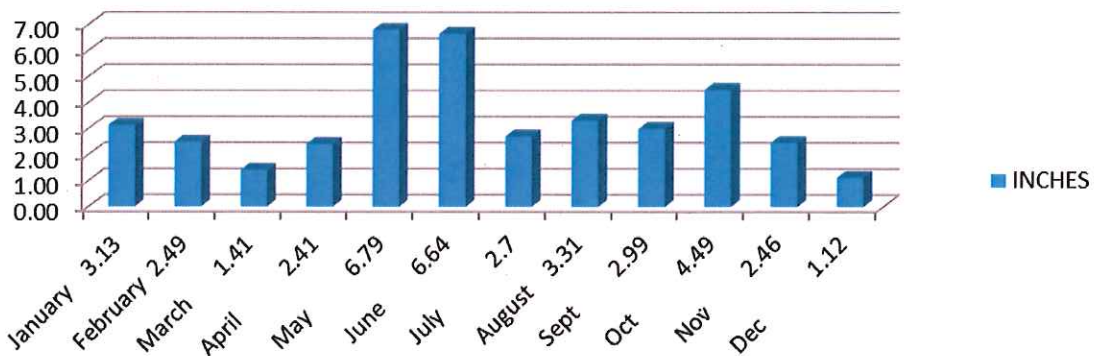
## 6.4 COMBINED SEWER OVERFLOW

The City of South Bend has 36 active combined sewer overflow (CSO) locations ranging in outfall size from 12-inch to 96-inch in diameter. The receiving stream for all the overflows is the St. Joseph River. Each outfall structure site is monitored. There are several additional measuring devices located in the sanitary trunk lines, storage basins and interceptors. The total number of in-line sewer flow measuring devices is approximately 140. Each device has data outputs collected via the CSONet communication system and then displayed via HMI over the web. The data is used for SWMM modeling calibration, minimization of overflow discharge volumes by way of collection system maintenance, records retainage, and high water level alert/alarm notification. The total volume of wet-weather overflows recorded in 2014 was 409.5 million gallons. There were 83 days in 2014 when at least one overflow occurred. There were a total of 1,160 individual wet-weather overflow occurrences. Annual precipitation from the WWTP MROs was 39.9 inches. The graphs below show the monthly CSO overflow discharge volumes for 2014 and the historic rainfall to overflow comparison.

### 2014 CSO OVERFLOW VOLUMES



### 2014 MONTHLY PRECIPITATION



### **CSO STAFF ACCOMPLISHMENTS IN 2014**

The CSO Operations staff managed/constructed several projects during the year. The primary projects completed are as follows:

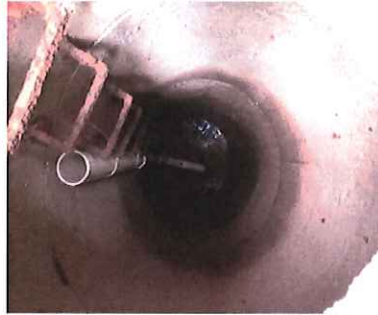
- Completely reorganized the work-order process, implementing the new Maximo program
- Reconfigured all CSO work-order forms
- Calibrated all EmNet sensors
- Installed french drain system adjacent to solid waste building
- Field investigated Darden Road bridge collection systems (smoke testing)
- Constructed new throttle line flush cleaning system for CSO 001
- Conducted interceptor sediment inspection
- Upstream CSO 039 interceptor grit removal with assistance from the Sewer Group
- Began field infiltration study – manhole dips in CSO 003 and 006 sub basins
- Repaired and replaced several EmNet and ISCO sensors
- Installed permanent hoists at three (3) river crossings
- Prepared Sensor Relocation Report
- Partnered with Greeley & Hanson on CSO 009 field investigation and study
- Added several new ISCO metering stations to the system
- Implemented new IDEM reporting CSO MRO form

### **2014 KEY PERFORMANCE INDICATORS**

- Number of Dry Weather Overflows – 1 (due to a construction-related water main break)
- Number of site inspections – 5469
- CSO EmNet System Uptime (Goal 90%) – 94.19%



2014 SOLID WASTE PARKING LOT DRAINAGE IMPROVEMENTS



CSO 001 THROTTLE JETTING TUBE



27<sup>TH</sup> STREET LIFT STATION WET WELL CLEANING



CSO CREW AND SEWER DEPARTMENT INTERCEPTOR TV & CLEANING – NOVEMBER 2014



CSO MAINTENANCE CREW



FAIRFAX BASIN (PRIOR TO CONSTRUCTION)

### **CSO PROGRAM AND PROJECT GOALS FOR 2015**

There are several CSO goals identified for 2015: studies, research, field analysis, design, construction administration and construction programs. Some of these programs began in 2014 and will continue into 2015:

- Complete the construction of the west side WWTP parking lot drainage improvements
- Prepare a hydraulic analysis of the CSO 48 collection system. Primary components include hydraulic profiles, Kensington Basin infiltration and inflow rates, Miami / Erskine basin hydraulics and system components analysis, basin bathymetric surveys, CSO 022 operations, grit accumulations, screenings, river crossing #1 hydraulics, and design of vacuum piping system for screening removals.
- Review the results of the 2014 field sensor calibration study and determine which sensors need to be recalibrated or replaced

- Complete the Michigan Street (old CSO 009) sewer back up assessment study
- General capital improvements at River Crossings #1 and #2
- Develop a emergency management plan for River Crossing #5
- Complete field investigation of CSO 037 and make corrective improvements
- Install new controls and a permanent ladder at the Notre Dame metering station
- Continue field manhole dips for infiltration analysis study
- Field check dry weather throttle line velocities for EmNet flow rate comparison report
- Decommission approximately nine existing sensor sites and reinstall the sensor equipment to nine new sites.



CSO 025 CABINET REPLACEMENT



WWTP DRAIN & LIFT STATION CLEANING

## 6.5 ORGANIC RESOURCES

This was a big year for Organic Resources (OR). OR held strong with the ban of plastics, cleaned up an entire legacy pile and are over ½ way through the final pile with the help of Trucks-R-Us hauling to landfill daily. OR has developed 15 windrows of compost that will be known as “South Bend Community Kompost” in 2015. Kompost, beginning with a K is the marketing plan to recognize the large Polish population of South Bend. Compost with a k is the polish translation.

KPI numbers keep growing as the facility keeps streamlining operations. The newest goal is set to market the upcoming new plastic free “South Bend Community Kompost.” OR hopes to engage other city departments in using Kompost on projects throughout the city.





**2014 Organic Resources Facility Summary**

Bio-solids Received	2649.7dry tons
Bio-solids Land Applied	2281.5 dry tons
Acres Land Applied	531.9 acres
Leaves Received	4690.3 tons
Yard waste Received from Customers	800.6 tons
South Bend Solid Waste Yard waste Program	4639.1 tons
Brush, Whole wood, Woodchips received from customers	976.9 tons
Brush, Whole wood, woodchips received from City Dept.	5346.74 tons
Compost Sold and Distributed	
Compost Sold	438.7 tons
Compost Self-Loaded	124.9 tons
Compost used by City Dept.	1009.1 tons
Mulch Sold and Distributed	
Mulch Sold	422.5 tons
Mulch Self-Loaded	155.9 tons
Mulch used by City Dept.	16.3 tons
Plastics Hauled to the landfill	47,399.74 tons
Grit hauled to the landfill	1543.5 tons
<b>Total Revenues</b>	<b>\$58002.00</b>

### Yard waste

Yard waste is delivered to Organic Resources by the City's Division of Solid Waste, commercial companies as well as residents of the City.



Loading Grinder

Material enters the mill of the grinder, is shredded into smaller pieces by rotating hammer tips, and then placed in a pile adjacent to the conveyor belt.

### Aeration of Material

After material has been shredded, it is placed into windrows to breakdown. A compost turner, known as the Cobey, aerates the rows and acts as an above ground tiller. This Cobey turn rows up to eight feet in height and 18 feet wide. As the material moves through the machine, it is mixed and will be turned in a few days.



### Screening Compost

After the compost has broken down, the product is picked up by a loader and taken to the screen machine. The compost goes through a set of screens, which separates the debris from the finished product. The debris is then put into a pile and transported to the landfill. The screened compost is sent to a large stacking conveyor. When the compost is ready for loading, it is taken to a designated area.



### Customer Loading

Organic Resources offers loading of compost and mulch for a small fee, and while supplies last. Skilled operators can load a variety of trucks, from standard pickups to semi-tractors. Piles of both compost and mulch are available for self-loading at the front entrance of the facility.



### **Grinding of Mulch**

Brush material is also delivered to OR by various City Departments and numerous residents. A tub grinder that is rented once a year is used to grind the brush into mulch. Mulch is available for self-loading.



### **Land Application of Biosolids**

Biosolids produced at the WWTP are stored at OR until land application. During land application, biosolids are loaded up and transported to area farm fields. Biosolids are spread throughout the farm fields, and subsequently incorporated into the subsurface. The biosolids act as a soil conditioner and fertilizer to the farm land.



Bio-solids received at OR (dry tons)	2649.7
Bio-solids Land applied (dry tons)	2281.5
Plastic hauled to Landfill (wet tons)	47399.74

## 6.6 Industrial Pretreatment

The mission of Industrial Pretreatment is to protect the WWTP, staff, and St. Joseph River from industrial pollutants. A few goals for the Pretreatment Group in 2014 included:

- No pass-through, interference, or violation of effluent or bio-solids standards
- No industry in Significant Non-Compliance with permit or pretreatment standards



The Industrial Pretreatment Program includes the following elements, among others:

- Industrial users
- Wastewater
- Compliance monitoring
- Collaboration
- Environmental Regulations
- Enforcement



The Industrial Pretreatment Program conducts monitoring of industrial wastewater as well as inspections of industrial sites to ensure compliance with environmental laws. These images display the types of environment in which the Pretreatment Coordinators often work.

Pretreatment Coordinators visit industrial facilities to do various types of monitoring such as recording industrial wastewater flow (below, left) and sampling industrial wastewater for contaminants.

In May, 2014, the Pretreatment Group held the Fourth Annual Industrial Pretreatment Workshop for which Certified Wastewater Operators could earn three Technical Continuing Education Credits (CEU) while learning

about how to remain in compliance, and about how changing Local Limits may affect their industry, among other topics. Twenty (20) industry representatives attended, representing twelve (12) local industries. In April, the Pretreatment Group attended the Annual Pretreatment / Indiana Industrial Operators Association Conference. At this conference, Pretreatment personnel learn about industrial/manufacturing processes and wastewater treatment, and industrial personnel learn about their responsibilities regarding the Pretreatment Program as well as why it was established. In November, two (2) members of the Pretreatment Group attended the Indiana Water Environment Association's (IWEA) 78<sup>th</sup> Annual Conference. In 2014 Manny Bueno, served as a Co-Chair of the Indiana State Pretreatment Committee. The members of the City of South Bend Pretreatment Group are long-standing members of the State Pretreatment Committee. Attending these statewide meetings is valuable to keep our Coordinators abreast of events and Pretreatment Program developments throughout the state.

The City currently issues Universal Concentration limits to all permitted industrial dischargers, in which every industry is allocated the same concentration. In 2012, the City's Pretreatment Group submitted a request to EPA for approval on a new method for allocating concentration discharge limits to all the permitted industries. The new method is the "What You Need is What You Get" (WYNWYG). In 2012, the City received approval from EPA for the request. The Pretreatment Group submitted the EPA approved allocation method to the City of South Bend's Common Council for their approval.

With the WYNWYG method, Industrial Users will have higher limits for the pollutants they use than they would in the universal concentration method. For most pollutants, there will be a "reserve" mass than can be allocated to new users or users that may increase wastewater discharge. In 2014, the Pretreatment Group commenced modifying all the permitted industrial permits with the WYNWYG concentration limits. This permit modification process will continue into 2015.

**2014**

<b>Pretreatment Activity</b>	<b>Total</b>
Significant Industrial Users Permitted	24
Other User Permits	7
Self-Monitoring Reports Reviewed	335 + Dec
Monitoring Events Conducted	59
Letters of Violation Issued	27
Administrative Fines Issued	5
Total \$ amount of AF Collected	\$3,000.00
Administrative Orders Issued	3
Industries in Significant Noncompliance	1
Monitoring Fees Collected	\$18,235.00
High Strength Surcharges Collected	\$123,264.92 + Dec.

The Industrial Pretreatment Program continued using Key Performance Indicators to measure outcomes in 2014 and will continue using those indicators through 2015. Industrial Pretreatment Key Performance Indicators include:

<b>Industries in Significant Noncompliance (SNC)</b>	<b>0</b>
<b>Monitoring reports reviewed</b> (including monitoring events conducted by the Industrial Pretreatment Group and by Industrial Users)	<b>363</b>

## 6.7 Laboratory

The City of South Bend's Laboratory, located at the Wastewater Treatment Plant, supports City Departments with the analysis of wastewater, industrial, drinking water, and City pool water samples. In 2014, the Lab was awarded with an Indiana Water Environment Association (IWEA) Laboratory Excellence Award for the twentieth consecutive year. The Lab was inspected by a member of the IWEA Laboratory Committee who performed a detailed audit to determine that the Lab met or exceeded each of the measures to achieve the award.

Lead Chemist, Michelle Smith with Chemists Lindsay Vandall, Paula Martinez, and Abbey Canfield

In 2014, the Lab also underwent two audits conducted by the State Department of Health in order to maintain their Indiana certifications in both chemistry and microbiology. This allows them to continue doing in-house laboratory work on South Bend's drinking water, groundwater from wells at Organic Resources, and City pool water for the Parks Department in addition to their wastewater analysis.

The Utility's National Pollutant Discharge Elimination System permit requires The City of South Bend Wastewater Treatment Plant to implement a Pollutant Minimization Program Plan that will identify and minimize the discharge of mercury into the environment. As part of this year's activities, the Laboratory Staff prepared an informational pamphlet about household mercury. In the fall, the tri-fold pamphlet was sent out to residents that receive a paper water bill. This was done to bring mercury awareness to the citizens of our community. It included facts about mercury, where it may be found in a home, recycling information, spill cleanup tips, and listed useful websites for learning more about mercury.

The Chemists continue to be involved in other projects outside the lab, sampling ground water wells at the Organic Resources facility and collecting weekly samples from the St. Joseph River when conditions allowed.

The Laboratory Staff achieved 97% accuracy on their performance evaluation studies for wastewater and 98% for drinking water (100% for all certified drinking water tests). The chart below displays the results for the 2014 studies. In each case where an analysis was unacceptable, a root cause analysis was done to determine the problem and then it was resolved.

Drinking Water Study	Results
WS14-2 (May)	42 out of 42
WS14-3 (August)	39 out of 41
Wastewater Study	Results
WP14-1 (February)	15 out of 16
WP14-3A (June)	17 out of 17
DMRQA-34 (July)	11 out of 11
WP14-4 (November)	15 out of 16

## 6.8 ENVIRONMENTAL COMPLIANCE

In 2014, the US EPA approved a technical re-evaluation of local limits and a revised ordinance was adopted by the South Bend Common Council in July. The new ordinance includes the "What You Need is What You Get" method of allocating pollutants to industrial users. This allows more flexible limitations for industry that uses a particular pollutant without increasing the overall loading of that pollutant

The CSO Operational Plan was updated and submitted to IDEM in October 2014. This Plan is required by the NPDES permit and is one of the compliance objectives of the City's Combined Sewer Overflow Consent Decree. Each year it is reviewed and updated to match changes in management practices to reduce CSO overflow.

An internal compliance audit of the Risk Management Plan and Process Safety Management Plan for Chlorine and Sulfur Dioxide was completed. These highly hazardous gases are stored and used at the wastewater treatment plant. RMP and PSM are required to be implemented at the wastewater treatment plant, and must be updated at least every 5 years. This audit is a required part of the plan, and the findings will be used to improve the plans as they are updated and resubmitted in 2015.

In 2014 the Wastewater Treatment Plant began implementation of a RICE NESHAP compliance plan for emergency generators and for 2 non-emergency engines that are used at the plant. Initial performance testing of the blower #2 engine was completed, and the results were in compliance. In late 2014 an internal audit of required maintenance was performed, and areas to improve compliance with the Plan were identified.

Activity related to the Mercury Pollutant Minimization Program Plan continued in 2014. In October a public education brochure developed by wastewater treatment plant staff was included with utility bills. All planned activities in the Mercury PMMP have now been completed. A new variance application will be submitted with the next permit application, and will require an updated PMPP.

In 2014 participation in the IWEA Government Affairs committee, IWEA Pretreatment Committee, and the POTW Inter-Municipal Task Force continued. Participation in these groups has allowed greater opportunities to stay current with new regulations and initiatives.

**All pertinent information such as NPDES Permit records, all Pretreatment data and correspondence as well as Operation, Maintenance and Sewer work orders are filed in one centrally located area.**

## 6.9 SAFETY

The South Bend Wastewater Plant received the Indiana Water Environment Association (IWEA) Safety Excellence Award for the 19<sup>th</sup> consecutive year. In addition, the Plant also received the 2014 Water Environmental Federation's George W. Burke, Jr. Award. This award is given to one facility in the State per year and recognizes the facility for establishing and maintaining an active and effective safety program. This is the first time South Bend has been honored with this award.

The staff received 862 hours of safety training which included 14 persons getting HAZWOPER (Hazardous Waste Operations and Emergency Response) training. Equipment such as new 60 minute Self Contained Breathing Apparatus was purchased for these responders.

A weather station was installed on site to instantly check wind speed and direction. This information would be critical in case of a chlorine or sulfur dioxide leak.

149 contractor workers received a safety orientation before starting work at the facility.

Key Performance Indicators are:

- Recordable Injuries 2
- Hours of lost time 114

- Vehicle accidents

## 6.10 LONG TERM CONTROL PLAN PROJECTS AT THE WWTP

Environmental Services maintained a steady construction pace with its Long Term Control Plan upgrade projects at the Wastewater Treatment Plant. The Primary Clarifier Rehabilitation and Equipment Upgrade project and the Digester No. 2 Upgrade and Digester Gas Cleaning projects saw significant progress in 2014 despite a cold and snowy winter.

### **Project No. 111-071 Primary Clarifier Rehabilitation and Equipment Upgrades**

The Primary Clarifier Rehabilitation construction activities are projected to continue into late Fall/Winter 2016 at the current schedule. Three out of eight primary clarifiers were rehabilitated in 2014. New chain-and-flight equipment, drive motors, electrical wiring, process pipes, scum tilt tubes, concrete walkways, structural repairs, automated valves, and fire alarm upgrades are included. The City utilized its new Hydro-grit equipment through 2014. The Hydro-grit has provided improved grit removal during rainfall events and periods of higher influent flow rates.

Designer: Arcadis (Indianapolis, Indiana)  
 General Contractor: L.D. Docsa Associates, Inc. (Kalamazoo, Michigan)  
 Construction Schedule: Winter 2013 – Fall 2015 / Winter 2016  
 Original Cost Projection: \$5,043,270.00  
 Current Cost Projection: \$5,086,427.67

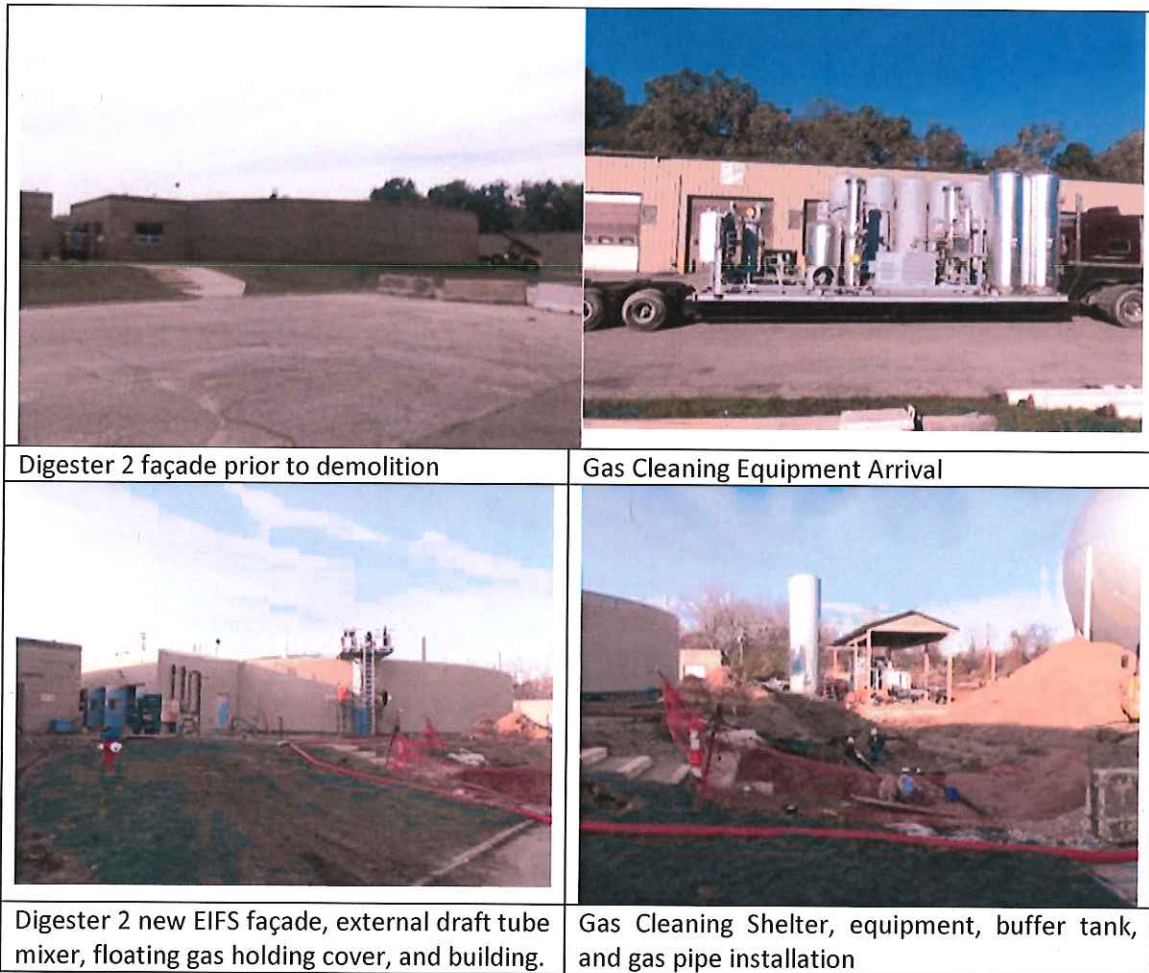


### **Project No. 111-029 Digester No. 2 Upgrade and Digester Gas Cleaning**

The Digester No. 2 Upgrade was nearly complete at the close of 2014. Digester No. 2 start-up activities will begin in February 2015. The Gas Cleaning System start-up will follow in March 2015. The 110 foot diameter anaerobic digester upgrades included a new boiler, process pipes, electrical equipment, floating digester tank cover superstructure, concrete tank repairs, four draft tube mixers, updated digester control building façade, updated digester tank façade, gas cleaning equipment, and a gas cleaning equipment shelter. The City will utilize cleaned digester gas in a new boiler for partial fuel recovery. Excess methane will be burned and flared.



Designer: Greeley & Hansen (Indianapolis, Indiana)  
 General Contractor: Grand River Construction (Hudsonville, Michigan)  
 Construction Schedule: Summer 2013 – Winter 2015/Spring 2015  
 Original Projected Cost: \$5,598,800  
 Current Project Cost: \$5,970,779



**Project No. 114-053 Secondary Treatment Improvements**

The next phase of Long Term Control Plan projects are currently in the design phase. This project includes improvements to the Aeration Influent Channel, Final Clarifier Influent Channel, Clarifier 6 & Clarifier 7 mechanism replacement, new return activated sludge pump station, effluent pipe replacement, flow control, new final clarifier gates, instrumentation and controls upgrades, and various structural improvements.

Designer (Lead): Arcadis U.S., Inc. (Indianapolis, Indiana)  
 Construction Bidding: May 2015  
 Construction Schedule: July 2015 – Fall 2017/Spring 2018  
 Projected Project Cost: \$12,600,000

## **Wastewater Engineering Projects – Buildings and Process**

### **Project No. 113-037 Administration Building HVAC Upgrades – Phase I**

The Wastewater Treatment Plant Administration Building welcomed two new boilers and miscellaneous heating, ventilation and air conditioning controls. In addition, a new mini-split air conditioning system was installed in the SCADA server room to provide a more controlled environment for the Wastewater Treatment Plant's "Mission Control" Room.

Designer: M/E Design Services (Mishawaka, Indiana)  
General Contractor: Herrman & Goetz (South Bend, Indiana)  
Construction Schedule: Fall 2013 – Winter 2014  
Construction Cost: \$62,000

### **Project No. 113-038 Ferric Chloride Storage and Feed Facilities**

The Ferric Chloride Storage and Feed Facilities project became operational in October 2014. A new orthophosphate analyzer provides accurate tracking of influent phosphorous levels. Ferric Chloride is added at two locations, the primary influent channel and primary effluent junction box. The PLC at the De-grit Building was upgraded to provide a means for tracking chemical feed and orthophosphate trends.

Designer: Donohue/Herceg & Associates (South Bend, Indiana)  
General Contractor: Grand River Construction (Hudsonville, Michigan)  
Construction Schedule: Fall 2013 – Winter 2014  
Construction Cost: \$427,767

### **Project No. 114-052 (1) Digester No. 1 and Digester No. 3 Cleaning**

The Digester No. 1 and Digester No. 3 Cleaning project was awarded to Stewart Spreading. This work will begin in 2015 once Digester No. 2 is operational. Digester No. 1 and Digester No. 3 will be cleaned, inspected for any structural deficiencies, and decommissioned.

Designer: Greeley and Hansen (Indianapolis, Indiana)  
General Contractor: Stewart Spreading (Sheridan, Illinois)  
Construction Schedule: Spring 2015  
Construction Cost: \$501,440.00

### **Project No. 114-052 (2) Digester Gas Utilization Study**

Environmental Services began reviewing digester gas energy recovery opportunities with its engineering consultant, Greeley and Hansen. Initial findings of the draft report suggest strong potential for cleaned gas recovery in equipment and vehicles. Raw Pump No. 1 Waukesha Engine and Caterpillar Engine appear to be the most promising options. Use of digester gas in vehicles and re-commissioning gas storage spheres are also options that would allow the City to maximize its use of cleaned digester gas.

Designer: Greeley and Hansen (Indianapolis, Indiana)  
Projected Project Cost: \$300,000 – \$800,000

### **Project No. 114-055 Administration and Laboratory HVAC Upgrades – Phase II**

The Wastewater Treatment Plant Administration and Laboratory Building welcomed two new boilers and miscellaneous heating, ventilation and air conditioning controls. In addition, air handling unit and was installed to replace obsolete equipment. The new HVAC equipment is monitored by a Building Management System that was

implemented during Phase I. All components are functional. Air handler equipment was installed in 2014. However, air handler start-up will occur in Spring 2015.

Designer: M/E Design Services (Mishawaka, Indiana)  
General Contractor: Ideal Consolidated (South Bend, Indiana)  
Construction Schedule: Fall 2014 – Winter 2014  
Construction Cost: \$52,800

#### **Project No. 114-056 Wastewater Treatment Plant Masonry Building Assessments**

Environmental Services worked with Kil Architecture and Planning, architectural consultant, to provide an assessment of existing masonry buildings at the Wastewater Treatment Plant campus. This assessment report was completed in 2014 and will be used over the coming years for budget planning purposes. Occupied buildings (Administration Building and Compressor Building) will be considered the most critical buildings for future work. Future improvements will be subject to funding and condition.

Designer: Kil Architecture and Planning (South Bend, Indiana)  
Projected Schedule: 2016 – 2020, tentative  
Project Design Costs: TBD  
Projected Project Costs: \$1,215,150

#### **Project No. 114-075 WWTP Grit and Screening Improvements**

Mechanical equipment at the Headworks Building grit and screening room will undergo major improvements and equipment replacements. Grit cyclones, grit washers, belt conveyor, mechanical bar screen brushes, process piping, and grit mechanism painting are included in the work. In addition, instrumentation and controls upgrades will provide a higher level of automation for the existing screenings equipment.

Designer: Greeley & Hansen (Indianapolis, Indiana)  
Construction Bidding: April 2015  
Construction Schedule: June 2015 – August 2016  
Construction Cost: \$1,182,000

#### **Project No. 114-076 WWTP Nitrification Towers Demolition**

Environmental Services received approval from the Board of Public Works to initiate demolition plans for the removal of three (3) nitrification towers at the Wastewater Treatment Plant. The demolition work will remove obsolete and unused piping, structures, and electrical equipment. This remaining site will be prepared for construction staging for Project No. 114-053 Secondary Treatment Improvements. Bidding is scheduled for February 2015.

Designer: Jones, Petrie, and Rafinski, Inc.  
Construction Bidding: February 2015 – March 2015  
Demolition Schedule: April 2015 – July 2015  
Projected Cost: \$300,000 - \$500,000

## **6.11 INFORMATION TECHNOLOGY ADVANCES**

- Added buffering and redundancy to the SCADA Historian for improved data collection of all plant and remote systems.

- Improved telemetry for CSO control valves
- Added ControlLogix PLC and upgraded the existing rack in the server room. These improvements allow for 10x bandwidth of the previous rack and adds the ability to remove calculations from being reliant upon the HMI (Human Machine Interface) system.
- Added a Marquee to the compressor building for monitoring of Influent while changing Raw Sewage Pumps
- Upgraded KepWare server that services CSO net points and improved calculations by removing the HMI as a go between
- Replaced 14 year old data concentrator solution with a CompactLogix system that allows the Historian access to all lift station information as well as compatibility with the new HMI system.
- Replaced three copiers at Administration, Headworks, & Organic Resources facilities
- Introduced Digital Signage to Administration Entryway and provided training in its operation and population of content.
- Upgraded Fiber Loop with Cisco switches and redesigned the system to properly allow redundancy in the event of a fiber break.
- Added Ferris Chloride Feed System to HMI and Historian systems.
- Integrated Water Works SCADA network into existing Wastewater SCADA network in preparation for HMI system upgrade. This integration allows for better control of both systems and allows some resources to be shared reducing cost of the system.
- Completed Wastewater HMI upgrade project. Go live is scheduled for January 5<sup>th</sup>, 2015.
- Began upgrade of Water Works SCADA HMI in November and December. This project will be completed in 2015.
- Worked with Plant Engineer and guided all technological decisions for all Plant projects involving SCADA systems.
- Continuous improvements made to SCADA systems as needs arose.

The Key Performance Indicators are as follows:

SCADA System Uptime (%)                      99.992

## 6.12 ENERGY MANAGEMENT

The following spreadsheet shows all of the energy used at the City's WWTP for the past two years. We convert natural gas therms used to kWh so we can compare year to year data. We had an increase in energy use and dollars for 2014. The energy use went up due to the extremely cold winter of 2014, and because we had to use natural gas to heat our digesters as the old sludge heaters are on the last leg and barely would run on methane. We will have a new digester start up in early 2015 and should be burning cleaned methane again.

Month	kWh	Dollars/Month
<u>2013</u>		
Jan	1,723,461.35	\$52,057.23
Feb	1,268,210.16	\$46,757.38
Mar	1,159,970.68	\$40,965.27
Apr	1,506,964.59	\$70,517.08
May	896,089.41	\$46,144.96
Jun	895,304.12	\$48,519.66

Jul	777,557.38	\$43,318.19
Aug	802,834.58	\$43,323.42
Sep	856,297.91	\$45,960.29
Oct	990,824.39	\$47,618.54
Nov	1,336,807.34	\$55,281.20
Dec	1,779,955.18	\$72,043.74
	13,994,277.09	\$612,506.96

Cost of 2013 Energy \$54.72/MG

Month <u>2014</u>	kWh	Dollars/Month
Jan	1,792,024.98	\$53,376.65
Feb	1,789,117.02	\$57,310.69
Mar	1,874,518.89	\$68,828.82
Apr	1,368,044.19	\$58,357.38
May	1,020,098.36	\$50,514.89
Jun	875,913.85	\$44,675.47
Jul	948,080.70	\$49,889.53
Aug	871,938.41	\$47,976.45
Sep	943,857.33	\$46,732.76
Oct	1,014,858.11	\$50,253.85
Nov	1,315,866.57	\$57,646.48
Dec	1,255,000.00	\$52,000.00
	15,069,318.41	\$660,100.27

Cost of 2014 Energy \$53.55/MG

### 6.13 FINANCE

Finance is measured at its best with Key Performance Indicators. They are as follows for 2014:

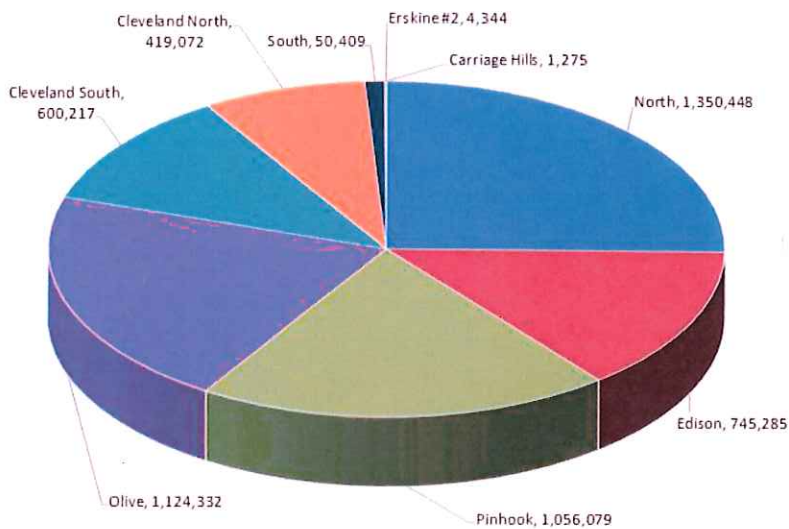
<b>Total Expenses for O&amp;M WWTP Budget (Dollars)</b>	<b>\$12,677,768.</b>
<b>Total Gallons Treated at WWTP (Billion Gallons)</b>	<b>11.677</b>
<b>Cost of Operating WWTP (Dollars per Million Gallons)</b>	<b>\$1,086.00</b>

## 7 DIVISION OF WATER WORKS

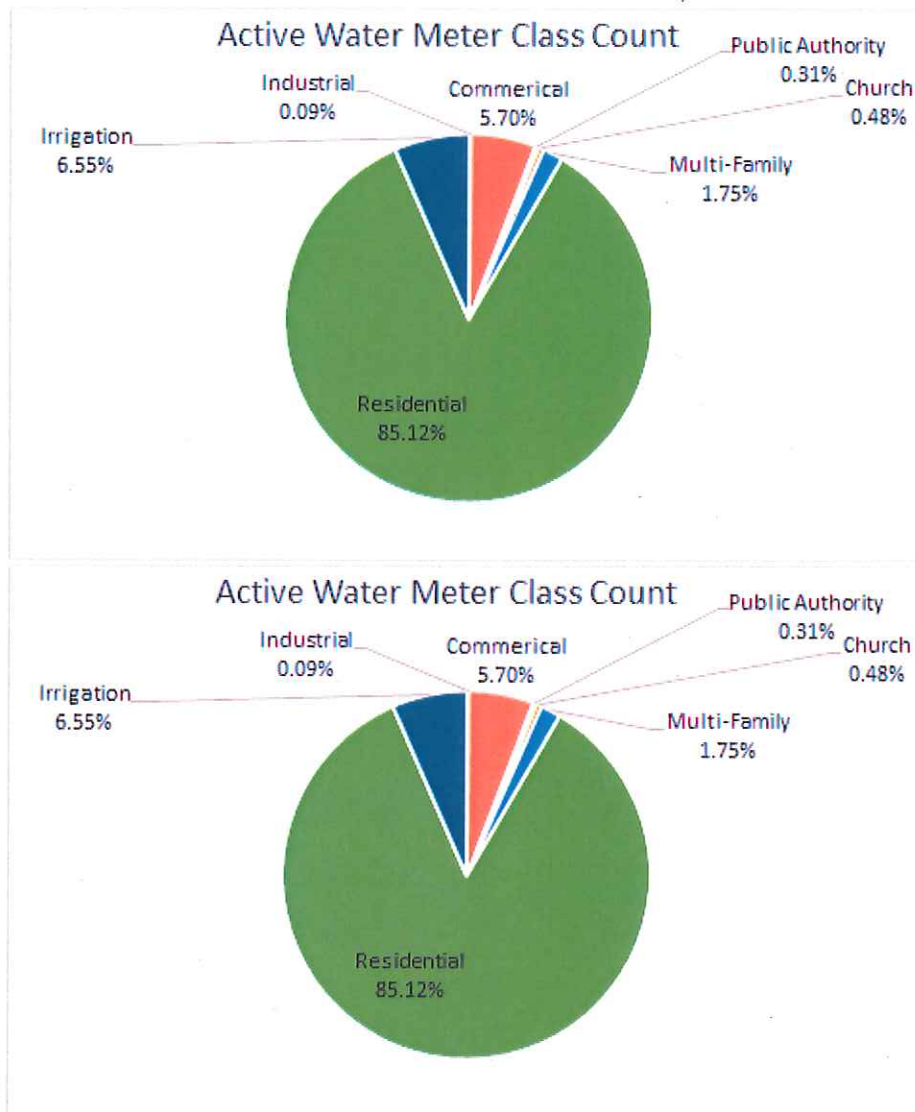
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### 7.1 Performance and Operation

In 2014 the City of South Bend's Water Works produced over 5.3 billion gallons of treated drinking water. North Station, Olive Station, and Pinhook all produced more than a billion gallons of filtered water each.



Currently there are 43,179 active water meter accounts. Residential customers accounts for 85% of meters but only 50% of the water consumption.



It took 1.61 KWH to pump 1000 gallons of water in 2014.

## 7.2 Maintenance and Construction

The biggest challenge for the year came early with the exceptionally harsh winter weather. Then extended low temperatures resulted in a deep frost and a record number of water main leaks and frozen service lines. Between the overtime wages and the repair costs, the budget was severely impacted but the remainder of the year was moderate and the utility finished the year in good shape.

There were a 130 main leaks in 2014. This was an increase of 53 from 2013.



Auten Road main break



Main water leak

### 7.3 AMR

In 2014, Water Works completed the replacement of 43,390 water meters with new automatic meter reading water meters (AMR). AMR meters have greatly reduced the read time and have helped improve overall efficiency.



### 7.4 Vacant and Abandoned Homes

Working with the vacant and abandoned home initiative, 416 water service lines were retired from service on homes that were scheduled for demolition.



## 7.5 Poly-Wrapped Pipe

Beginning in 2014 the Waterworks began to use biofilm poly wrapped pipe on ductile iron water mains. Water Works crew installed 1000 feet of wrapped pipe along Calvert Street to replace badly corroded sections of pipes. With the use of ductile iron pipes and poly wrap, these pieces of vital infrastructure should remain useful for many generations.



## 7.6 Prairie Grass Project Pilot

Following an employee suggestions, we started a pilot program at Olive Street to replace grass with a wildflower / prairie grass mixture. The roughly two acre site will take a few years to establish but will eliminate the need for regular grass cutting. Other sites at the Olive Street facility will be considered to expand this pilot project.



## 8 DIVISION OF TRANSPORTATION

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The Division of Transportation is comprised of three Bureaus: Streets, Sewers and Traffic & Lighting. Some of our divisional highlights for 2014 are:

- We facilitated city wide emergency recovery operations for storm events during the entire month of July, coordinating multiple divisions within the Department of Public Works as well as elements of the Parks & Recreation Department.
- We resurfaced the parking lot at Potawatomi Zoo and initiated plans for future parking expansion at the zoo in coordination with Parks & Recreation.
- We significantly revitalized the Sewer Insurance Program, formalizing the governing policy through the Board of Public Works.
- We installed the first bicycle green conflict warning zone on Jefferson Blvd. to warn motorists and bicyclists of possible conflict with crossing or merging traffic streams.

### 8.1 BUREAU OF STREETS

The core functions of the Bureau of Streets are as follows:

- Remove snow and ice
- Street sweeping
- Street pavement maintenance
- Maintain alley ways
- Fall leaf pick-up
- Collection of discarded Christmas trees.

#### 8.1.1 Sweeping

Street Sweeping is a significant core function for the Bureau of Streets. Keeping curb lines free of leaves, debris and garbage significantly reduces the amount of street material entering the sewer system. In 2014 we swept 5,275.8 miles of curb line approximating to over three full sweeps of the City throughout the year.

#### 8.1.2 Street Pavement Maintenance:

The Bureau of Streets conducts pavement maintenance through a variety of means and methods, addressing various pavement distress conditions with a mix of fixes to maintain the overall conditions of the streets within the City.

##### 8.1.2.1 Pothole patching:

This past year, we addressed potholes in the fall, winter and spring seasons using a total of 260 tons of patch material

##### 8.1.2.2 Crack sealing:

No significant amount of crack sealing was performed in 2014 due to storm damage clean-up occurring in July. In order to preserve our pavements and extend their useful service life, we aggressively work to inhibit deterioration

of pavement through sealing of cracks forming in the surface of the pavement. In 2014 we crack sealed 104 lane miles of pavement.

**8.1.2.3 Pavement patching:**

We typically contract large scale pavement patching, utilizing an infrared pavement heating method which provides the City a longer lasting pavement patch. In 2014 we patched 52,500 square feet of pavement.

**8.1.2.4 Pavement rehabilitation:**

The Bureau of Streets had the ability and equipment to rehabilitate pavement through milling and resurfacing of the street. We utilize a variety of different asphalt materials, matching the pavement type with traffic conditions, existing pavement condition to develop the best rehabilitation for the longest service life. In 2014 we rehabilitated 20.53 lane miles of streets.

**8.1.3 Alley Maintenance:**

This is a daily function performed on a weather permitting basis. Road grading equipment is dispatched to designated areas, or to respond to work orders for repairs from residents. The crews scarify the existing surface and redistribute the aggregate to establish a uniform and level surface. On alleys that experience excessive deterioration, crews perform base stabilization. This is a process of adding recycled asphalt pavement (RAP) to the existing aggregate and applying a material known as Earthbind. Earthbind is 100% environmentally safe and is designed specifically to bond and strengthen aggregate. A total of 1460 blocks of alleys were graded or treated to eliminate water holes and improve drainage and eliminate flooding problems to adjacent properties.

**8.1.4 Fall Leaf Pick-up:**

From October 20<sup>th</sup> through November 20<sup>th</sup>, we were devoted primarily to the leaf pick-up program. During this time period, there were approximately 46,970 cubic yards of leaves collected and hauled to Organic Resources. This past year (2014) was the 26<sup>th</sup> year the City has enforced a ban on burning leaves. ReLeaf was conducted with assistance from the Parks and Recreation Department as well as the Bureau of Sewers, as well as 20 temporary employees. Despite the combined efforts in 2014, The ReLeaf program was extended to December 20th due to significant snow fall starting as early as November 13<sup>th</sup> this past year, when we received 12.6 inches of snow.

**8.1.5 Christmas Tree Pick-Up:**

The month of January is traditionally devoted to plowing, salting and patching operations with time allowed to pick-up discarded Christmas trees. In 2014 we picked up 1270 trees.

**8.2 BUREAU OF SEWERS**

<u>Sewer Repairs:</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Total Job	339	426	602	705	448
Main Repairs	39	20	18	9	6
C.B. Repair	153	215	247	241	185
Cleaners	43	37	69	16	67
M.H. Repairs	104	154	268	211	101
Manhole Inspections	667	390	225	275	658
Pipe Lining Done	N/A	N/A	22,864'	29,631.8'	11,668.4'

<u>Concrete Cuts:</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Number of Concrete Cuts Filled:	550	769	541	485	595
Footage of Curb Laid	N/A	3,689	3,751	2,910	2,791.5
Footage of Sidewalk Laid	N/A	3,935	3,599.5	2,488	2,742
Number of Resident Curb & Sidewalks Completed	N/A	N/A	65	40	43

<u>Sewer Insurance:</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Level 1 Digs	5	3	2	0	3
Level 2 Digs	25	10	7	14	8
Level 3 Digs	14	9	9	5	6
Level 4 Digs	9	3	12	11	9
Level 5 Digs	13	11	11	15	14
Level 6 Digs	7	8	3	1	2
Total Digs	<u>73</u>	<u>44</u>	<u>44</u>	<u>46</u>	<u>42</u>
2 <sup>nd</sup> Opinion Open	N/A	67	84	95	89

<u>Maintenance:</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Sewer Pipe Cleaned	576,248'	593,600.50'	889,510.5'	948,572'	832,877'
Sewer Pipe Inspected	196,782.7'	273,778.50'	310,758.20'	338,266.8'	191,611.6'
Catch Basins	3,425	4,860	2,391	4,056	3,799
Root-X	11,222'	37,369'	25,393'	10,984'	39,870
Back-up complaints	529	575	605	665	610
Actual Back-ups	13	13	6	6	4
Backups Due To Heavy Rain	22	12	10	34	10

Co-operative Assistance:

The Jet Rodder trucks assist other Departments with various types of maintenance. Below are labor hours involved with assisting other departments.

Waste Water	34.25	Equipment Services	5.5
Park Department	8	Fire Department	2.5
Water Works	11.5	Sewer Concrete	25.5
Street Department	35.75	Sewer Insurance	9.25
Engineering	6.5	Sewer Construction	40.5
Street Department	35.75	Other Misc. Work	380.5

The camera truck is also involved with other departments quite often. These are the hours they spent this year working with them.

Waste Water	12.5	Engineering	38.75
Sewer Insurance	53.75	Customer Complaints	39.5
Backup/Follow-up's	2	Outside Firms	1.5
Sewer Construction	44.5	Street	0
Water Works	6.75	Other Misc. Work	28.5

## 9 DIVISION OF SOLID WASTE

### 9.1 OPERATIONS OF SOLID WASTE

Solid Waste is one of the only departments within Public Works that touches almost every citizen once a week. There are currently 11 routes running Monday through Thursday in the winter months and 16 routes during the summer months, this assists the city with daily refuse collection, special item pick-ups, yard waste collection, and container management. This is accomplished with a staff made up off 18 Teamsters, an average of 4 part time employees, 2 Office Staff, and a Manager.



### 9.2 REFUSE COLLECTION

In 2014, Solid Waste collected 22,547 tons of refuse from an average of 36,528 customers. Solid Waste currently collects this refuse by running four rear-load routes, four automated routes, and one clean up route, four days a week. Out of the nine routes run, four of these trucks are fueled by compressed natural gas (CNG). Trucks that run on CNG save an average of \$2.00 per gallon equivalent.



### 9.3 SPECIAL ITEM PICK-UP

Solid Waste offers a monthly free special item pick-up for all citizens of South Bend. In 2014, Solid Waste received 10,653 requests for special item pickups producing over 4,178 tons of refuse. 6,600 of these requests were free of charge. Solid Waste operates two boom trucks throughout the year to accomplish this demand.



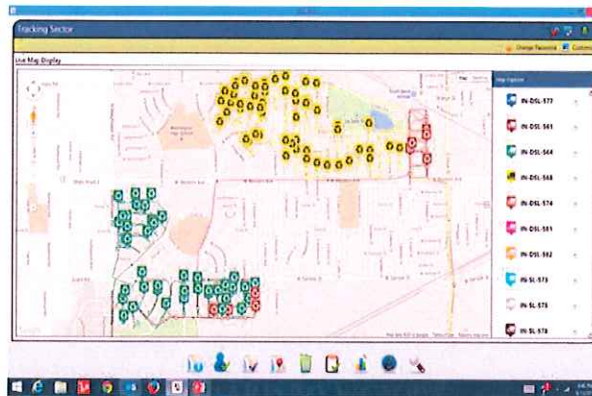
#### 9.4 CONTAINER MANAGEMENT

New in 2014, container management was created to service the city's aging container inventory. It was implemented to better recover warranty issues, repair items, new service, retro fit old inventory with RFID tags, theft, and distribute new yard waste containers. In 2014, Solid Waste delivered 1,781 refuse containers, 6,492 yard waste containers, repaired 300 containers, and recovered over 200 containers through warranty.



#### 9.5 YARD WASTE COLLECTION

In 2014, Solid Waste collected 4,421.42 tons of yard waste. The collected yard waste will be repurposed as compost, instead of filling a landfill. The yard waste season runs from April 1st to November 30th. Solid Waste operates four rear-load trucks to perform this operation. This past year, Solid Waste has introduced over 6,000 yard waste containers to our citizens. We have also eliminated harmful plastic bags from our collection process.



## 9.6 Innovations

Solid Waste implemented real time ELEMOS software in 2014. ELEMOS is a radio frequency identifier (RFID) system that gives real time data, truck location, and customer service information.

Solid Waste has converted 24% of its fleet to compressed natural gas (CNG), with an average savings of \$2.00 per gallon equivalent. By the end of 2015, the fleet will be converted to 50% CNG.

# 10 OFFICE OF SUSTAINABILITY

## 10.1 INITIATION OF THE OFFICE OF SUSTAINABILITY

The Municipal Energy Office officially transitioned to the Office of Sustainability on April 28. The new Sustainability staff, Therese Dorau (Director) and Krista Bailey (Sustainability Coordinator), joined the city on April 28. In late June, Public Works leadership, together with the Mayor's Office, indicated the primary goal for the Office in 2014 was the development of a strategic plan to guide the Office's work and priorities.

## 10.2 KEY PERFORMANCE INDICATORS

Due to the mid-year transition, the office did not formally track key performance indicators. The table below represents non-KPI metrics which have been tracked since May 1, 2014.

Metric	2014 Total (May 1–Dec. 31)
<i>Stakeholder Meetings</i>	137
<i>Public Presentations/Media</i>	19
<i>Departmental Introductions</i>	12
<i>Committees/Boards Joined</i>	6

In early 2015, the Office will work with the SB Stat team to develop appropriate KPIs for ongoing tracking and reporting.

## 10.3 ACCOMPLISHMENTS

### 10.3.1 Energy Management

#### Hydroelectric Renewable Energy Partnerships

The Office inherited compliance tasks associated with a Federal Energy Regulatory Commission permit exemption originally issued in 1984. The exemption, allowing for installation of a 1.8 MW hydro turbine facility at the South Bend Dam, was at risk of being terminated due to inaction by the City. The Office spoke with experienced

consultants, IDNR, current and former City staff, and potential development partners to gather information, identify next steps, and demonstrate progress to FERC on a quarterly basis.

Through these conversations, and with the support of the City Engineer, Director of Public Works, and Engineering summer interns, it was determined that Notre Dame was a potential partner and funder for the Hydro Project. City staff continued to meet with and supply information to key Notre Dame staff. Our Office has identified Notre Dame as a likely development partner and has continued to communicate forward progress on a quarterly basis, satisfying FERC concerns about project inertia. The City was awarded a 6-month extension (to avoid termination of the City's exemption) until June 30, 2015.

The City owns a very small hydroelectric turbine (45 kW) installed by the Municipal Energy Office with support from Parks department. The addition of controls, sensors, safety labels, and some additional testing will allow regular operation to commence.

2015: Our Office will work closely with Notre Dame to move into a development agreement and provide FERC a project plan and timeline by June 30. Our Office will resolve remaining interconnect issues with the current turbine in time for the River Lighting in May.

#### Guaranteed Energy Savings Contract

In spring 2014, the Board of Public Works reviewed competitive open bids for a Guaranteed Energy Savings Contract (GESC), also known as a performance contract, to be performed at the Century Center. Ameresco was selected and asked to develop a project that would provide energy-efficient upgrades to lighting and lighting controls, and heating, ventilation and air conditioning systems and controls, with ancillary upgrades such as ceiling tile replacement, and to replace the roof system, which is at or beyond its useful life. The GESC model reduces the need for up-front capital expenditures and is allowing Century Center to address several deferred maintenance items, long-term reduction of operating costs, and install several items from the Capital Plan significantly earlier than forecasted.

The Office of Sustainability is managing contract approval, with support of staff at the Century Center, Controller's Office, Legal, and Public Works, also incorporating Barnes & Thornburg (as bond counsel), Century Center board, Hotel-Motel Tax Board, the Board of Public Works, and the City Council.

In 2014, project scoping was completed, including preliminary engineering, preliminary savings calculations, and project costing. The project cost of \$4.85M is payable over 15 years using energy-specific low-cost bonding or financing. The City will receive a benefit of \$7.9M in that same time period. The benefit is comprised of 1) energy cost savings, 2) operations and maintenance cost savings, and 3) avoided capital costs, all due to installation of energy conservation measures and other large capital items. The Office assisted in receiving Board of Public Works, City Council, Century Center Board, and Hotel-Motel Tax Board approvals for interim stages of contract development.

2015: Our Office will facilitate funding, approvals, and execution of the contract, known as an "Energy Savings Agreement". The project is expected to commence in May and will take 18 to 24 months to complete.

#### Collect and track all 2014 building energy data

Due to the loss of Municipal Energy Office Fiscal Officer on Dec. 31, 2013, building energy data collection and tracking had fallen far behind. Office of Sustainability met with several City staff as well as utility company representatives to understand energy data collection and received training on the UtilityTrac energy data management software used by the City.



With the assistance of an intern and support of Admin & Finance, all 2014 building electricity data was transferred to UtilityTrac. Natural gas data has some remaining inconsistencies to resolve before it can be transferred. Other inconsistencies and concerns were identified which the Sustainability Office must remedy in collaboration with the account-holding department.

2015: Bring energy data management in line with industry best practices. Increase skill with UtilityTrac software. Update facility information. Continue to use intern support. Potentially transfer energy data collection and tracking from Admin & Finance to Asset Manager within engineering department.

#### Energy Efficiency Retrofits

The Office supported quantification and communication of energy savings from projects done by other departments, identifying and celebrating successes. The Office provided internal technical assistance and research support for building management and energy questions.

2015: Work with Admin & Finance to return almost \$40,000 in rebates to departments that had invested in energy efficiency retrofits in 2013 (completed Jan. 2015). Formalize a process to return those rebates to the funding department. Become experts in 2015 utility rebate programs and help departments capture rebate money. Finalize energy efficiency case studies begun in 2014.

#### Renewable Energy Development

In addition to advancing hydropower projects, the Office is also identifying potential solar photovoltaic projects. In 2014, the Office submitted a Letter of Interest to apply for the Solar Uniting Neighborhoods solar PV matching grant. The Office also toured potential locations for solar-powered electric car charging stations near the County-City Building.

2015: We are submitting a SUN grant application for funding to put panels on the Century Center, due in April. We will pursue additional funding and in-kind contributions to move that opportunity forward and seek out others.

### 10.3.2 Strategic Planning Process

#### Green Ribbon Commission

The Green Ribbon Commission is comprised of invited community leaders, city department liaisons, business owners, university faculty, students, and citizens. An intensive series of four meetings were held between September and December, 2014. The Office utilized a back-casting approach and four thematic focus groups to lead members through a sustainability planning process. Sixty active Green Ribbon Commission members gave a total of 328.5 hours, for a total value of \$7,407.67.<sup>1</sup>

2015: The Green Ribbon Commission will continue to meet quarterly. Commission will



<sup>1</sup> "Independent Sector's Value of Volunteer Time" [https://www.independentsector.org/volunteer\\_time](https://www.independentsector.org/volunteer_time)

move from planning to project implementation and accountability. Empower the Green Ribbon Commission to provide extra capacity to our Office's priorities.

### Survey

In addition to the Green Ribbon Commission's planning efforts, the Office of Sustainability created a brief survey, in Spanish and English, to capture public opinion on sustainability-related issues, assets, and visions. Community members submitted 460 survey responses.

### Outreach Events

The Office of Sustainability also met with twenty-four different community organizations to introduce the office and gather feedback for the plan, and was featured on WNIT's *Experience Michiana* and *The South Bend Voice* and *The State of South Bend* blogs.

### Office Mission

With the help of the above activities, the Office created the following mission statement:

*Our mission is to design and implement projects and programs that bring environmental, social, and economic value to city government and the public by:*

- *Demonstrating creativity, collaboration, accountability, and knowledge of best practices.*
- *Supporting, connecting, and building on local initiatives.*
- *Relying on the skills, knowledge, and abilities of the community.*
- *Connecting globally-recognized principles with local values.*

## 10.3.3 Community

### Speaking at Events and Trainings

The Office of Sustainability responded to a number of requests to speak to organizations about the new Office's roles and responsibilities. These included the above strategic plan feedback presentations for a total of nineteen in 2014. Trainings and seminars provided by Office staff are also included. The Sustainability Coordinator joined the City Wellness Committee to further educate City Staff.



### Communications

The Office developed a website to introduce itself as well as to highlight sustainability activities already supported by other departments across the City. The Office, with support of a student intern, created a temporary logo, re-branded the MEO Facebook page, added a Twitter account, and published its first e-newsletter. In 2014, we added 308 followers to the MEO [Facebook page](#) (a 136% increase), for a total of 534.

2015: We will continue to develop web-based resources for the community. We will support public access of building energy consumption and other key performance indicators. We will release a web-based Strategic Sustainability Plan. We will provide videos and other interactive content to our followers.

#### SB 150 and Zero Waste Event Guide

The Office became involved with SB 150 planning committees in an effort to increase the sustainability of related events. The Office published a Zero Waste Event Guide



### ZERO WASTE EVENTS

Planning Guide



<http://southbendin.gov/sites/default/files/files/sustainability/Zero%20Waste%20Event%20Guide.pdf>

to guide SB 150 Community Partners.

2015: We will become even more involved in planning for SB 150 events, particularly the Birthday Weekend. At the end of the Birthday Year, the Zero Waste Event Guide will be rebranded for everyday use.

#### Educational Engagement

The Office has made significant connections with research and administrative staff at IU South Bend, Notre Dame, St. Mary's, and Goshen College. We have also connected with a number of students, hosting them as volunteers and paid interns. We are actively supporting development of environmental programs at NewTech High School and Greene Intermediate.

2015: We will identify specific research needs for university partnerships. We will continue to host volunteers and interns, and to support South Bend Community Schools in developing curricula.

#### Networking with Peers

The Office pursues every opportunity to share information with other local governments and bring best practices back to South Bend. We fostered a number of relationships including with National League of Cities, Portland, Ore., Fort Collins, Colo., Grand Rapids, Mich., Fort Wayne, Ind., Elkhart, Ind., Bloomington, Ind., and many Chicago metro area cities and towns. We also responded to multiple research surveys regarding municipal sustainability efforts.

2015: The Office will strengthen existing relationships and build new, targeting similar and aspirational communities.

### 10.3.4 Waste Reduction

In 2014, we received feedback from many community members that they wanted better recycling and waste reduction information. The Office met with staff from many departments to understand current waste management structures. The Director was appointed to the St. Joseph County Solid Waste Management District's Advisory Board.

### 10.3.5 Office Management

#### Completed Budget Process

In 2014, the Office of Sustainability successfully navigated the budgeting process.

#### Office Move

In 2014, our Office relocated from Central Services to renovated space in Engineering.

#### Conferences

In 2014, our Director attended a National League of Cities workshop for municipal sustainability professionals. Our staff also attended GreenTown Chicago, as a follow-up to South Bend's hosting of two GreenTown conferences.

### 10.3.6 Support for Other Priorities

The Office of Sustainability supported and will continue to support many other departments, including the Mayor's Office, with priority projects that further the triple bottom line:

- Smart Streets and bikeways, Bike South Bend, Streetscape Design Guide, public input sessions
- Green Infrastructure and Long Term Control Plan, Green Infrastructure Working Group, Green Infrastructure Asset Inventory (draft), Green Infrastructure Asset Map (draft)
- Applications for grants and technical assistance
- Bowman Creek rehabilitation
- CNG vehicle conversion
- Mayor's Youth Task Force

The Sustainability Office staff look forward to working with Mayor Pete towards a South Bend that has a strong economy, a healthy environment, and a vibrant community.