Indianapolis Consent Decree, Long Term Control Plan, and Dig Indy Updates

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DIG INDY

energy group
We’re all citizens.
Presentation Overview

- Promise of the Trust
- Commitment to Sustainability
- Indianapolis’ Consent Decree and CSO Program
- DigIndy Tunnel Program Update
- Next Steps
The Promise of the Trust

• Public Charitable Trust
  – Established in 1887
  – Thomas Morris, Colonel Eli Lilly, and Benjamin Harrison

• Expanding Service & Diversification
  – 1887 – Consumers Gas Trust
  – 1906 – Citizens Gas
  – 1935 – Citizens Gas & Coke
  – 2000 – Steam & Chilled Water Services Added
  – 2005 – Citizens Gas Added
  – 2007 – Discontinued Manufacturing Division
  – 2008 – Renamed Citizens Energy Group
  – 2011 – Indianapolis Water & Wastewater Added
  – 2014 – Westfield Water & Wastewater Added
The Promise of the Trust

• Unique, innovative structure
  – Endured for over 124 years
  – Secured from takeover
  – Government oversight
  – No partisan political control

• Driven by Commitment to Customers
  – Customer Satisfaction
  – Community Investment
  – Innovation
  – Sustained Commitment to Quality & Sustainability

• Unique relationship with customers – “Utility with a Heart”
Our Mission
We provide safe, reliable services to our customers, while being good stewards of the environment.
We maintain the lowest possible rates with sound financial management.
We build and renew our businesses to remain competitive, add value, and create the greatest long-term benefit for our customers and communities.

Our Key Work Systems
Obtain and Deliver Gas – Produce and Deliver Steam – Produce and Deliver Chilled Water
Obtain, Treat and Deliver Water – Collect and Treat Wastewater

Our Pathways

CUSTOMER SATISFACTION
Needs Assessment – Service Commitment – Knowledgeable Employees – Relationships
Flexible Options – Assistance

OPERATIONAL EXCELLENCE
Safety – Technology – Reliable Systems – Continuous Improvement – Innovation

COMMUNITY COLLABORATION
Economic Development – Neighborhood Revitalization – Supplier Diversity
Environmental Leadership – Philanthropy – Education – Volunteerism

EFFICIENCY AND VALUE
Synergies across all businesses – Corporate Shared Services – Shared Field Services
Engineering and Sustainability

FINANCIAL INTEGRITY

EMPLOYEE ENGAGEMENT
Leadership – Meaningful Work – Inclusion – Learning & Professional Development – Teamwork
Communication – Recognition

PERFORMANCE MANAGEMENT
Strategic Objectives – Key Performance Indicators – Trust Scorecard – Divisional Scorecards
Initiatives – Action Plans – PPR/DPF

Our Vision
We will fulfill the promise of the Trust to serve our customers and communities with unparalleled excellence and integrity.

Our Values
Quality – Teamwork – Safety – Diversity – Integrity
Our Focus on Sustainability

Environment
- Conservation/wise use of resources
  - Beneficial reuse of byproducts
  - Customer Education
  - Adequate Supply of Resources

Community
- Quality of life
- Safe neighborhoods
- Economic development
- Affordability of life

Business
- Unparalled customer service
  - Operational excellence
  - Competitive rates and costs
  - Safe & reliable products and services
Sustainable Business

- Ensure Efficient Operations
- Provide Diverse, Sustainable Workforce
- Long-Term Business Planning
- Key Initiatives
  - Diversity
  - Voice of the Customer
  - Owning the Customer Experience
  - Company-Wide Business Review
Our Focus on Sustainability

Environment
- Conservation/wise use of resources
  - Beneficial reuse of byproducts
  - Customer Education
  - Adequate Supply of Resources

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Business
- Unparalled customer service
- Operational excellence
- Competitive rates and costs
- Safe & reliable products and services
Sustainable Communities

*It takes a village*
Sustainable Communities
Partnership for Excellence in Research and Learning
Our Focus on Sustainability

Environment
- Conservation/wise use of resources
  - Beneficial reuse of byproducts
    - Customer Education
    - Adequate Supply of Resources

Community
- Quality of life
- Safe neighborhoods
- Economic development
- Affordability of life

Business
- Unparalled customer service
  - Operational excellence
  - Competitive rates and costs
  - Safe & reliable products and services
Sustainable Built Environment

• Emphasis on System Optimization and Rehabilitation
• Energy Efficient Solutions
• “Green” Components
  – CSO 033
  – 10,000 Trees Initiative
• Sustainable CSO Program
Sustainable Solutions
Indianapolis’ CSO Program

• Multi-Faceted CSO Long Term Control Plan
  – Optimize existing system capacity
  – Expand and upgrade Advanced Wastewater Treatment Plants (AWTP)
  – Construct new storage and conveyance
Each year, an average of 5 to 6 billion gallons of combined sewage overflow into Indianapolis streams.

About 60 times a year, CSOs send bacteria, pathogens and untreated waste into our waterways:
- White River
- Fall Creek
- Pogues Run
- Pleasant Run & Bean Creek
- Eagle Creek
- Lick Creek & State Ditch
CSOs are a Big and Expensive Problem!
Indianapolis’ Consent Decree

• Settlement between Citizens, Indianapolis, and Department of Justice / Environmental Protection Agency

• Standard Consent Degree Conditions
  – How the Municipality expects to come into compliance with Clean Water Act
  – Schedule for completion including fines ($$) for non-compliance
  – Expected performance of CSO LTCP projects
Indianapolis’ CSO Program Overview

DigIndy Tunnel Program
- 28 miles deep rock tunnel
- 18-foot finished diameter
- 200-250 feet deep
- Deep Rock Tunnel Connector, Eagle Creek Tunnel & Pump Station in construction – 2017 completion
- White River & Lower Pogues Run Tunnels – 2021 completion
- Fall Creek & Pleasant Run Tunnel – 2025 completion

Upper Pogues Run CSO Abatement Project
- Underground storage basins
DigIndy Tunnel Geology
How Deep is “Deep?”

- **Gold Building**: Downtown Indianapolis, IN
- **Statue of Liberty**: New York, NY
- **Proposed Deep Rock Tunnel Connector Pump Station**: Southport AWT Facility, Indianapolis, IN
DRTC - Tunnel Boring Machine (TBM)

Robbins Main Beam Tunnel Boring Machine

http://www.youtube.com/watch?v=J0YqpZCoYEQ
DigIndy Tunnel Fun Facts

- 20 – foot bore diameter
- Entire TBM weighs 900,000 pounds
- Cutter head has 39 disc cutters
- Cutter head weighs 185,000 pounds
- Cutter head turns 8 revolutions/minute (rpm)
- TBM mines an average of 120 feet/day
- One foot of mined rock = 20 cubic yards of spoils
PROJECT DESCRIPTION

The Deep Rock Tunnel Connector captures and conveys combined sewer overflows to the pump station. The core function of the pump station is to empty the tunnel system and deliver the flow to the Southport Advanced Wastewater Treatment Plant.

PROJECT STATS

- Project in construction
- Pump room is approximately 270 feet below grade
- Located at Southport Advanced Wastewater Treatment Plant
- Four main tunnel pumps for dewatering are each rated at 30 MGD
- Pump station firm capacity (with one pump out of service) of 90 MGD
- Project to be completed by December 31, 2017
DRTC Pump Station Overview
DRTC Pump Station
DRTC Deep Tunnel

- **Fall Creek Tunnel**
  - 3.8 miles of 18-foot finished diameter tunnel
  - 12 drop shafts
  - 5,100 feet of 24-inch to 108-inch diameter consolidation sewers

- **White River Tunnel**
  - 5.8 miles of 18-foot finished diameter tunnel
  - 6 drop shafts
  - 5,000 feet of 54-inch to 108-inch diameter consolidation sewers

- **Lower Pogues Run Tunnel**
  - 1.8 miles of 18-foot finished diameter tunnel
  - 2 drop shafts
  - 1,400 feet of 72-inch to 144-inch diameter consolidation sewers

- **Pleasant Run Tunnel**
  - 7.3 miles of 18-foot finished diameter tunnel
  - 10 drop shafts
  - 26,000 feet of 24-inch to 72-inch diameter consolidation sewers

- **Eagle Creek Tunnel**
  - 1.7 miles of 18-foot finished diameter tunnel
  - 1 drop shaft
  - 4,800 feet of consolidation sewers

- **Upper Pogues Run Storage Facilities**
  - In design
  - Complete 2021
  - Two CSO storage tanks

- **Deep Rock Tunnel Connector**
  - 7.6 miles of 18-foot finished diameter tunnel to Southport AWTP
  - Discharges to pump station at Southport AWTP
  - 3 drop shafts

- **Southport AWTP**
  - Secondary treatment rate upgrades to 250 MGD
  - Disinfection treatment rate upgrades to 250 MGD
  - Maximum pumping rate upgrades to 345 MGD

- **Belmont AWTP**
  - Peak primary and biological treatment rate upgraded to 300 MGD
  - Total peak disinfection treatment rate upgraded to 300 MGD
  - Peak headworks pumping rate upgraded to 330 MGD
PROJECT DESCRIPTION
The Deep Rock Tunnel Connector will maximize delivery of flow from the White River Tunnel to Southport Advanced Wastewater Treatment Plant.

The entire DigIndy Tunnel System will provide a minimum effective storage volume of 250 million gallons.

PROJECT STATS
- Project in construction
- Over 200 feet deep
- 18-foot finished diameter deep tunnel
- Approximately 7.6 miles of deep tunnel
- Captures 3 combined sewer overflows
- Scheduled to be completed by December 31, 2017
- 3 drop shafts
Deep Rock Tunnel Connector
Deep Rock Tunnel Connector
Deep Rock Tunnel Connector
Good Press !!!
Eagle Creek CSO Abatement Project

**PHASE 1 – CSO 033 PROJECT DESCRIPTION**
The CSO 033 project will reduce combined sewer overflows (CSO) into Little Eagle Creek at CSO 033. This project incorporates green infrastructure through roadside planters that will reduce and delay stormwater from entering the combined sewer system.

**PROJECT STATS**
- Project in construction
- Project to be completed by: Spring 2017

**PHASE 2 – EAGLE CREEK TUNNEL PROJECT DESCRIPTION**
The Eagle Creek Tunnel project will provide an instantaneous peak flow rate of 25 to 50 MGD and will include near surface consolidation sewers and a deep tunnel. This will achieve 95 percent CSO capture of combined sewer overflows and limit overflows to up to four events in a typical year when incorporated with the rest of the Eagle Creek and White River watersheds.

**PROJECT STATS**
- Project in construction
- Tunnel incorporated as a branch of DRTC Project
- 18-foot finished diameter deep tunnel
- Approximately 1.7 miles of deep tunnel
- 1 drop shaft
- Project to be completed by December 31, 2018
Eagle Creek Tunnel – Ross Claypool Park
Eagle Creek Tunnel – CSO 033
White River/Lower Pogues Run Tunnels

**FALL CREEK TUNNEL**
- 3.8 miles of 18-foot finished diameter tunnel
- 12 drop shafts
- 5,100 feet of 24-inch to 108-inch diameter consolidation sewers

**WHITE RIVER TUNNEL**
- 5.8 miles of 18-foot finished diameter tunnel
- 6 drop shafts
- 5,000 feet of 64-inch to 108-inch diameter consolidation sewers

**LOWER POGUES RUN TUNNEL**
- 1.8 miles of 18-foot finished diameter tunnel
- 2 drop shafts
- 1,400 feet of 72-inch to 144-inch diameter consolidation sewers

**PLEASANT RUN TUNNEL**
- 7.3 miles of 18-foot finished diameter tunnel
- 10 drop shafts
- 36,000 feet of 24-inch to 72-inch diameter consolidation sewers

**EAGLE CREEK TUNNEL**
- 1.7 miles of 18-foot finished diameter tunnel
- 1 drop shaft
- 4,800 feet of consolidation sewers

**UPPER POGUES RUN STORAGE FACILITIES**
- In design
- Complete 2021
- Two CSO storage tanks

**DEEP ROCK TUNNEL CONNECTOR**
- 7.6 miles of 18-foot finished diameter tunnel to Southport AWTP
- Discharges to pump station at Southport AWTP
- 3 drop shafts

**BELMONT AWTP**
- Peak primary and biological treatment rate upgraded to 300 MGD
- Total peak disinfection treatment rate upgraded to 300 MGD
- Peak headworks pumping rate upgraded to 330 MGD

**SOUTHPORT AWTP**
- Secondary treatment rate upgrades to 250 MGD
- Disinfection treatment rate upgrades to 250 MGD
- Maximum pumping rate upgrades to 345 MGD
**PROJECT DESCRIPTION**

When incorporated with other improvements in the White River watershed, White River Tunnel will achieve 95 percent CSO capture and limit overflows to up to four events in a typical year.

The entire DigIndy Tunnel System will provide a minimum effective storage volume of 250 million gallons.

**PROJECT STATS**

- Project in construction
- Over 200 foot deep
- 18-foot finished diameter deep tunnel
- Approximately 5.8 miles of deep tunnel
- Captures 9 combined sewer overflows
- To be completed by December 31, 2021
- 6 drop shafts
- 5,000 feet of consolidation sewer
PROJECT DESCRIPTION

When incorporated with other improvements in the Pogues Run and White River watersheds, Lower Pogues Run Tunnel will achieve 95 percent CSO capture and limit overflows to up to four events in a typical year.

The entire DigIndy Tunnel System will provide a minimum effective storage volume of 250 million gallons.

PROJECT STATS

- Project in construction
- Over 200 feet deep
- 18-foot finished diameter deep tunnel
- Approximately 1.8 miles of deep tunnel
- Captures 6 combined sewer overflows
- Green infrastructure utilized in project area to capture stormwater runoff
- To be completed by December 31, 2021
- 2 drop shafts
- 1,400 feet of consolidation sewer
White River/Lower Pogues Run Tunnels
**PROJECT DESCRIPTION**

When incorporated with other improvements in the Fall Creek watershed, Fall Creek Tunnel will achieve 97 percent CSO capture and limit overflows to up to two events in a typical year.

The entire DigIndy Tunnel System will provide a minimum effective storage volume of 250 million gallons.

**PROJECT STATS**

- Project in design
- Over 200 feet deep
- 18-foot finished diameter deep tunnel
- Approximately 3.8 miles of deep tunnel
- Captures 26 combined sewer overflows
- To be completed by December 31, 2025
- 12 drop shafts
- 5,100 feet of consolidation sewer
**PROJECT DESCRIPTION**

When incorporated with other improvements in the Pleasant Run watershed, Pleasant Run Tunnel will achieve 95 percent CSO capture and limit overflows to up to four events in a typical year.

The entire DigIndy Tunnel System will provide a minimum effective storage volume of 250 million gallons.

**PROJECT STATS**

- Project in design
- Over 200 feet deep
- 18-foot finished diameter deep tunnel
- Approximately 7.3 miles of deep tunnel
- Captures 30 combined sewer overflows
- To be completed by December 31, 2025
- 10 drop shafts
- 26,000 feet of consolidation sewer
PROJECT DESCRIPTION
When incorporated with other improvements in the Pogues Run and White River watersheds, the Upper Pogues Run Storage Facilities will achieve 95 percent CSO capture and limit overflows to up to four events in a typical year. The entire DigIndy Tunnel System will provide a minimum effective storage volume of 250 million gallons.

PROJECT STATS
- Project in design
- Off-line storage facilities
- 2.0 million gallon storage tank in Brookside Park
- 0.6 million gallon storage tank in Forest Manor Park
- Captures 9 combined sewer overflows
- Project to be completed by December 31, 2021
Next Steps
Next Steps

• Continuous Improvement!
• On-going Value Engineering Opportunities
• Over-achieving on Consent Decree Requirements
• Currently pursuing funding through Indiana State Revolving Fund Loan Program

Questions?