Illicit Discharge Detection & Elimination Program

Prepared for:
Doylestown Township and Citizens

Doylestown Township, Pennsylvania
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At a glance - GHD

- Leading engineering, environmental, and construction services companies
- Operating in 5 continents
- 200+ offices worldwide
- 85+ years in operation
- 8500+ people
- 2014 revenue: USD 1.5 billion
- Serving 5 global markets
- 75+ service lines
Agenda

• Current Status IDD&E
• 2016 Inspections, Sampling, Results
• DNA Sampling
• Going Forward 2017
• Takeaways
• Q&A
Current Status of IDD&E

• Year 14 of the Program
• GHD completed typical hot spot IDD&E sampling
• Doylestown Township remains in compliance
• Application submitted to extend NPDES Permit
• PADEP working on new PAG-13 2018 Permit conditions (March 2018)
• Sep 15, 2017 – NOI for individual MS4 Permit applications due
• March 2018 – Next MS4 report due
IDD&E – Dry Weather Inspection
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Doylestown Township
Septage Management Program
Streets by Cycle

Cycle I
Start: January 2004
End: December 2004

Cycle II
Start: January 2005
End: December 2005

Cycle III
Start: January 2006
End: December 2006
IDD&E Inspections, Sampling & Results - 2016

• Focused Inspections & Sampling
  – Historical Hot Spots (Areas 1, 2, and 3)

• Sample Analysis - Fecal coliform at all locations with flow
  • Area 1 – 6
  • Area 2 – 8
  • Area 3 – 1

• Data Review – Chose 5 locations (Areas 1 and 2) for DNA fingerprinting
  – 2nd year of DNA sampling
  - 5 samples in 2015
  - 3 locations in 2016 were different locations
Fecal Coliform Sources

Identify Sources of Fecal Contamination

- Pet feces
- Failing septic systems
- Livestock feces
- Runoff from impervious surfaces
- Wildlife feces
- Seagull and goose droppings
- Combined sewer overflows
- Vessel sewage discharges
- Swimmers
DNA Fingerprinting

DNA Tests

- Goose
- Cow
- Ruminant (e.g. deer)
- Dog
- Human
IDD&E Sampling - 2016

Area 1

- 6 samples (1 sample collected for DNA testing)

- 2 samples FC > 200 col/100 ml
- Maximum FC = 420 col/100 ml

- DNA testing
  - Sample was negative
IDD&E Sampling - 2016

Area 2

- 8 samples (4 samples collected for DNA testing)
- 5 samples FC > 200 col/100 ml
- Maximum FC = 1,700 col/100 ml
- DNA testing
  - 2 positive for human
  - 1 positive for dog & ruminant
  - Other sample was negative
IDD&E Sampling - 2016

Area 3

- 1 sample (No DNA samples collected)
- 0 samples FC > 200 col/100 ml
IDD&E Sampling - 2016

Area 1
FC levels somewhat decreased from 2015 (6 > 200 col/ml)
In 2016, 2 > 200 col/ml
Max = 420 col/ml

Area 2
FC levels somewhat increased from 2015 (4 > 200 col/ml)
In 2016, 5 > 200 col/ml
Max = 1,700 col/ml

Area 3
No FC > 200 col/ml
IDD&E – Going Forward 2017

• GPS all outfalls, Update Outfall Map

• Complete inspections/hot-spot sampling throughout Township ~25 locations
  – Historical Hot Spots (Areas 1, 2, and 3)

• Additional Inspections & Sampling as requested by Township

• Comply with current permit PAG-13

• Additional source investigations as needed
  – Dye tracing
  – TV inspections
  – DNA testing
PADEP MS4 Website

Impaired Streams
IDD&E – Takeaways

• Township in Compliance
• Continue Inspections/Sampling
• GPS outfalls, Update Outfall Map
• Septic System Maintenance
• Public Participation
• Pollution Prevention and good housekeeping
• **Goal is to Improve Water Quality!**
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