



Illicit Discharge Detection & Elimination Program

**Prepared for:
Doylestown Township and Citizens**

**Doylestown Township, Pennsylvania
March 17, 2020**

Richard Burns / Russell Mehalick | Presenters



Agenda

- Current Status IDD&E
- 2019 Inspections, Mapping, and Sampling Results
- DNA Sampling
- Going Forward 2020
- Takeaways
- Q&A

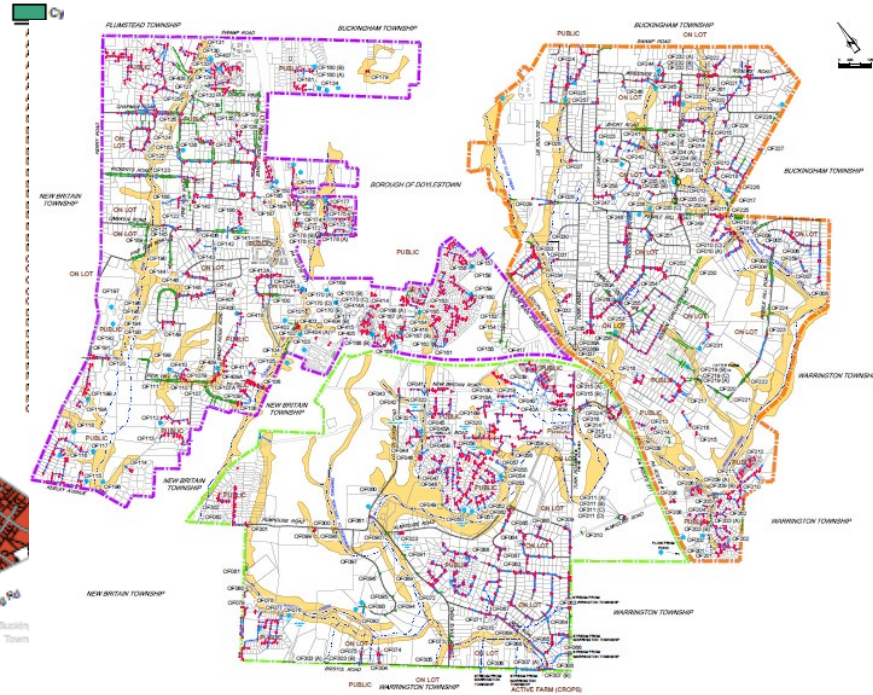
Current Status of IDD&E

- Year 17 of the Program
- GHD completed typical hot spot IDD&E sampling
- GHD mapped 47 new outfalls/observation points
- Doylestown Township remains in compliance
- New Permit received in December 2019. Good for 5 years until November 2024
- September 2020 – Next MS4 report due



IDD&E – Dry Weather Inspection

Doylestown Township
 Septage Management Program
 Streets by Cycle



- Cycle I
 Start: January 2019
 End: December 2019
- Cycle II
 Start: January 2020
 End: December 2020
- Cycle III
 Start: January 2021
 End: December 2021



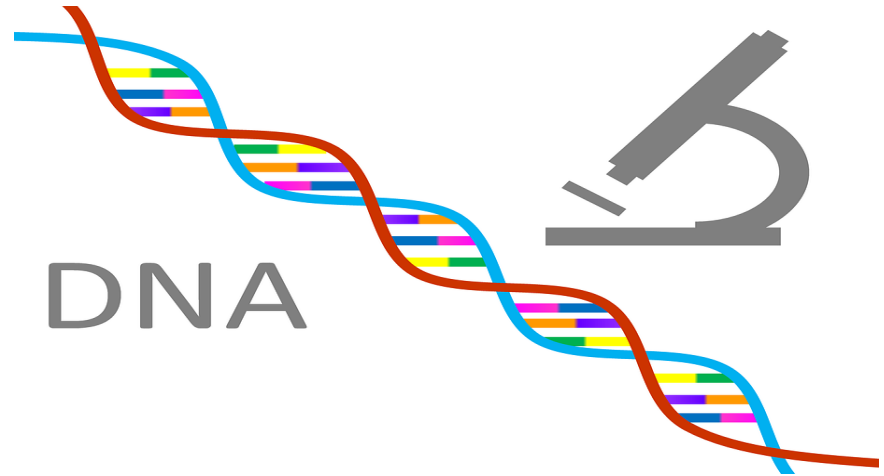
IDD&E Inspections, Sampling & Results - 2019

- Focused Inspections & Sampling
 - Historical Hot Spots (Areas 1, 2, and 3)
- Sample Analysis - Fecal Coliform (FC) at all locations with flow
 - Area 1 – 11 inspections / 11 sampled
 - Area 2 – 9 inspections / 7 sampled, 2 no flow
 - Area 3 – 2 inspections / 1 sampled, 1 no flow
- Data Review – Chose 5 locations (Areas 1 and 2) for DNA fingerprinting
 - 5th year of DNA sampling
 - 5 samples per year since 2015
 - In 2019, 5 Outfalls re-sampled for FC plus DNA based on the 5 highest FC readings during the 1st round of sampling

DNA Fingerprinting

DNA Tests

- Goose (2 indicator tests)
- Cow (2 indicator tests)
- Ruminant [e.g. deer] (2 indicator tests)
- Dog (1 indicator test)
- Human (3 indicator tests)



IDD&E Sampling - 2019

Area 1 – 11 Inspections

- 11 samples
- 7 samples FC >200 col/100 ml
- Maximum FC = 2 locations >600 col/100 ml

- DNA testing (4 samples)
 - All samples were positive for Human
 - One also positive for Dog

IDD&E Sampling - 2019

Area 2 – 9 Inspections

- 7 samples
- 2 samples FC >200 col/100 ml
- Maximum FC = 600 col/100 ml

- DNA testing (1 sample)
 - 1 positive for Human

IDD&E Sampling - 2019

Area 3 – 2 Inspections

- 1 sample
- No samples >200 col/100 ml
- Maximum FC = 170 col/100 ml

- No DNA samples collected

IDD&E Sampling – 2016 through 2019

Area 1

2016 - 2 >200 col/100 ml

2017 - 5 >200 col/100 ml (Max = >600)

2018 - 5 >200 col/100 ml (Max = 3,200)

2019 - 7 >200 col/100 ml (Max = >600)

Area 2

2016 - 5 >200 col/100 ml (Max = 1,700)

2017 - 7 >200 col/100 ml (Max = 600)

2018 - 5 >200 col/100 ml (Max = >6,000)

2019 - 2 >200 col/100 ml (Max = 600)

Area 3

2016 - No FC >200 col/100 ml

2017 - 1 >200 col/100 ml (Max = 2,200)

2018 - 1 >200 col/100 ml (Max = 240)

2019 - No FC >200 col/100 ml



IDDE Mapping - 2019

- GHD used the township's new mapping tool from CSDatum to map, photograph and document 47 new outfalls and observation points in 2019.
- This new tool will allow GDH to automatically update the township storm water map, input the data collected in the field in real time, and produce the forms required for their storm water report.
- GHD will continue using this tool for all future storm water sampling and inspections to keep their information updated.



IDD&E – Going Forward 2020

GHD will:

- Continue to GPS outfalls and observation points using new CSDatum program, Update Outfall Map
- Complete inspections/Historical hot-spot sampling (Areas 1, 2, and 3) using new CSDatum program (~30 locations)
- Complete additional Inspections & Sampling as requested
- Comply with current permit PAG-13
- Perform additional source investigations as needed
 - Dye tracing
 - TV inspections
 - DNA testing



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!



For more information contact

Rich Burns
Russ Mehalick
GHD
410 Eagleview Blvd
Exton, PA 19341

richard.burns@ghd.com
russell.mehalick@ghd.com

