# Illicit Discharge Detection and Elimination Program

After everything was mapped, it was determined that we were responsible for screening **33** outfalls. Now increased to **38** We have been fine tuning this every year as new outfalls are added, and pipes that were originally considered to be outfalls are determined not be regulated. Of these outfalls, 10 were flagged as priorities, having/potentially having dry weather flow. Our original MS-4 permit required 25% of all outfalls to be inspected twice each year in Years 2-5 of the permit. We divided up the 33 outfalls to be screened in years 2-5 as follows (number of outfalls at each site in parentheses):

## YEAR 2- the 10 priority outfalls

Rose Tree Park (1)
Emergency Services Center (2)
Juvenile Detention Center (1)
Kent Park (1)
George W. Hill Correctional Facility (3)
Fair Acres (2)

**TOTAL- 10 outfalls**

## YEAR 3

George W. Hill Correctional Facility (1)
Upland Park (2)
Willow Park (1)
Catania Park (1)
Pennock Woods (1)
Martin Park (1)

**TOTAL- 7 outfalls**

## YEAR 4

Clayton Park (3)
Smedley Park (4)
Rose Tree Park (1)

**TOTAL- 8 outfalls**

## YEAR 5

Fair Acres ( Mapped - 12 Outfalls corrected this number to 6 – Thus 4 remain)
Clayton Park ( 3 Remaining)
Juvenile Detention Center (1 Remaining)

**TOTAL – 8 outfalls**

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## WHY WERE THE FIRST 10 OUTFALLS PRIORITIES?

**Rose Tree Park**- 1 outfall- dry weather flow during mapping
**Emergency Services Center**-2 outfalls- mapped during a rain event, marked as a priority to go back to make sure there was no dry weather flow
**Juvenile Detention Center**- 1 outfall- during mapping there was dry weather flow with a white, milky look. In an HQ watershed.
**Kent Park**- 1 outfall- mapped during a rain event, marked as a priority to go back to make sure there was no dry weather flow
**George W. Hill Correctional Facility**- 3 outfalls- one outfall had dry weather flow during mapping
**Fair Acres**- 2 outfalls- dry weather flow during mapping

As the attached spreadsheet shows, 6 of the 10 outfalls marked as priorities had dry weather flow. The Emergency Services Center and two of the Prison outfalls showed no dry weather flow.

## FIELD ANALYSES

When an outfall exhibited dry weather flow, the following tests were conducted using the Hach Stormwater Test Kit:

**Water temperature**- no range given- ours ranged from 60.9°F to 86.5 °F

**pH**- should be between 6 and 9- all outfalls screened fell within this range except Kent Park in Upper Darby, which had slightly more acidic pHs of 5.83 and 5.96, respectively.

**Phenol**- should be 0 mg/L- none of the outfalls screened tested positive for phenol

**Chlorine**- should be 0 mg/L- the basin at Fair Acres on Old Forge Rd. tested positive for chlorine during both screenings, with results of 0.1 mg/L and 0.3 mg/L, respectively. The outfall at Juvenile Detention also had positive chlorine tests during both screenings, with 0.1 mg/L readings both times. According to Rich Brietenstein, the 0.1 mg/L is not a cause for concern. The 0.3 mg/L reading is high enough for concern though.

After contacting a representative from Fair Acres, there are two possible explanations for the higher level of chlorine. First, a leaking fire pump that has since been repaired. Second, a consultant who was testing cooling towers was concerned that standing water in Aqua PA's lines could be a potential contributor to Legionnaire's disease. As a preventative measure, fire hydrants were routinely flushed during the summer, and since that time a treatment system has been installed.

**Copper**- should be 0 mg/L- none of the outfalls screened tested positive for copper

**Detergents**- should be 0 mg/L- none of the outfalls screened tested positive for detergents

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**Fecal Coliform**- grab samples were taken from each outfall and taken to Brandywine Science Center in Kennett Square for analyses. Anything over 1000 per 100 mL was cause for concern. The attached spreadsheet shows the fecal results. After the first round of fecal tests, the results were clearly over what they were supposed to be. Rich Brietenstein told us not to be concerned until after the second round of tests. If the results had come back high again, additional measures to figure out why the counts were so high would have had to be taken. The gentleman at Brandywine Science Center told us that the high results were probably due to the fact that we went out as soon as we could after a rain event. The second round shows (if he was correct) that if we had waited a little longer, the results may not have been so high.

Additional visual observations were made in the field as listed on the "Illicit Discharge Field Screening Program Data Collection Form".

We will continue to monitor a minimum of 25% of outfalls each year of the new permit. All outfalls will be inspected a minimum of one time over the course of the permit. Any outfalls found to be a problem in the previous year will be inspected again in the next year with the goal of finding a solution to the illicit discharge.

*This report may be found at S:/MS4/MS4 OUTFALL SCREENING STATUS REPORT.*
*The attached spreadsheet may be found at S:/MS4/MS4 REPORT SPREADSHEET*

*Updated by: Ed Magargee*
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