Sand Boxing

Reducing Inspection Requirements for MS4 Permit BMP's

Local Government Advisory Committee

September 26, 2024

DEPARTMENT OF
ENVIRONMENTAL
PROTECTION
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Montgomery County MS4 Permit Requirements

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Background

- Montgomery County has a Municipal Separate Storm Sewer System Permit (MS4) which contains as a restoration goal that requires the County to increase the acres of untreated impervious surface treated by stormwater management practices (1800 acres over 5 years).
- This permit is administered by the Maryland Department of the Environment (MDE).
- A variety of practices are implemented to increase the treatment of stormwater runoff.
  - Build and retrofit stormwater ponds.
  - Stream restoration
  - Greenstreets ,bioretention and rain gardens (small scale treatment facilities)
  - Plant trees along streets, private properties, schools, libraries etc.
- A majority of restoration goal will be achieved by pond retrofits and stream restoration projects.
- **In order to receive credit under this permit all of these practices must be inspected every three years to make sure they are still functioning.**
- **The inspection and maintenance of these practices in Montgomery County cost almost $15 million per year with inspections alone accounting for over $4 million.**

Tree Montgomery Program

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- **Tree Montgomery** is a FREE program to plant shade trees across Montgomery County(native trees at least 10 feet in height and 2 inch dbh) . The goals are to increase our tree canopy, improve water quality, reduce heat island impacts, help combat the impacts of climate change and provide wildlife habitat.
- Funding for the program comes from a development fee based on land area disturbed ($470 per tree). Program has a budget of $1.5 million for tree planting plus grant funding.
- Trees only provide a small amount of credit towards our MS4 restoration goal.
- Tree Montgomery has planted 14,500 trees through spring 2024.
- Trees have been planted on over 2,500 separate properties over this ten-year time period. Based on triennial inspection date since 2015, there has been a 93.4% survival rate for trees

The Challenge – Inspection Requirements

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- **All trees are inspected triennially in person** and visual observations for each tree are recorded in a database. These observations include information on the visibility of each tree from a publicly accessible location, the viability of the location (can it support a tree or is it now concrete or asphalt, for example), and is the tree functioning (is 30% or more of the crown functioning).
- Trees that are recorded as “not visible” are reviewed, and the crown condition is determined using available aerial images, including the County’s ortho maps, Google Maps and Street View, Bing Maps, and Street View. The last resort is to knock on property owner’s door.
- Data is provided to MDE on the location of the tree, if it passes inspection and if has not passed inspection has it been replaced and where.
- **This approach was fine until the program grew to the point where we are planting 4000 trees per year with a long-term goal of 5000 per year.**

Potential Sandboxing Solution

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Develop a statistical approach to inspecting Tree Montgomery and Street Trees.

- Evaluate current inspection processes, data tracking, data verification processes, and reporting processes to determine if there are any innovations that would reduce staff time spent on these tasks.
- Determine if statistical modeling could demonstrate that physical inspections conducted on a subset of all trees could be extrapolated to demonstrate the condition of all trees.
- **Obtain regulatory agency approval.**
  - If a viable statistical option is developed, propose and document a statistical modeling method to be submitted to the MDE.
  - **Most jurisdictions in Maryland do not count tree planting towards achieving their MS4 restoration goal.**

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Questions?

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