

Sanitary Sewer Improvements

Preliminary Engineering Project

Darlington Neighborhood Public Meeting Summary

Pittsfield Elementary School



Thursday, June 16, 2016 - 6:30 p.m. to 8:00 p.m.

1. Participant List – See Attachment #1
2. Welcome and Introduction to Project Team -- Brian Slizewski, City of Ann Arbor Project Manager
 - a. Brian stated that this project is still in the information gathering stage.
3. Meeting Desired Outcomes
 - a. Provide background on sanitary sewer system and previous projects
 - b. Provide overview of the SSIPE project
 - c. Explain what to expect in the Darlington area neighborhood
4. Project Team Introduction
 - a. Troy Baughman, City of Ann Arbor, Systems Planning
 - b. Lori Byron, Public Engagement Consultant
 - c. Robert Czachorski, Engineering Consultant
 - d. Jeannette Patterson, Engineering Consultant
 - e. Teresa Newman, Public Engagement Consultant
 - f. Brian Slizewski, City of Ann Arbor, Project Manager
5. Project Background – Troy Baughman
 - a. City of Ann Arbor has two separate collection systems: a stormwater system and a sanitary system.
 - b. The stormwater system conveys most of the stormwater runoff from buildings and streets. Stormwater flows into catch basins to trap debris before it enters the drainage pipes. The roof drains convey stormwater from the roof to the storm sewer or retaining area.
 - c. The sanitary system conveys sewage and some groundwater, as well as some stormwater that finds its way into the system. Footing drains are buried around a structure to move ground water away from the structure. Basement back-ups flow from the sanitary pipe into a basement. Rainwater and groundwater leaks into sanitary pipes as they age. As more rainwater enters the sanitary sewer system, the pipes may be overwhelmed and may back-up into the basement.
 - d. The property owner is responsible for maintenance and cleaning of footing drains, cleanout and sanitary sewer lateral connection, all the way until it taps into the sanitary main.
 - e. City of Ann Arbor has 360+ miles of sewer pipes. In the Darlington neighborhood, most pipes were installed in the 1950s and 1960s.
 - f. Current and Recent Wet Weather Projects:

- i. Sanitary Sewer Wet Weather Evaluation Project
 - ii. Footing Drain Disconnection Program
 - iii. Stormwater Model Calibration and Analysis
 - iv. Upper Mallets Drainage Study
 - v. Sanitary and Stormwater Systems Asset Management Plan
 - vi. Green Streets Program – when roads are completely reconstructed the construction takes into account infiltration of rainwater and incorporates rain gardens, porous foundations and surfaces to reduce stormwater runoff.
- g. This project is a follow-up to the Sanitary Sewer Wet Weather Project done in 2013 and 2014. Any capital improvement projects that are identified as part of this monitoring, investigation and analysis will not occur until at least 2018.
- h. A stakeholder task force will be formed this Fall to discuss the issues identified and potential solutions. Interested stakeholders will be contacted.
- i. Sanitary Sewer Wet Weather Evaluation (SSWWE) Project Findings
 - i. Evaluated the overall sanitary sewer system capacity and the past Footing Drain Disconnection (FDD) program to assess the future risk of sewer backups in the City.
 - ii. Recommended methods to further reduce wet weather impacts to the sanitary sewer system.
 - iii. Identified five areas with potential capacity issues during wet weather, including the Pittsfield Valley area. These five areas are being analyzed in depth in the current project.
- j. Q&A:
 - i. Q: What if you don't have a basement, will you still have footing drains? A: It is possible. The best way to tell is to have a plumber run a camera through the sanitary lead.
 - ii. Q: The easement on my property is 11.5 feet from the street, why is it my responsibility to take care of the infrastructure. A: In the City of Ann Arbor, property owners are responsible for their sanitary sewer lead, until it taps into the sewer main, even though the City maintains an easement that allows it to perform work on property close to the street.
 - iii. Comment: The contractor that digs up the streets does a terrible job of resurfacing streets after construction.
 - iv. Q: How far down the road are these projects? A: Timing will depend on the complexity of the issue and proposed resolution.
 - v. Comment: My house had over \$100K in damage from a bursting sewer pipe. The pipes in our area have been patched over and over again. I'm concerned now about the water pipes in the area.
 - vi. Q: Were the old East Ann Arbor water pipes up to standard? A: The water mains installed in Darlington Subdivision are 6" and 8" diameters pipes which are the standard sizing necessary to provide the required fire flow to this area.
 - vii. Poll of the group: How many people have had sewer back-up? (5 people). How many people have sump pumps? (About half of the attendees have a sump pump).

6. Overview of Sanitary Sewer Improvements Preliminary Engineering Project – Robert Czachorski
- a. The study in 2013-14 involved computer modeling of the sanitary sewer system in Ann Arbor. Five areas with potential capacity or hydraulic issues were identified, plus one area where the City wishes to reroute part of the flow to reduce the amount that must be pumped to the Wastewater Treatment Plant (WWTP.)
 - b. Project Goals:
 - i. Use field engineering techniques to determine if capacity issues exist.
 - ii. Analyze field data and determine the cause of the capacity issues.
 - iii. Determine the best solution based on public input and solution effectiveness.
 - c. Darlington Area
 - i. The SSWWE project’s computer modeling showed that sanitary sewer pipes are overloaded during wet weather.
 - ii. Field investigation will be done to answer the following questions:
 - 1. Is the computer model reflecting what is occurring in the real world? (Flow metering)
 - 2. Are residents seeing impacts of overloaded pipes? In what areas? (Resident survey)
 - 3. Where are the flows coming from? (CCTV, manhole inspections, smoke testing)
 - iii. Meters have been installed in the areas identified with potential issues to determine flows in the pipes and confirm the computer modeling results.
 - iv. A survey of residents was completed to understand what is being experienced in this area. 396 surveys were mailed with 155 responses (39% response rate)
 - 1. 72% have a full basement
 - 2. 27% have experienced a sanitary sewer back-up in the last 10 years
 - 3. 32% experienced basement flooding in the last 10 years
 - 4. 42% have their service leads cleaned or rodded in the last 5 years
 - 5. 8% mentioned tree roots
 - 6. 10% no issues after the service leads were replaced
 - d. Project Timeline:
 - i. Field analysis will be performed over the summer season:
 - 1. Flow metering – measure flows during wet weather events.
 - 2. CCTV review – closed circuit TV inspection of sewer pipes using a robotic device with a camera.
 - 3. Manhole inspections – crews inspect the condition of the manhole looking depth and condition.
 - 4. Smoke testing – method to find ways that groundwater and stormwater are entering the sanitary sewer system. Non-toxic mist travels through the system identifying problems such as leaks, connected downspouts and roof drains. Door hangers are placed 48 hours prior to the testing. It is important to pour water into basement floor drains that may not be used often. These drains may be dry and allow smoke to enter homes or businesses.

- ii. Field data will be analyzed and presented in the Fall of 2016.
- e. Q&A
 - i. Q: Is there a way to require home sellers to disclose previous back-ups, flooding, unauthorized connections to the sanitary system? A: Sellers are required to disclose this information as part of the house sale.
 - ii. Q: How deep is the sanitary sewer and what type of pipe is it? A: It is deeper than all other pipes and deeper than basements. It would typically be 10 feet deep in this area. The pipes are either concrete, clay, or PVC materials. The clay pipe joints were sometimes just pushed together, rather than sealed tightly and could cause stormwater and groundwater to leak into the sanitary pipes.
 - iii. Q: Is this neighborhood all gravity flow? A: Yes, in this neighborhood it is.
 - iv. Q: Do City inspectors review all sewer connections? A: Yes.
 - v. Q: Are there records of the inspections going back to the 1960s? A: It is possible.
 - vi. Comment: The City should have installed power back-ups and definitely notify residents with sump pumps to have a battery back-up.
 - vii. Comment: Years ago orangeburg was used in the Ann Arbor and can collapse and cause back-ups.
 - viii. Q: Do epoxy based liners work? A: Yes, if the pipe hasn't begun to collapse.
 - ix. Comment: The Ulysses/Darlington subdivisions were built at different times. Some have cast iron service lines.
 - x. Comment: Leakage of natural gas into the sewer system is also a concern.
 - xi. Q: Is there a grant writer that can work to locate money to improve the sewer system and coordinate with the county? A: Many of the sewer improvements are funded through the sewer fees. Where ever possible, the City does apply for and use grant and low interest loan funds to pay for projects, however the number of projects and applicants always exceeds the available funds.
 - xii. Q: Where does flow from the sump pump discharge? A: Into the storm sewer pipes in the street.
 - xiii. Q: What is a water back-up? A: It is a system that uses pressurized fresh water to power the sump pump during power outages.
 - xiv. Q: If footing drains are recommended in this area as a result of the study, would the City pay for it? A: In the past, the City paid for mandatory footing drain disconnections until it ended in 2012.
 - xv. Residents with sump pumps are encouraged to visit the City's Sump Pumps webpage, which offers information about backup systems, annual maintenance and tips to keep water out of your basement. www.A2gov.org/sumppumps

7. Next Steps

- a. The community will be involved in evaluating and selecting solutions to potential capacity issues. Further communication with this group will occur later in the Fall to review the results of the field analysis.
- b. An advisory committee will be formed to be involved with the engineering analysis stage.

ATTACHMENT #1

Last Name	First Name
Bailey	Ted
Bird	Marvin
Bovoletis	Laura
Bovoletis	Gust
Dalimonte	Frank
Echlin	Ryan
Eden	John
Enos	Daniel
Ferguson	Charles
Himebaugh	Dan
Kolekamp	Barbara
Mallory	Joyce
Roth	T
Rowe	Judy
Trumpy	Jack
Trumpy	Jane
Zdrojkowski	Wayne
Zdrojkowski	Mary
Project Team	
Baughman	Troy
Byron	Lori
Czachorski	Robert
Patterson	Jeannette
Newman	Teresa
Slizewski	Brian