

August 2017 Rain Event Frequently Asked Questions

On August 28, 2017, the City of Berkley and the southeastern region of Oakland County experienced extreme rain and flash flooding. The purpose of this document is to answer residents' questions regarding this event, what the city is doing in response to this situation and what steps will be taken going forward.

<p>1. How much rain actually fell in Berkley?</p>	<p>Residential rain gauges in impacted neighborhoods registered 4-5 inches of rain between 6:00 PM and 8:00 PM. Neighborhoods outside of the flooded areas registered less than 2 inches of rain.</p>
<p>2. Why did my basement flood on August 28, 2017?</p>	<p>Berkley's and the county's drainage system was inundated by massive rain volumes over a short period of time.</p>
<p>3. How many homes were affected by the 2017 rain event and how does this compare to the 2014 flood event?</p>	<p>We have determined that roughly 700 homes (or 10%) of Berkley households were affected by the severe rainfall on August 28, 2017. Different rain intensities were noted around the city, ranging from 2-5 inches, within two hours. Intense storm cells were tracked through portions of Berkley, Southfield, and Beverly Hills.</p> <p>During the August 2014 flood event, roughly 80% of Berkley households were affected. Four to six inches of rain fell over a four hour period, mostly in southern Oakland, Wayne and Macomb counties. The City of Berkley declared a state of emergency and it was confirmed by the governor. Because of the number of households and multiple counties affected by the event, the governor declared a state of emergency and requested assistance from FEMA.</p>
<p>4. I completed a Notice of Claim Form. Does this mean that the city will pay for my flood damage?</p>	<p>The Notice of Claim provides property owners an opportunity to inform the city that they experienced a sewer back up, as described in Public Act 222 of 2001. Filing the form starts the process. The claims will be sent to the city's insurance company for evaluation and processing, however, it is not a guarantee that property owners will be reimbursed for damages. Each claim will be evaluated on its own merits. After reviewing the claims, the city's insurance company will inform claimants of their decision directly.</p> <p>Public Act 222 of 2001 is the Michigan law that states the conditions of when municipalities become liable for sewer backups. Anyone making a claim for damage or personal injury must prove that the public sewer had a defect. To pursue a claim against a governmental agency for damage resulting from basement flooding, the claimant must first file a written notice of the claim to the agency within 45 days of the date that the damage was discovered. Claim forms are available on the City's website www.berkleymich.org. Hard copies are also available at Berkley City Hall. Homeowners who experienced flooding or backups should also contact their own home owners insurance company for assistance.</p>

5. Will FEMA provide any assistance for this rain event?	No. Based on the city's Emergency Operations Plan, the city is required to exhaust all resources in response to an event before external assistance is requested. City resources were not exhausted on August 28. Berkley did not declare a state of emergency and assistance from external agencies was not requested.
6. Will I have to pay permit fees for flood related repairs?	A request to waive building permit fees for repairs associated with this rain event will be presented for approval at the next City Council meeting.
7. What does it mean to have a combined sewer system?	A combined sewer system uses a single pipe to collect both storm water (rain) and sanitary (waste) water. That means that the combined sewer collects storm/rain water from the street and wastewater flows from homes in a single location and flows into the WRC system's at specific collection points located throughout Berkley.
8. What does a "100 Year Storm" mean?	The term "100 Year Storm" is misleading and commonly misunderstood. Statistically speaking, meteorologists believe that there is only a 1% chance that a storm of this magnitude will happen in any one year period. It does not mean that this type of storm happens once every hundred years.
9. How is the city's sewer system maintained?	<p>The city has a longstanding practice of proactively maintaining its sewer system, investing up to \$350,000 per year on sewer structural lining. For decades, DPW staff has cleaned, inspected and monitored sewer line conditions to ensure optimal functionality. City staff is able to systematically inspect every sewer line in a 2-3 year period. In the last two years, the city invested \$670,000 in grant funds to clean and televise the entire system. There are 50 miles of sewer lines in Berkley.</p> <p>"Televising" the system uses cameras inside the newly cleaned pipes to proactively identify areas for future lining or pipe replacement.</p> <p>The sewer lining program is an important part of the city's preventive maintenance process. For more than 20 years, the city has allocated funding for this program. To date, approximately 16 miles of sewer pipes have been structurally lined.</p>
10. Can the city visually see the condition of the system?	Yes. The city uses camera equipment designed to televise (video record) the system. It allows DPW crews to view the pipes and identify any structural concerns.
11. Why do catch basins have restricted covers?	Catch basins have restricted covers to slow down the rate of storm water entering the system during heavy rain events. Restricted manhole covers prevent greater volumes of storm water from rushing into the system all at the same time.

12. Should I expect my basement to flood whenever the streets flood?	No. Berkley Streets were designed to hold water to delay its entry into the sewer system during heavy rains. This delay also mitigates system backups.
13. What control does the city have over the flow of water into the sewer?	There are no control mechanisms in the city's sewer system. The city's system is entirely gravity fed with no pumps or valves.
14. Did somebody forget to flip a switch during the August 2017 rain event?	No. Both the city's system and WRC's system within Berkley operate on gravity. There are no switches, valves, pumps, levers, or buttons that need to be pushed to move water out of Berkley.
15. I saw DPW crews cleaning the catch basins during the storm. Did they remove a blockage or add something to allow everyone's water to drain?	There were no blockages discovered in the combined sewer system and nothing was added to the drains. DPW crews were out with Vactor truck, after the event, to address a catch basin that was not draining properly and to alleviate some street flooding.
16. If I installed a backflow preventer, would it eliminate basement flooding? If everyone had one, would that pose a problem to the my home or the city's infrastructure?	Installing a check valve would mitigate the potential for sewer backups into the home if installed and properly maintained. It should not pose a problem to the city's infrastructure but there is a chance that property owners may still experience water entering the home through the basement walls, windows or foundation during large rain events.
17. Do the new builds add to the problem?	<p>Not significantly. Less than 4% of the Berkley's housing stock has been rebuilt and the footprint for the new builds do not change significantly.</p> <p>New commercial and multi-unit dwellings are required to meet current design standards, detain storm water flow onsite and release water flows at a slower rate than existing conditions.</p>
18. How much will it cost to upgrade the sewer system?	<p>It is difficult to estimate the cost of such an endeavor. The most effective resolution will require regional cooperation that begin with detailed discussions about the following:</p> <p>1) What capacity (how much storm water) should an upgraded system be able to carry without backups? 2) What type of capacity needs does the city have and how often will that capacity it be needed (e.g., every time it rains; every 3 years; whenever a major storm occurs)? 3) Who and how will the upgrade be paid for?</p> <p>From the Harvard resurfacing project, we know that the cost to upgrade water mains and resurface the road costs approximately \$2 million for one-half mile of road. This project does not include improvements to the sewer system since the Harvard sewer has been structurally lined. Additional funding in the tens of thousands of dollars would be required to increase sewer capacities.</p>

<p>19. Has Berkley spoken to other cities to see what they have done in response to this issue? What solutions have you discovered? Have any costs been determined?</p>	<p>Yes. The city has been in touch with neighboring cities. No solutions were identified and therefore, discussions regarding cost were held.</p>
<p>20. Why didn't the City of Berkley separate the combined system?</p>	<p>More analysis is required to determine if this would be a reasonable and effective approach. It would also be an extensive endeavor that may require action from property owners for the owners' portion of the sewer system. See response to #9 and #18</p>
<p>21. Why didn't Berkley build a holding tank somewhere in the City?</p>	<p>There has been some discussion regarding this approach. More analysis is needed to determine if this would be an effective way to address the dynamics of water flow throughout the city during heavy rain events. See response to #18</p>
<p>22. Can the city install early warning systems that will inform resident of possible extreme weather events?</p>	<p>Meteorologists are often challenged by changing weather patterns and their accuracy is less than 100%. To ensure staff is ready to respond, city leader monitor the national and local weather reports whenever inclement weather is forecasted. Residents are urged to do the same and be prepared to take the appropriate actions when extreme weather events occur.</p>
<p>23. What intermediate steps will the city take to address residents' concerns about this and similar future events?</p>	<p>In addition to continuing ongoing preventive maintenance, sewer lining and monitoring processes, the city will initiate a sewer system capacity analysis. The data may help identify additional capacity alternatives, cost, feasibility and reasonable next steps for Berkley's future given the frequency of extreme weather events. With this information, we will follow up with the WRC and neighboring communities to determine if a regional approach can be identified and implemented.</p>