

August 2017 Rain Event Frequently Asked Questions

UPDATED 10/25/17

On August 28, 2017, the City of Berkley and the southeastern region of Oakland County experienced extreme rain and basement flooding. The purpose of this document is to answer residents' questions submitted at the September 7, 2017 Special City Council Meeting regarding the rain event, and what steps by the city going forward.

QUESTION	ANSWER
1. What is the timing of the Capacity Study?	City Council approved a proposal with the city's engineering firm on October 2, 2017. Findings and recommendations from the Capacity Study will be provided when the work is completed in roughly April 2018.
2. How much capacity is lost with the sewer lining process? Does the interior diameter of the pipe decrease when lined?	There is minimal decrease in the diameter of the lined pipes, which is offset by the lining's enhancement of flow through the pipes at faster speed than it would without the lining. The benefit from this process is the lining material enhances the integrity of the pipes and adds protection from collapse.
3. Can we get a better explanation of what happened during these flooding events (more specifics)?	The Oakland County Water Resource Authority (WRC), City of Berkley and private sewer lines were inundated by massive rain volumes over a short period of time.
4. Why aren't the surrounding communities affected like Berkley during the rain events?	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. We contacted the neighboring cities and determined that they did not experience the same extreme rain volumes as Berkley did.
5. Why didn't the governor declare a disaster as was done in 2014? FEMA will not assist without his action.	Based on the city's Emergency Operations Plan, the city is required to exhaust all resources in response to an event before external assistance from Oakland County or the State of Michigan is requested. City resources were not exhausted on August 28. Berkley did not declare a state of emergency and assistance from the county or state was not requested.
6. What is the age of Berkley's sewer system and when was the last time it was upgraded?	The combined sewer system was constructed in stages between 1920 and 1950. Some storm relief sewers and upsized sewers were constructed in the late 1970's. Excluding the sewer lining, there has been no additional upgrade to the system since that time.
7. What is the maximum flow rate of the sewer system? Can it be adjusted downstream of the system?	Information regarding the flow rate will be provided at the completion of a recently ordered Capacity Study of Berkley's sewer system. The information will help the city identify short term and long term strategic actions that may enhance flow rates. More discussion with WRC is required to determine if improvements to the county system are feasible at this time.

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8. Why do some catch basins have restricted covers and others do not?	It is not clear how locations for restricted covers were initially determined. A review of the existing restricted catch basin program will be included in the Capacity Study.
9. Restricted covers are designed to collect water in the streets. What does this mean? How do they work?	Restricted covers are intended to hold rain water in the street and produces puddling. Storm water is introduced it into the sewer system at a slower rate during heavy rain events.
10. How much of Berkley's is covered by impervious ground cover?	This information will be available during the course of the Capacity Study.
11. Will the flood events from 2014 and 2017 cause property values to decline?	Based on information from Oakland County Equalization, property values have not been affected this by this event. The housing market in Berkley continues to be strong with high demand.
12. How will the market value of my home be affected by the flood events?	<p>The Oakland County Equalization Division analyzed the list of properties reported to have experienced flooding due to the August 28, 2017 rain event. Of those properties, 234 (25%) were determined to have basement finish totaling \$1,717,676 in true cash value, (or \$858,840 in assessed, taxable value).</p> <p>Oakland County will send letters to those property owners, in early November, asking them to contact Equalization Division to report the removal of basement finish as a result of the flooding.</p>
13. What advice can you give on what plumbers to use?	We suggest that residents enlist services from a licensed plumber and consider contacting the Better Business Bureau (BBB) to determine the plumbers' BBB rating.
14. Are you going to adjust our taxes since we can't use our basements?	Your 2017 taxes are not affected. If you have a concern relating to the taxable value of your home for next year, you may contact Oakland County Equalization to discuss those concerns. Their phone number is 248 452-8652.
15. If the restrictor system is properly designed to control the amount of ground water entering the sewers, what difference does the amount of rainfall matter?	Even with restricted covers, there is an ongoing possibility that future rain events will exceed the flow that the pipe network, (WRC, City of Berkley and private sewer lines), can convey.
16. Why such a formal meeting in 2017 but not in 2014 when more residents were affected?	The September 7 th meeting allowed city leaders to interact with residents in a larger venue that would allow residents to hear, first hand, the information prepared in response to the rain event. The format and protocols for this meeting was consistent with regular council meeting.
17. Have you considered alternative forms of water retention outside the existing sewer system?	A few alternatives have been discussed. Data from the recently commissioned Capacity Study will help identify the most viable options along with preliminary cost estimates.

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18. Who approved the drain tile in the park at Cambridge & Oakshire? Did they know the water would drain right to Oakshire and 11 Mile Rd?	We are unable to answer this question. Decision makers involved in the initial sewer construction, that occurred between 1920 and 1950, are not available to provide this information.
19. What is the source used for the rain data reported by the city?	The city reviewed data from the National Weather Service along with information provided by residents who have rain gauges on their property.
20. How accurate are readings from residential gauges? How many 4-5 inch readings were recorded?	We are unable to address the accuracy of residential rain gauges. We received reports of four inches in the 1900 block of Phillips, five inches in the 2600 block of Buckingham and four inches on Cumberland north of 12 Mile.
21. How do I obtain engineering drawings of the system? Has the map of lined pipe been overlaid with the flood map? They seem to correlate.	Due to public health and security concerns, this information will not be released to the general public.
22. What new or preventive measures and studies were done after the 2014 flood that was not done prior to the 2014 flood?	In addition to regular and ongoing preventive maintenance, the entire system has been cleaned and televised. Televising cameras allows city staff to view the condition of the pipes so that the city can proactively plan and budget for future sewer lining or pipe replacement. Within the last two years, the entire system has been cleaned and televised.
23. How and when can these problems be corrected? How will these concerns be addressed?	Information resulting from the Capacity Study will help identify the most viable options and related costs so that system enhancements can be planned and implemented.
24. What is the city going to do to prevent this from happening again?	It is impossible to accurately predict, and impossible to prevent when extreme rainfall or other weather events will occur. The city will consider the most reasonable approach to enhance the sewer system based on finding from the Capacity Study and other discussions with the WRC.
25. What do sump pumps do and where does the water go?	A sump pump removes water from a basin, typically in a basement. The water is then pumped out of the basin, either onto the ground or into a sewer system.
26. Can we add pumps to speed the flow out of the city into the GWK?	This is not a question for Berkley alone. Modifications to the city's sewer system and the GWK drain should be made after careful consideration of the capacity data that will be available in the coming months, conversations with the WRC and additional discussion regarding how any enhancements will be paid for or otherwise financed.
27. Why do some homes flood and others don't? Sometimes the road floods but the homes did not.	There are many variables including elevation, the presence of backwater valves, size of the combined sewer pipes, private pipe system layout and hydraulic grade lines. All of these factors come into play with varying levels of importance when a rain event causes flooding.

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	<p>Also, during a severe rain event different parts of the City can see significantly higher level of rainfall than others, this could lead to increased flooding in the high rainfall areas.</p>
<p>28. There were some reports that newly built homes are not flooding? Why?</p>	<p>Standards for new construction mandate the installation of backwater valves on every fixture in the basement to prevent raw sewage from backing up into the home through toilets, showers, etc. This is likely the reason why newer builds did not have as many instances of flooding, but some were still reported.</p> <p>For existing homes, property owners have the option to install a whole house backwater valve. Some preventive maintenance is required to ensure the valves work properly. Refer to manufacturer specifications to determine preventive maintenance requirements.</p> <p>A permit, from the city's Building Department, is required before backwater valves are installed. Consult with a licensed plumber to determine the proper device for your home.</p>
<p>29. Why were there some reports of silt being deposited in basements as part of the flooding?</p>	<p>Silt is commonly referred to as sand and small particles of gravel. It is not uncommon to see some silt during water backups. Silt can collect in the bottom of private sewer pipes and then be flushed upstream into a basement during flooding events.</p>
<p>30. If the elevation of the southwest side of the city higher than other areas of Berkley, is it possible that a portion of the sewer line clog up? Did pressure build up and eventually clear the blockage?</p>	<p>The city regularly cleans public lines on a 2-3 year cycle. The city has found no evidence that a city line was compromised by a blockage on August 28, 2017.</p>
<p>31. Why does Thomas north of 11 Mile always flood during smaller rain events?</p>	<p>Restricted catch basin covers are in place in the Thomas / 11 Mile Road area. The purpose of restricted covers is to slow down the speed and amount of storm water entering the sewer system during extreme rain events. Roadway flooding can occur as a result of this process.</p>
<p>32. Why did water come up the sewer into my basement less than 30 minutes after it started to rain?</p>	<p>Rainfall intensity can impact the system quickly, especially when 4-5 inches of rain falls within a two hour period.</p>
<p>33. There have been frequent references to what "the system was designed to handle." When was it designed and when was it updated? How does this relate to a gravity based system?</p>	<p>The city does not have design calculations for the sewer system that was constructed in stages between 1920 and 1950. Storm relief sewers and upsized sewers were constructed in the late 1970's. Berkley and WRC's combined sewer system are gravity systems, meaning flows travel through the system by the force of gravity alone. No pumps, gates or valves are present in the system(s).</p>

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34. What will be done to fix the backup issue if it is not considered as "an act of God"?	The number of storms with extreme rainfall is increasing and is believed to be the result of climate change.
35. Why wouldn't the sewers handle the amount of rain this time when in 2014, it was four times as much rain?	In some sections of Berkley, the rainfall totals on August 28, 2017 were similar to the rainfall that occurred during the 2014 flood event.
36. Many residents spent thousands of dollars waterproofing their basements, putting in backwater valves, etc., Why aren't these measures successful?	It is difficult to determine what took place in these situations. Backwater valves require regular preventive maintenance. Without proper maintenance, the backwater valves may fail.
37. Some homes affected by the flood was not listed on the map. Why not?	The maps were generated using information submitted to the city by residents who notified the city by phone or email and by DPW observations during garbage pickups.
38. Can we get a map showing the direction of the flow of each street, each drain and each line up to the GWK?	Due to public health and security concerns, this information will not be released to the general public.
39. Are we sure that this only happened in Berkley?	Neighboring communities did not report significant sewer back-ups into basements on August 28, 2017.
40. Can we get added to the Evergreen-Farmington System?	Drainage districts are determined by elevations and cannot be changed.
41. We receive solicitations each year from a company, stating its affiliation with the city, to provide insurance to cover pipe/system cleaning. What is this and is this a reputable service to engage?	Service Line Warranties of America (SLWA) is a voluntary service line repair program that covers the home owners cost for water line, water supply and drain line repairs. The purpose of the SLWA program is save homeowners the expense associated with repairing or replacing broken or leaking water lines on private property. Residents considering this option are encouraged to research alternatives and contact the Better Business Bureau to get SWLA's BBB rating before engaging this service.
42. Public Act 222 says in order for us to claim damage, we must prove the public sewer had a defect. How are we supposed to do this? It seems like the system is insufficient to prevent sewer backups. Isn't that a defect?	PA 222 of 2001governs the limited circumstances when a municipality may be liable for overflow or backup of a sewage disposal system. In order for a municipality to be liable under PA 222, the claimant must prove, among other things, that a sewage disposal system event resulted from a construction, design, maintenance, operation, or repair defect. Michigan courts have held municipalities are not obligated to build their drainage infrastructure to a size that will protect against backups and flooding caused by extreme rain events. Nevertheless, the City is in the process of studying and exploring feasible ways to reduce basement backups and flooding in the future.

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43. If I had purchased service line maintenance insurance, would it have saved my basement?	The main purpose of the SLWA program is save homeowners the expense to repair or replace broken sewer or leaking water line on their property. It is difficult to speculate how this coverage would apply without more information.
44. Will the City of Berkeley cover my deductible under my flood insurance?	The city will accept all notice of claims submitted as a result of the August 28 th rain event. The claims will be submitted to the city's insurance company and a decision will be made based on state law and terms of the city's insurance policy.
45. According to the information provided by the city, 16 miles of sewer have been lined, an average of 0.8 miles per year. How long will it take to line the remaining 34 miles? How were the sections selected to be lined?	With the current annual investment, it will take rough 35 years to structurally line the remaining pipe. Locations for lining are determined by the results of the televised inspections.
46. Were the sewers lined in the areas where homes did not flood?	There does not appear to be a correlation between back up locations and pipes that have been structurally lined.
47. Why is the city going ahead with the LaSalette project when the sewer system can't handle what's happening now?	<p>Currently the water that falls onto the parking lot at the former school flows unrestricted into the sewer system. However, any development that takes place on site of the former LaSalette school site will be required to install a system to collect the water before it impacts the system.</p> <p>Likewise, the proposed project includes the installation of preventive measures such as additional storm water retention capacity to ensure runoff from the development does not impact existing residential property in the area.</p>