Burlington

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

MEMO

DATE: 2-27-13

TO: Record

FROM: Paul Brandt, FO#6 PfB

RE: Burlington CSO Project

FACILITY: City of Burlington

FACILITY NO. 6-29-09-0-01

On Friday, 2-15-2013, Dennis Ostwinkle and I met with Burlington City staff Steve Hartman, Ryne Thornburg and Chris Clements at Field Office #6. Purpose of the meeting was to discuss the current status and future direction of their CSO long term control plan.

Under the terms of the consent order (2007-WW-22-A1) separation work is in progress in the Harrison and Cascade basins. The order specifies this part of the project to be completed by 11-1-2013.

Mr. Hartman explained they will be constructing an 18" sanitary line inside of the Cascade box sewer much like they did with the Hawkeye sewer. We discussed various questions related to this project:

1. There is a stretch of sanitary sewer line above the Cascade box that runs under a house. Apparently the house was built in the 1970's and the sewer line was already there. Can that sewer be left in place or does it have to be relocated?

2. Manholes for the 18" line in the Cascade box: If standard manholes are required, it will necessitate knocking out the sidewall of the box sewer. The city is looking at building custom manholes inside the box, but would be only about 2' wide. Can these be approved?

3. Environmental/historical/archaeological investigation: For the most part, the work will be conducted inside the box sewer. However, the box sewer is in a hilly, timbered area, so it will be necessary to make a few access points to bring in equipment. Will the environmental/historical/archaeological reviews be required?

4. Mr. Hartman explained that the Cascade box sewer has a relatively flat grade and maintaining a self cleaning velocity in the new 18" line may be a challenge.

5. Condition #8 of the consent order: Once the Cascade sewer project is completed (11-1-2013), the next item (#8) is to construct any overflow tanks "to eliminate all SSO's in the Cascade watershed" by 11-1-2014. The city would like to move this further into the future. They feel more than a year is needed to evaluate the new flows to properly size the overflow tank. Also, the end result may be install a lift station to pump all flow back over the hill to the WWTP and then be able to abandon the "Mississippi Interceptor" where all the Cascade flow goes to now.

6. This involves an explanation of how the Cascade CSO works. Some old file photos are attached on the next page. Normally, sanitary wastewater runs down the box to the "overflow weir". At this point, the flow enters a 10" pipe that continues to convey sewage down the box to the outfall at the Mississippi River, where the pipe continues to a manhole and enters Mississippi Interceptor.

During rain events, the flow in the box will rise until it starts going over the "overflow weir" and runs down the box to the outfall on the Mississippi River, and discharges as a CSO.

With the new system, sanitary wastewater will flow down the new 18" line. There will be a manhole just above the "overflow weir" where the 18" will transition into the existing 10" pipe. If there is an intense enough storm, the manhole could overflow - which would be an SSO. Mr. Hartman explained that he would rather put an overflow near the top of the manhole so it overflows into the box sewer instead of letting it overflow out the top of the manhole onto the ground. This would be a temporary situation until an overflow tank or lift station is built to handle all the flow coming down the new 18" line. Mr. Hartman's question is whether or not this temporary overflow can be approved. This would be another reason to extend condition #8 of the order, since it calls for eliminating any SSO's in the Cascade basin by 11-1-2014.



Cascade – box sewer and overflow weir. Right below concrete weir, note top of bar screen to sanitary sewer.



Looking upstream at the top of the Cascade box sewer. Manhole is what is shown in the photo to the left. Photo also shows terrain in this area.

	← Cascade box sewer outfall. Shows 10" pipe carrying sanitary sewage - eventually hooks up to Mississippi Interceptor.

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xc: Records Section, DNR, Des Moines
File - Burlington municipal, CSO
Eric Wiklund - electronic (NPDES Permits)
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