

This information is based on the September 5, 2013, exception letter requirements for:

Required Isolation of Water in Different Stages of Treatment and Equipment Not Used in the treatment of RR WWTP Effluent.

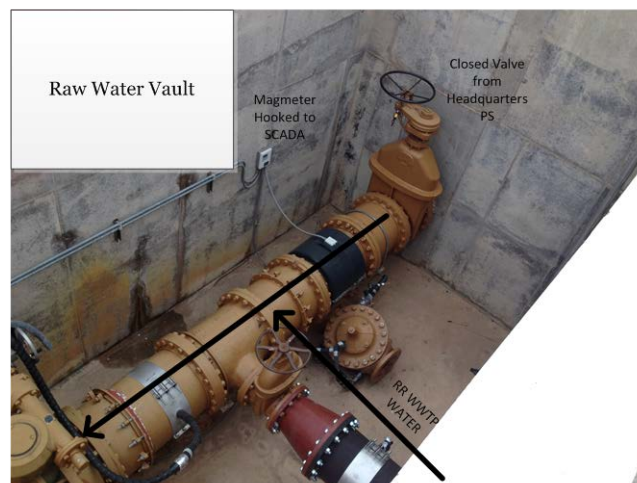
All Engineering plans referred to in blue are from the October, 2013 CWF 13-550-16 plans.

12. Because of concerns regarding introducing contamination into the Lake Kemp/Headquarters Road Reservoir raw water line, 1961 SWTP and 1987 SWTP treatment equipment and associated clearwells and piping, the 3.0-MG, 5.0-MG and 10.0-MG GSTs, and associated appurtenances, the following conditions must be met:

- a. The 2008 SWTP flow control vault's valve located on the Lake Kemp/Headquarters Road Reservoir pipeline must remain closed at all times during the verification testing (and during the proposed six-month temporary discharge of potable water to the distribution system). The City must take the following actions:
 - i. The valve and flow meter after the valve and before the tee must be inspected at least once each eight-hour shift;

*The City will be able to accomplish this by reading the meter and information on the SCADA System and by physically observing the chain around the valve as noted in Sheet 8 Detail 10.

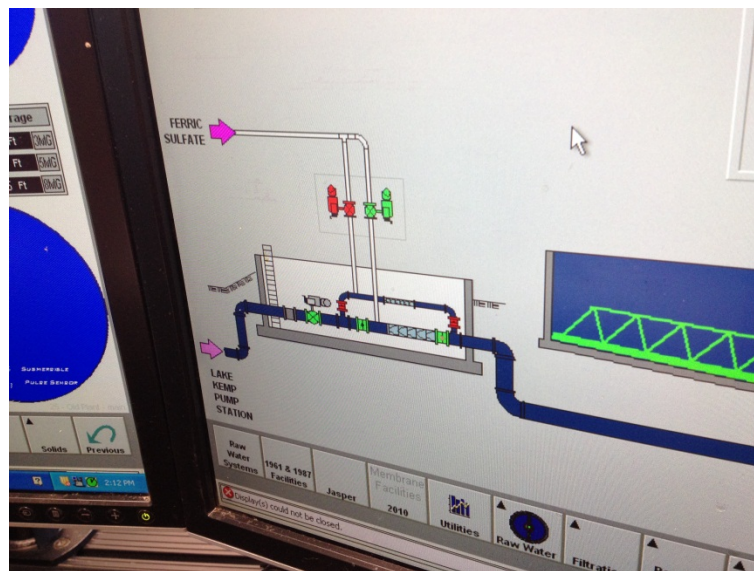
Photograph of 2008 Raw Water Vault with RR WWTP Connection



Photograph of chained valve from Headquarters PS



Photograph of 2008 Raw Water Vault on SCADA



- ii. If leaking of the RR WWTP effluent back into the Headquarters Road transmission pipeline is noted, immediate corrective actions must be taken to stop the leaking and prevent the exposure of the pipeline to the RR WWTP effluent; and
 - iii. The results of the eight-hour visual inspections and any corrective actions must be recorded and included with the Report.
- b. The weir gates in the Cypress Splitter Box to the 1961 and 1987 SWTPs must be maintained closed and:

On January 9, 2013 it was noted that the 2010 and 1961 gates were closed and the 1987 gate was open since the 1987 plant was still in operation.

- i. Visually inspected at least once each eight-hour shift for leakage;
- ii. If leaking from either of these two weir gates is noted, immediate corrective actions must be taken to stop the leaking and prevent the exposure of the 1961 and 1987 SWTPs' pretreatment facilities to the partially treated RRWWTP effluent;
- iii. As proposed by the City in your July 29, 2013 email, the drain valve in the 1961 SWTP settling basin must be maintained open during the verification testing (and during the proposed six-month temporary discharge to the potable water distribution system);

Drain Valve in the 1961 plant was open and the plant was dewatered.



- iv. The drain valve in the 1987 SWTP Parshall flume must be maintained open during the verification testing (and during the proposed six-month temporary discharge to the potable water distribution system); and

The 1987 plant was still in operation on January 9, 2014.

- v. The results of the eight-hour visual inspections and any corrective actions must be recorded and included with the Report.
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- c. As shown in Detail No. 1 on Sheet 2 of the engineering drawings in the PER's Appendix N, also included with your July 16, 2013 letter, the RO membrane permeate 36-inch pipeline from the RO permeate tanks to the 2010 and 1961 SWTP clearwells must be cut (or an appropriate fitting removed) after the RO permeate flow meter and connected to the proposed temporary above-ground, 24-inch pipeline to waste Lagoon No. 3. The 36-inch pipe to the clearwells must have a blind flange installed or be capped to prevent the entrance of contaminants during the DPR WTP's verification testing.

Photograph of photograph of the blind flange and new 24 inch pipeline to waste Lagoon No. 3. Observation was not available since the pipes were buried as shown in Sheet 4 detail 2.



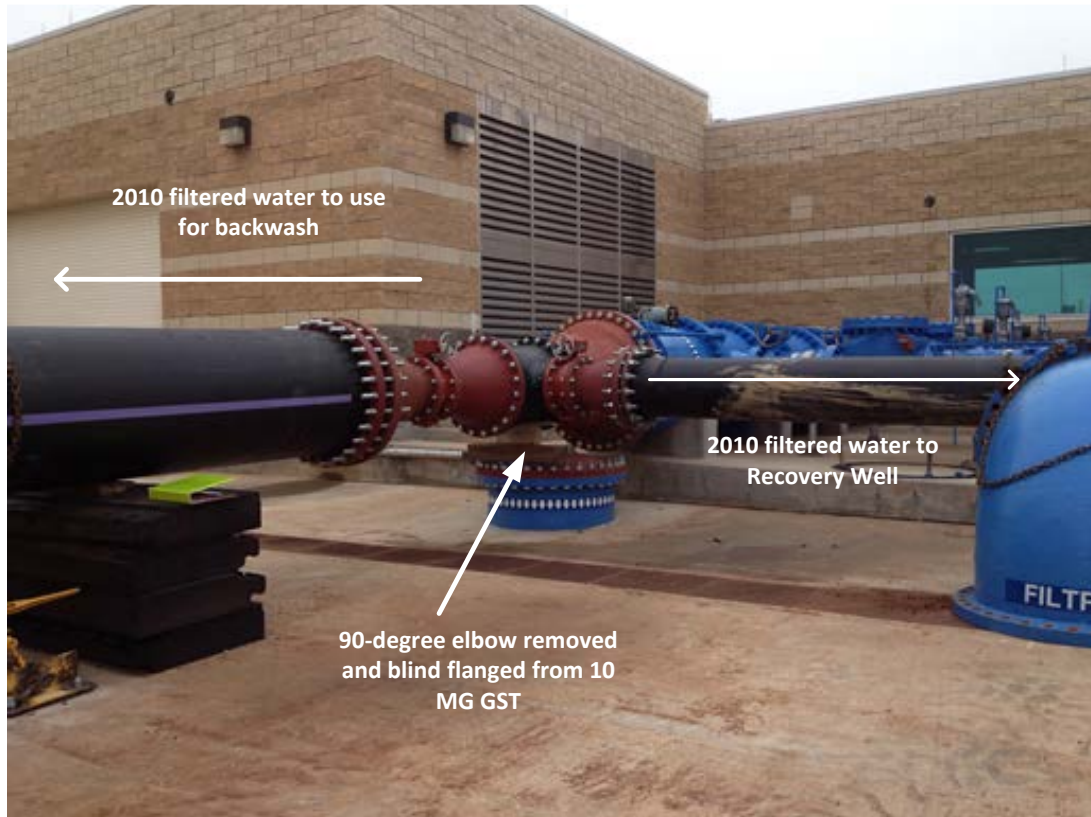
- d. Detail No. 2 on Sheet 2 of the engineering drawings in the PER's Appendix N, also included with your July 16, 2013 letter, must be modified to require a minimum separation distance of nine (9) inches from the bottom of the 24-inch pipe to the top elevation of the waste Lagoon No. 3's berm.

Photograph of 24 inch line from 2008 plant into Lagoon 3 as shown in sheet 4 detail 3.



- e. A 42-inch, 90-degree elbow must be removed (as proposed by the City in your email dated July 29, 2013) from the 2010 SWTP transfer pumps' discharge and the discharge piping connected to the temporary 12-inch, above-ground pipe discharging into the manhole that drains to the 2010 SWTP recovery well located on waste Lagoon No. 2. A blind flange or cap must be installed on the 42-inch pipe to the 3.0-MG, 5.0-MG and 10.0-MG GSTs to prevent the entrance of contaminants during the DPR WTP's verification testing and TCEQ-approved temporary operation.

Photograph of additional piping added from the 2010 clear well to use for backwashing purposes and also 2010 filtered water to the recovery well and the 90 degree piping removed and blind flanged as shown in Sheet 5 detail 4.



- f. Detail No. 4 on Sheet 2 of the engineering drawings in the PER's Appendix N, also included with your July 16, 2013 letter, must be modified to require a minimum separation distance of nine (9) inches from the bottom of the 12-inch pipe to the top elevation of the manhole.

System did not drop the 2010 filtered water into the manhole to the recovery well as detailed on Sheet 2, Detail 7 and Sheet 6 Detail 7. Where the manhole is located they continued the new 18' HDPE line to the recovery well with a 90 degree elbow and extra pipe to drop the 2010 filtered water into the top of the recovery well instead of using the existing 24" line from the manhole.

Photograph of additional 90 Elbow and piping that was not in plans.



Photograph of new 18" HDPE line into the top of the recovery well.



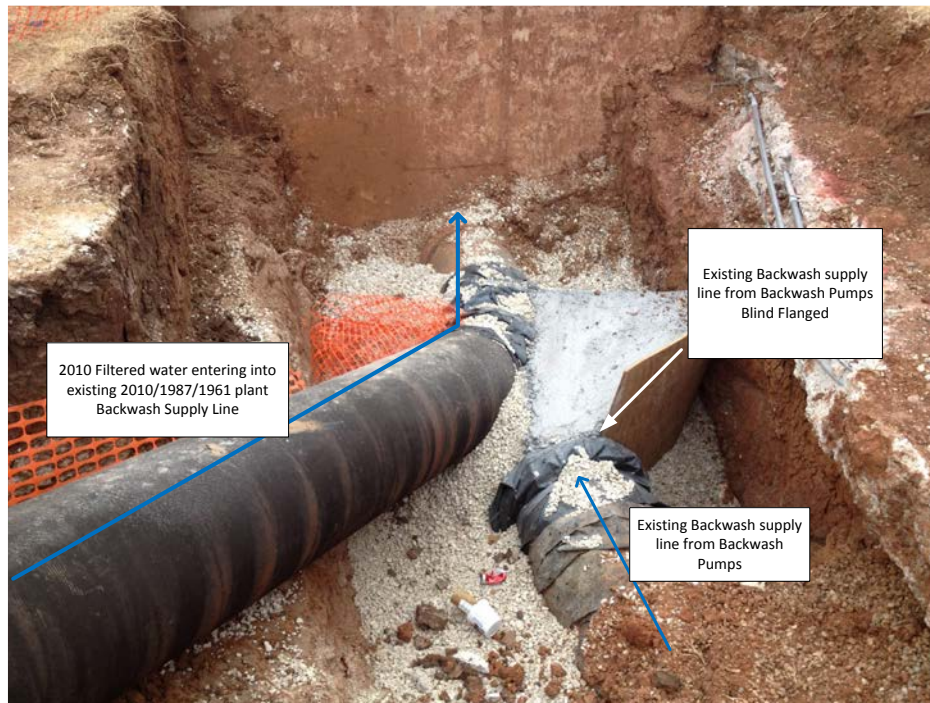
- g. The backwash supply pipe for the 2010 SWTP gravity media filters must be disconnected from the backwash pumps' pipe coming from the Cypress High Service Pump Station during the verification testing. The pipe from the pump station will need to be temporarily plugged or capped at the point of disconnection to prevent the entrance of contaminants. During the verification testing, the City will need to use one of the following methods to supply backwash water for the 2010 SWTP gravity media filters by temporarily connecting the backwash supply pipe at the 2010 SWTP gravity media filters either:
- i. To a pipe from the temporary 2010 SWTP transfer pumps' discharge header (going to waste) with necessary flow and pressure control valves to prevent blowing media out of the filters;
 - ii. Directly to the discharge of one of the 2010 SWTP transfer pumps with any necessary flow and pressure control valves solely for the purpose of backwashing the tested 2010 SWTP gravity media filters; or
 - iii. To a temporary dedicated pump and any necessary flow and pressure control valves that is taking suction from either:
 1. The 2010 SWTP clearwell; or
 2. An acceptable temporary storage tank that will be filled with gravity media filtered water or water from the 2010 SWTP clearwell transfer pumps.

The City decided to utilize 2010 filtered water backwashing purposes. They are going to close off the discharge line to the recovery well and utilize the transfer pumps and the new 24" HDPE back wash line as detailed in Sheet 5, detail 4, detail 5 and Sheet 6 detail 6.

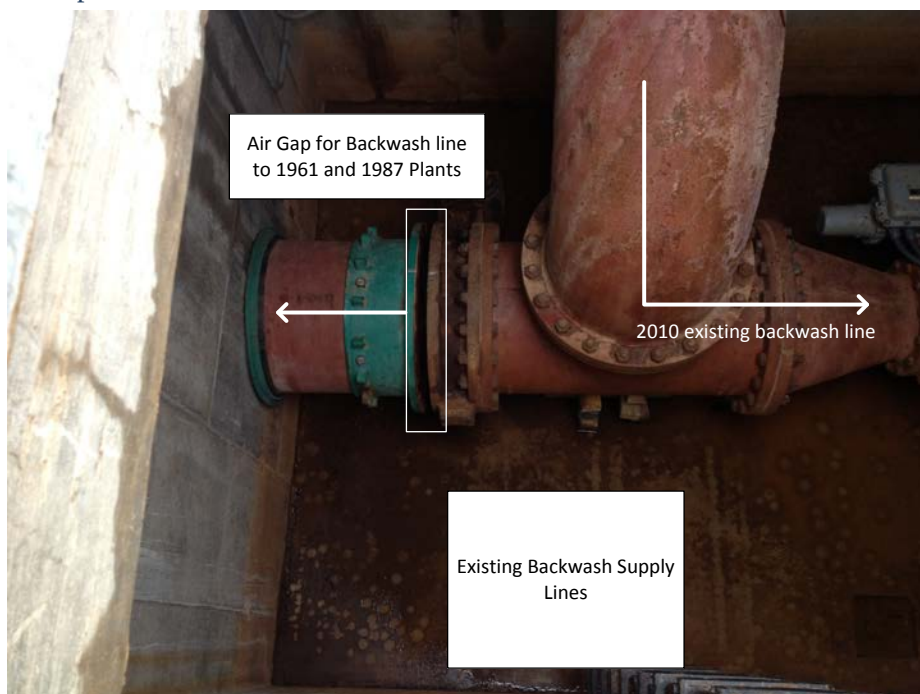
Photograph of the 2010 filtered water from the 2010 clearwell to be used for backwashing.



Photograph of the connection for new 2010 filteres water line for backwash purposies connecting into the existing 1987, 1961 and 2010 backwash line. The Water line from the existing backwash pumps is blind flanged as detailed in Sheet 5, Detail 4.



Photograph of existing modified backwash piping separating the 1961 and 1987 plant from the 2010 plant as detailed in Sheet 6.



Photograph of air gaped backwash to waste piping from the 2010 plant. They cut at this vault instead of at the Effluent Pump station as shown in Sheet 8 detail 1.

