



Site 6 Rehabilitation Update

The Site 6 rehabilitation project is in its final stage of construction with an estimated finish date near the end of April. Goforth Rd., which runs below the dam, is being re-aligned and is scheduled to reopen in March, as long as there are no unexpected delays. Over the last two years weather has significantly hampered the project with a total of 39 suspended work days. Hopefully, there will be fair weather for the duration of the project and it will be



Aerial view of the site 6 Dam rehabilitation project showing the labyrinth weir spillway



Below site 6 and the construction of Goforth road

completed in a timely manner. Once complete, the dam will be able to handle a probable maximum flood (PMF) storm event. A PMF, in short, is the largest storm that could conceivably occur at a particular location. A PMF's determination is based on the historical climate data for the area, along with the hydrological characteristics of a dam's watershed (8.13 square miles for Site 6). The total precipitation involved in a PMF is called the Probable Maximum Precipitation (PMP). Site 6's PMP is 13.3 inches occurring over a 6 hour time period.

Water Conservation Tip:

Now is a good time to check your sprinkler system before the next season arrives. A considerable amount of water use occurs during the summer months due to the irrigation of lawns. Sometimes a failure of these sprinkler systems occurs such as the breaking of a water line, sprinkler head, or valve. The result, if not caught early enough, is excessive water use beyond what is needed. It might even result in a higher water bill. Many newer sprinkler systems are designed to prevent this from happening; however, you may have an older system or one that was not installed with these features. Check with a licensed landscape irrigator to see if you either have a master or flow control valve as a part of your system. These parts function as a safety check when a malfunction occurs and will cut off and stop the running of excess water.



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2017 Water Levels

The table below shows water levels for 8 wells that were measured during 2017, respectively, along with their corresponding lowest recorded water level. If you are interested in finding out the water level in your well and how it compares to other wells in the area, contact us to schedule a time to measure your well. A complete listing of PCCD water levels can be found on our website at www.pccd.org

| Well | 2017 Levels | Lowest Recorded Level |
|--------------|-------------|-----------------------|
| Kosarek | - 46.45 | - 50.8 |
| Larsen | - 18.90 | - 22.8 |
| Lipscomb | - 86.35 | - 93.9 |
| Lockhart #8 | - 73.00 | - 108.0 |
| McCormick #2 | - 65.20 | - 71.00 |
| McCormick #1 | - 70.50 | - 71.75 |
| Collier | - 64.55 | - 70.6 |
| Wells | - 79.95 | - 90.35 |

2017 Water Levels

DISTRICT approves DFCs for GMA 13

At September's Board meeting the Board adopted, by resolution, Groundwater Management Area (GMA) 13's Desired Future Conditions (DFC) as shown in the table below. In short, a DFC answers the question, "how much of the aquifer should we have remaining after 50 years" ? Districts are then required to implement the DFC into their management plan and rules to achieve it. A DFC is an important part of a Groundwater Conservation District because, in many regards, it sums up the purpose of what a district is all about. A DFC is woven into the tapestry of not only state regulation (Chapter 36) but many district rules. When districts establish rules for spacing limits (how far a well should be from a neighboring well), it considers its DFCs. When it sets production limits (how many acre-feet per year a well is allowed to pump) it, as well, looks at its DFC and when it looks at how, when, and where to reduce pumping when there are adverse drawdowns effecting registered water wells, it looks to the DFC.

The bulk of the work for determining a DFC is done through a Groundwater Management Area (GMA) of which there are 16 in Texas. A GMA, made up of individual Groundwater Conservation Districts, are delineated along aquifer boundaries. Through the process of adopting a DFC, GMAs weigh several factors and must select a DFC that provides a balance between the highest practicable groundwater use and the conservation, preservation, and protection . . . of groundwater resources. As one can imagine, this balancing act becomes more difficult as GMAs and Districts are required to consider not only landownership rights but also ever increasing water demands. Using sound science to assist in these decisions is critical. Knowing what the aquifer conditions are, such as recharge rates, water use, storage coefficients, total dissolved solids levels, and historical water levels is vital in managing the aquifer according to its DFC.

GMA 13 DFCs

The first proposed desired future condition for the Carrizo-Wilcox, Queen City and Sparta aquifers in Groundwater Management Area 13 is that 75 percent of the saturated thickness in the outcrop at the end of 2012 remains in 2070. This desired future condition is considered feasible despite model predictions to the contrary as detailed in GMA 13 Technical Memorandum 16-08.

In addition, a secondary proposed desired future condition for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13 is an average drawdown of 48 feet for all of GMA 13. The drawdown is calculated from the end of 2012 conditions to the year 2070. This desired future condition is consistent with Scenario 9 as detailed in GMA 13 Technical Memorandum 16-01

District Approves DFC for GMA 13

Repairs to Several of PCCD's Dams Complete with More to Come

The District has just finished up repairs for several of its dams that were damaged due to the 2015 flood event (May 2015). Following the flood event, PCCD applied for and was granted funding through the Emergency Watershed Protection (EWP) program for several of its dams. The EWP program, administered by the Natural Resources Conservation Service (NRCS), responds to natural disasters, such as floods, by providing financial and technical assistance. NRCS pays for 75% of the cost while the remaining 25% is paid for by a local sponsor. Below is a table listing the PCCD dams that have been repaired, their specific damage, and the associated costs of the repairs.



Site 12 EWP completed construction looking at the upstream embankment with installed riprap

| Dam Number | Specific damage | Estimated Cost of Repair |
|-------------|---|--------------------------|
| 2, 5, and 7 | Auxiliary Spillway Erosion | \$ 79, 929 |
| 10 and 14 | Auxiliary Spillway Erosion & Debris Removal | \$ 65, 597 |
| 11 | Auxiliary Spillway Erosion | \$ 66, 791 |
| 12 | Erosion on the upstream embankment of dam | \$ 668, 618 |

On August 26th, 2017, Hurricane Harvey hit and caused damage to several of our dams (sites 10, 11, &



Significant erosional damage along the face of the upstream embankment for Site 10 following the 2017 flooding.

28). Following a Damage Survey Report completed by the NRCS, PCCD has again applied for EWP assistance to defray the cost of needed repairs. Over the last several years, as in 2013, 2015 and 2017, the District experienced flooding that damaged our dams. Fortunately, financial aid for repairs was available through the federal government. Whether this trend of frequent flooding will continue is not known but, if it does, it is currently uncertain whether the financial assistance received in the past will continue to be available.