



December 7, 2017

Weber County Engineering
Trappers Ridge Phase 7 Storm Water

The following is a summary of the findings from the meeting and discussion Nov. 1st, 2017 with the County Engineer Jared Anderson and Braden Felix. We revised the storm calculations and performed a topographic survey of Basin 2 and 1A to determine the pond's current capacities.

Storm water calculations have been done on Basin 1A, Basin 2, Basin 3 to determine the required storage capacities. Basin 2 also includes part of East Buckhorn Dr. The storm water calculations were based on the following:

- 100 year storm
- 0.1 cfs/acres release rate
- Runoff area for the roadways (the storm water that falls on the roofs and yards is assumed to be negligible due to filtration)

Basins 1A and 2 were surveyed to determine the current capacities of the ponds. Both basins have no outlet control so the capacities were calculated where an orifice and overflow would be placed in the ponds. Below are the current capacities of each pond and the required minimum capacities from the storm water calculations.

Basin 1A:

- Current Capacity: 10,611 CF
- Required Capacity: 9,756 CF

Basin 2:

- Current Capacity: 40,800 CF (with 6' SDMH & grate raised 0.5')
- Required Capacity: 34,086 CF

Basin 3 (New Pond):

- Design Capacity: 1,005 CF
- Required Capacity: 1,005 CF

Gardner Engineering recommends that the developer, Watts, clean out the silt and overgrowth in both Basins 1A and 2. By cleaning out the ponds they will have additional capacity. The storm water needs to be controlled in both basins 1A and 2. In Basin 2, we propose a 4'x4' box with a orifice plate over the existing 30" pipe with a 3" orifice as shown on the plans. We are proposing to raise the rim of the 6' manhole with grate 0.5' and this grate will act as the overflow weir. In Basin 1A we are proposing to install an orifice plate in the north grated inlet box to control the release with the weir being the south grated inlet box. Both ponds have at least 1 foot of freeboard. If the ponds are control are added the ponds will meet the stormwater detention requirements.

Thank you,
Tyler Nielson, P.E. , Gardner Engineering