

# MEMORANDUM

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TO: **City of Lee's Summit Engineering Department**

FROM: **Ronald L. Cowger, PE (AGC Engineers, Inc)**

RE: **Stormwater Detention Memo**

**Lot 4, Oakview**

**Lee's Summit, Missouri**

DATE: **April 5, 2021**

This memorandum is to compare the previously approved Final Stormwater Management Plan prepared by Schlager & Associates, PA (dated July 20, 2018) to the proposed site development plan for Lot 4, Oakview.

The majority of Lot 4, Oakview drains to the Southwest [underground] Detention Basin while the NW corner of Lot 4 drains to the northwest. The proposed Lot 4 improvements are generally consistent with the originally proposed improvements with overall curve numbers less than 2% difference from the previously approved Final Stormwater Management Plan (STUDY). The Lot 4 CN is 93.5 while the STUDY used a CN of 92 globally for the entire 3.06-acre watershed. This minor increase in CN is offset by the time of concentration increase from that used in the STUDY; thereby, decreasing the peak runoff. The STUDY utilized a Tc equal to 5 minutes, the master development construction plans prepared by Schlager & Associates used 5.9 minutes for the enclosed pipe system. We estimate a Tc equal to 7 minutes to the Southwest Detention Basin.

Comparison runoff calculations (based on the entire 3.06-acre drainage area):

## STUDY

Tc = 5 min --> I = 10.3 CN 92  $Q_{100} = 32.18 \text{ cfs}$

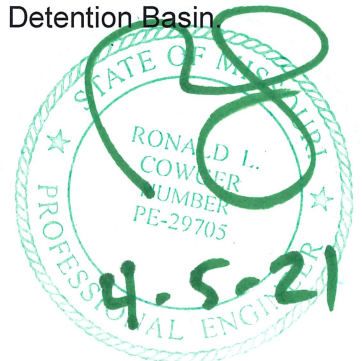
## Tc based on Schlager Storm Pipe Calculations

Tc = 5.9 min --> I = 10.0 CN 93.5  $Q_{100} = 32.52 \text{ cfs}$

## Proposed Lot 4, Oakview

Tc = 7 min --> I = 9.6 CN 93.5  $Q_{100} = 31.05 \text{ cfs}$  (less than the STUDY)

Please advised if you have any questions or comments regarding the above responses.



End