

DRAINAGE SUMMARY

CYPRESS SPRINGS

Wilson Medical Park

September 2010

Location

The Cypress Springs ALZ facility is located on Lot 3 of the Wilson Estates Medical Park 2nd Addition. The site is south of 21st Street North and west of Webb Road. The site drains to the southeast to a reinforced box culvert (RCB) under Webb Road. The storm water then flows to the east through Eastminster and to the south into the Waterfront Addition.

The site was included as a developed land use under existing and proposed conditions for the drainage report for the Waterfront Commercial, Waterfront Residential, and Greenwich Office Park Drainage Report dated August 2007. The hydrologic model used in this drainage report was updated to reflect undeveloped conditions for 8.0 acres of Wilson Estates Medical Park and Wilson Estates Medical Park 2nd Additions that are currently undeveloped. These 8.0 acres include Lot 1, Block 1 of Wilson Estates Medical Park Addition and Lot 3 and portions of Lots 4 and 5, Block 1 of Wilson Estates Medical Park 2nd Addition. This area was previously platted and a drainage plan was approved at the time of platting. The previously approved drainage plan did not require on site detention.

The SCS curve number for the undeveloped 8.0 acres was reduced from 95 to 80 to represent undeveloped conditions. This changed the weighted average of the curve number for Basin 035 from 90.6 to 89.1. The peak discharge flow rates for the various storms are shown in Table 1. The developed conditions information remains unchanged from the August 2007 drainage report.

Table 1. Flow Rates from Beech Lake

Conditions	8.0 acre CN	Basin 035 Weighted Average CN	Flow Rate (cfs)			
			2-Yr	5-Yr	10-Yr	100-Yr
Undeveloped	80.0	89.5	216	389	512	1107
Developed	95.0	90.6	219	392	517	1111

The increases in peak flow rate for the development of the remaining 8.0 acres of Wilson Estates Medical Park 2nd Addition will increase the peak by 3 to 5 cfs in the various design events. This increase is just over a 1% increase in the 2-year increase, less than a 1% increase in the 5-and 10-year storms and less than a half percent increase in the 100-year storm. The effects of this development will be minimal given the 794 acre basin draining to Beech Lake.

Due to the minimal effects of the development of this 8.0 acres remaining to be developed in the Wilson Estates Medical Park and Wilson Estates Medical Park 2nd Additions it is recommended that additional detention not be required in accordance with the original drainage reports for these plats.