



July 17, 2014

Scarborough and Rolader Development  
Brent Holdings, LLC et al  
c/o Ms. Donna Black  
270 North Jeff Davis Drive  
Fayetteville, GA 30214

RE: Report for Post-Development Lake Sediment Assessment  
Vaughn Lake, Cumming, GA

Dear Ms. Black:

At your request, Aquascape Environmental conducted a Post-Development Lake Sediment Assessment for the approximately 5.69 acre impoundment known as Vaughn Lake in Forsyth County (Figure 1). Field activities for this investigation were performed on July 7 and 8, 2014. The purpose of this follow-up investigation was to determine if any adverse sediment impacts resulting from the recent upstream land disturbing activities had accumulated since the previous baseline study conducted on August 22 and 23, 2012. We have developed this report based on our investigation and are pleased to present it for your review.

## 1.0 EXECUTIVE SUMMARY

*Note: This Executive Summary is provided for your convenience only and should not be used in lieu of the full report.*

A follow-up lake sediment study was conducted to gather data regarding sediment and water depths and to collect core samples for assessment. GPS equipment and physical markers were used to replicate the original study performed in August 2012, which set up eight (8) transects across the primary inlet to the impoundment that collects the runoff from the new development. In addition, general observations about impoundment conditions are included in this report.

The information gathered during this investigation indicates there has been a measureable difference in the recorded water depths within the Transect Study Area associated with Vaughn Lake. Our data measured an average loss of water depth of 0.16 feet (1.92 inches) throughout the transect study area. The results of the core sample analysis within the Transect Study Area identified deposits consistent with "recent" sediment impacts that would be attributable to adjacent development activities. The sediment impacts amounted to an average of 0.09 feet of accumulated material extending out to the 150 foot transect. We conservatively quantified sediment impact accumulations to account for ±45.92 cubic yards of material having been deposited within Vaughn Lake.

## 2.0 LAKE SEDIMENT STUDY

### 2.1 General Observations/Notes

- The exact age of the lake is unknown, but based on a review of map information provided by the 1992 United States Geological Survey (USGS) *Duluth, GA* the lake is shown as an original landscape feature. This would date the lake construction prior to 1992.