

CITY OF ST. AUGUSTINE (COSA)

TECHNICAL MEMORANDUM

TO: Design Engineers

DATE: December 15, 2010

RE: Minimum Design Requirements for Dry Retention, Exfiltration, Permeable Paver and Pervious Concrete Stormwater Management Systems

The City of St. Augustine is in the process of implementing a new requirement for the design of Stormwater Management Systems within the City limits. The new requirement is the preparation of a Hydro-geological Report by a Florida Professional Geotechnical Engineer for the proposed Stormwater Management System. This new requirement will facilitate and expedite the City's review process of the proposed Stormwater Management System. The Report information shall be utilized in the design of the Stormwater Management System.

The intent of this memorandum is to specify criteria required to be addressed by a Florida Professional Geotechnical Engineer for proposed Stormwater Management Systems that are designed to retain and recover stormwater runoff within a 72-hour period. This criterion applies to both major and minor developments within the limits of the City of St. Augustine.

The following parameters shall be clearly stated in one section or in a table of the Hydro-geological Report (the parameters should not be buried within the verbage of the Report):

1. Number of borings required within the limits of the proposed Stormwater Management System to characterize the receiving aquifer.
 - ✓ Boring(s) shall be completed in the vicinity of each proposed Stormwater Management System unless otherwise recommended by the Geotechnical Engineer.
2. Base of effective aquifer (B).
3. Estimated normal seasonal high groundwater table (SHGWT).
4. Fillable porosity (%) of aquifer.
5. Weighted horizontal hydraulic conductivity (K_h) of effective aquifer with recommended factor of safety.

- ✓ If the horizontal hydraulic conductivity is estimated via the unsaturated or saturated vertical hydraulic conductivity than that relationship must be clearly addressed in the Report.
6. Unsaturated vertical hydraulic conductivity (K_{vu}) with recommended factor of safety.
- ✓ Unsaturated vertical flow shall only be considered when the SHGWT is greater than 1-foot below the proposed bottom of the Stormwater Management System unless recommended otherwise by the Geotechnical Engineer; and
 - ✓ If the unsaturated vertical hydraulic conductivity (K_{vu}) is estimated via the saturated vertical hydraulic conductivity (K_{vs}) than that relationship must be clearly addressed in the Report.

The above parameters are necessary to properly design a Stormwater Management System for retention basin recovery and require the expertise of a Florida Professional Geotechnical Engineer with local experience. Stormwater recovery calculations that use any of the subject parameters without a current signed and sealed Hydro-geological Report addressing the appropriateness of the parameters for the specific site will not be approved by the City of St. Augustine.



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