Case Study Descriptions

The following four (4) case studies illustrate potential scenarios where Low Impact Development LID could be used to address stormwater quality and quantity management objectives. Each scenario presents a different development or redevelopment opportunity. The objective is to use the case studies to initiate a dialogue on the potential use and issues that need to be addressed in the location, design and review process and long-term administration and maintenance. The case studies do not present the entire range of possibilities or options. These are not to be viewed as comprehensive or complete drainage calculations and site plans, but are to be used to illustrate the concepts and feasibility of the approach. General assumptions on drainage areas, drainage characteristics topography, soils, land use, and other conditions that would potentially affect the hydrologic response of the site are used. A brief description of each case study is listed below.

Case Study One: Residential Single Family Redevelopment

There are an increasing number of single family lots that are being redeveloped. Many of these lots were built before the County adopted stormwater regulations for quantity and quality control. This development generally involves tearing down an existing house and then constructing a much larger house. This increases the amount of impervious area from the house, patios, and driveways, increases soil compaction on the lot, and reduces the number of mature trees. The result is increased nutrient loading, increased stormwater volume and peak discharge. This scenario illustrates how techniques such as bioretention or permeable pavements can be used to meet water quality and potentially stormwater quantity objectives.

Case Study Two: Residential Townhouse Infill

This case study illustrates the redevelopment of a large-lot single family site with an infill townhouse development. Techniques such as aforestation, soil amendments, bioretention cells, and bioretention swales, and permeable pavements are used in the common or open space to meet water quality objectives and potentiall stormwater quantity objectives.

Case Study Three: Commercial Infill

This case study illustrates the potential for the retrofit of an existing strip shopping center with water quality management practices as part of a redevelopment plan. The redevelopment includes a drive through fast-food facility and a new retail strip. Stormwater quantity and quality control are provided for these areas. Retrofit of the existing impervious areas with water quality controls is also shown.

Case Study Four: Big Box Retail

This is a stand alone Big Box Store. These sites typically are large scale changes to the land use that results in large connected impervious areas. The concept design illustrates how to disconnect and distribute the drainage into smaller management facilities to meet water quality and stormwater quantity objectives.