Proposed grades should conform to existing grades to the greatest extent practical and the project should strive to achieve gentle slopes towards the proposed LID SWMFS or the location of proposed stormwater management basins. You will save money on construction costs if the chosen LID SWMF takes advantage of existing grades, which allows stormwater to naturally flow into the area designated for the SWMF. The goal for stormwater management is to meet or exceed the requirement presented in the LDC; this affords an increased level of safety from localized flooding.

1.1 Low Impact Development Concept

The LID SWMF concept is to promote a method of stormwater management that will not adversely affect water quality in or around the area. Generally known as “green infrastructure”, LID SWMF focus on treating stormwater on site via natural infiltration and percolation. The goal is to mitigate negative changes to water quality and groundwater levels by allowing enough natural area for stormwater to naturally infiltrate into the soil. Additionally, it alleviates flooding or extreme changes in stormwater run-off patterns. A LID SWMF is designed and constructed or implemented to control discharges which are necessitated by rainfall events, incorporating methods to collect, convey, store, absorb, inhibit, treat, use, or reuse water to prevent or reduce flooding, over drainage, environmental degradation, and water pollution or otherwise affect the quantity and quality of discharges from the system.

LID is a stormwater management approach that uses a suite of hydrologic controls (structural and non-structural) distributed throughout the site and may be integrated as a treatment train (i.e., in series) to replicate the natural hydrologic functioning of the landscape. LID systems are designed to promote volume attenuation and treatment at or near the source of stormwater runoff via distributed retention, detention, infiltration, treatment, and harvesting mechanisms. A site-specific suite of LID-integrated management practices can be applied to most if not all development scenarios in Walton County. Regardless of the project context, LID requires consideration of the following core site planning and design objectives:

A. Preserve or conserve existing site features and assets that facilitate natural hydrologic function.
B. Reduce stormwater storage requirements for your property by decreasing impervious (paved) surfaces.
C. Promote the distribution of retention, detention, treatment, and infiltration of runoff.
D. Harvest stormwater and rainwater on site.
E. Minimize site disturbance and compaction of soils through low impact clearing, grading, and construction measures.
LID is most effective when a site is evaluated for compatibility as early as possible in the planning process, and site conditions are considered carefully in the design and construction of each LID practice.

It is the goal of LIDs to work with the natural hydrology of a site instead of forcing stormwater to flow in un-natural patterns. Managing stormwater using LID methods takes full advantage of the natural cycles of adsorption, infiltration, and evaporation. By following LID guidelines, you can save on construction costs, as well, as time and effort.

Take note that any type of major ground disturbing activities will require the proper mitigation techniques to reduce erosion and sediment transport.

A. Mitigation approaches include the installation of silt fences, hay bales, geotextile fabrics, turbidity curtains, etc. around the perimeter of the area being disturbed. Guidance associated with the proper methods and techniques can be found in the Florida Department of Environmental Protection (FDEP) Stormwater, Erosion, and Sedimentation Manual. 1, 2

B. Prior to any site disturbance, silt fencing shall be installed around the perimeter.

C. Erosion control measures shall be maintained throughout all phases of construction.
   a) Erosion control mitigation will prevent soil migration off site until permanent erosion control has been established.

D. It is extremely important to remember that all stormwater should be directed away from the foundation of structures.

E. The stormwater retention areas or LID SWMF will be stabilized with sod or the proposed plants within 48 hours with the intent of establishing permanent stabilized ground cover.

F. Once construction is complete, the site must be stabilized with sod or the proposed plants on slopes equal to or greater than 4 feet (ft) horizontal to 1 foot vertical (4H:1V). All other areas will need to be seeded and mulched with the ultimate goal of establishing permanent stabilization.

G. Once the site has been stabilized, silt fencing and all other sediment control devices may be removed and disposed of or reused in accordance with appropriate regulations.

The intent of this technical manual is to provide property owners with options when it comes to small projects such as building a single family home or addition. LID SWMF focuses on treating stormwater on site ultimately reducing the quantity of stormwater leaving a property, which in turn enhances the water quality of nearby streams, lakes, and estuaries. By collecting this valuable resource, the homeowner will have an opportunity to reuse the water for irrigation or other re-use applications. Demonstrating the effectiveness of a stormwater treatment system will be a critical step in permitting a development in Walton County. This document provides guidelines for demonstrating the effectiveness of LID practices associated with meeting the appropriate water quantity and water quality requirements and standards.


LID stormwater mitigation applications work the best when several methods are employed to control stormwater quantity. The effectiveness of the entire LID SWMF must be demonstrated by first quantifying the effectiveness of each individual LID SWMF approach and then determining the overall effectiveness of the entire system. Several key factors must be taken into consideration prior to developing a LID SWMF for your property such as: the size of your parcel and the amount of space available to build the stormwater management system SWMF, soil type, land use, depth to the groundwater table, amount of existing vegetation, and proximity to dunes, wetlands, natural waterbodies, and potable water wells.

The primary goal of stormwater management is to not only move water away from structures and roadways but to slow down the water as it travels across the land. Slowing down stormwater flowing across yards of residential developments reduces erosion and inhibits sediment transport to nearby streams and wetlands. In addition, it allows plants to absorb nutrients and filter out pollutants generated from fertilizers and vehicles. It is imperative that the new LID SWMF be placed in an area that collects stormwater without requiring major alterations to or regrading the land. The primary goal of a LID SWMF approach is to promote infiltration of stormwater on site. To encourage this, the soil conditions must be conducive to allowing stormwater to infiltrate.

*Infiltration is the act of water moving down through the voids between the grains of soil, similar to the way a sponge absorbs water.*

Developing a LID SWMF is an iterative process that takes into consideration a variety of site characteristics. Table 1 provides a brief overview of the LID approaches previously discussed along with the optimal parameters, and maintenance schedules. Certificate of completion forms, Transfer of Ownership forms, and maintenance forms are described below.

1. Once construction of the LID SWMF is complete you will need to submit a Certificate of Completion to the County, this form is provided in Section 1.
2. If the property is sold a transfer of ownership will need to accompany the deed, this form is provided in Section 1.
3. Maintenance forms are provided at the end of each LID in Section 5, these will need to be submitted to the County.
### Table 1. LID Overview

<table>
<thead>
<tr>
<th>LID SWMF</th>
<th>Water Table</th>
<th>HSG Soil Type</th>
<th>Water Storage</th>
<th>Slope</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rain Barrels / Cisterns</td>
<td>High</td>
<td>Any</td>
<td>Minimal to Moderate</td>
<td>N/A</td>
<td>Low</td>
</tr>
<tr>
<td>Rain Gardens</td>
<td>Low</td>
<td>Any</td>
<td>Moderate</td>
<td>Minimal to Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Planter Boxes</td>
<td>Either</td>
<td>Any</td>
<td>Moderate</td>
<td>N/A</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LID SWMF</th>
<th>Water Table</th>
<th>HSG Soil Type</th>
<th>Water Storage</th>
<th>Slope</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree Boxes</td>
<td>Low</td>
<td>A &amp; B</td>
<td>Significant</td>
<td>Minimal to Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Enhanced Shallow Swales</td>
<td>Either</td>
<td>Any</td>
<td>Moderate</td>
<td>Minimal</td>
<td>Low / Moderate</td>
</tr>
<tr>
<td>Infiltration Trenches</td>
<td>Low</td>
<td>A &amp; B</td>
<td>Significant</td>
<td>Minimal to Moderate</td>
<td>Moderate / High</td>
</tr>
<tr>
<td>Pocket Wetlands</td>
<td>High</td>
<td>C &amp; D</td>
<td>Moderate</td>
<td>Minimal</td>
<td>Moderate</td>
</tr>
<tr>
<td>Pervious Pavement</td>
<td>Low</td>
<td>Any</td>
<td>Moderate</td>
<td>Minimal</td>
<td>Moderate / High</td>
</tr>
</tbody>
</table>

### 1.2 LID Stormwater Certification Form

A certification form should be completed by the homeowner or a representative of the homeowner once the LID SWMF is constructed and another one when ownership transfers. These forms need to be submitted to the County.