STATE OF SOUTH CAROLINA

COUNTY OF CHARLESTON

TOWN OF MOUNT PLEASANT

ORDINANCE NO. 23006

AN ORDINANCE TO AMEND VARIOUS SECTIONS OF CHAPTER 155 AND 156 OF THE MOUNT PLEASANT CODE OF ORDINANCES, PERTAINING TO THE CREATION OF A NEW ENVIRONMENTAL PROGRAM TO ENCOURAGE LOW IMPACT DEVELOPMENT (LID) TECHNIQUES FOR MULTI-FAMILY, MIXED USE, INDUSTRIAL AND COMMERCIAL DEVELOPMENT. PROPOSED IS TO ESTABLISH A POINT SYSTEM TO ENSURE MEANINGFUL LID TECHNIQUES ARE INCORPORATED INTO EACH DESIGN, MORE SPECIFICALLY, AMENDMENTS ARE PROPOSED FOR CHAPTER 155.054, GREENSPACE PRESERVATION AND PROTECTION PLAN TO CREATE A NEW SUB-TITLE OF 155.054 RESIDENTIAL GREENSPACE PRESERVATION AND PROTECTION PLAN, AND ENVIRONMENTAL GUIDELINES FOR LAND DEVELOPMENT. ADDITIONALLY PROPOSED IS TO MODIFY 156.201 (J) BUFFERYARDS AND 156.173 AREA AND PAVING REQUIREMENTS.

WHEREAS, Mount Pleasant Ordinances for code sections referenced herein were adopted in 1981, respectively establishing Bufferyard and Paving Requirements, as well as Ordinance No. 18075.

WHEREAS, Mount Pleasant Town Council now desires to amend various sections of Chapter 155 and 156; to establish a new Environmental Program to encourage Low Impact Development (LID) techniques for multi-family, mixed use, industrial and commercial development. Proposed is to establish a point system to ensure meaningful LID techniques are incorporated into each design. More specifically, amendments are proposed for LDR 155.054...
Greenspace Preservation and Protection Plan to create a new sub-title of 155.054 Residential Greenspace Preservation and Protection Plan, and Environmental Guidelines for Land Development, and adding (5) to 156.201 (J) Bufferyards, and modifying 156.173 Area and Paving Requirements.

WHEREAS, the Mount Pleasant Planning Commission held a public hearing on December 14, 2022, to consider amendments to Chapter 156 Zoning Code, herein to the Mount Pleasant Code of Ordinances; and

WHEREAS, the Mount Pleasant Town Council held a public a public hearing on January 10, 2023, to consider amendments to Chapter 155, Land Development Regulations, herein to the Mount Pleasant Code of Ordinances; and

WHEREAS, Mount Pleasant Town Council is empowered with the authority to make amendments to the Mount Pleasant Code of Ordinances, and now believes that it is in the best interest of the Town to so act with respect to the matter described herein.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Councilmembers of the Municipality of Mount Pleasant, in Council assembled, a proposal to amend various sections of Chapter 155 and 156; to establish a new Environmental Program to encourage Low Impact Development (LID) techniques for multi-family, mixed use, industrial and commercial development. Proposed is to establish a point system to ensure meaningful LID techniques are incorporated into each design. More specifically, amendments are proposed for LDR 155.054 Greenspace Preservation and Protection Plan to create a new sub-title of 155.054 Residential Greenspace Preservation and Protection Plan, and Environmental Guidelines for Land Development, and adding (5) to 156.201 (J) Bufferyards, and modifying 156.173 Area and
Paving Requirements. Ordinance shall be and is hereby amended, as specifically detailed herein attached as Exhibit A, B, C, and D.

THIS ORDINANCE SHALL BE EFFECTIVE IMMEDIATELY UPON FINAL READING.
SIGNED, SEALED AND DELIVERED THIS _____ DAY OF ______________, 2023.

__________________________
J.W. Haynie, Mayor
Town of Mount Pleasant

Attest:

__________________________
Christine Barrett
Clerk of Council

__________________________
Mount Pleasant, SC, 2023

Introduced: _____________, 2023
Final Reading: _____________, 2023

APPROVED AS TO FORM:

__________________________
David G. Pagliarini
Corporation Counsel

Page 3 of 3
(Ord. 23006)
EXHIBIT A

§ 155.054 GREENSPACE PRESERVATION AND PROTECTION PLAN, AND ENVIRONMENTAL GUIDELINES FOR LAND DEVELOPMENT.

A Greenspace Preservation and Protection Plan shall be provided in accordance with these requirements for all new residential development consisting of five acres and larger. The cumulative acreage of a multi-phased project in excess of five acres and larger shall be subject to these requirements. Additionally, the provisions of this section shall not apply to nonresidential subdivisions or land zoned MF, Multi-family Residential District.

(A) Intent and purpose. The desired outcome is to provide reasonable utilization of the property while achieving the intent and purpose of this Greenspace Preservation and Protection Plan, rather than to maximize the development capacity of the property.

(1) Intent. The intent is to ensure that development is conducted in a manner that is harmonious with the natural environment and maximizes the quality and survivability of retained vegetation.

(2) Purpose. The purpose is to identify those natural features which should be preserved so that development may occur around those features.

(B) Findings. Mount Pleasant Town Council finds and declares the following:

(1) The existing vegetation requirements have resulted in the excessive removal of natural vegetation during land development; and

(2) To remedy these conditions an amendment to these regulations is now necessary; and

(3) These regulations will include a Tree and Topographical Plan which will form the basis of the arrangement of development on the property, as well as additional areas of preservation to ensure the adequate preservation of natural vegetation along street frontage and internal to the development; and

(4) Council now deems these provisions are in the best interest of the citizens of the Town of Mount Pleasant to accomplish these desires.

(C) Specific requirements.

(1) A tree and topographical exhibit is required to facilitate the preservation of valuable existing natural conditions.

(a) A quantitative and qualitative analysis of the natural attributes of the property shall include the existing grade of the property and the quantity and quality of existing vegetation. A plan shall be submitted enumerating the stated attributes at preliminary staff review and sketch plan application.

(b) Applicant shall submit a site analysis with the following information:

1. Property boundaries.
2. Topography showing one-foot contours, ponds, ditches and any other significant natural drainage features.

3. Survey of protected trees with:
   A. Illustrated protection zones, and
   B. Tree assessment per zoning code requirements.

4. Wetland and critical area delineation, with existing buffers, if applicable.

5. Existing easements.

6. Existing structures, roadbeds and paths.

(2) Additional areas of preservation. The following additional areas of preservation within the proposed development are required based on the factors identified in division (C)(l)(a) and (b) hereinabove:

(a) Street frontage areas of preservation.

1. A minimum 25-foot width natural and undisturbed buffer shall be provided on collector and entry roads (60 feet ROW width or greater).

2. In the absence of existing vegetation replanting is required based on the density and diversity of the representative sampling of 100 square feet (ten by ten) of existing natural vegetation within close proximity to the subject area, comprised of canopy and understory trees and shrubs.

3. Easement treatment. If future utility installation is anticipated, additional area shall be set aside so as not to interfere with the natural and undisturbed buffer. Penetration for utilities should be perpendicular to the buffer and limited to roadway access as a preferred option.

(b) Internal areas of preservation. A suitable amount of natural vegetation shall be preserved within new development based upon the following requirements.

1. Percentage required.

   a. For developments where the minimum lot size is less than 10,000 square feet, a minimum of 30% of the developable land shall be set aside for internal areas of preservation, although more may be required based upon site analysis provided by the tree and topographical exhibit. For the purposes described herein, developable land shall not include fresh and saltwater wetlands, retention ponds and rights-of-way.

   b. For developments where the minimum lot size is equal to or greater than 10,000 square feet, a minimum of 20% of the developable land shall be set aside for internal areas of preservation, although more may be required based upon site analysis provided by the tree and topographical exhibit. For the purposes described herein, developable land shall not include fresh and saltwater wetlands, retention ponds and rights-of-way.
2. *Minimum dimensional requirements.* The minimum dimensional requirement shall be that of the zoning district, and not less in size than the smallest building lot shown on plans or plats.

3. *Connectivity.* Internal areas of preservation shall be integrated amongst the building lots and strategically connected with other greenspace requirements.

4. Planting in the absence of existing vegetation shall be in accordance with the provisions of division (C)(2)(a)2. above.

5. Terraced fill around ponds/wetland areas/buffers is encouraged to meet these requirements.

(D) Street frontage and internal areas of preservation established pursuant to these requirements:

1. Shall be located on separate lots owned by a homeowner's association.

2. Canopy trees shall count towards the minimum 160 inches per acre of retained vegetation.

3. Shall remain in an essentially undisturbed condition except for the following:

   (a) Allowed clearing of an eight foot width corridor for the installation of low-impact physical improvements limited to pervious pedestrian trails and pedestrian benches; and

   (b) One open recreational field per development no larger than 4,000 square feet to allow for active recreation and neighborhood sports.

(E) *Review and approval procedure.*

1. A Greenspace Preservation and Protection Plan conforming to the requirements contained herein shall be submitted at preliminary staff review and sketch plan application.

2. Staff will review the same for adherence to the stated intent and purpose, with such review forming the basis for a recommendation to the Planning Commission.

3. The Planning Commission shall approve, disapprove or modify the plan as deemed appropriate.

(F) Appeals from a final decision of the Planning Commission may be filed in accordance with procedures established by applicable law.

(Ord. 18075, passed 11-13-18)

[New ordinance]

An Environmental Standard shall be provided in accordance with these requirements for all non-residential development as of the **effective date March 1, 2023.** This provision shall apply to nonresidential subdivisions, Multi-family Residential proposals, any mixed-use
developments where parcels are not proposed to be fee simple residential lots HOA amenity centers, utilities and recreational operation facilities.

(A) Intent and purpose. The desired outcome is to implement a program to enhance commercial and nonresidential development through incentivizing and establishing developmental standards in a manner that conforms to the Strategic and Comprehensive initiatives for the preservation and protection of our natural resources.

(1) Intent. The intent is to ensure development is conducted in a manner that utilizes best environmental practices and encourages environmentally responsible techniques through the use of low impact site design and construction methods.

(2) Purpose. The purpose is to use conservation practices, nature-based solutions, encourage the use of advancing energy saving technology, support of eco-friendly materials, advocate for responsible construction methods, improve wildlife habitat and biodiversity, enhance aesthetic value, and to incorporate all areas of protection and preservation of our natural environment through site design and development.

(B) Findings. Mount Pleasant Town Council finds and declares the following:

(1) Future development types and patterns will continue to consist of new commercial, commercial re-development, multi-family, recreational and economic development; and

(2) To implement a program to advance the use of low impact development is in conformance with the Town Strategic and Comprehensive Plans making these conditions an amendment to these regulations is now necessary; and

(3) These regulations will include a point system for measuring and administering fair and consistent standards for implementing low impact development techniques. Points shall be pre-determined by the Environmental Manager or his/her designee based upon effectiveness of pursing overall program intent, proportional financial obligation, level of long-term maintenance associated with the technique; and

(4) Four impacts are categorized as influential to the endeavors of this program. These are 1. Protect, Restore, and Conserve Natural Water Resources; 2. Preserve and Improve Ecosystem Biodiversity; 3. Improve Community Livability, Mobility, Aesthetics, and Well-being; and 4. Promote Energy Efficiency and Sustainable Material Resources.

(5) Council now deems these provisions are in the best interest of the citizens of the Town of Mount Pleasant to accomplish these desires.

(C) Land to which this regulations applies.

1. All land located and annexed with the jurisdictional boundaries and any land to be incorporated through annexation shall be subject to these standards for development.

2. Any land owned by the town, state, county or regional government.
(D) Land uses and development types subject to these standards:

1. All nonresidential development including commercial, industrial, economic development, master planned developments which do not specifically exclude this program, office and business districts, lands located within special overlay districts, public service providers such as recreation, sanitary treatment operation facilities excluding pump and sub-electrical stations.

2. Any development requiring more than four parking spaces including temporary sales offices and trailers.

3. Land disturbance of 0.1 acres or greater located within the boundaries of land subject to these regulations as noted herein as 1 and 2.

4. Structural and nonstructural renovation projects exceeding the total invested value of 50% of the current appraised property value.

(E) Land to which this regulation does not apply.

1. Proposals currently within the development review and approval process as of January 1, 2023. This includes projects submitted for the Design Review Board or Planning Commission prior to the scheduled deadlines. This does not include submittals to town officials for internal review processing.

2. Roadway projects not associated with private subdivision proposals, utility extensions involving sub-surface infrastructure, activity requiring an encroachment permit, activity requiring a temporary permit unless it's a sale trailer on vacant property, and upfit or renovation projects exceeding a total invested value of less than 50% of the current appraised property value, and planned developments approved by council specifically excluding these standards herein.

3. Proposed projects less than 0.1 acre of land disturbance including phased or portions of a larger common plan. These include repairs, modifications, and design changes during construction when the changes do not impact program compliance.

Requirements.

A. As outlined in *The Environmental Guidelines for Land Development* latest edition. Any land development and structural projects meeting the categories of C and D herein shall be subject to and must adhere to standards established within the referenced guide.

B. *The Environmental Guidelines for Land Development* is to be used by the design professional and approved by the Environmental Manager prior to the issuance of a clearing and grading or building permit. Alternative methods of equivalent means to comply with the spirit and intent shall be considered and evaluated based upon satisfying the use of low impact development as defined in Low Impact Development in
Coastal South Carolina: A Planning and Design Guide and standards found in the US Environmental Protection Agency Office of Research and Development.
EXHIBIT B

156.201 Bufferyards (J) Applicable to all buffer areas.

(1) All required plant material must be accommodated within the buffer; except as provided elsewhere herein.

(2) Drainage swales may be placed in the buffer only when trees are not endangered, and only when the swale meanders through the buffer in an unobtrusive manner. These swales may not be designed to hold water, only to direct water. Therefore, ponds shall not be allowed.

(3) With the exception of permitted free-standing signs or utility ground cabinets, structures may not be placed within the buffer. Such utility ground cabinets are discouraged from being placed in a buffer adjacent to a public right-of-way.

(4) Components of the Mount Pleasant Way as indicated by its Master Plan may be placed within required buffers in a sensitive manner. These intrusions shall be reviewed by staff (and DRB if applicable) during the design process to minimize intrusions, protect the quality of the buffer, and minimize impacts on protected trees. Every reasonable effort shall be made to accommodate displaced plantings elsewhere within the remaining buffer.

(5) Where incentives are provided within The Environmental Guidelines for Land Development latest edition, alternative buffer width and uses shall be allowed.
§ 156.173 AREA AND PAVING REQUIREMENTS.

(A) Each parking space shall exclude aisles, maneuvering space, turnaround space, and drives. This precludes "tandem" parking; that is, parking arranged "back to back" where the access to one parking space is through another parking space, unless specifically allowed elsewhere in this chapter.

(B) All parking spaces shall be surfaced with a suitable paving material such as asphalt, concrete or specialty pavers (but not gravel or similar material), except those serving one and two family dwelling units, and other uses requiring or providing six or fewer parking spaces, which may instead be surfaced with other suitable material, as determined by the Zoning Administrator. Exceptions to surface material shall be provided within the Environmental Guidelines for Land Development latest edition, and pursuit to 155.047, where proposals become eligible for LID incentives.

(C) Parking spaces 90 degrees to the travel way aisle shall not be less than nine feet in width and 18 feet in length; however, the paved length of the parking stall may be reduced to 17 feet, provided that curbing or anchored concrete wheel stops are furnished at the edge of paving to allow the vehicle to overhang the landscape area.

(D) Angled parking spaces positioned at other than 90 degrees to the aisle travel way, parallel parking spaces, and one-way travel aisles shall be dimensioned in accordance with recognized standard criteria.

(E) All two-way aisles shall be a minimum of 24 feet in width.

(F) Landscaped areas at ends of parking rows.

(1) The ends of parking rows shall be terminated in a landscaped area, outlined by curb and gutter or concrete wheel stops.

(2) Depth of termination area and height of landscaping shall be determined by preserving a sight triangle within the parking area formed by a long leg of 50 feet and a height of eye of 3-1/2 feet.

(3) Stop signs shall be provided at the transition from the parking area to the public right-of-way.

(4) The preceding landscape requirements shall apply only to surface parking lots and not to parking structures.

(G) For businesses that have drive-through access, parking spaces and travel aisles shall be arranged in a manner that provides sufficient stacking area from the public access driveway to prevent vehicles from backing up into the adjacent roadway.

('81 Code, § 155.98(D)) (Ord. passed 8-13-79; Ord. passed 8-21-84; Am. Ord. passed 6-9-92; Am. Ord. 94029, passed 8-9-94; Am. Ord. 95019, passed 6-13-95; Am. Ord.
99012, passed 4-21-99; Am. Ord. 02024, passed 6-11-02; Am. Ord. 14047, passed 8-12-14) Penalty, see § 156.034
ENVIRONMENTAL GUIDELINES
FOR LAND DEVELOPMENT

Town of Mount Pleasant, South Carolina

Date of Public Hearing
Date of Ordinance Adoption
Effective Date April 1, 2023

TOWN OF MOUNT PLEASANT
100 Ann Edwards Lane
Mount Pleasant, SC 29464

14/23
KEM
Environmental Guidelines for Land Development in Mount Pleasant

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I. Executive Summary

This is an environmental program to guide land development practices in a more sustainable direction by implementing the use of low impact design techniques. The focus shall be on commercial and industrial style site designs and be regulated through the application of a point allocation system.

The Town of Mount Pleasant is a coastal community surrounded by sensitive ecosystems. The health and sustainability of our natural resources has a direct relationship with land development. As land within our jurisdictional borders change, our natural environmental and their ecosystems change. The institution of a program to make a positive change in the direction of land development is town’s greater mission. To set the bar higher and put meaningful incentives in place to direct land development practices in achieving higher environmental standards is the mission of this program. As a local authority on development, our objective is simple – to change the standard course of typical site design by creating a program that lays a path forward in promoting, encouraging, and incentivizing designers and developers to create projects that protect our natural resources. State stormwater standards have been administered on the local level for more than twenty-years while low impact and environmentally advanced technology is readily available for just as many years. Numerous opportunities to encourage the implementation of these enhancements have not been realized and the current heavily focused stormwater standards have only raised the environmental attributes a fraction of the full potential. Following the vision of our Town Comprehensive Plan and the direction of our Strategic Plan, the guiding principles used in the creation of this program are to instill a fair standard reachable without creating a burdening financial hardship, be equitable in allocating value, and produce a meaningful outcome that instills a sense of pride in the community. Therefore, it is vital to establish incentives for higher achievement. These incentives mark thresholds that open a variety of options for exceptions to the land development standards. The underlying goal is to instill a sense of pride in achievement for the applicant through more thoughtful site design and better land development practices by addressing all facets of LID techniques.

Several environmental initiatives from coastal municipalities located in the southeast have been evaluated during the initial phase of developing these guidelines. Many are very focused on stormwater management and watershed computer-based programming. Because of their scale and magnitude, the main driving force behind these indicate a ‘flood first’ approach, which renders the other environmental elements secondary to their primary objective. Although it is important to resolve flooding issues, this program also raises other environmental impactful features along with stormwater remaining as the largest and most impactful non-point source contributor. By moving the Town in a different direction, it gives credence to addressing other elements of the environment by using the potential from numerous cumulative benefits through its guidance of re-development projects for decades into the future. This program is not to be implemented as another watershed-based modeling program that theoretically quantifies the outcome of new development on existing development. These have proven to be impervious
surface-based models requiring an enormous amount of data collection and demand on manpower, which ultimately becomes a costly venture. It is the intent of this program to focus more on the types of development anticipated over the next twenty years by tailoring this program to enhance a full range of environmental site design techniques. Collectively, and over the course of time, this approach will address a wider range of environmental sectors while achieving the goals of our Strategic and Comprehensive Plan.

Evaluating development patterns from the last two decades, along with the future land development potential, a trend emerges towards a more non-residential redevelopment pattern in the future. Therefore, orienting the program towards implementing LID techniques on non-residential redevelopments is the priority. Using the nationally accredited LEED program for our methodology, the program is segmented into four ‘impact categories’. These categories include Protect and Restore Natural Water Resources; Preserve and Improve Ecosystem Biodiversity; Enhance Community Livability and Well-being; and Promote Energy Resiliency and Sustainable Building Practices. Creating a more robust program will inevitably foster a better site design. Derived from this program is a standardized measuring tool for evaluating all types of land development projects in comparison with other site designs. Establishing an easily obtainable threshold is another component coupled with equal distribution of points for each impact category as a minimum standard ensures a balanced approach. Criteria is set carefully at a minimum threshold in a manner that does not discourage land development projects but incentivize projects exceeding the minimum points in the form of land development flexibility. It shall not be the intent of this program to hinder or create barriers to land development but remain focused on laying the groundwork for a more environmentally enhanced land plan.
II. Introduction

2.1 Purpose

The objective of the Environmental Guidelines for Land Development in Mount Pleasant is to enhance the Town’s current development standards. These guidelines are intended to create incentives for developers to incorporate green infrastructure and sustainable designs, with the focus being on all environmental aspects beyond stormwater treatment. It shall be applied to all types of commercial and non-residential redevelopment projects.

MISSION STATEMENT: Move the Town forward by guiding development in a manner that preserves and protects our natural resources through advancing the Town’s environmental policies and regulations.

These guidelines fall in line with the Town’s Strategic Plan and Comprehensive Plan goals and objectives. One goal in the Strategic Plan (2021-2025) to “Protect Neighborhoods and Community Systems” identifies “develop[ing] ordinances that promote environmentally friendly building practices for both Town projects and private projects.” Similarly, the Comprehensive Plan (2019-2029) highlights a long-term focus of “review[ing] areas by watershed for area specific needs for flood control and water quality, considering implementing low impact development design.” Both of these plans, and these specific goals significantly influenced and directed the creation of the Environmental Guidelines for Land Development in Mount Pleasant.

In the development of these guidelines, three guiding principals were used in decision-making and direction. They are as followings:

1. Create a meaningful program fostering positive change for our natural environment.
2. Improve how projects are designed and built without creating an economic hardship
3. Embrace redevelopment as an opportunity

2.2 Growth and Expansion

The Town of Mount Pleasant is located on the east side of the Charleston Harbor and the tidal Wando River. It is bordered to the south by Sullivan’s Island and to the west and northwest, by the City of Charleston. According to the U.S. Census Bureau, the Town is approximately 52.6 square miles, of which 45.1 square miles is land and 7.5 square miles is water.

Over the last few decades, Mount Pleasant experienced a period of momentous population growth and land development. According to the U.S. Census Bureau, population was: 6,155 in 1970; 13,838 in 1980; 30,108 in 1990; 47,900 in 2000; 67,843 in 2010; and 90,801 in 2020.
Mount Pleasant’s unique coastal location offers water-based recreational activities and scenic views that translate into economic opportunities. These two components highlight the importance of protecting our natural resources, especially the quality of our water. Throughout the years, Town Council has prioritized natural resource protection and water quality after experiencing decades of development and growth with minimal environmental guidance and regulation other than normal sedimentation stormwater standards, tree protection, and buffers have been in place.

Environmental consequences of growth and expansion are immeasurable. Quantified only through calculating the progression of developed versus undeveloped square foot area, the detriment to ecosystems through habitat destruction alone is a significant impairment to the surrounding natural resources. Over the last two decades, development of land within the jurisdictional boundaries has grown to nearly 60 square miles, approximately 37,500 acres. As land transformation continues, the environmental responsibility and obligation becomes increasing important for local jurisdictions to change the direction of standard practices to meet the need of our natural environment through better regulations. Mount Pleasant currently has twenty sub-watershed areas within the jurisdictional boundary as shown on Figure 1. SC DHEC has issued a Total Maximum Daily Loading standards on two major waterbodies: Shem Creek and the Wando River. Both historically contain traces of Fecal Coliform and Enterococcus amounts exceeding acceptable levels. As development and growth continue in the Town, it is important to keep environmental consequences at the forefront by utilizing low impact development.

2.3 Watersheds and Waterbodies

The map below identifies the boundaries of 20 distinct watersheds in the Town. These boundaries are defined by topography and stormwater infrastructure connections. The Town currently has two sensitive watersheds that discharge into waterbodies with established total maximum daily loads (TMDL). Shem
Creek has an approved TMDL for Enterococcus. The Wando River has an approved TMDL for Fecal Coliform.

Figure 1.1 Town of Mount Pleasant Watershed Map

2.4 Development Subject to Higher Stormwater Standards

The map below represents the historical development pattern that has occurred in the Town over many decades. Development originated in the southern portion of the Town and slowly spread up and outward to the northern portion. While the colors on this map demonstrate the age of buildings and structures, they also provide insight to the age of infrastructure, such as stormwater ponds, pipes, and roads.

With this map, the red color represents development that occurred before the year 2000 and the green color represents development that occurred after 2000. The year 2000 was chosen as the cut-off date because stormwater control regulations were not yet established to cover small-scale development projects. The year 2000 was also chosen because the life cycle of most stormwater infrastructure is about 20-30 years.

Beginning in 1990, the EPA has issued a series of rules regulating the discharges of stormwater runoff from construction activities and other sources under the NPDES program. The “Phase I” rules, issued in
November of 1990 pertain to industrial activities and "large" construction activities (over 5 acres). The "Phase II" rules became effective on March 10, 2003 and cover "small" construction activities (between 1 to 5 acres).

Therefore, this color scale can identify areas of the Town that may begin to experience deteriorating or lack of adequate infrastructure. The southern portions of Town are predominantly red and contain older developments. This corresponds to very minimal detention and water quality treatment on-site and in the watershed. The northern portions of Town are predominantly green and contain newer developments. This corresponds to more detention, more water quality treatment, and more environmentally friendly sites and watersheds.

Observing the quantity of older development and the decreasing availability of undeveloped land, the Town is projected to experience significant redevelopment of these established areas over the next 20 years.

![Figure 1.2 Development Pattern Exhibit – Age of Development](data from November 2020)

### 2.5 Development Patterns

The map below represents the number of building permits within 1 square mile that have been pulled in the past five years. This map shows a large count of permits in the south end of Town. Recalling the previous "Age of Development" exhibit, a connection is observed between age and the number of permits issued for redevelopment. The Town has already begun to redevelop in the older parts of town. This trend is predicted to expand as it follows the original growth patterns of the Town, with redevelopment projects spreading towards the north over time.
These older, established areas have minimal stormwater quality and quantity treatment, as well as very minimal environmentally conscious site designs. Because stormwater standards are a comparative analysis, existing impervious surface shall remain untreated. Without change in our approach to development, there will continue to be a lost opportunity to encourage sustainable and innovative site designs.

Unmanaged and unregulated stormwater runoff from redevelopment projects will continue to contribute to the stress on waterbodies and natural resources. Even small projects have a cumulative and cascading impact downstream through their lifespan. The need for extra protection and more defined standards to address these projects are evident, based on current trends expressed in the development patterns. The Town is taking a proactive approach to protect the natural environment and improve water quality of our waterways by creating environmental guidelines that encourage sustainable growth.

![Figure 1.3 Current Building Permit Activity Map (data from January 2016 to February 2021)](image-url)
III. TERMS AND CONDITIONS

3.1 Definitions.

Redevelopment – For the purposes of this provision this term applies to any action that results in the alteration of the landscape during construction of buildings or other infrastructure such as parking lots, road, etc. (e.g. grading, land disturbance, removal of vegetation, soil compaction, etc.) such that the changes affect runoff volumes, rates, temperature, and duration of flow. Examples of projects that would fall under “re-development” include structures or other infrastructure that are being reconstructed or preplaced and the landscape is altered. Typical patching or resurfacing of parking lots or other travel areas would not fall under this requirement. Ref EPA 2007 EISA 438 Technical Guidance

Pre-development – means the conditions which existed prior to the initiation of the land disturbing activity in terms of topography, vegetation, land use and rate, volume or direction stormwater runoff. Ref SC Article 3 72-3001.

Post-development – means the conditions which exists following the completion of the land disturbing activity in terms of topography, vegetation, land use and rate, volume or direction stormwater runoff. Ref SC Article 3 72-301.

Low Impact Development - Refer to “Low Impact Development in Coastal South Carolina: A Planning and Design Guide” for green infrastructure design and maintenance requirements. Most often, low impact development is associated with stormwater quantity and quality, but there are many benefits to LID beyond stormwater. The graphic below from the EPA website summarizes the variety of benefits to incorporating more LID practices into a development and community. From saving energy, to increasing property values by improving neighborhood aesthetics, to the improved wildlife habitat and biodiversity, below are a multitude of benefits.

[Diagram showing various benefits of green infrastructure, including community and household economics, crime prevention, nature and greenspace, water quality and quantity, flood management, social capital, recreation and physical activity, noise, and air and surface temperature reduction.]

Encouraging low impact development (LID) is the main focus of these environmental guidelines. Primary purpose of LID practices are to mimic natural occurrences and puts into use techniques that are beneficial to the environment.

**Low Impact Development** – An integrated, comprehensive, engineering design approach to land development that emphasizes conservation, the use of on-site natural features, and maintaining natural processes to reduce stormwater impacts by lessening pollutants and encouraging the pre-development biological and ecological condition of a site. (US EPA, 2014)

### 3.2 Todays Examples in Mount Pleasant

The Town of Mount Pleasant’s Town Hall facility serves as an example for how to implement low impact development techniques into site designs. The parking lots were designed with several bioretention areas that contain a variety of native vegetation. These areas provide habitat for animals, treat stormwater quantity and quality, and facilitate infiltration of runoff to recharge the groundwater table. Town Hall is located within the Shem Creek watershed and within close proximity. Below is a picture of the LID used at Town Hall.
IV. Methodology

4.1 Options for New Standards

In our process to develop these new environmental guidelines for land development, our team considered several options. Pros and cons were evaluated of each option to find the best solution that would provide...
an applicable, tangible, and flexible program while meeting our mission and following our guiding principles.

Option A: Design site plan with natural conditions as the predevelopment standard.
Many redevelopment sites are not required to treat and detain runoff from existing impervious surface. This option focuses primarily on maximizing stormwater volume detention. In this option, it is considered to not account for the existing impervious surface but set the pre-development peak flow rates as they once were in a natural undeveloped state of the property. Therefore, the delta between pre and post runoff rates is maximized causing the designer to account for onsite volume within the site design. The advantages within this approach are the larger detention, the flood mitigation, the groundwater recharge, and runoff treatment through sediment trapping efficiencies. Two disadvantages of this approach are the costs incurred by the property owner, and the omission of the other environmental elements not included in the site design beyond stormwater quality and quantity.

Option B: Environmental Point System
This option establishes a minimum threshold by mandating a site development plan incorporate LID techniques for a development to contain offsetting impacts. The benefit to a point system is it can evenly distribute the use of a variety of techniques available giving significance to techniques. It can incorporate a range of elements to address a targeted pollutant. It allows design flexibility and opportunity to make a selection according to the site characteristics. Because the environmental benefits associated with LID techniques are often very hard to measure or are non-quantifiable, it gives value to each element according to the targeted environmental benefit. Ultimately, this option allows the property owner to implement the LID techniques that are most applicable to their site characteristics and budget constraints. By utilizing a point system, different LID techniques can be assessed and compared by their contribution of achieving the program's goals.

Option C: Environmental Point System with Incentives
This option expands Option B with the addition of incentives. Incentives in the form of recognition, awards, flexibility with land development regulations, or annual fee reductions are offered to developers that “go above and beyond” the bare minimum threshold to earn more environmental points. This option still makes LID a requirement, but it encourages innovation and more creative designs to maximize points, while potentially softening any financial burden.

Option D: Environmental Point System with Buy-out Program
This option continues to expand Option B and C with the addition of a buy-out program. Property owners are given the opportunity to purchase the minimum required environmental points or additional points to earn incentives. The money generated from this program would be placed in a Town environmental fund. The funds generated from this program would be used to enhance the environmental attributes of the larger basin. The benefits to this would be comprehensive environmental enhancement for the larger common good of the Town, positive impact to older developments that may not have been developed with environment in mind, and the ability to control the type of treatment and LID techniques that are utilized. The disadvantage is the creation of a labor-intensive demand to manage, the unknown time for funds to accumulate to reach full potential, and the burden of implementation and long-term maintenance obligation. Improvements would primarily be located within a utility congested and constrained area of the road right of way.

After analyzing the options described above, our team selected to move forward with Option C.
4.2 The Point System

This subsection describes the methodology behind assigning points to different low impact development techniques. Since the benefits associated with different LID practices are very hard to measure and quantify, these environmental guidelines took inspiration from an established and credible program – the methodology behind the LEED v4 Certification Program.

The LEED program assigns credits to green building practices through the use of impact categories. These impact categories are described as the areas of concentration for the program and are used to evaluate the relative contribution of each credit in the rating system. See the graphics below.

For the Towns' environmental program, four unique impact categories were created that outline the main focus and goals. The first impact category, Protect, Restore, and Conserve Natural Water Resources, focuses on encouraging LID practices that address stormwater quantity and quality, groundwater recharge, filtration, flood control, and other water-related concerns. The second impact category, Protect and Improve Ecosystem Biodiversity, refers to enhancing the variety of plants and animals in the environment. By improving biodiversity, the resiliency, adaptability, and productivity of an area also improves, especially against natural disasters. The third impact category, Improve Community Livability (Mobility, Aesthetics, Well-Being), is a broad category that was created to capture the influence developments have on the general public, the citizens of the Town. Maintaining a livable, or enjoyable, town is a goal for this program. The fourth and final impact category is Promote Energy Efficiency and Sustainable Material Resources. This impact category addresses the energy consumption practices of a development, the building materials, and overall best practices for sustainable sites.

1. Protect, Restore, and Conserve Natural Water Resources

2. Preserve and Improve Ecosystem Biodiversity

3. Improve Community Livability (Mobility, Aesthetics, Well-Being)

4. Promote Energy Efficiency and Sustainable Material Resources

These four impact categories are used to analyze the relative significance and contribution of various low impact development practices. A rating of high, medium, low, or null, are given in each impact category.
for every LID technique, in a matrix style approach. See below graphic. A point value is assigned to each rating: high = 15 environmental points, medium = 10 points, low = 5 points, null = 0 points.

The methodology outlined above creates a measurable and robust program that has the flexibility to evolve overtime. See Appendix for Point Association Table.

4.3 Assignment of Points

Points are pre-determined for each technique and derived from careful consideration to the cost, availability, effectiveness of the treatment, long term maintenance obligation, and innovative technological advances.

For instance, an applicant selecting the use of pervious pavers, environmental points would be high when considering the cost burden associated with this selection. Therefore, a total of 75 points are allocated to this LID technique. Conversely, the installation of electric vehicle designated parking is a low expense to the owner and assigned 5 points.

The following is a list of commonly used LID techniques.
<table>
<thead>
<tr>
<th>Wildlife Corridor or Bufferyards Connectivity (to neighboring property existing green space)</th>
<th>Protect, Restore, and Conserve Natural Water Resources</th>
<th>Protect and Improve Ecosystem Biodiversity</th>
<th>Improve Community Livability (Mobility, Aesthetics, Well-Being)</th>
<th>Promote Energy Efficiency and Sustainable Material Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**INTENT**
Encourage and expand continuous natural space between properties, thereby providing a wildlife corridor for animals to safely move about and improve access to food and water.

**CRITERIA**
- Increase buffer square footage by 10% to earn allocated points in each category
- Increase buffer square footage by 5% to earn half the allocated points in each category
- Extra 15 points for providing a green/walking corridor through the site to connect to adjacent property (continuity to protected area or buffer)

*must be in addition to minimum buffer requirements*

<table>
<thead>
<tr>
<th>Use of above ground green infrastructure for SW management</th>
<th>Protect, Restore, and Conserve Natural Water Resources</th>
<th>Protect and Improve Ecosystem Biodiversity</th>
<th>Improve Community Livability (Mobility, Aesthetics, Well-Being)</th>
<th>Promote Energy Efficiency and Sustainable Material Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**INTENT**
Encourage stormwater management practices that improve water quality treatment, reduce runoff volume, provide protection of habitat biodiversity, and replicate the natural hydrology of the site.

**CRITERIA**
- Designed to capture minimum 25% of site generated stormwater volume
- Existing GI onsite can be counted towards points
- Designs must comply with standards outlined in SC Lowcountry LID Manual

<table>
<thead>
<tr>
<th>Use of underground detention with infiltration for SW management</th>
<th>Protect, Restore, and Conserve Natural Water Resources</th>
<th>Protect and Improve Ecosystem Biodiversity</th>
<th>Improve Community Livability (Mobility, Aesthetics, Well-Being)</th>
<th>Promote Energy Efficiency and Sustainable Material Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**INTENT**
Encourage stormwater management practices that promote infiltration, thereby proving groundwater recharge, water quality treatment, and reduced runoff leaving the site.

**CRITERIA**
## Reduction of Impervious Surface (from existing conditions)

- Designed to capture minimum 25% of site generated stormwater volume
  - *excludes underground detention w/o infiltration
  - *existing underground detention with infiltration onsite can be counted towards points

| INTENT | 15 | 0 | 10 | 0 |

**CRITERIA**
- Reduction by at least 20% earns the allocated points in each category
- Reduction of 10% earns half the allocated points in each category

## Protection or Restoration of Natural Habitat

- Improve ecosystem biodiversity through the conservation of existing natural vegetation and the restoration of damaged areas or habitats.

| INTENT | 10 | 15 | 5 | 0 |

**CRITERIA**
- 10% of total site area earns the allocated points in each category
- 5% of total site area earns half the allocated points in each category
- Obtaining National Wildlife Federation Certificate earns the allocated points
  - *excludes required critical line buffers

## Critical Area Buffer Restoration

- Enhance the resiliency of the natural environment, protect local marsh ecosystems, and provide additional water quality treatment through the protection and restoration of critical area habitat. Restoration involves planting or replanting of native vegetation with plants indigenous to the immediate area and arranged in a natural random pattern.

| INTENT | 15 | 15 | 10 | 0 |

**CRITERIA**
- 10% of total critical area restored earns the allocated points in each category
- 5% of total critical area restored earns half the allocated points in each category
<table>
<thead>
<tr>
<th><strong>Tree Canopy Expansion</strong></th>
<th>AND/OR</th>
<th>• Protect an additional 10 feet riparian area above critical line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td><strong>INTENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage the retention of existing canopy trees and the addition of tree canopy, thereby protecting wildlife habitats, reducing air pollutants, enhancing property aesthetics, and promoting stormwater infiltration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CRITERIA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Retain 25% of existing total canopy (must provide survey of existing tree canopy)</td>
<td></td>
<td>AND/OR</td>
</tr>
<tr>
<td><strong>AND/OR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Increase existing canopy by 20% earns the allocated points in each category;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Increase existing canopy by 10% earns half the allocated points in each category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*must be in addition to protected tree requirements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Pollinator Garden Installation</strong></th>
<th>AND/OR</th>
<th>• Install educational or descriptive sign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support and maintain pollinators (butterflies, bees, and hummingbirds) by providing food and habitat. Pollinators help the ecosystem by pollinating plants and crops for humans and other animals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CRITERIA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Minimum 100 square feet in size and containing 8 different plant species (can be spread out across the site, doesn’t have to be in one area)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Manufactured Water Quality Protection</strong></th>
<th><strong>INTENT</strong></th>
<th>The intent of this technique is to encourage additional water quality protection and treatment, especially for sites that may not have existing water quality treatment or are located in a sensitive watershed.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERIA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Installation of at least one MTD or two permanent inlet inserts to capture oil and other pollutants to treat at least 50% of the total site area earns the allocated points in each category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Installation of at least one MTD or two permanent inlet inserts to capture oil and other pollutants to treat at least 25% of the total site area earns half the allocated points in each category</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## MPW Irrigation Conservation Practices

**INTENT**

Promote outdoor water conservation and encourage smart irrigation practices to reduce potable water usage, especially during peak demand times.

*S* incentive earned for participation = annual review of the criteria for this technique, and an audit of yearly water use will be conducted with recommendations to save water and money on monthly bill.

**CRITERIA**

- Must complete all items:
  - Irrigation timer set for specific hours between midnight and 5 AM
  - Irrigation days set to Tuesday and/or Thursday and/or Saturday
  - Rain detector installed on irrigation system (prevents irrigation when raining)
    - Completed registration in MPW WaterSmart program
  - And one of the following:
    - Capture at least 120 gallons of water, to be reused
    - Use of stormwater pond water for irrigation
    - Installation of no irrigation required landscaping on at least 50% of property

*S*Irrigation times, registration, and paperless billing will be checked in first month.

## Water Reuse Techniques (indoor)

**INTENT**

Promote indoor water conservation and reuse techniques to reduce potable water consumption and preserve natural water resources.

**CRITERIA**

AND/OR

- Installation of energy star-rated appliances or low-flow fixtures/fitments

AND/OR

- Installation of other indoor water reuse system to be reviewed by staff

*S* excludes stormwater; stormwater capture and reuse for indoor usage is prohibited.

## Energy Conservation/Efficiency Features

**INTENT**

Promote optimization of energy performance and reduce energy consumption. The intent is to build resiliency and reduce the environmental impacts associated with excessive energy use.

**CRITERIA**

- Examples: passive cooling, optimal use of natural lighting, high efficiency lighting with occupancy sensors for common areas, Energy-Star rated appliances

*S* staff will confirm proposed features meet criteria of energy efficient
<table>
<thead>
<tr>
<th><strong>Renewable Energy Sources</strong></th>
<th><strong>INTENT</strong></th>
<th>0</th>
<th>5</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERIA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage cleaner and renewable energy sources to reduce the environmental impacts associated with a dependency on fossil fuels.</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Use of Low Emitting Materials</strong> (paints or adhesives, and materials composed of less harmful substances)</th>
<th><strong>INTENT</strong></th>
<th>0</th>
<th>15</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERIA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve indoor air quality by reducing the concentration of harmful chemicals and protect the health and well-being of the building occupants.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• At least 75% of permanent materials to be used must meet low VOC emission standard</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Use of Roof and Paving Materials that have High Reflectance</strong></th>
<th><strong>INTENT</strong></th>
<th>5</th>
<th>10</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERIA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The intent of this technique is to reduce the urban heat island effect and the environmental consequences associated with higher daytime temperatures.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Installed on at least 50% of total area contributing to urban heat island effect (roof area or drive area) earns the allocated points in each category</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Installed on at least 25% of total area contributing to urban heat island effect (roof area or drive area) earns half the allocated points in each category</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Reuse or Recycling of Brick, Concrete, and Asphalt Demolition Materials</strong></th>
<th><strong>INTENT</strong></th>
<th>0</th>
<th>5</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERIA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The intent of this technique is to reduce construction and demolition waste disposed of in landfills through reusing, recycling, and conserving materials.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Divert at least 25% of total construction demolition waste</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>INTENT</strong></th>
<th>0</th>
<th>5</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled Building Materials</td>
<td>Promote the use of recycled materials to reduce the environmental impact and greenhouse gas emissions associated with the production of new building materials, and to conserve resources for future generations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRITERIA</td>
<td>• At least 15%, by cost, of the total value of permanently installed building products in the project</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTENT</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use of Locally Sourced Materials</th>
<th>The intent of this technique is to reduce emissions associated with long distance shipping and transportation, and to support local businesses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITERIA</td>
<td>• At least 30%, by cost, of permanent site and building materials must be harvested, manufactured &amp; sourced within 500 miles</td>
</tr>
<tr>
<td>INTENT</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Noise Pollution Reduction Techniques</th>
<th>Encourage noise reducing or minimizing techniques to protect wildlife ecosystems, building occupants, and community members from excessive noise.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITERIA</td>
<td>• Examples: sound barriers at locations of engines/motors, enhanced insulation, increased setbacks from noisy commercial operations, higher grade equipment with lower noise rating</td>
</tr>
<tr>
<td>INTENT</td>
<td>0</td>
</tr>
</tbody>
</table>

*staff will confirm proposed features meet criteria of noise pollution reduction

<table>
<thead>
<tr>
<th>Light Pollution Reduction Techniques</th>
<th>The intent of this technique is to improve outdoor energy efficiency associated with lighting and protect wildlife habitats from excessive outdoor light use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITERIA</td>
<td>• Automatically turn off all outdoor signage and lighting between 10pm and 7am, except for security lighting</td>
</tr>
<tr>
<td>Category</td>
<td>AND/OR</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Parking spaces that are signed/reserved for carpool, hybrid, electric, and low energy vehicles in preferred locations near primary building entrances</td>
<td>Install light reduction shades on all outdoor light fixtures (cutoff fixtures)</td>
</tr>
<tr>
<td></td>
<td>Install smart controls on all outdoor light fixtures</td>
</tr>
<tr>
<td></td>
<td>Other technique, will require Town approval for points</td>
</tr>
<tr>
<td></td>
<td>Promote carpooling and use of vehicles with alternative fuel sources to reduce pollution associated with conventionally fueled motor vehicles.</td>
</tr>
<tr>
<td></td>
<td><strong>CRITERIA</strong></td>
</tr>
<tr>
<td></td>
<td>Equal to 5% of total required parking spaces</td>
</tr>
<tr>
<td>Provide Electric Vehicle Charging Stations</td>
<td><strong>CRITERIA</strong></td>
</tr>
<tr>
<td></td>
<td>Stations for minimum of 2% of total required parking spaces (round up)</td>
</tr>
<tr>
<td></td>
<td>Promote use of vehicles with alternative fuel sources to reduce pollution associated with conventionally fueled motor vehicles.</td>
</tr>
<tr>
<td>Bicycle Amenities</td>
<td>Encourage bicycle use to reduce dependency on motor vehicles, thereby reducing greenhouse gas emissions and improving public health by supporting recreational physical activity.</td>
</tr>
<tr>
<td></td>
<td><strong>CRITERIA</strong></td>
</tr>
<tr>
<td></td>
<td>Two bike racks, in addition to requirement</td>
</tr>
<tr>
<td></td>
<td>Bicyclist accommodations including enclosed bicycle lockers, personal lockers, employee shower facilities and dressing areas</td>
</tr>
<tr>
<td></td>
<td>Must design functional entry to site for pedestrians/bicyclists, such as connections to sidewalks or trails</td>
</tr>
<tr>
<td>Access to Quality Transit (or alternative)</td>
<td><strong>CRITERIA</strong></td>
</tr>
<tr>
<td></td>
<td>Promote easy access to alternative modes of transportation and reduce motor vehicle use. The intent is to reduce greenhouse gas emissions and other air pollutants associated with motor vehicles.</td>
</tr>
<tr>
<td></td>
<td><strong>CRITERIA</strong></td>
</tr>
<tr>
<td></td>
<td>Public transit stop within 1/4 mile walk of the project site</td>
</tr>
<tr>
<td></td>
<td>Connect sidewalk to existing public sidewalk or walkway</td>
</tr>
</tbody>
</table>
V. New Environmental Guidelines

5.1 Program Structure
The program format contains three thresholds for achievement. These thresholds or Levels are point-based and reached by increments of 100. To set a minimum standard for the program, each eligible project is to exceed Level 1 threshold with equal distribution of at least 25 points per Impact Category. To reach Level 2, the even distribution for each Impact Category is not required. This encourages and recognizes the voluntary component of the program. Similarly, Level 3 is a placeholder for future expansion of the program and not structured to have an even distribution of points per Impact Category. This program is open to technological and designer innovation. Therefore, points can be assigned as needed to alternative approaches and techniques not specifically listed in the Point Distribution Table. A
schematic diagram is provided for clarity below.

Level 1, Minimum Environmental Points per Project = 100 points

25 points – Protect, Restore, and Conserve Natural Water Resources
25 points – Protect and Improve Ecosystem Biodiversity
25 points – Improve Community Livability (Mobility, Aesthetics, Well-Being)
25 points – Promote Energy Efficiency and Sustainable Material Resources

Level 2, Minimum Threshold for first level of incentives - Total 200 points.

Level 3, Minimum Threshold for second level of incentives – Total 300 points.

5.2 Exemptions

Minimum standards for projects not exceeding 5000 square feet of land disturbance.

To maximize flexibility within the program, projects disturbing less than 5000 square feet shall be subject to special criteria complimentary to the scale of the disturbance. Each project less than 5000 square feet shall have criteria of 20 points for each 1000 square feet of disturbance up to the threshold for special criteria. There is to be at least one point earned for each impact category. See below for schematic.
5.3 Incentives for Level 2 and Level 3

One of the guiding principles for developing the program is to "Improve how projects are designed and built without creating an economic hardship." Shifting the approach from a mandated ordinance to a partnership format is fostering good relationships and demonstrating Mount Pleasant’s willingness to form positive public-private partnerships. A lasting, positive program is paramount to success environmental land development program. There is a direct correlation between pride and ownership in design and construction with maximizing the effectiveness of the environmental impact. If pride is not instilled in implementation and maintenance, evidence will be first seen in the degradation of the LID site feature.

The intangible benefit to the property owner and the Town is the aesthetic value this program brings to the visual appearance of development. One trademark of a successful retail business is the look and feel of the site and building. LID elements bring this value to the business, and in turn, enhance the town to those visiting and frequenting the business.

A site plan with more than 200 points accumulated as outlined in Minimum Standards section have the following as available opportunities for exemptions to specific zoning code standards allowing maximum site design flexibility.

1. Exemption from the Zoning Code Bufferyard requirements for adjoining property lines with public and private non-residentially designated land uses.
2. Ability to design stormwater conveyance and infiltration within any bufferyard area.
3. Use of pervious pavers and gravel for parking spaces not exceeding 20% the number of total spaces.
Value added from Incentive 1 affords the property owner more developable area. This offsets the expense of implementing most LID techniques. Incentive 2 benefits the property owner through reduction in infrastructure and pond volume. In turn, affords more developable area, and reduces infrastructure needs. Incentive 3 removes the prohibition of porous material for parking located within the zoning code. Ref 156.173 B. Reducing the impervious surface required for each eligible development further reduces pond volume, in turn, increasing development area for the property owner.
VI. Annual Compliance and Maintenance Obligations

Section 6.1 Intent and Distinction

Implementation of low impact development techniques is a commitment to the environment and to the betterment of the town for several reasons that are identified and supported in previous sections. Each technique has its own level of maintenance and continued financial investment associated in maintaining this commitment as it is intended. The lifespan of a project advances through stages of design, construction, and maintenance. Distinguishing between the initial financial investment at the design phase and the long-term maintenance obligation of the final phase is vital to sustaining a successful program. The initial financial investment is recognized in the point distribution table through assigning the most points for the techniques with the highest financial investment for construction and implementation. This program gives consideration to the effectiveness for the type of technique proposed for achieving program goals. This is a component of the program for guiding and encouraging various techniques and their financial burden to the applicant. The last phase of the project lifespan is the maintenance obligation of each element. There is a distinct difference between the initial investment and the continued maintenance as defined within the program. The ability to abate the financial burden of the initial investment is through the distribution of points. The long-term obligation for the selected technique is directly associated with the decision-making process of the site planning and design of the property. The distinction is between the program goals being achieved through the implementation of elements and the obligation of the owner to ensure performance. It is setting a standard and ensuring compliance. Similarly, other standards and site design components such as parking spaces are met through a predetermined standard; the environmental elements are associated with meeting the environmental standards of this program.

Section 6.2 Responsibility of the Developer

Town Ordinance Chapter 153 Stormwater Quality subsection Maintenance and Inspection §153.050 shall be the mechanism for monitoring, tracking, and ensuring compliance. This program is in existence for administering a long-term stormwater management inspection program. As stormwater is a significant component to the program, it makes its use suitable for ensuring long term compliance with the environmental techniques. As part of the review process, the applicant shall demonstrate the long-term maintenance obligation through the recordation of a deed. It shall serve as the governing document by identifying all LID techniques associated with the proposed plan, and with the permanent stormwater elements required under the Town MS4 program. Accompanying the deed shall be the Maintenance Agreement and the Environmental LID design with associated maintenance specifications clearly identified on the plan. Proof of compliance shall be submitted annually upon the date of final certification of occupancy or agreed upon by Town Environmental Manager. The terms of annual compliance are established in Chapter 153.050 along with enforcement and appeal procedures.
APPENDIX A
Stakeholder Engagement Summary

Seamon Whiteside & Associates
Attendants: Russ Seamon, Paul Peeples, William O’Neal
Date: March 9, 2022
Feedback:

- themes to consider for incentives
  1. reduce development time
  2. reduce development cost
  3. increase site efficiency
- impact fee reductions
- expedited review and permitting process
- flexibility with mitigation requirements for 160”/acre tree regulation

Thomas & Hutton
Attendants: Rick Karkowski, Chris Magaldi, Domonic Jones
Date: March 10, 2022
Feedback:

- impact fee reductions
- height increase
- mixed-use allowance (flexibility with zoning regulations)
- plaque/newsletter won’t incentivize enough
- buy-down program to fund small business projects/sites or to offset impact fee reductions

Mount Pleasant Waterworks
Attendants: Allan Clum, Jestine Deepe, Nicole Bates
Date: March 23, 2022
Feedback:

- interested in forming a partnership with the Town
- participate in the env. program with an impact category dedicated to water conservation
- “commercial conservation customers” - WaterSmart user, irrigate wisely (timing), smart landscaping, rain barrel, rain detector, etc.
- MPW can offer incentives – irrigation impact fee retro-credit/grant, commercial conservation rate
- existing program and software to track and measure water usage, ability to audit annually
Dominion Energy

Attendants: Daniel Kassis, James Westmoreland

Date: April 5th, 2022

Feedback:

- many of the LID techniques fall closely in line with Dominion’s EV Strategy and Energy Resiliency Portfolio: encouraging alternative modes of transportation, light pollution reduction, and reducing indoor energy consumption
- suggested offering points for sites that install smart controls on outdoor light fixtures – Dominion is working to expand the capacity of smart controls to allow Dominion to dim and turn on/off the lights
- opportunity to expand program in the future by requiring solar storage
- EV charging stations are priority

Charleston Chamber of Commerce

Attendants: Regional Policy Committee Members

Date: April 6, 2022

Feedback:

- developers only care about time & money
- provide reduction on impact fees to offset cost to implement LID techniques (1:1)
- improve efficiency of permit process
  - staff level reviews/approvals instead of sending everything to boards and commissions (anyway to improve efficiency)
- consider the cost/benefit analysis of implementing LID techniques

BCDCOG Stormwater Management Committee meeting

Attendants: City of North Charleston, Dorchester County, Charleston County Stormwater Professionals

Date: April 21st

Feedback:

- discussed the difficulty with enforcement and maintenance of the LID techniques, important to consider how this program will be incorporated into existing maintenance programs
- potential incentives: height increase, or other allowance to increase developable area

Earthsource Engineering

Attendants: Kevin Berry, Giles Branch

Date: April 28th
Feedback:

- potential incentives: latitude with buffers (allowing bioswales inside), parking ratio flexibility, mixed-use allowance, impact fee reductions
- rain barrel usage, overall benefit is not very big
- pervious pavers with regulations of CN’s and infiltration rates limits development
- look into allowance of alternative surfaces for parking lots (gravel with brick border) --- provide savings on detention and developable space

Hussey Gay Bell

Attendants: Justin Robinette, Kelsey Santiago

Date: June 14th

Feedback:

- potential incentives: allowing staff approval for grand tree removals vs. BOZA, reductions in number of parking spaces, allowing tree encroachments
- make sure criteria to earn LID points is proportional to the size of the site
- consider pro-rating incentive levels for sites that disturb under 5000 sf – if required points for a site is under 100 pts., how many points do they have to earn to get incentives?
- maintenance and enforcement are going to be big issues!!
- check for double dipping of points to earn incentives and then the incentive counting towards points (ex: gravel parking allowance)
- justification for height increase: longevity of buildings
  - current height restriction allows for 3 story timber buildings – in 10yrs these buildings will require extensive maintenance / may not look as nice
  - an extra floor would force developers to use reinforced steel and stronger materials for their buildings – this has a much longer lifespan / will look nicer in the long term
- ***recommend rolling out the program write-up document and ordinance draft to all the private sector engineering firms (stakeholders) to provide relined feedback – set deadline, this will help with a smoother adoption of the guidelines and ensure everyone is made aware of our new requirements
APPENDIX B
Environmental Program Research

The current Town land developmental standards and ordinances can do more in requiring the use of low impact techniques and green infrastructure techniques. Many other municipalities across the nation have already started moving towards the LID. The Town is shifting our focus to requiring and incentivizing nature-based efforts through these environmental guidelines. The following section outlines the Town of Mount Pleasant’s existing ordinances and provides a comparison to similar municipality standards in the coastal area.

In creating these environmental guidelines, our team reviewed existing State and Town ordinances to identify sections in need of improvement. Our standards were compared across similar municipality programs for inspiration and guidance.

Other Municipality Spotlights

City of Charleston

- Redevelopment Standards (options for compliance)
  - Reduce impervious surface by at least 20%
  - Achieve a 10% reduction in the total volume of runoff generated from the site
  - Reduce the post-development peak discharge rates by 20% of the existing rates

- Runoff Reduction Practices
  - Disconnect downspouts from impervious areas/piped systems
  - Install rain barrel
  - Install rain garden
  - Install infiltration trench

- Tiered approach, sites must use one or a combination of the below tiers
  - Tier 1 – Green infrastructure
  - Tier 2 – Green infrastructure with an underdrain
  - Tier 3 – Detention practices
  - Tier 4 – Pass through device
  - Opportunity to reduce the amount of stormwater being treated if LID techniques are implemented, promoting increased levels of LID with each tier

- Special Protection Area Standards for areas of known flooding

City of Savannah

- Redevelopment Standards – must meet at least one of the following criteria
  1. Reduce impervious cover by at least 20%
  2. Provide post-development stormwater management
  3. Provide off-site stormwater management
  4. Provide off-site stormwater management within city ROW or city-owned property where GI/LID structural practices are in place at completion of redevelopment
  5. Combination of measures
- Natural Resources Inventory
  - "the preservation and/or restoration of the natural resources found on a development site, may, at the discretion of the City of Savannah be assigned quantifiable stormwater management credits"
- Stormwater Runoff Reduction Criteria
  - Sites must capture on-site the first 1.2" of rainfall
  - Must use green infrastructure practices to meet the runoff reduction requirement


City of Wilmington
- Redevelopment standards classified based on increase in impervious surface
  - 10,000 sf = full stormwater requirements
  - 2,500 – 10,000 sf = less stringent, simplified plan
- "Exceptionally Designed Projects"
  - Applies to developments within areas classified as watershed resource protection or conservation areas on the Coastal Area Management Act (CAMA) land map
  - These watersheds have a maximum of 25% impervious surface coverage
  - Point system for sustainable development elements – impervious coverage more than 25% of the site area is awarded based on a point system
  - Exemptions: LEED buildings awarded silver level or above & redevelopment projects that reduce existing impervious surface coverage
  - Every point awarded shall be equivalent to one percent (1%) of additional impervious surface, up to a maximum of 50% impervious surface for the entire site
<table>
<thead>
<tr>
<th>Category A elements</th>
<th>Points available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install impact resistant windows for category 4 hurricane (or higher) in all windows</td>
<td>2</td>
</tr>
<tr>
<td>Install back-up power generators with the ability to supply sustained power to at least 75% of the development during a power outage</td>
<td>5</td>
</tr>
<tr>
<td>Locate HVAC on roof</td>
<td>2</td>
</tr>
<tr>
<td>Plant native vegetation (except grass). In addition to landscaping requirements in Article 5.</td>
<td>0.5 point for every 5% of land coverage</td>
</tr>
<tr>
<td>Retain existing natural vegetation</td>
<td>1 point for every 5% of land coverage, excluding required setback areas</td>
</tr>
<tr>
<td>Provide open space in addition to the open space requirements in Article 2, Zoning Districts</td>
<td>0.5 point for every 5% of land coverage</td>
</tr>
<tr>
<td>Provide additional undisturbed buffers adjacent to surrounding all wetlands or surface waters</td>
<td>1 point for every additional foot of buffer</td>
</tr>
<tr>
<td>Install 1.5 feet critical root zone protection for every 1 foot of tree diameter (at breast height)</td>
<td>1 point per 1% of treated runoff</td>
</tr>
<tr>
<td>Install tree infiltration boxes in parking areas, as designed per manufacturer’s specifications</td>
<td>1 point per 1% of treated runoff</td>
</tr>
<tr>
<td>Construct an impact-resistant roof for the entire roof area of all buildings on site</td>
<td>5</td>
</tr>
<tr>
<td>Install cistern(s) for irrigation</td>
<td>3</td>
</tr>
<tr>
<td>Install a pollinator garden</td>
<td>2 points for every 50 square feet of planted area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category B elements</th>
<th>Points available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use pervious or grass paving systems on at least 50 percent of driveways and parking areas</td>
<td>5</td>
</tr>
<tr>
<td>Install a green or blue roof</td>
<td>1 point for every 5% of roof coverage</td>
</tr>
<tr>
<td>Provide additional treeboard above the minimum requirements</td>
<td>3 points for 1 foot of treeboard added (up to 2 feet)</td>
</tr>
<tr>
<td>Install parking for commercial and multiple dwelling uses within building footprint</td>
<td>5 points for half of required parking and 10 points for all of required parking</td>
</tr>
<tr>
<td>Install constructed wetlands</td>
<td>1 point for every 1% of wetland area constructed</td>
</tr>
<tr>
<td>Provide rain gardens or bioretention areas that meet the minimum design criteria of NCEEG to capture and treat or infiltrate the one year, 24-hour storm volume site-generated stormwater</td>
<td>1 point per 1% of treated runoff</td>
</tr>
<tr>
<td>Install building mounted solar options</td>
<td>1 point per 250-watts</td>
</tr>
<tr>
<td>Provide shade or solar-reflective paving on roads, sidewalks, and parking areas, in addition to the requirements in Article 5, Site Development Requirements</td>
<td>0.5 point for every 10% of area covered (may be a mix of shading</td>
</tr>
</tbody>
</table>

Code – [https://library.municode.com/nc/wilmington/codes/land_development_code?modelid=006_Article%204%20Environmental%20Regulations](https://library.municode.com/nc/wilmington/codes/land_development_code?modelid=006_Article%204%20Environmental%20Regulations)


City of Sammamish, Washington

- State of Washington requires LID be used to the maximum extent
- Developers earn “technique points” for incorporating LID practices into project design
- Points are summed and used toward “preferred LID incentives” including density bonuses, street improvement and ROW reductions, city recognition, building height incentives, increased signage, and attached housing

- Examples of design practices that earn “technique points”
  - Retention of existing forested condition
  - Restoration of vegetated areas
  - Restoration of critical area buffers
  - Increased width of critical area buffer
  - Limited site disturbance
  - Reforestation
  - Reduced impervious surface
  - Minimal foundation excavation
  - Joint use driveway

- Examples of LID incentives technique points can be used for
  - 20% increased density
  - 30% increased density
  - Recognition – featured LID development article in the city newsletter
  - Increased signage – increase the size by 10% or add one additional monument sign
  - Attached housing – 100% of the lots within a proposed residential development may be designed to accommodate attached housing
