2.1.2 Shoreline Conservation Area

The SCA is a sub-subdistrict of the WRA created with the 2020 Manual update. The SCA encompasses areas that transitioned from industrial to other types of uses overtime, and that retain soft, green or natural shoreline features. The intention of the SCA is to limit the construction of additional bulkheads along Baltimore's coastline, and sponsor the natural habitat as aesthetic value provided by soft shorelines. Additional benefits provided by soft shorelines include the maintenance of natural shoreline dynamics, attenuation of storm surge and flood waters, filtration of nutrients and other pollutants, and creation and protection of carbon sinks through the maintenance of wetlands.

The SCA occupies approximately 595.8 acres, or 10.8 percent of the land areas of Baltimore City's Critical Area. The sub-subdistrict covers a portion of Masonville Cove, the MedStar Hospital site, portions of Westport, the shoreline area from the Horseshoe Casino until the BGE Spring Garden site, Port Covington and Fort McHenry National Monument and Historic Shrine.

For the purpose of the SCA, shoreline is defined as the area within 30 feet of the mean high water line as displayed in the Critical Area map.

2.1.2.1 Critical Area Requirements in the SCA

2.1.2.1.1 Buffer Requirements for Water and Non-Water Dependent Uses in the SCA

The Buffer requirements included in Section 2.1.1.1.1 apply to the Buffer of the SCA. In addition to those, no new -bulkheads are allowed in the SCA's shoreline area (30 feet from the mean high water line), and the removal of vegetation, even if necessary for the re-establishment of the Buffer, must be approved by the Baltimore City Department of Planning and the CAC. The SCA requirements apply to areas that have soft shorelines as of the date of adoption of this Manual. Variances may be pursued for projects that propose water-dependent uses that deviate from the above described criteria. Variance information can be found on section 11.5 - Variances of this document.

Buffer Management Plans are required for any project that encroaches upon the Buffer in order to mitigate or establish vegetated areas that serve to protect aquatic, wetland, and shoreline environments from human-made disturbances. The mitigation requirements are detailed in Section 4 – The Critical Area Buffer.

2.1.2.1.2 Afforestation Requirement in the SCA

Projects within the SCA must meet the 15% afforestation requirement for the total site area, including the Buffer. Projects with LOD lesser than 20 percent of the total site area calculate the 15% afforestation based on the LOD. Afforestation requirements for projects in the SCA can be found in Section 6 – Mitigation Standards & Planting Guide for the Critical Area.

2.1.2.1.3 Mitigation Requirements for Vegetation Removal in the SCA

The removal of trees or woody plants within the SCA requires advance approval by the Baltimore City Department of Planning and must be mitigated in accordance with this manual.

Mitigation requirements for projects in the SCA can be found in Section 6 – Mitigation Standards & Planting Guide for the Critical Area.

2.1.2.1.4 Runoff Pollution Reduction in the SCA

Development and redevelopment projects are required to reduce stormwater runoff pollutant levels by at least 10% below that of existing land use by using best management practices. This is known as the 10% Rule. Total phosphorus is used as the basis for computing pre-development and post-development pollutant loads to determine compliance with the 10% Rule. Further guidance for meeting the 10% Rule can be found in Section 7 – Stormwater Pollutant Reduction in the IDA.

2.2 Waterfront Industrial Area

The WIA is the second sub-district in the Intensely Developed Area and generally has fewer structures and less lot coverage than the Waterfront Revitalization Area. This portion of the City's IDA is 3,169.3 acres, or 57.4 percent of the City's Critical Area.

A large amount of the City's industrially zoned land lies within the WIA, which has long been developed for port-related purposes. The City encourages the redevelopment of this area as part of its effort to retain and create jobs and industry. The City seeks the development of port-related facilities within its Critical Area but cannot reserve it exclusively for this purpose. The development of marinas is primarily regulated by the Baltimore City Zoning Code, § 14-323 and guided by the Maritime Master Plan. Portions of the City's WIA are protected and reserved for industrial uses by the Baltimore City Zoning Code, § 11-206 (Maritime Industrial Zoning District).

2.2.1 Critical Area Requirements in the WIA

2.2.1.1 Buffer Requirements in the WIA

Critical Area requirements for development in the Buffer vary, depending on whether the development is a water-dependent or non-water dependent use. To the extent possible, non-water-dependent structures or operations associated with water-dependent projects or activities must be located outside the Buffer, in accordance with COMAR 27.01.03.03-(a)(4). Any proposals for new or expanded water-dependent facilities shall be considered in relation to the criteria set forth in COMAR 27.01.03.04 - Local Plan Requirements for Water-Dependent Facilities. Buffer Management Plans are required for any project that encroaches upon the Buffer in order to mitigate or establish vegetated areas that serve to protect aquatic, wetland, and shoreline environments from human-made disturbances. The Buffer mitigation requirements are detailed in Section 4 – The Critical Area Buffer.

2.2.1.1.1 Buffer Requirements for a Water-Dependent Use in WIA

Water-dependent development within the Buffer of the Waterfront Industrial Area requires the applicant to offset for any additional/new impervious areas. Table 5 provides guidance to calculate the mitigation required from the project. The applicant is also required to mitigate for any vegetation disturbed by development and meet Buffer disturbance requirements for any new lot coverage. In addition, shore erosion problems must be corrected.

6 MITIGATION STANDARDS & PLANTING GUIDE

The Critical Area regulations task local jurisdictions with conserving, maintaining, and increasing the forest and woodland vegetation within the Critical Area. This includes ensuring that tree and woody vegetation clearing to accommodate development activities is minimized and appropriately mitigated. Projects proposed by private entities on privately owned land must follow this Manual to calculate the required mitigation.

In accordance with the Critical Area regulations, various development activities and conditions within the Critical Area and the Buffer require mitigation through planting. These requirements include:

- Afforestation of sites within the entire Critical Area (Buffer included).
- Mitigation of forest or vegetation clearing within the Critical Area outside the Buffer.
- Buffer disturbance for development or redevelopment sites containing land within the Critical Area Buffer not forested or partially established in woody or wetland vegetation.
- Buffer mitigation for the clearing of forest or woody vegetation and disturbance within the Critical Area Buffer.

This section details how the various mitigation requirements are calculated and provides guidelines on how they can be met.

6.1 Afforestation Requirements

Many development and redevelopment sites in the City of Baltimore have limited or no existing forest cover. The portions of sites located within the Critical Area shall be planted to provide a vegetative cover of at least 15 percent of the project site area.

Existing vegetation on the site may be credited towards the required 15 percent if:

- The vegetated area is greater than 4,000 sq. ft. as described in the Baltimore City Natural Resources Code;
- The forested area or vegetation is over 70 percent native species;
- Any areas of non-native species will be subtracted from the above 70 percent;
- The area will be protected from disturbance during development;
- A Forest Stand Delineation is prepared for the vegetated area.

The required area for afforestation shall be calculated as follows:

(Total Site Area in the Critical Area) x 0.15 =
Required Forest or Developed Woodland Cover (Acres)

Required Forest or Developed Woodland Cover – Existing Vegetation Credit =
Afforestation Requirement (Acres)

Planting credits for afforestation on sites or portions of sites within Buffer and non-Buffer areas of the Critical Area are based on COMAR 27.01.09.01-2. The following formula should be used to determine the number of plantings needed to satisfy the afforestation requirement:

*Afforestation requirement for the Buffer areas (acres) * 217.8 = number of 2-inch caliper trees required*

*Afforestation requirement for non-Buffer areas (acres) * 100 = number of 2-inch caliper trees required*

A conservation easement, or a similar legal instrument, is required from projects that plant woodlands greater than 10,000 square feet to fulfill its mitigation requirement, located within or outside of the Critical Area.

6.2 Mitigation Requirements for Forest and Vegetation Clearing

Within Baltimore's Critical Area and Buffer, no tree or woody plant may be cut, removed, or destroyed unless approved in advance by the Director of Planning. Any clearing of forest or woody vegetation must be replaced and maintained by the property owner. Mitigation requirements vary depending on the purpose of the clearing activity and the portion of the Critical Area where the clearing is to occur.

6.2.1 Mitigation for Clearing outside the Buffer

For densely vegetated sites, a Forest Stand Delineation may be required as described in the State Forest Conservation Manual and the Baltimore City Supplement to the State Forest Conservation Manual. For such sites, the Forest Stand Delineation shall be used to determine mitigation requirements.

The Department of Planning will make the final determination of how to estimate the mitigation. One of the following methods will be used to calculate required mitigation:

- Calculation of the square footage of the vegetation removed; or,
- Count or estimate of the total number of caliper inches of trees or woody plants removed.

Any vegetation disturbed outside the Buffer within the Critical Area must be mitigated according to the ratios listed in Table 2. Where ratios are used to express mitigation requirements, they indicate either the number of caliper inches of replacement required per caliper inch (unless otherwise specified) of vegetation removed, or the number of square feet of planting required per square foot of vegetation removed.

Table 2: Mitigation requirements for vegetation removal in non-Buffer areas

Development Area Type & Activity	Outside of Buffer[1]	Outside of Buffer Violation[1]
All IDA – dead or dying, hazardous and/or invasive species removal	(1) 2-inch caliper tree:1 tree	(2) 2-inch caliper tree:1 tree
IDA	1:1	2:1
RCA	3:1	4:1
DHPAs	3:1	4:1

Ratios are displayed in inches unless otherwise specified.

Clearing violations require mitigation at a higher ratio than vegetation removal that is approved in advance by the Director of Planning. The higher ratio also applies for vegetation planted as mitigation for a previous development project located within the Critical Area, or vegetation planted using Critical Area offset-fee funds. Because RCAs and DHPAs are intended to provide a higher level of resource and habitat protection, the mitigation ratios for these areas are more stringent than that for IDAs.

6.2.3 Mitigation for Buffer Disturbance

Mitigation for Buffer disturbance must be provided for an area equal to all newly proposed impervious areas within the Buffer. The mitigation ratio depends on whether the project is water dependent or non-water dependent, as displayed on Table 4. The mitigation requirement does not apply to a project that limits its Buffer disturbance to areas that are currently impervious. The mitigation requirement must be calculated by using the credit information provided on Table 5.

Table 4: Mitigation for Buffer disturbance

Type of Development Activity	Mitigation Ratio (square foot)
Water dependent	2:1
Non-water dependent	3:1

6.3 Removal of Vegetation Planted as Mitigation for a Previous Critical Area Project or Funded by Critical Area Offset-fees

The removal of vegetation that was planted as mitigation for a previous Critical Area project or that used offset-fee funds is strongly discouraged. As mentioned in the section above, one additional inch is required, in addition to the regular mitigation ratio for vegetation removal, for such cases. Variances to the additional planting requirement may not be granted to the disturbance of vegetation that happens due to private development. A variance may be granted to projects pursued by public entities where there is the need for removal of vegetation planted as mitigation for a previous Critical Area project, or that used Critical Area offset-fee funds. Variances pursued by public entities are assessed on a case by case basis and must be approved by the Department of Planning and the CAC.

6.4 Planting Credits

The planting credits for afforestation and mitigation in the Buffer and non-Buffer areas are shown in Table 5. Regardless of the size and type of vegetation selected, the areas of the Buffer required to be planted must be covered with mulch, groundcover, or a combination of the two until understory vegetation is established.

Table 5: Planting credits for Buffer and non-Buffer mitigation

Vegetation Type	Minimum Size	Maximum Credit (square feet)	Maximum % of Credit
Canopy tree	2” caliper	200 (Buffer only) 435.6 (non-Buffer)	N/A
Canopy tree	¾” caliper	100	N/A
Understory tree	¾” caliper	75	N/A
Large shrub	3’ high	50	20
Small shrub	18” high	25	10
Herbaceous perennial	1 quart or area covered by seed mix	2	5
Planting Cluster for or mitigation of less than ½ acre	1 canopy tree; and 3 large shrubs or 6 small shrubs of sizes listed above	300	N/A

Planting Cluster for mitigation of less than ½ acre	2 understory trees; and 3 large shrubs or 6 small shrubs of sizes listed above	350	N/A

All stock shall be subject to a 2-year replacement warranty
Because of the harsh urban environment and lack of native seed sources, natural regeneration and smaller planting stock are not accepted in Baltimore City.

6.5 Planting Standards for Afforestation and Mitigation

6.5.1 Planting Approach

The composition and arrangement of required Buffer and Critical Area planting may depend on the constraints and opportunities of the site and the proposed development project. Planting requirements for the Buffer are greater than the planting standards to satisfy required afforestation or mitigation of vegetation cleared outside the Buffer. Buffer planting requirements are intended to improve the functions of the Buffer, including protecting water quality and conserving and enhancing habitat.

In highly developed urban sites, the afforestation and mitigation requirements may be met through traditional site landscaping rather than reforestation. Plantings provided to meet mitigation requirements may also be used to satisfy the requirements of the Baltimore City Landscape Manual, if the plantings proposed meet the conditions and standards required by the Landscape Manual.

6.5.2 Preferred Species

To receive credit towards afforestation and mitigation planting requirements, species native to the Maryland Coastal Plain region must be used.

The City of Baltimore Department of Planning maintains a list of native species acceptable for meeting Critical Area planting requirements. The criteria for selection of this list are as follows:

- Predominately Coastal Plain native species;
- Ability to perform the desired dynamic function in the community as planted;
- Commercial availability;
- Anticipated survival and hardiness.

Only species listed in the Critical Area Native Plant List or those included in the U.S Fish & Wildlife Service publication "Native Plants for Wildlife Habitat and Conservation Landscaping, Chesapeake Bay Watershed" are acceptable for credit without special approval. Native species not included in the above sources may receive credit with approval from the Department of Planning and the CAC. The Department of Planning must approve and may choose to prescribe the size and composition of any planting list.

Questions about species selection may be directed to the Critical Area Planner at the City of Baltimore Department of Planning by calling (410) 396-PLAN.

8 OFFSET PROGRAMS

8.1 Background

Baltimore City's Critical Area review process may be triggered by projects whose location and circumstances do not allow for on-site mitigation and fulfillment of Critical Area requirements. The second preferred option is to perform the mitigation at an off-site location. To allow necessary development and redevelopment to proceed while meeting the Critical Area requirements when no off-site mitigation options are available, the City of Baltimore has established two fee-in-lieu offset programs:

- The Buffer Mitigation and Afforestation Offset Program, and
- The Stormwater Pollution Reduction Offset Program.

Before an applicant is permitted to pay an offset fee, the City requires the applicant to review the many methodologies available for reducing environmental impacts. Alternative strategies for water quality and habitat enhancement must be incorporated into the applicant's project to comply with the current Maryland Stormwater Design Manual and the 10% Rule.

A project may qualify for an offset if the Director of Planning determines that it is infeasible for the applicant to meet all or part of the Critical Area Buffer, afforestation, and/or stormwater pollution reduction requirement on the development site or through an offsite mitigation project.

8.2 Critical Area Buffer and Afforestation Offset Program

Applicants who are unable to comply with the Buffer mitigation and afforestation requirements are obligated to contribute a fee to the Critical Area Buffer and Afforestation Offset-fee Fund. These options are a last resort and fees are only accepted if the applicant can prove compliance is not feasible onsite, and no suitable offsite projects are available. The fee amount will be based on costs associated with installing and maintaining the quantity and type of landscaping required to satisfy the project's afforestation and/or Buffer mitigation requirements. Buffer disturbance costs are determined based on planting credits, where 200 square feet of credit is attributed to one 2-inch caliper tree. Each 2-inch caliper tree is valued according to the Baltimore City Landscape Manual, which reflects the current cost to install and maintain landscaping equivalent to the afforestation requirement not able to be met on site. The cost per 2-inch caliper tree may be amended periodically with approval from both the Baltimore City Planning Commission and the CAC. This cost is set in the Baltimore City Landscape Manual, and may be revised and readjusted at any time.

Alternative offset projects may be considered, provided that the applicant is able to demonstrate to the City that the proposed alternative will result in an environmental benefit to the City's Critical Area equivalent to the installation of the prescribed vegetation on the development site. The project owner is required to maintain the plantings installed on an offsite location for a minimum of two (2) years. The City may seek comments and recommendations from the CAC.

8.3 Receiving Areas for Buffer Offset Projects

The City can designate sites throughout its Critical Area as receiving areas for the Buffer offsets described above. In selecting sites for receiving areas, the City will give priority to lands

covered with impervious surface or lots containing compacted soils. The City encourages landowners within its Critical Area to allow Buffer offset projects to be installed on private property in exchange for the granting of conservation easements. Participating landowners may be granted a credit toward Buffer mitigation requirements in the event that future development takes place in portions of the Buffer that remain without vegetation. The City may also explore additional incentives, and will assess the recommendations and requests on a case by case manner, to encourage the use of private lands as receiving areas for Buffer offsets

If suitable private land is not available, City-owned land within the Resource Conservation Area may be used for this purpose. The focus in these areas will be to enhance existing vegetation and habitat.

Minimum requirements for qualifications as potential receiving areas include the following:

- The site is determined by the City as being unlikely to be redeveloped for a water-dependent use; and,
- The planting plan includes at least 50 linear feet along the shoreline for the entire width of the Buffer. Planting may extend outside the Buffer provided it is contiguous to the vegetated portion of the Buffer and is no less than 25 feet in width and depth.

8.4 Stormwater Offset Program

Projects that are unable to comply with the runoff pollution reduction requirements as described in Section 7 are required to contribute a fee to the Stormwater Offset Fund before building, use, and occupancy permits may be issued for the property. A project may qualify for an offset when it is determined that it is infeasible for the project to meet all or part of the 10% pollution reduction requirement on site or through offsite mitigation.

Any subsequent redevelopment of a site already assessed an offset fee for either the 10% Rule requirement or the Buffer disturbance requirement triggers additional Critical Area review. This applies if the further redevelopment is determined to be significant or would result in any change to on-site mitigation required for prior development or use. Such additional redevelopment may require modification of the permit or denial of the permit application. In some cases, additional mitigation may be required if the redevelopment increases impervious surfaces or displaces vegetation originally approved as part of a Critical Area determination.

8.5 Assessing the Fee for a Stormwater Offset

The amount of the fee is based on the costs that a project would incur for installation and maintenance of a stormwater pollution reduction facility on-site. Methodologies for computing existing and proposed pollutant loading and the effectiveness of stormwater management facilities in fulfilling the pollution removal goals are specified in the Maryland Stormwater Management Design Manual. The fee is $45,000 per pound of phosphorous per year, or as amended.