

BALTIMORE CITY SUPPLEMENT
TO THE
STATE FOREST CONSERVATION MANUAL

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Prepared by
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Overview

This manual supplements the provisions of the State Conservation Manual, including all tables, figures, and appendices, except as otherwise modified by Article 9A of this manual, and to the extent that said provisions are not inconsistent with the provisions of Article 9A or irrelevant to the City's Urban Forest Conservation Program. The most recent amendments to the State Manual and/or its appendices shall be considered the current regulations for Baltimore City with some modifications identified in this manual. This manual implements the provisions of Article 7 of the Baltimore City Code and Natural Resources Article, § § 5-103 and 5-1612, Annotated Code of Maryland by providing for and Urban Forest Conservation program within the City of Baltimore, and by setting forth standards of performance as described in Natural Resources Article, §5-1603-§5-1609, Annotated Code of Maryland.

To obtain a copy of the current Maryland DNR State Forest Conservation Technical Manual call (410) 836-4551.

Application

As conditions in the City are different from those in the counties of Maryland, certain changes have been made so that the Forest Conservation Act will work under urban conditions. In Baltimore City, the act is triggered by any application for a subdivision on a lot great that 20,000 square feet or any application for sediment/erosion control permit on a single lot which disturbs more that 20,000 square feet. The applicant must submit to the Department of Planning a Forest Stand Delineation, a Forest Conservation Plan and use methods approved by the Department of Planning as provided in the State Forest Conservation Manual to protect retained forests and trees during construction. Deviations from the State manual have been noted in the supplement where possible. However, the Department of Planning shall make the final determinations as to whether any provisions of the State Forest conservation Manual is applicable to the City Program.

Note: Chapter headings on pages 2 through 12 refer to chapters in the State Forest Conservation Manual.

CHAPTER ONE: INTRODUCTION

Chapter 1.1 Introduction

-no changes

CHAPTER TWO: FOREST STAND DELINEATION

Chapter 2.1

-no changes

Chapter 2.3.1

FSD Decision Matrix

A person making application for a subdivision on areas greater than 20,000 square feet. A person making an application for a grading or sediment erosion control permit on a single lot greater than 20,000 square feet on which the net disturbed area is greater than 20,000 square feet. Subdivisions which do not require a development plan but are for the purpose of correcting lot lines only are not affected.

Replaces 2.3

Addition to 2.2.01

Submittal Requirements

If the site has no existing forest than a Site Confirmation may be submitted in lieu of a Forest Stand Delineation. The Site Confirmation is a statement declaring that the site is devoid of trees. A Forest Conservation Plan containing an Afforestation element is still required, landscaping may be sufficient to meet requirements in this situation.

Sampling Intensity

On lots where disturbance for development impacts trees 20" DBH or greater, a tree survey is required. Within the limits of disturbance and within fifty feet of the limit of disturbance, the location, diameter at breast height and species of all existing trees equal to or greater than twenty inches in diameter at breast height shall be provided. The Department may require surveys for portions of larger sites if necessary.

Chapter 2.4 – 2:13

-no changes

CHAPTER THREE: FOREST CONSERVATION

Chapter 3.1 – 3.11

-no changes

Chapter 3.12

In addition to the requirements of 3:12 see below

Landscape Calculation Worksheet for sites with no forest:

LANDSCAPE CALCULATIONS

(# Acres) X 43,560 = A

(A) X (.15) = B

(B) Divided by 43, 560 = C

(C) X (100) = # 2.5” caliper trees required

Chapter 3.13 – 3.16

-no changes

In addition to chapter 3.17

Sequential Reforestation Methods

1. Selective clearing and supplemental planting on site
2. Transplanted or nursery stock that is greater than 1.5 inches diameter breast height.
3. Landscaping if no forest is removed
4. Off site reforestation or afforestation using transplanted or nursery stock that is greater than 1.5 inches dbh
5. Payment into Forest Conservation Fund if all other remedies have been exhausted.

Chapter 3.18-20

-no changes

Replaces 3.3.2 Suggested Planting Specifications

Site Stocking

Stocking, as a minimum standard, shall meet the following density requirements:

100 - 2” caliper trees/ acre (20’ x 20’ spacing)

200 - 1” caliper trees/ acre (15’ x 15’ spacing)

In addition to 3.4.1 Maintenance Agreements:

Forest Conservation Maintenance and Management Agreements/

Short Term Protective Agreements

A. Maintenance Agreements

(1) Application. A person required to conduct afforestation or reforestation by Article 7 of the Baltimore City Code and this manual shall include in the forest conservation plan a binding maintenance agreement for the length of 2 years, as specified in the Forest Conservation Manual.

(2) Approval procedures and timing shall be consistent with the procedures provided in this manual and as provided in COMAR 08.19.04.04.

(3) The maintenance agreement shall detail how the areas designated for afforestation or reforestation will be maintained to ensure protection and satisfactory establishment of forest and shall follow the standards provided in chapter 3 of the State Forest Conservation Manual.

(4) The person required to conduct the afforestation or reforestation, after this referred to as the “obligee,” shall present evidence of a legal right to implement the proposed maintenance agreement on a selected site by providing:

(a) An executed deed conveying title to a selected site to the obligee;

(b) An executed conservation easement agreement;

(c) Written evidence of the landowner’s consent to the use of a selected site;

(d) A fully executed option agreement, long-term lease agreement, or contract of sale for a selected site; or

(e) Other written evidence of a possessory or ownership interest in a selected site.

(5) The Department of Planning shall be a signatory to the maintenance agreement, or shall be the designated a third-party beneficiary of the agreement.

(6) The Department of Planning may not release a bond or end monitoring without receipt of a legally binding deed, long-term lease, or conservation easement agreement on those lands where afforestation or reforestation will occur.

(7) The maintenance agreement shall provide for access by the Department of Planning or its designee to the afforestation or reforestation site.

B. Bonding

(1) Application

(a) A person required to conduct landscaping, afforestation or reforestation by Article 7 of the Baltimore City Code shall include a bond or other financial security as an element of a forest conservation plan.

(b) This section does not apply to agencies of any federal, state, county or municipal government.

(2) Requirements. A financial security shall be furnished in the form of:

(a) A bond which shall be made payable to the Director of Finance for Baltimore City

(b) An irrevocable letter of credit which shall:

(i) be equivalent to the required bond,

(ii) be issued by an financial institution authorized to do business in Maryland,

- (iii) Expressly state that the total sum is guaranteed to be available and payable directly to the Director of Finance for Baltimore City on demand in the event of forfeiture, and
 - (iv) Be in force until all mitigation for reforestation and afforestation and monitoring requirements have been fulfilled to the satisfaction of the Department of Planning or until all contributions have been made to the fund; or
 - (C) Other security approved by the Department of Planning.
 - (3) The financial security shall:
 - (a) Ensure that:
 - (i) The afforestation, reforestation and associated maintenance agreement are conducted and maintained in accordance with the approved forest conservation plan, or
 - (ii) Contributions have been made to the fund:
 - (b) Be in the amount equal to the estimated cost of afforestation and reforestation, or amount of the contribution due, as determined by the Department of Planning:
 - (c) Be in a form and content approved by the Department of Planning.
 - (4) The value of the financial security:
 - (a) Shall be based on:
 - (i) The cost to perform all work required by the afforestation or reforestation plan if the work had to be performed by or contracted out by the Department of Planning or its assignees, or
 - (ii) When appropriate, the amount due for a fund contribution:
 - (b) May be adjusted according to the actual cost of mitigation for afforestation and reforestation or, if the cost of future mitigation work changes, the Department of Planning shall notify the obligee of a proposed adjustment and provide an opportunity for an informal conference on the adjustment; and
 - (c) May be reduced if the obligee proves to the Department of Planning that the costs to complete the mitigation project have been reduced.
 - (5) A surety bond or other alternative form of security may not be canceled by the surety, bank, or other issuing entity unless both of the following conditions are satisfied:
 - (a) The surety notifies the Department and the obligee of its intent to cancel the bond, in writing, by registered mail, not less than 90 days before cancellation; and
 - (b) At least 45 days before the cancellation date indicated in the notice, the obligee files a commitment from a surety, bank, or other issuing entity to provide a substitute security which will be effective on the cancellation date indicated in the notice.
 - (6) After one growing season, the person required to file a bond or other financial security under this regulation may request reduction of the amount of the bond or other financial security by submitting a written request to the Department with a justification for reducing the bond or other financial security amount, including estimated or actual costs to ensure that the afforestation or reforestation requirements are met.
 - (7) The Department shall determine whether a lesser amount is sufficient to cover the cost of afforestation or reforestation, taking into account the following:

- (a) The number of acres;
- (b) The proposed method of afforestation or reforestation;
- (c) The cost of planting materials or replacement materials;
- (d) The cost of maintenance of the afforestation or reforestation project,
- (e) Other relevant factors

(8) If after two growing seasons or 1 year, whichever is greater, the plantings associated with the afforestation or reforestation meet or exceed the standards of the Forest Conservation Manual, the remaining amount of the cash bond, letter of credit, surety bond, or other security shall be returned or released.

(9) Bond release

(a) The bond shall be released on receipt of written notice from the Department of Planning stating that all afforestation or reforestation requirements have been met.

(b) The written notice shall be sent at the end of the required 2-year monitoring and management period, as provided in the maintenance agreement.

(c) If the department fails to send written notice within 60 days after the end of the monitoring and management period, the bond shall be automatically released.

(10) Financial Security forfeiture

(a) The bond or other financial security may be subject to forfeiture if the obligee fails to comply with:

- (i) Revocation of the forest conservation plan
- (ii) An administrative order; or
- (iii) An element of the afforestation or reforestation plan.

(b) The Department of Planning shall notify the obligee, by certified mail, of the intention of the Department of Planning to initiate forfeiture proceedings.

(c) The obligee has 30 days from the receipt of the notice of forfeiture to show cause why the bond or other financial security may not be forfeited.

(d) If the obligee fails to show cause, the bond or other financial security shall be forfeited.

Long Term Protective Agreements

A. An applicant under the program as provided in Article 7, Baltimore City Code, shall have in effect at all times a long-term protective agreement as provided for in Natural Resources Article, §5-1607, Annotated Code of Maryland, and this section to preserve and protect areas retained, afforested, or reforested.

B. Approved Forest Management Plan

(1) Procedure for Approval

(a) An application for approval of a forest management plan shall include all information required in the Manual.

(b) The forest management plan shall be:

- (i) Legally binding from the date of approval;
- (ii) Prepared by a licensed professional forester;

- (iii) Submitted to the Department of Planning; and
- (iv) May be amended periodically, as provided for in §B(2) of the regulation
- (c) The Department of Planning shall review the plan to ensure that it is complete and consistent with the City program.
- (d) The Department of Planning shall notify the applicant whether the forest management plan has been approved.
- (2) Procedure for Amendment of an Approved Forest Management Plan
 - (a) An approved forest management plan may be amended if there is a change in site conditions or landowner objectives.
 - (b) Amendments shall be prepared by a licensed professional.
 - (c) The amendment shall be submitted to the Department of Planning.
 - (d) The Department of Planning shall review the amendment to ensure that it is complete and consistent with the City's Forest Conservation Program.
 - (e) The Department of Planning shall notify the applicant as to whether the amendment has been approved.
 - (f) The applicant shall sign the amendment.

C. Forest Conservation and Management Agreement

An applicant may satisfy the requirement for long-term protection under Natural Resources Article, §5-1607(e), Annotated Code of Maryland, by executing a Forest Conservation and Management Agreement, as provided in Tax Property Article, §8-211, Annotated Code of Maryland, and COMAR 08.07.03.

D. Other legally Binding Protective Agreements.

- (1) Other legally binding protective agreements include:
 - (a) Covenants running with the land;
 - (b) Deed restrictions;
 - (c) Conservation easements; and
 - (d) Land trusts.
- (2) Other legally binding agreements shall provide:
 - (a) Protection for land forested, afforested, or reforested under Natural Resources Article, §§5-1601-5-1612, Annotated Code of Maryland, and this subtitle; and
 - (b) Limitation on the uses of forest to those that are consistent with forest conservation.

E. An applicant may include in a forest conservation plan another long-term protection measure if the applicant demonstrates to the satisfaction of the Planning Department that the measure will provide for the long-term protection of the areas retained, afforested, or reforested under Article 7 of the Baltimore City Code or this manual.

GLOSSARY OF TERMS

This section substitutes for the Glossary of Terms in the State Conservation Manual.

Act – The Forest Conservation Act, Natural Resources Article, 5-1601 et seq., Annotated Code of Maryland

Afforestation – The a) establishment of a forest on an area on which forest cover has been absent for a long period of time; b) planting of open areas which are not presently in forest cover or c) establishment of a forest according to the afforestation or reforestation standards.

Agricultural Activity – farming including plowing, tillage, cropping, installation of best management practices, seeding, cultivating, and harvesting for the production of food and fiber products (except commercial logging and timber harvesting operation), the grazing and raising of livestock, aquaculture, sod production, orchards, Christmas tree plantations, nursery, and other products cultivated as part of a recognized commercial enterprise.

Approved Forest Management Plan – means a document: a) approved by the Department of

Basal Area – a measure of forest stand density through an estimate of cross sectional areas.

Bread-Even Point – the point at which the Forest Conservation requirements can be met solely through forest retention and no reforestation.

Caliper – tree diameters measured at 2 inches above the root collar.

Champion Tree – the largest tree of its species within the United States, the State, country or municipality as determined by the Maryland Department of Natural Resources.

Champion Tree of the State of Maryland – the largest tree of its species within the State of Maryland as determined by the Maryland Department of Natural Resources.

Co-Dominant Trees – trees with crowns forming the general level of the crown cover and receiving full sunlight from above but little from the sides, trees with medium sized crowns.

Commercial and Industrial Uses – includes manufacturing operation, office complexes, shopping centers, and other similar uses and their associated storage areas, yarding, and parking areas.

Conservation Threshold – the point at which the reforestation requirement changes from a ratio of ¼ acres planted for every one acre removed above the threshold to 2 acres planted for every one acre removed below the threshold, as determined by the land use category.

Critical Habitat for Endangered Species – a habitat occupied by an endangered species as determined or listed under section 4-2A-04 and Section 10-2A-04, Natural Resources Article, Annotated Code of Maryland.

Critical Habitat Area – a critical habitat for endangered species and its surrounding protection areas. A critical habitat area shall (1) be likely to contribute to the long-term survival of the species, (2) be likely to be occupied by the species for the foreseeable future, and (3) constitute habitat of the species which is deemed critical under Section 4-2A-05, Section 4-2A-04 and Section 10-2A-06, Natural Resources Article, Annotated Code of Maryland.

Critical Root Zone – a circular region measured outward from a tree trunk representing the essential area of the roots that must be maintained or protected for the tree’s survival; for the purpose of the manual, critical root zone is one foot of radial distance for every inch of tree diameter (dbh), measure at 4.5 feet from the ground, with a minimum of 8 feet. For Specimen trees the formula changes to 1.5 feet for every inch of tree diameter (dbh).

Cultural Features – human structures, such as roads or buildings, that are within view of the proposed land use change.

Department

Development Project Completion – the release of the development bond or acceptance of the project streets, utilities and public services.

Dominant Trees – trees with crowns extending above the general level of the crown cover and receiving full sunlight from above partly from the side, larger than the average trees in the stand.

Extenuating Circumstances – conditions requiring extension of a set time limit to process an application, render a decision or conduct a public hearing.

Forest – a biological community dominated by trees and other woody plants covering a land area of 10,000 square feet or greater. Forest includes (1) areas that have at least 100 trees per acre with at least 50% of those having a two inch or greater diameter at 4.5 feet above the ground, and (2) forest areas that have been cut but not cleared. Forest does not include orchards.

Forest Conservation – the retention of existing forest or the creation of new forest at the levels prescribed by the State or local authority.

Forest Conservation and Management Agreement – an agreement as stated in the Tax-Property Article, Sec. 8-211, Annotated Code of Maryland.

Forest Conservation Fund – a fund into which payments for reforestation and for penalties will be made when an applicant is not in compliance with the Forest Conservation Plan.

Forest Conservation Plan - a plan attached to the site development plan containing a map drawn to scale which shows (1) areas required for forest conservation, (2) an afforestation plan showing planting areas on or off-site, (3) a construction timetable, and (4) management and protective agreements for the conservation areas.

Forest Conservation District Board – the forestry board created for each State forestry conservancy district under Natural Resources Article Sec. 5-1602, et seq., Annotated Code of Maryland.

Forest Conservation Program – a program developed under the Forest Conservation Act by any jurisdiction with planning and zoning authority that is consistent with the intent, requirements and standards of the Act, Natural Resources Article, 5-1601, et seq., Annotated Code of Maryland.

Forest Cover – the area of a site meeting the definition of forest.

Forest Management Plan – a plan establishing best conservation and management practices for a landowner in assessment of the resource values of forested property.

Forest Product – and wood fiber product extracted from a forest which can be sold on the commercial market.

Forest Stand – a contiguous group of trees sufficiently uniform in species composition, arrangement of age classes, and condition to be a distinguishable, homogeneous unit.

Forest Stand Delineation – the methodology for evaluating the existing natural features and vegetation on a site proposed for development, taking into account the environmental elements that shape or influence the structure of makeup of a plant community.

Forested Slopes – an area meeting the definition of forest and growing on an area with a slope of 25% or more and covering an area of at least 4000 square feet.

Forest Structure – is a measure vertical and horizontal structural diversity within a stand, is related to stand age and habitat.

Growing Season – the time, from spring to fall, during which consecutive frost free days occur.

High Density Residential Areas – areas zoned for densities greater than one dwelling unit per acre, including both existing and planned development and their associated infrastructure, such as roads, utilities, and water and sewer service.

Historic Sites – as defined by local, state or federal Historic Registers.

Hydric Soils – are generally defined as soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper layer of soil.

Institutional Development Area – includes schools, colleges and universities, military installations, hospitals, religious institutions, convalescent, nursing and rest homes, transportation facilities, utility and sewer projects, governmental offices and facilities, golf courses, recreation areas, parks, and cemeteries.

Intermittent Stream – a stream in which surface water is absent during a portion of the year as shown on the most recent 7.5 minute topographic quadrangle published by the United States Geological Survey as confirmed by field verification.

Landscaping Plan – a plan, drawn to scale, showing dimensions and details for re-vegetating an area 2,500 square feet or greater in size (not to exceed 20% of the reforestation or afforestation area) utilizing native plants along with climatically adapted introduced material when deemed appropriate.

Local Forest Conservation Program (Local Program) – the approved forest conservation program administered by the Baltimore City Department of Planning.

Maintenance Agreement – a legally binding, two year agreement to ensure the survivability of all sites afforested, reforested or landscaped.

Mixed Use Development – a single, relatively high density development project, usually commercial in nature, which includes two or more types of uses.

Net Disturbed Area – the total area in square feet to be disturbed on a site which requires a sediment or erosion control permit. On single lots which disturb more than 40,000 square feet, the total disturbed area can be rounded to the nearest one-tenth acre.

Net Tract Area - the total area of a site, including both forested and non-forested areas, to the nearest one-tenth acre, reduced by the area found to be within the boundaries of the 100-year floodplain. In agricultural or resource areas, net tract area must also be reduced by any portion of the tract remaining in agricultural production.

Non-Tidal Wetland – an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions does support, a prevalence of vegetation typically adopted for life in saturated soil conditions, commonly known as hydrophytic vegetation. The determination of whether an area is considered a

non-tidal wetland shall be made in accordance with the publication known as the “Federal Manual for Identifying and Delineating Jurisdictional Wetlands,” published in 1989 and as may be amended and interpreted by the U.S. Environmental Protection Agency. Non-tidal wetlands do not include tidal wetlands regulated un Natural Resources Article, Title 9 Annotated Code of Maryland.

Off-Site – means outside the limits of the area encompassed by the tract area, including any area(s) classified as 100-year floodplain.

On-Site – means within the limits of the area encompassed by the tract area, including any area(s) classified as 100 year floodplain.

Perennial Stream – a stream containing surface water throughout an average rainfall year, as shown on the most recent 7.5 minute topographic quadrangle published by the U.S. Geologic Survey, as confirmed by field verification.

Permanent Tree Protection Devices – structural measures, such as retaining walls or aeration devices, that are designed to protect the tree and its root systems throughout its lifetime.

Person – includes the federal government, the state, any county, municipal corporation, or other political subdivision of the state, or any of their units, or an individual, receiver, trustee, guardian, executor, administrator, fiduciary, or representative of any kind, or any partnerships, firm, association, public or private corporation, or any of their affiliates, or an other entity.

Planned Unit Development – a development comprised of a combination of land uses or varying intensities of the same land use in accordance with an integrated plan that provides flexibility in land use design approved by the local jurisdiction with at least 20% of the land permanently dedicated to open space.

Prime Agricultural Soil – fertile soils as defined by USDA, Soil Conservation Service.

Priority Retention Areas – a hierarchy of forest stands and stand characteristics, defined in Section 3.6.3 that are used to prioritize forested areas to retain.

Reforestation or Reforested – the creation of a biological community dominated by trees and other woody plants containing at least 100 live trees per acre with at least 50% of those trees having the potential of attaining a two inch or greater diameter measured at 4.5 feet above ground, within seven years. Reforestation includes landscaping of areas under an approved landscaping plan that establishes a forest that is at least 35 feet wide and covering 2,500 square feet of area.

Regulated Activity – means any of the following activities: (1) Subdivision of a parcel when that parcel is 20,000 square feet or greater. (2) Grading of an area that disturbs 20,000 square feet or greater on a single lot. (3) Sediment control activities on an area that is 20,000

Square feet or greater. Regulated activity does not include any of the activities that are exempt under Natural Resources Article, 5-1602 (Forest Conservation Act), Annotated Code of Maryland.

Retention – the deliberate holding and protecting of existing trees, shrubs or plants on the site according to established standards as set forth in the Forest Conservation Manual.

Retention Areas – areas designated on-site for preservation; to be referred to as Forest Conservation areas.

Seedlings – an un-branched woody plant, less than 24 inches in height and having a diameter of less than one half inch caliper measured two inches above the root collar.

Selective Clearing – the careful and planned removal of trees, shrubs, and plants using specific standards and protection measures under an approved Forest Conservation Plan.

Sequential Evaluation of Reforestation or Afforestation Methods – is a prioritized list of reforestation and afforestation methods that must be considered in the design of a reforestation or afforestation plan. (See Appendix)

Slope Aspect – the orientation of the site with regard to the sun.

Soil Amendments – the modification of soil properties for improvement of soil structure; not to be confused with fertilizers whose purpose is to correct chemical imbalances in soils for silvicultural purposes.

Specimen Tree – trees having a diameter measured at 4.5 feet above the ground of 30 inches or more or trees having 75% or more of the diameter of the current state champion tree of that species. (See Appendix N)

Stand Structure – the composition of the forest stand with reference to forest association (SAF cover type), dominant and codominant species, under-story and herbaceous species.

State Program – the State of Maryland's Forest Conservation Program administered by the Department of Natural Resources.

Steep Slopes – areas with slopes greater than 20 percent slope.

Steep Erodible Slopes – areas with slopes greater than 15 percent having soils with K values greater than 0.35.

Stream Buffer – all lands lying within 50 feet, measured from the top of each normal bank of any perennial or intermittent stream.