MAKING YOUR COMMUNITY FOREST FRIENDLY:

A Checklist for Municipal Program/Code Review

Introduction

Forest friendly development includes a set of practices that protect forests by:

1. Directing growth away from large, ecologically intact forest land using zoning and urban growth techniques

2. Permanently protecting valuable forest land (e.g., riparian corridors) through purchase of land and conservation easements

3. Limiting overall forest loss during development through local regulations that:
   - Limit clearing of native vegetation
   - Require forest conservation
   - Require forested stream buffers
   - Promote open space development
   - Include provisions for physically protecting trees during construction
   - Provide stormwater credits for tree conservation and planting
   - Require tree planting in landscaped areas or as part of afforestation requirements

4. Developing municipal programs for community reforestation projects on public lands, providing incentives for planting trees on private property, and establishing procedures for long-term maintenance of the urban forest.

In some communities, it may be obvious from the tree-lined streets, extensive greenways and wooded subdivisions that forest friendly practices are being used. However, most communities have more subtle indicators of how effective their local programs and regulations are at protecting trees and forests. A review of your community's suite of local programs and regulations related to forest conservation and tree planting is a useful way to a) see how your community measures up, and b) identify specific areas to improve.

A program/code review can identify specific things the community is actively doing to promote or require forest conservation and tree planting. It can also identify potential barriers to forest conservation and tree planting that are often buried within local codes and ordinances related to land development. These barriers may not outright prohibit trees, but can still act as disincentives to tree conservation or planting, or otherwise affect tree health. For example, many communities' street and sidewalk design standards specify a four foot wide planting strip in between the street and sidewalk. When large street trees are planted in this small space, their health is compromised because they receive only a fraction of the soil volume needed to support healthy tree growth.

The ultimate goal of a program/code review is to make changes to programs and regulations that result in increased forest cover in the community. In order to gain support for these changes, the review may be done as part of a site planning roundtable process. Site planning roundtables typically focus on reviewing a municipality's codes and ordinances with the end goal of revising these regulations to be more environmentally friendly. A major strength of the roundtable process is that it involves a diverse group of stakeholders (e.g., planners, environmentalists, developers, parks, utility, and public works staff) who come to consensus on the recommended changes. This provides a sense of ownership and credibility to the recommendations. Additional guidance on site planning roundtables can be found on the Center for Watershed Protection's website: http://www.cwp.org/Resource_Library/Better_Site_Design/index.htm.

Instructions for Completing the Checklist

A checklist for municipal program/code review is provided in this handout. It includes a set of 45 questions roughly organized by topic. The exact code or ordinance you will need to consult to answer each question will vary by community, but the questions are generally grouped according to the regulations under which the answers are most commonly found. The types of programs and regulations you may need to review include:

- Urban and community forestry programs
- Public education programs
- Watershed protection programs
- Zoning regulations
- Natural resource protection regulations
- Stormwater management regulations and design guidance
- Subdivision regulations
- Erosion and sediment control regulations and design specifications
- Landscaping requirements
- Street and sidewalk standards
- Parking lot design standards
- Requirements for utilities, signs and lighting

It is envisioned that municipal staff would complete the checklist (and this would likely require input from several different departments); however, a watershed organization could also complete the checklist with assistance from municipal staff. All questions are structured so that a "Yes" response means the community includes an element of forest friendliness. The more "Yes" responses, the better your community is at promoting healthy trees and forests. "No" responses indicate areas where your community can improve its forest friendliness by revising or adopting new programs and regulations. Some commentary is provided for each question to explain why the practice is forest friendly and to identify common benchmarks and recommended practices.

PROGRAMS

1. Does your community have a natural resources or watershed protection program or division? Y/N
   Many communities protect their forest resources under a broader natural resources or watershed protection program with a dedicated budget and staff.

2. Does your community have a transfer of development rights program that is used to identify and protect priority forest land? Y/N
   Transfer of development rights programs transfer development potential from environmentally sensitive areas such as forests to specific receiving areas designated for growth.

3. Has an assessment of existing forest cover or tree canopy been conducted? Y/N
   It can be difficult to protect a resource when you don't know how much you have or where it is located. Evaluating current forest or canopy cover is a good first step in planning for long term management of your forest resources.

4. Has an assessment of future forest cover been conducted? Y/N
   This type of analysis evaluates how much forest cover will remain once your community is built out according to your zoning. The results can often be a reality check on forest goals and serve to spur the community to really strengthen their forest conservation and reforestation efforts. The "leafout analysis" described in Cappiella et al. (2005) can be used to estimate future forest cover.

5. Has a numeric forest cover or tree canopy goal been adopted? If so, list the goal and timeline: _____ Y/N
   The specific goal will vary based on current forest cover or tree canopy coverage and how much space is available for reforestation. American Forests recommends a goal of at least 40% for urban areas.

6. Have priority forest conservation tracts been identified? Y/N
   In order to achieve forestry goals, identification of ecologically or hydrologically important forest tracts is essential. These sites should be prioritized so that purchase or easements can be pursued with local land trusts.

7. Have priority reforestation and tree planting locations been identified? Y/N
   Another way to achieve forestry goals is to reforest large tracts of open land. These sites should also be prioritized (e.g., large public sites first) so that they can be written into grants and funding plans.

8. Is there a forest management plan for the community or watershed? Y/N
   A forest management plan will not only summarize the current and future forest cover estimates and identify numeric goals, but will also lay out a plan for achieving those goals. This includes making changes to regulations to increase forest cover, developing forestry programs, and actively pursuing priority conservation and reforestation projects.

9. Does your community produce and distribute educational information about the benefits of trees and tree planting, species selection and maintenance? Y/N
The general public is not always aware of the benefits of trees (particularly their economic benefits) or how to properly select, plant, and care for trees. Educational materials can be provided on websites, or distributed through local community groups and events.

10. Does your community provide incentives for planting trees on private lands (e.g., cost-sharing, tree giveaways, recognition programs)? Y/N
Privately owned lands such as residential lawns often provide the greatest opportunity for reforestation; however, incentives are often necessary to encourage significant action.

11. Does your community have an urban forestry program that employs an arborist or forester? Y/N
Larger communities may have their own urban forestry program that oversees management of the urban forest, including maintenance of existing street trees and trees on public lands. Employment of a professional arborist or forester is recommended to oversee these tasks.

12. Are funds dedicated towards urban forestry programs and projects each year? Y/N
A portion of the municipal budget will ideally be dedicated to funding urban forestry programs, management of urban trees and implementation of conservation and reforestation projects.

REGULATIONS

Zoning

13. Is zoning used to protect priority forest areas? Y/N
Forests can be protected using either natural resources protection zones or overlay zoning. Natural resources protection zones map out the areas to be protected and outline permitted and prohibited uses within these zones. To protect specific types of forest resources, such as forested stream buffers or forests on steep slopes, an overlay zone may be more desirable than natural resources protection zoning. With an overlay zone, additional standards, such as protection of a 50-foot wide stream buffer, are superimposed on existing zoning provisions. Because the overlay zone 'floats' over existing zoning, a map of the specific areas to be protected is not required.

14. If so, do zoning requirements restrict allowable uses within protected areas to low intensity activities? Y/N
Generally, only low intensity uses (e.g., passive recreation) are allowed within natural resources protection zones or within protected portions of overlay zones to provide the maximum protection for natural resources.

15. Is open space developed allowed as a by-right form of development? Y/N
Open space design clusters residential lots on a smaller portion of the site to allow for conservation of natural areas and open space. If developers must get a special exception or permit to use this type of development, they are not as likely to use it.

16. If open space design is allowed in the community, is there a minimum threshold set for conservation of natural areas at the site? If so, list this threshold: _____ Y/N
The goal should be to conserve as much undisturbed natural area as possible rather than allowing the entire open space to become ballfields. A good way to do this is to provide a numeric threshold for conservation of natural areas often expressed as a percentage of the site.

Forest Conservation

17. Is there a state or local requirement to conserve some portion of existing forests or trees at development sites? Y/N
Forest conservation regulations directly protect forests during development.

18. If so, have specific thresholds for conservation been set? If so, list the thresholds: _____ Y/N
Forest conservation regulations should identify a specific numeric threshold for conservation. These are often specified as a percentage and may vary based on land use or current forest cover. The Maryland Forest Conservation Act requires 15-20% of forest to be conserved on commercial, institutional or industrial sites, and 15-25% on residential sites. Other communities' regulations protect trees of a certain size or species (e.g., specimen trees).

19. Do the requirements specify afforestation at sites where existing forest is minimal? Y/N
Afforestation requirements are particularly important when developing in areas that were formerly agricultural. They ensure that forest will be established at these sites, although the thresholds are usually lower than conservation thresholds, given the larger effort required for reforestation.

Landscaping

20. Do landscaping requirements specify tree planting at development sites? Y/N
Landscaping requirements sometimes require tree planting along residential streets, in parking lots, or in other specific area of a development site.

21. If so, is a minimum number or density of trees or canopy coverage specified? List any minimum requirements: _____ Y/N
Tree planting requirements are most effective if a minimum target is provided. This target may take the form of a minimum number of trees, density of trees, or percent canopy coverage (e.g., across a parking lot).

22. Do the requirements provide or refer to specifications for soil amendments, planting methods, species selection and maintenance? Y/N
Ensuring that the appropriate species are selected for the planting space and that trees are properly planted and cared for is just as important as the tree planting requirements so that trees live long and healthy lives. Ideally, regulations that require tree planting will reference guidance on how to select species appropriate for the site, evaluate and improve the planting site is needed, and properly plant and maintain the trees. If tree planting is required, the property owner should be responsible for the first 1-2 years of maintenance.

23. Are minimum dimensions specified for planting islands? If so, list the dimensions: _____ Y/N
Urban trees are frequently planted in spaces that are too small, which can result in a shorter life span and poor tree health. If standard parking lot islands (e.g., long, linear islands placed at the end of or in between parking rows) are used, a minimum width of 6 feet is recommended to support large mature trees.

24. Are alternative layouts for parking lot islands allowed? Y/N
Alternative layouts that cluster trees and allow them to share soil space can increase the size and health of parking lot trees.

25. Do your community's regulations restrict removal of trees on public or private property (other than in cases of safety/hazard concerns)? Y/N
One way to maintain tree canopy is to require a permit for tree removal and/or require replacement of any trees that are removed. This method is particularly effective in communities that are built out.

Stormwater

26. Do stormwater requirements allow the use of landscaped islands for stormwater treatment? (e.g., are curb cuts or elimination of curb allowed)? Y/N
Landscaping areas can often double as stormwater BMPs, reducing costs to the developer. Trees reduce stormwater runoff and can be incorporated into parking lot and cul-de-sac islands provided that regulations allow design of the islands to accept stormwater runoff.

27. Are stormwater credits provided for forest conservation, reforestation, stream buffers and/or tree planting? Y/N
Many state and local stormwater programs provide 'credits' to developers towards their stormwater requirements for using non-structural practices that reduce runoff such as forest conservation, stream buffers and tree planting. Credits are typically based on the ability of these practices to reduce the overall volume of runoff from the site.

28. Does the local stormwater design manual promote the use of trees in stormwater BMPs where appropriate (including plant selection lists)? Y/N
Trees can be incorporated into select areas of a number of different types of stormwater BMPs to reduce runoff, enhance pollutant removal, and provide shade and habitat. Selecting the appropriate species for these wet and often locations is important, so design manuals should provide guidance on selecting species for these areas and include trees and shrubs on their species lists.

Streets and Subdivisions

29. Do street design or subdivision codes require street trees? Y/N
Street trees provide a canopy over the street and reduce the amount of rainfall that reaches the ground to become runoff. They also provide shade and a host of other community benefits.

30. Do the requirements provide or refer to specifications for soil amendments, planting methods, species selection and maintenance? Y/N
Ensuring that the appropriate species are selected for the planting space and that trees are properly planted and cared for is just as important as the tree planting requirements so that trees live long and healthy lives. Ideally, regulations that require tree planting will reference guidance on how to select species appropriate for the site, evaluate and improve the planting site is needed, and properly plant and maintain the trees. If tree planting is required, the property owner should be responsible for the first 1-2 years of maintenance.

31. If street trees are required, are large shade trees promoted? Y/N
Large shade trees provide much greater benefit in term of reducing runoff and providing shade than do small or medium trees.

32. Are planting islands allowed in cul-de-sac turnarounds? Y/N
Cul-de-sacs are often unnecessarily large and provide a good opportunity to plant trees and treat stormwater runoff.

33. Do the street or subdivision requirements identify a minimum width for the planting zone between the sidewalk and street? If so, list the width: _____ Y/N
Street trees are frequently planted in very small spaces (e.g., 4' x 4'), which can result in a shorter life span and poor tree health. If standard planting pits are required, a minimum width of 6 feet is recommended to support large mature trees.

34. Are alternative street and sidewalk designs allowed? Y/N
Alternative layouts that cluster trees and allow them share soil space can increase the size and health of parking lot trees. Other alternatives include the use of structural soils that allow tree roots to grow underneath the sidewalk.

35. Do subdivision codes require utilities to be placed underneath the street pavement? Y/N
Street trees often conflict with overhead utilities and trees end up damaged or removed. Placing utilities underground eliminates this conflict.

Erosion and Sediment Control

36. Is an inventory of natural resources at the site required? Y/N
Erosion and sediment control regulations often limit site clearing based on the natural resources present at the site. A natural resources inventory assesses and maps natural resources such as forests, wetlands, and steep slopes, and may also evaluate the quality of resources such as forest stands.

37. Do the regulations limit the total portion of the site that can be cleared or require preservation of certain natural resources? Y/N
There are a number of ways to protect forest resources through erosion and sediment control regulations. One way is to require a technique called site fingerprinting, which limits clearing to whatever is needed for the construction of buildings and roadways plus 5-10 feet outward from the building pad. Some communities limit the total portion of the site that can be cleared, which can indirectly protect forests at the site. Others require preservation of certain size trees, high quality forest stands or some portion of existing forest at the site, based on what is found during the natural resources inventory.

38. Are limits of disturbance required to be shown on the site plans and marked at the site? Y/N
All areas to be conserved should be excluded from the limits of disturbance, which must be marked on site plans and physically marked at the site in order to effectively protect natural areas.

39. Are methods for delineating and protecting the critical root zone of trees specified or referred to in the regulations? Y/N
The critical root zone is the essential area of roots that must be protected for a tree's survival. Tree protection requirements should reference a method for delineating the CRZ (e.g., trunk diameter method, dripline method) to ensure it is properly delineated and protected.

Aquatic Buffers

40. Is there a local buffer ordinance? Y/N
Aquatic buffer regulations protect riparian forests during development.

41. Does it require reforestation of buffers if no forest exists? Y/N
A buffer ordinance that requires reforestation is especially effective in areas where existing riparian forest has been cleared.

42. Does it apply to perennial, ephemeral, and intermittent streams? Y/N
Many buffer ordinances apply only to perennial or mapped "blue-line" streams. Buffers are important for all stream types.

43. Does it apply to all types of wetlands, lakes and estuaries? Y/N
Some buffer ordinances cover a variety of water resource types.

44. Does it specify minimum buffer widths? If so, list the required buffer width: Y/N
_____
Recommended buffer widths vary depending on the type of resource and desired benefit. It may also be desirable to have flexible buffer widths to account for things like existing structures (reduce the width to accommodate) and sensitive natural resources (expand the width to protect). Minimum recommended buffer widths (per side) range from 50-100 feet for streams and 100-350 feet for wetlands.

45. Are there provisions for long-term management of the buffer? Y/N
Buffer regulations can prevent buffer encroachment after development by specifying that the buffer must be maintained with native vegetation, or by prohibiting tree removal in the buffer and providing enforcement options for violation of the ordinance.

Resources

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