(8) Neighborhood Alleys and Hammerheads

Neighborhood Alleys and Hammerheads allow vehicle access to garages at the rear of townhouses and service vehicle access to these homes.

Pedestrian circulation is an integral part of the Neighborhood Alley function. Neighborhood Alleys should provide opportunities for landscaping in association with building entries or areas between garages. Landscaping can help define a pedestrian-friendly environment and can also slow Neighborhood Alley traffic.

Shade and ornamental trees add a vertical layering component and are encouraged to complement the intimate scale of Neighborhood Alleys. Ornamental trees and shrubs should be installed in flush planters protected by bollards or in planters protected by curbing. Trees should be robust to tolerate the urban environment and should be light in form and upright rather than dense, spreading shade trees

Tree species may include: Ginkgo biloba 'Princeton Sentry' Ginkgo (male form only), Gleditsia triacanthos 'Shademaster' or 'Skyline' Honeylocust and ornamental trees specified for the Village Center Pedestrian Street (*See* Appendix A: Approved Plant List).

The alignment of the traveled way may be shifted slightly from the Neighborhood Alley centerline to allow more generous planting areas on alternating sides.

Location of the planters should be carefully considered to allow adequate backing movements for vehicles exiting garages.

B. Parks and Open Spaces

(1) Neighborhood Parks

Neighborhood parks located at intervals within the neighborhood provide a car-free destination for residents. They can be the focus of neighborhood life and can make a significant contribution to the quality of life in a community. These parks are knitted into the district fabric and are relatively safe because they allow surveillance from surrounding homes and local streets.

Organizing Principles

- The parks should be oriented to the needs of the abutting neighborhood and should include an open grass play area, seating areas and trees and landscaping.
- Landscaping should create compact spaces that feel lively with just a few occupants
- The life of a public space forms naturally around its edges. A larger public gathering space should be surrounded with provisions for pockets of activity. Provide views of the larger park interior from the shaded seating zone.
- The influence of a good park or square extends at least a block away from its edges. Elements in the square should be visible from a distance to create a goal for approaching pedestrians or vehicles.
- Parks should be constructed to recognize that in a northern climate, solar orientation and "sun pockets" can extend the outdoor recreation season and activate a space

The park should include a variety of smaller "places" within it to attract different user groups and ages.

Trees should be preserved or planted in masses to define important open spaces. At least seventy-five percent (75%) of the park surface should be flat lawn and should be usable for passive and informal active recreation. The open lawn areas of the park should be sized to allow limited active recreation on a "pick up" basis. The park is not intended for league play or practice.

The mature shade tree canopy should cover at least thirty percent (30%) of the park surface. *See* Figure 9: Neighborhood Park Example

Tree and shrub species should include those listed for Neighborhood Parks in Appendix A: Approved Plant List.

The park shall have excellent access and visibility from adjacent streets. No shrubs with a mature height of more than thirty inches shall be planted.

Potentially noisy activities should be located away from adjacent residences. Park landscape forms and plants should be designed to buffer neighborhood from recreation-generated noise. Conversely,

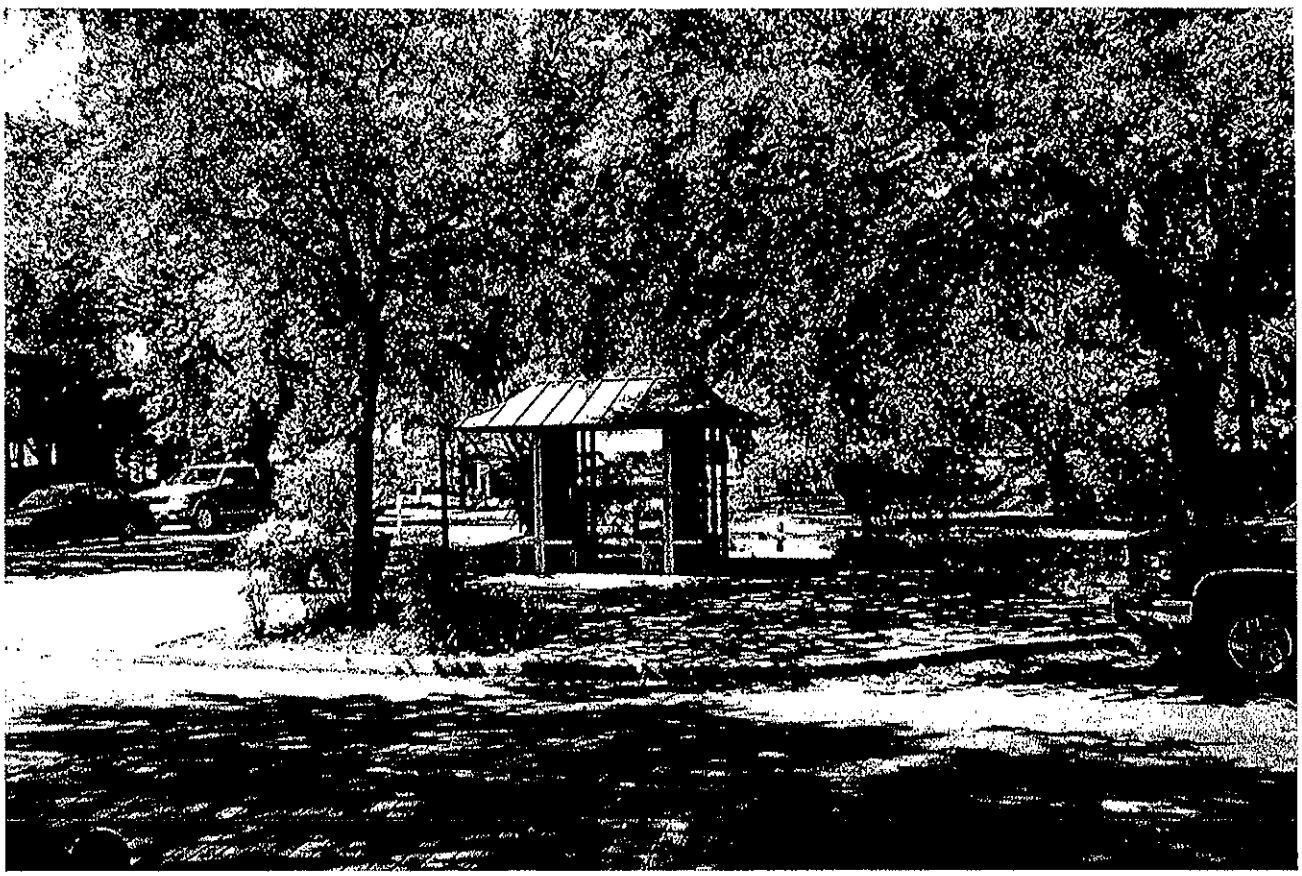
landscaping should reduce the impact of street noise on the park users' experience.

Micro-climate considerations should be an important determinant in the layout and orientation of facilities within the park. Landscape massing should provide wind shelter and should allow maximum solar access to extend the outdoor season.

Benches and bike racks should be provided in shaded areas where users can overlook activity areas.

Lighting should be pedestrian in scale, installed at principal walkways only and should prevent glare on adjacent neighborhoods.

When situated near the larger open space or natural areas such as wetlands, park design should create a gateway to the open space trail system with appropriate signage and/or interpretive stations.



NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 9

Neighborhood Park Example

(2) Village Center Square

The Village Center Square is the visual event that marks arrival at the Village Center District. It is surrounded by retail establishments and anchors the pedestrian mall. The Village Center Square is among the most important public spaces in the community.

Organizing Principles

- Design of spaces in the square should accommodate a significant volume of pedestrians, a variety of activities, at all seasons. Conversely, the square should be a place of intimate scale that will feel activated by the presence of just a few people.

Spaces should be formed at the edge of the square that will allow visitors to view others. Shade trees and seat walls are primary space-forming devices. In general, provide one linear foot of seating for each perimeter linear foot of the square. *See* Figure 10: Town Square Example

Design should allow flexibility of uses at different times of day and year.

Simple, attractive, ornamental treatment of paved spaces in the Square is encouraged. Treatments may consist of cement concrete with interesting scoring patterns or unit pavers in important locations. Paved areas should be adequate for the volumes of visitors expected for village events and should anticipate future pedestrian routes.

Paved surfaces should be no less than forty percent and no more than seventy percent of the square area. A minimum of thirty percent (30%) of the landscaped area should be planted with trees and shrubs. Shrubs should be provided at a ratio of one shrub for every thirty (30) square feet of the shrub planting zone.

One (1) tree shall be provided per 2,500 square feet of ground area. Shade tree and ornamental tree species should include those listed for Village Center Square in Appendix A: Approved Plant List.

The design of Main Street as it approaches the square should be considered with the design of the square to create a coordinated arrival sequence. Spaces in the square should be oriented to accommodate pedestrian flows generated in the surrounding district.

NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 10

Town Square Example

The square should exhibit a transparency that allows the structure of the pedestrian street beyond, to be apparent.

The park should provide shade, water, seating and a reason to linger at key locations. The park should include a variety of smaller "places" within it to attract different user groups and ages. Spaces may include accommodations for a café, vendor carts and a performance space. *See* Figure 11: Town Square Seating Example

Wind shelter and seats facing the spring/autumn sun should be provided to extend the outdoor season.

The incorporation of elements with historical or cultural significance should be considered for the square. A kiosk with community announcements can anchor an entry area.

Lighting should be simple, robust and should reflect the scale and character of the location and surrounding architecture.

(3) Linear Parks

Linear parks are located within certain neighborhoods and are an important open space connection between recreation facilities and other open space resources. They share some characteristics with neighborhood/pocket parks and pedestrian mews.

The park program should be oriented to the needs of the adjoining neighborhood and should include children's play areas, open grass areas, seating areas and trees and landscaping.

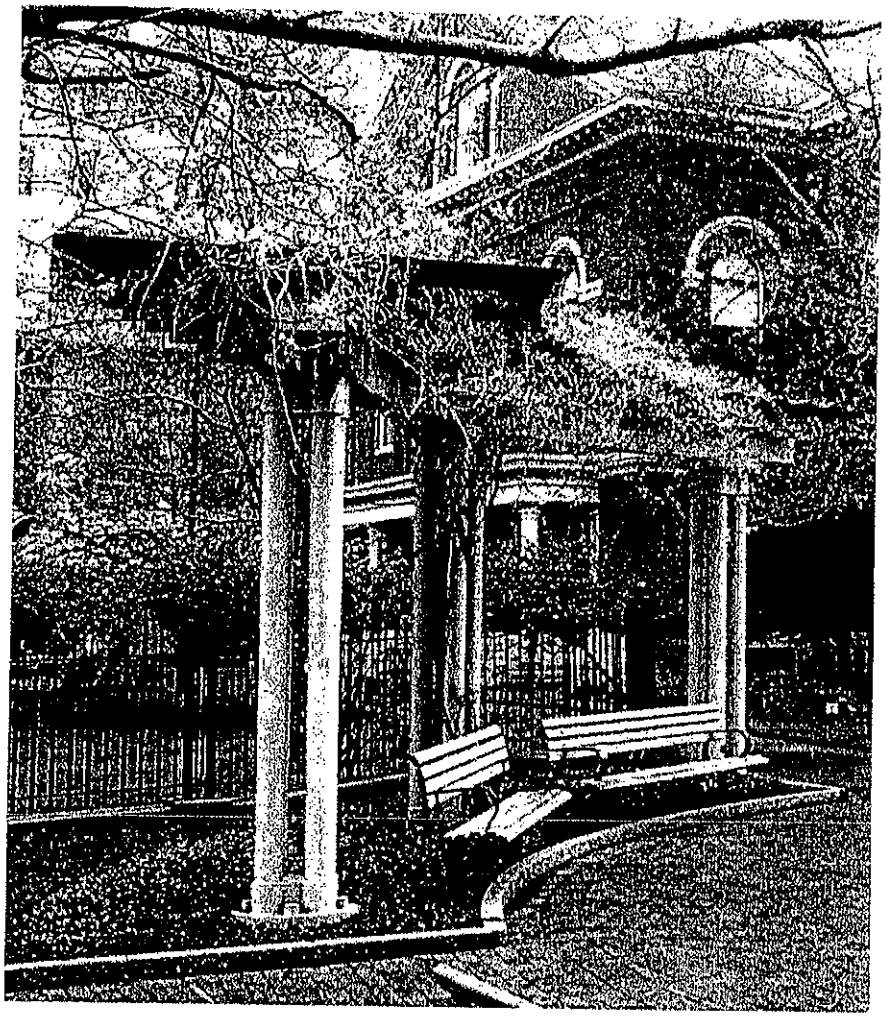
Spatial 'events' such as small plazas or seating areas should be programmed for locations where streets end at or cross the linear park. These spaces will provide a local destination and a landmark that anchors the views from those intersecting streets. Trees and shrubs should be planted to reinforce the spatial definition of these important nodes.

Spaces along the length of the park should be linked so that locations connect to each other in a visual, as well as a spatial, sense creating a feeling of progress to a destination. The alignment of trees can provide this sense of visual continuity as one moves through the park.

Landscape treatment should be primarily lawn and trees to allow flexibility of use and to insure visual transparency. The park should have excellent visibility from adjacent streets for security purposes. No shrubs with a mature height of more than thirty (30) inches shall be planted.

Tree and shrub species should include those listed for Neighborhood Parks and Pedestrian Connections in Appendix A: Approved Plant List.

Adequate lighting should be provided to enhance a feeling of security for pedestrians and to create an attractive public realm in front of the abutting homes. Lighting fixtures should respect the human scale of the spaces neighborhood and should be lower than street lights and more closely spaced.



NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 11

Town Square Seating Example

(4) Pocket Parks

Pocket parks share some characteristics with linear parks, but are distinct in that they do not allow through passage. They should project a feeling of a public neighborhood space.

The park space should be oriented to the passive recreation needs of the adjoining neighborhood and should include generous seating areas, some paved plaza treatments, trees, shrubs and landscaping.

Pocket parks should feel like an extension of the adjacent parkway or street space while a well-defined edge should provide a sense of departure from the larger public realm and entry to an intimate neighborhood space.

The park should include an element that creates a visual focus for the space and its visitors.

The public edge treatment should maintain the street wall, but should be "light" and visually permeable to appear inviting. Solid fencing should be avoided. Architectural or landscape elements such as 'green' columns, trellises or planters should be utilized as gateway events.

Landscape treatment should be a combination of paved surfaces, lawn and trees to allow flexibility of use and to insure visual transparency. Hard-scaping may constitute up to thirty-five percent (35%) of the pocket park area. Sixty percent (60%) of the landscape zone should be shade trees and shrubs.

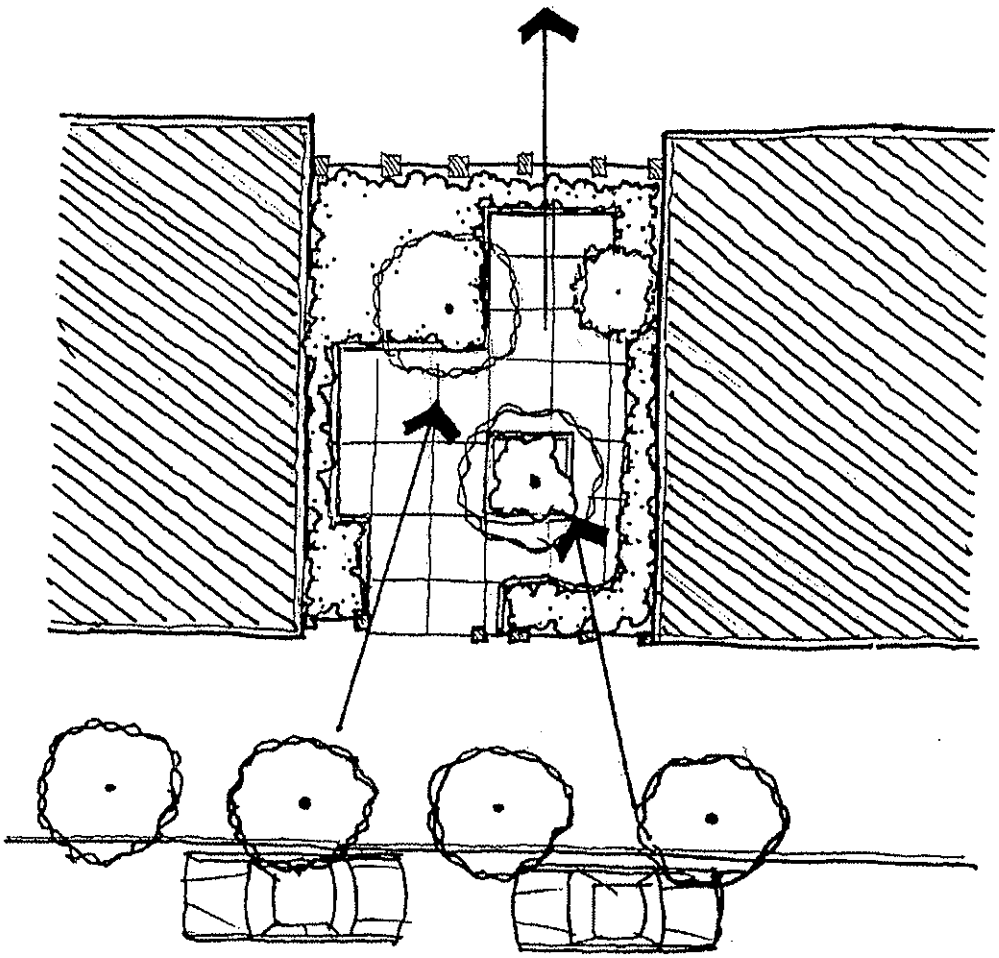
Tree and shrub species should include those listed for Neighborhood Parks in Appendix A: Approved Plant List.

The park should have excellent visibility from adjacent streets for security purposes. No shrubs with a mature height of more than thirty (30) inches should be planted. *See* Figure 12: Pocket Park Concept.

Long, unbroken building side walls may be fitted with rust-proof, vandal-resistant, vertical screens, lattice or wire fabric suitable for the training of vines. Openings should not be more than two (2) inches by two (2) inches to prevent climbing. Screens should be divided into discreet panels at a minimum of twelve (12) inches from the wall to prevent creation of an animal habitat. Appropriate vines may include *Clematis paniculata, Parthenocissus quinquefolia, Parthenocissus tricuspidata.*

Adequate lighting should be provided to enhance a feeling of security for pedestrians and to create an attractive public realm in front of the abutting homes. Lighting fixtures should respect the human scale of

the space and should be lower than street lights and more closely spaced.



The pocket park should have visual focus, generous seating and should be visually transparent

NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Pocket Park Concept

(5) Recreation Fields

The community recreation complex provides active and structured recreation opportunities for children, adults and league/tournament play.

Accepted materials for athletic fields include natural and artificial turf.

Substantial landscaping should be incorporated into those edges of the athletic field complex adjacent to the neighborhoods. Evergreen and shade tree plantings should be a visual and psychological buffer from the activity and lights of the fields. Landscaping should also buffer the parking lots from the fields. A minimum of fifty percent (50%) of the surface areas shall be landscaping.

Tree and shrub species should include those listed for Recreation Fields and Facilities Appendix A: Approved Plant List.

Links should be provided between the parking lots and the trail system in the natural open spaces adjacent to the field complex.

Lights should be shielded to prevent glare on adjacent neighborhoods.

Bio-swales or other water quality devices should be incorporated in the design of the complex perimeter to protect the adjacent wetlands from field runoff.

Benches, picnic tables, bike racks should be provided in a shaded area where users can overlook some of the play fields.

Interior landscaping of the field complex should be laid out to create large unobstructed areas allowing mowing maintenance by large 'gang' mowers.

Because this facility may draw participants from beyond the community, ample off-site signage should be anticipated to direct visitors to the site.

(6) Bio-swales

Bio-swales manage the volume and speed of localized storm water runoff and enhance the land's natural ability to absorb, clean and store stormwater. *See* Figure 13: Vegetated Bioswale Example and the NAS South Weymouth Standards and Guidelines.

Organizing Principles

- Limit quantity of stormwater runoff leaving site to pre-development levels.
- Minimize impervious surfaces in new construction to reduce amount of runoff and improve infiltration.
- Design drainage systems in a way that allows as much water as possible to infiltrate naturally into the ground.
- Any water that does not infiltrate should be stored in a safe and environmentally sound manner and released from the site at the same volume, velocity and water quality as under pre-development conditions.
- Use Best Management Practices (BMPs) throughout the community to manage stormwater.

Bio-swales should be incorporated in drainage system near the source of the runoff whenever space permits, and where the drainage system outfalls to community wetlands.

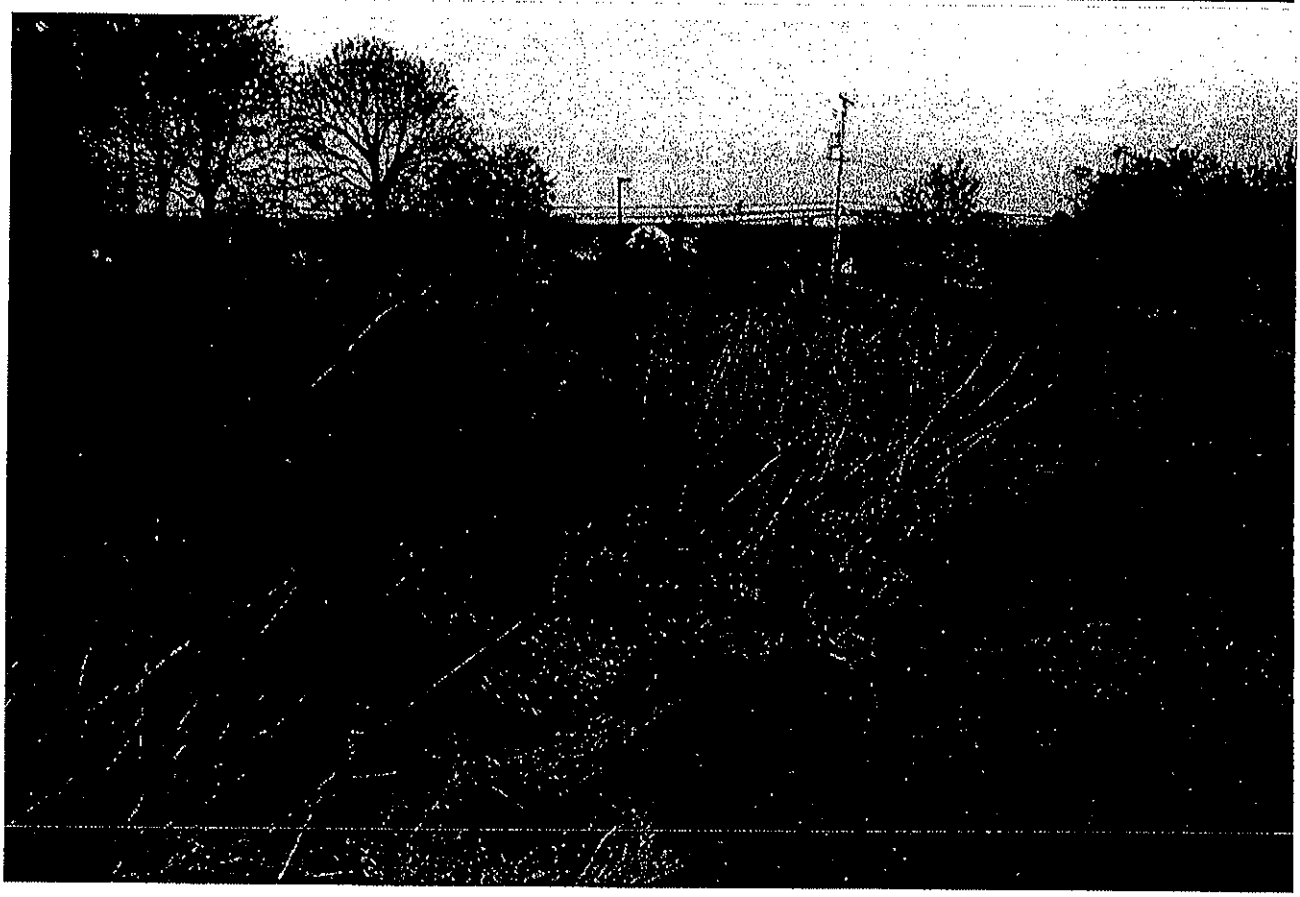
Bio-swales should be linked to existing wetlands and other open spaces.

Bio-swales should contain regionally appropriate native wetland plants. Plants in bio-swales should be matched to expected frequency, duration, and level of inundation.

Plants should be installed in substantial interlocking drifts to create a visual impact.

Bio-swales should follow the natural drainage pattern of the land and should preserve or restore natural vegetation as much as possible in the drainway zone.

Treatment systems should have associated Best Management Practices operations and maintenance plans to ensure that the treatment system functions as designed.



NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 13

Vegetated Bioswale Example

4.6 Private Landscape Areas

A. Common Open Spaces

Common Open Spaces are intended to be the spatial "front room" for the adjacent residents. They should be site-specific spaces that serve the needs of the residents rather than the larger public.

Common Open Spaces should be predominantly composed of lawns and trees and should support most neighborhood passive uses such as sitting, sunning and watching other users. Turf areas should cover no more than eighty percent of the open space area and should be sited in the middle of the space to allow for some informal active recreation uses. The edges of the lawns should be planted in clusters of trees at thirty (30) feet to forty (40) feet on center, including ten (10) to twelve (12) trees per cluster.

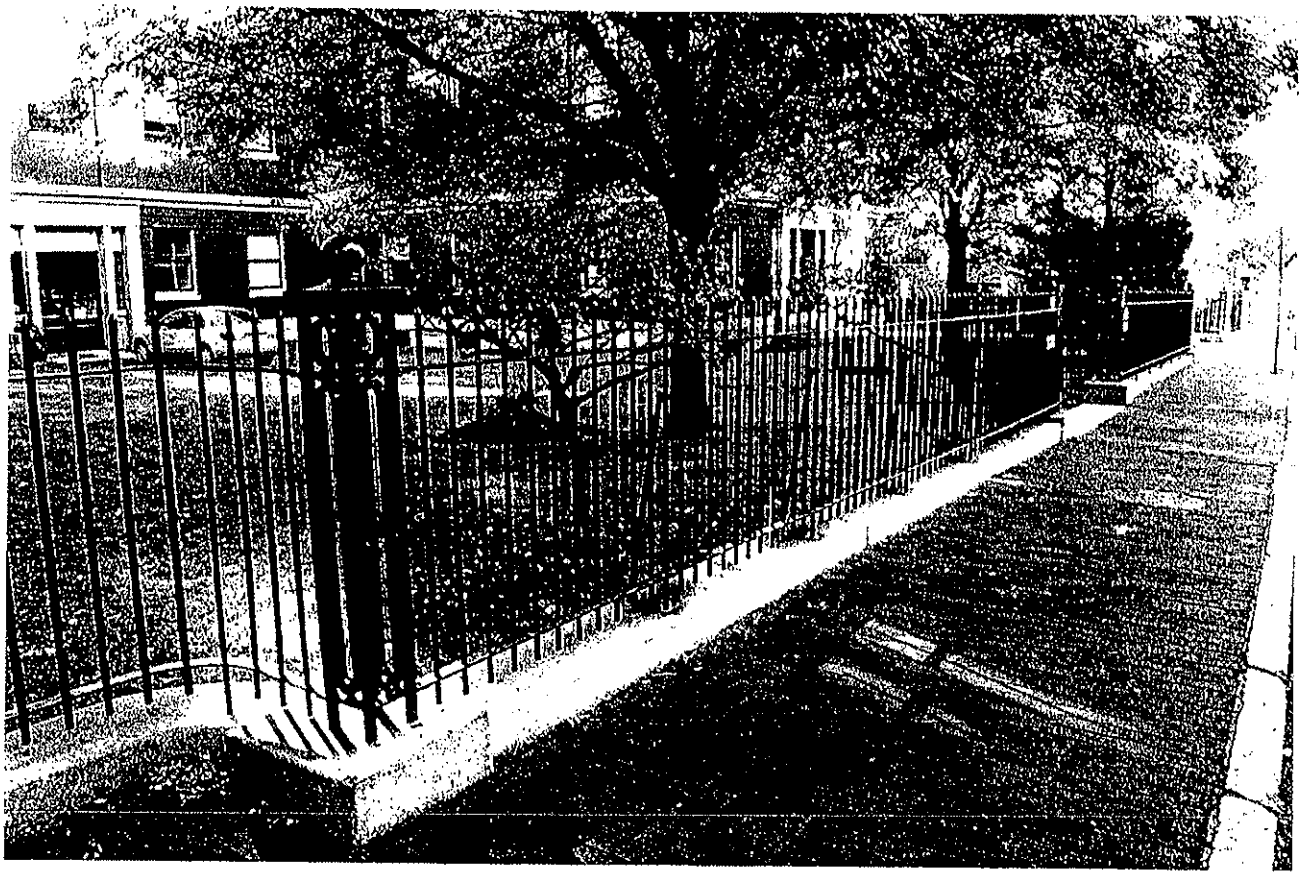
Provide one (1) tree per 1,500 square feet of ground area. Tree and shrub species should include those listed for Open Spaces in Appendix A: Approved Plant List.

Shade tree plantings at the lawn edges should reinforce residential architecture in shaping the park space. Shrub plantings should be carefully considered to enhance the space without creating security 'blind-spots' and should be arranged in continuous masses to allow maintenance with gang mowers.

The public edge treatment should be "light", but should feel like a boundary. Solid fencing should be avoided. *See* Figure 14: Iron Fence Example.

Connections to adjacent public open space areas and trails should be evident to encourage non-residents passing through the space to access recreation lands.

Lighting that emphasizes the neighborhood scale of the space should be provided. Lighting should be aligned on walkways to reinforce the night-time shaping of the park space in front of the abutting homes. Lighting fixtures should be pedestrian in scale; should be lower than street lights and may include bollard lights.



NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 14

Iron Fence Example

B. Common Open Spaces: Pedestrian Mews

Pedestrian Mews are "pedestrian-only" ways that have characteristics of both streets and parks. With homes fronting on what feels like a quiet, semi-public park, they are among the most intimate and attractive of neighborhood spaces.

Organizing Principles

- The sense of intimacy is defined by the surrounding buildings and should be reinforced by shade trees and ground plane treatment
- Provide the sense of homes fronting on a semi-private park
- Spaces within the mews should relate to the abutting residences and should meet the passive recreation needs of the inhabitants.

Landscaping should provide clues to the degree of public access welcomed in neighborhood

The sense of intimate space is partly defined by the space between the surrounding buildings and should be reinforced by shade trees and ground plane treatment. A simple approach is best – an outdoor room with a generous lawn panel; a walk with benches under a "ceiling" of shade trees.

The alignment of trees should provide a sense visual continuity as one passes through the mews. Informal, non-linear plantings can also create this sense of continuity.

The principal pedestrian walk should be the organizing axis for shade tree planting. Shade trees shall be planted on both sides of the street between thirty-five (35) feet to fifty (50) feet apart, depending on tree species and street light spacing, in order to create a continuous tree canopy along the mews.

Tree and shrub species should include those listed for Pedestrian Mews in Appendix A: Approved Plant List.

Shrubs should be planted at a ratio of one (1) shrub for every three hundred (300) square feet of mews area. Seventy percent (70%) of the mews surface should be turf.

Lighting should be pedestrian in scale, approximately twelve (12) feet in height, and suitably "park-like". Lights should be lower than lights on streets and should be more closely spaced.

C. Townhouse-1 and Townhouse-2

The Townhouses make up a substantial fraction of the housing stock in the community. They share common walls and each townhouse has a small front garden with a direct relationship to the street.

Landscaping should be used to identify the building entrance, focal points, and the street edge. It should create a visual rhythm at the sidewalk.

Hedges, low walls and fencing may be used to define the edge of the semi-public realm behind the sidewalk. Walls and fencing should be designed to complement the building architecture and should be a low as possible while still fulfilling their screening and property definition functions, but in no event should walls or fencing be higher than thirty-six (36) inches. Long expanses of fences and walls should be partially buffered with landscaping. *See* Figure 15: Townhouse Front Yard Example.

Small spaces look best with a simple landscape treatment based on a limited plant palette. The space should be both attractive, easy to maintain and functional for the home owner.

Smaller ornamental trees in the town house garden are a good complement to the medium to large shade trees likely to be planted at the street curb line. Garden trees and shrubs should be located and spaced to allow for mature growth and long-term health of the installation.

A mixture of deciduous and evergreen shrubs should be considered to provide all-season interest. Specimen size trees with one and one half (1 ½) inch to two (2) inch calipers and shrubs of two and one half (2 ½) to three (3) feet should be planted to assist new development in appearing "established" quickly. Fruit-bearing trees should be avoided near walkways.

Trees should be used to create more intimate front garden spaces, to frame views and to space an outdoor 'room'. Eye-level elements such as hanging planters, garden shrubs and grasses and ground-level features such as groundcovers and paving can all contribute to a memorable front garden and an enhanced public realm.

NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 15

Townhouse Front Yard Example

Garden landscaping should consist of one (1) ornamental tree for each townhouse. Woody shrub plantings should constitute fifty (50%) of planted area. The balance should be a combination of groundcover and lawn. Woody shrubs should be less than three (3) feet in height at maturity and should be planted at no more than forty-two (42) inches on center. Plantings should substantially cover mulch beds.

Suggested trees and shrubs for Townhouses are listed in Appendix A: Suggested Plant List for Private Landscape Areas.

D. Single-Family House (up to 5,000 sq. ft.) and Single Family House (5,000 to 10,000 sq. ft)

The guidelines for Single-Family Houses use landscaping and ground plane treatment that together with architecture and site planning, reinforce the character and identity found in traditional neighborhoods.

Landscaping should be used to create spaces at the front yard of the homes and should highlight the building entrance. To the extent possible, landscaping along the street frontage should be coordinated with adjacent properties to project a consistent visual corridor

The front yard should have at least one (1) shade or ornamental tree and a four (4) foot wide walk. Planting design should be a simple treatment based on a limited plant palette. Shrubs should be limited to about four (4) species and no more than six (6) types of perennials. The rear yard should have at least one shade tree.

The front and side yard space should be both attractive, easy to maintain and functional for the home owner. Lawns should be limited to reduce homeowner maintenance. The landscape image should be one of substantial drifts of shrub texture and color from eighteen (18) inches to thirty-six (36) inches high and punctuated by a spatial roof of a shade tree.

Trees and larger shrubs should be located in the front and side yard between homes to frame the architecture. Smaller ornamental trees in the front are a good complement to the large shade trees planted at the street curb line. Shrubs and grasses should be massed to define outdoor spaces. The spaces should be both attractive and easy to maintain.

Evergreen trees should be installed to provide year-round color or at breaks in a continuous façade.

Utilitarian areas of the side and rear yard visible from the street should be screened from view. The screening fence should be installed no less than ten (10) feet back from the front façade of the house. The color and materials for privacy or perimeter fencing should be coordinated

with the building architecture. *See* Figure 16: Single Family Home Example.

A mixture of deciduous and evergreen shrubs should be considered to provide all-season interest. Specimen size trees one and one half (1 ½) inch to two (2) inch calipers and shrubs of two and one half (2 ½) to three (3) feet should be planted to assist new development in appearing "established" quickly. Fruit-bearing trees should be avoided near walkways.

Suggested trees and shrubs for Single Family Houses are listed in Appendix A: Suggested Plant List for Private Landscape Areas.

NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 16

Single Family Home

E. Apartments, Apartments with Commercial and Apartments-Podium

Landscaping at Apartments, Apartments with Commercial and Apartments-Podium should be utilized to break down the scale of the buildings and should impart legible sense of entry. Plantings should have a mass and extent that will not be overwhelmed by the architecture and should reinforce the street corridor.

Organizing Principles

- In required building setback areas, stairs, stoops and small front gardens should be designed to capture the qualities of a traditional downtown residential street. Where building setbacks are not required, planters and entry plantings may be organized to provide an animated pedestrian environment at the sidewalk.

Low fencing or walls, hedges and front gardens may be used to define the back edge of the sidewalk and provide visual detail at the sidewalk. Walls and fencing should be designed to complement the building architecture and should be a low as possible while still fulfilling their screening and property definition functions, but in no event should walls or fencing be higher than thirty-six (36) inches. Fences and walls should be buffered with landscaping.

For apartments with setbacks, apartment front garden landscaping should consist of one (1) medium shade or ornamental tree for each thirty (30) feet of façade width. Woody shrub plantings should constitute sixty percent (60%) of the in-ground planting area. The balance should be grasses and groundcovers. One (1) woody shrub should be provided for each thirty (30) square feet of landscape area. Shrubs should be less than five (5) feet in height at maturity and should be planted at no more than four feet on center.

Where front gardens are not present, pavement treatment, landscaping or planters may be used to identify the building entrance, focal points and break down the scale of a long facade. Landscaping or planters should respond to the building architecture and should create a visual rhythm at the sidewalk.

In any plant composition, visual unity should be created by emphasizing a dominant species, material, texture or color. Accent plants – singularly or in mass – should be introduced to "play against" the dominant material and provide some contrast.

Plants should be chosen for their ability to withstand urban conditions, for all-season visual interest and for ease of maintenance.

Suggested trees and shrubs for Apartments are listed in Appendix A: Suggested Plant List for Private Landscape Areas.

Planters should be placed close to entries to facilitate maintenance and should be generously sized to allow a combination of shrubs, and herbaceous plants. Planters should be heavy in character and appearance to effectively define space. Planters should have a minimum of nine square feet in soil surface area and should be arranged in groups.

Landscape design should help direct circulation without obstructing critical sightlines.

F. Anchor Retail, Office/Commercial in the Village Center District and Neighborhood Commercial in the Residential District, Mixed-Use Village District and Village Center District

Anchor Retail, Office/Commercial uses in the Village Center District and Neighborhood Commercial in the Residential District, Mixed-Use Village District and Village Center District will be among the most important activity generators in the civic center of the community. As abutters to the street-side pedestrian zone, these buildings will have the opportunity to enhance day and night-time street life by creating engaging transitions between the public and private domains.

Organizing Principles

- Utilize landscaping in the setback areas to extend retail spaces out to the sidewalk zone to encourage pedestrians to become shoppers. The setback area should be treated with seating, landscaping, visual detail and lighting. Spaces associated with buildings, such as entry plazas or recessed corners can provide civic gathering places or temporary refuge from the urban environment.

Mixed use developments are encouraged to provide useable landscaped spaces adjacent to retail spaces or office entries to enliven the pedestrian zone. These might include a plaza with seating or an outdoor café at grade to create a seamless transition from the street. Spaces should be well-defined and contained within architectural elements and/or landscaping. Over-sized spaces lacking edge definition are discouraged.

The usefulness of plazas are enhanced by landscape treatment that presents a welcoming character to ground-level uses and entrances facing the street. Use repeating landscape elements such as ornamental trees and planters at building façade modulations. Landscaping should have all-season character.

In-ground planting areas should not be less than four (4) feet wide and not less than thirty-two (32) square feet in area.

Setback zone landscaping should consist of one ornamental tree for each twenty-five feet of façade width. Woody shrub plantings should constitute seventy-five percent (75%) of in-ground planted area and fifty percent (50%) of permanent above-grade planters. Woody shrubs should be less than three (3) feet in height at maturity and should be planted at no more than forty-two (42) inches on center. Annuals, ornamental grasses and seasonal planting should make up the balance of available space in these planting areas. Plantings should substantially cover mulch beds. Lawns are not preferred in the setback landscaping zone.

G. Biopharmaceutical Manufacturing, Light Industrial, Neighborhood Commercial and Office/Commercial in the Shea Village Commercial District

Landscaping for Biopharmaceutical Manufacturing, Light Industrial, Neighborhood Commercial and Office/Commercial uses in the Shea Village Commercial District is intended to create a campus with a positive landscape image for this gateway location in which business operations may be conducted with minimal impact on the natural environment and adjacent land uses.

Organizing Principles

- Create a memorable sense of a unified campus for the businesses and develop a logical entry sequence at individual buildings. Buildings should "fit into" the natural topography of the site. Seek to develop attractive new spaces that are enhanced or anchored by preserved islands of natural site vegetation

- Campus gateway design should a clear arrival event and orientation point that will direct campus visitors to their destinations.

- Landscaping should make route to principal building entry legible and intuitive.

- Create safe and convenient pedestrian walkways between building entrances and parking areas. Walkways should be attractive and well-defined by pavement treatment, landscaping and low-level lighting.

- Plantings should reinforce the overall campus structure and should positively create spaces rather than be

purely decorative. Landscaping should define visual corridors and define open spaces.

- Trees should be used to create a comfortable exterior environment for employees. Broad-stroke use of plants with strong forms and large masses is preferable to fussy, detailed plantings. Plantings should be simple and restrained, limiting the diversity of species within given groups of trees and shrubs.

Berms and evergreen tree screening should buffer views of service areas where space allows. Site walls should be utilized where space is not available for evergreen tree planting. *See* Figure 17: Loading Dock Screen Concept.

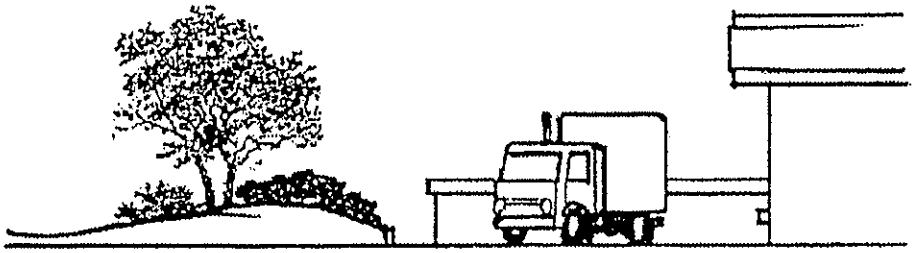
Landscape areas should emphasize simple, but substantial plantings of a limited number of species. Shrub beds should planted in "drifts" that will allow maintenance with large lawn mowers, without fussy shapes

Regionally appropriate native plants should predominate in the landscape design. Plants should be tolerant of specific site conditions, including but not limited to wind, drought and road salt.

Landscaping at entries, seating/activity areas should give shelter from prevailing winds and should emphasize passive solar design.

Utilities, transformers, emergency generators, junction boxes, meters and trash enclosures shall be located in inconspicuous locations and shall be screened from public view with fencing and/or shrubs. Landscape screening material shall be at least half the height of the object to be screened at the time of installation.

These elements should not be located in the front street setback.



A combination of walls and/or berms and landscaping should be utilized to screen service areas

NOTE:
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Landscape Plan — Figure 17

Loading Dock Screen Concept

H. Buildings without Building Forms

For developments containing buildings that do not have a corresponding Building Form in the By-Laws, the Applicable Subdivision Board will establish landscaping guidelines for that building that are (i) consistent with Articles 4-1 through 4-3 of these Regulations and (ii) based on the most applicable Building Form for which landscaping guidelines exist in these Regulations, as modified as necessary by the Applicable Subdivision Board.

I. Parking Lots

Parking lots include, but are not limited to, public facilities at the Village Center District, lots at Apartments, Apartments with Commercial, Apartments-Podium, Office/Commercial and buildings without applicable building forms under the By-Laws.

Organizing Principles

- Parking lots should be configured to reduce the apparent mass of paved surfaces. Large surface parking lots should be visually and functionally segmented into several smaller lots.
- Parking lot design should incorporate methods of storm water management utilizing low impact development techniques.
- Lot design and landscaping should make orientation and circulation legible and intuitive.
- Parking lot design should provide safe and convenient through-routes for pedestrians. Walkways should be attractive and well-defined by pavement treatment, landscaping and lighting.

The principal visual aspect of the parking lot shall not be long uninterrupted rows of parked cars. Parking lots shall be subdivided into a series of smaller, connected lots with raised landscaping strips, pedestrian paths with special pavement treatment and shade trees. A minimum area equal to ten percent (10%) of the gross interior parking area shall be landscaped.

Landscaping within the parking areas shall consist of a combination of end-row islands and linear islands between rows of parking stalls. No parking row shall be longer than fifteen parking stalls without a curbed planting area. Linear islands shall be no less than six (6) feet wide and a minimum seven feet long, densely planted area shall be provided at the end of each parking aisle.

Shade trees shall be planted on the linear islands at a ratio of one (1) three (3) inch caliper tree per eight (8) parking bays (approximately seventy (70) feet on center) and one (1) three (3) inch caliper trees per end-island. Trees shall be evenly distributed within the parking lot so that at tree maturity, forty percent (40%) of the parking stalls, backup and loading areas will be shaded at noon. Shrubs should be planted in a staggered row at no more than four (4) feet on center or at a ratio of one (1) shrub per thirty-five (35) square feet of landscape area, whichever method yields the greater number of shrubs. Shrubs should form a continuous, unbroken mass between trees.

Eighty-five percent (85%) of the available landscape island and perimeter zone shall be planted with trees shrubs, grasses and groundcovers Expansive areas of bark mulch should not be permitted. *See* Figure 18: End Island Parking Lot Landscape Concept.

The portion of the parking lot adjacent to the street or a public sidewalk should be adequately screened from view through landscaping and may be supplemented one or more of the following methods: rolling earth berms, changes in elevation, fences and walls.

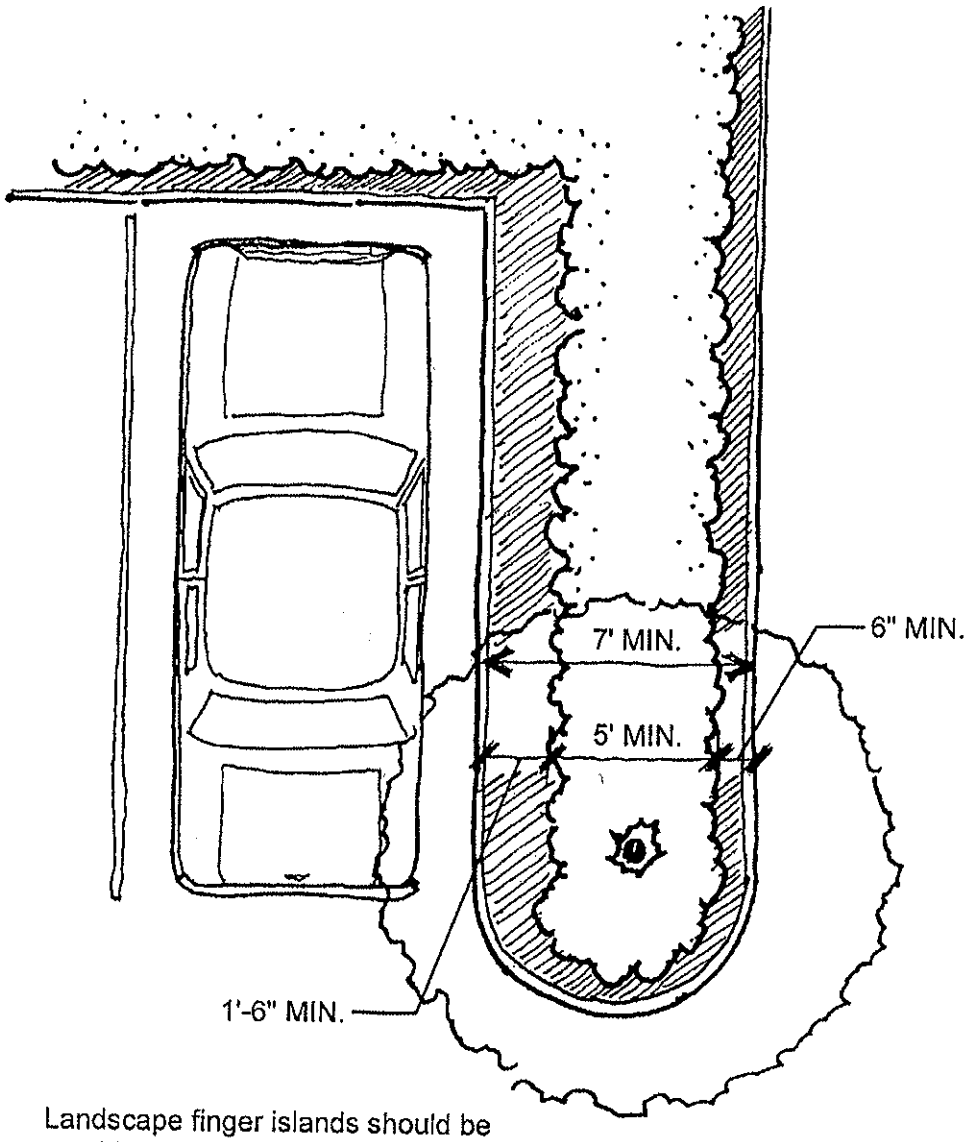
A continuous buffer strip at least eight (8) feet in width should be provided at the at the property line adjacent to a public street or public open space. The planted screen should consist of densely planted trees and shrubs. Trees should be provided at no less than one (1) three (3) inch caliper tree per thirty (30) linear feet of perimeter length. Shrubs should be provided at a ratio of one (1) shrub per thirty-five (35) square feet of the perimeter landscape area and should be a maximum of three (3) feet tall when viewed from the interior of the parking lot. Screening in the parking lot perimeter shall be both continuous and effective year-round.

Within the parking lot, shade trees should be located in islands protected by curbs and bollards.

Plantings supplemented with walls and fencing consistent with security issues are strongly encouraged. Walls and fences should be no less than twenty percent (20%) and no more than fifty percent (50%) transparent. Fences and walls installed in the perimeter buffer zone should not exceed four (4) feet in height.

Parking circulation aisles should be aligned in the direction of principal pedestrian travel and walkways should be provided through landscaped areas at convenient locations. Paved areas for pedestrian travel within landscaped islands should be provided in addition to required landscaping on that island. *See* Figure 19: Parking Pedestrian Median Landscape Concept.

Landscape areas should emphasize simple, but substantial plantings of a limited number of species. Mature size of tree and shrub species should be large enough to match the scale of the installation.

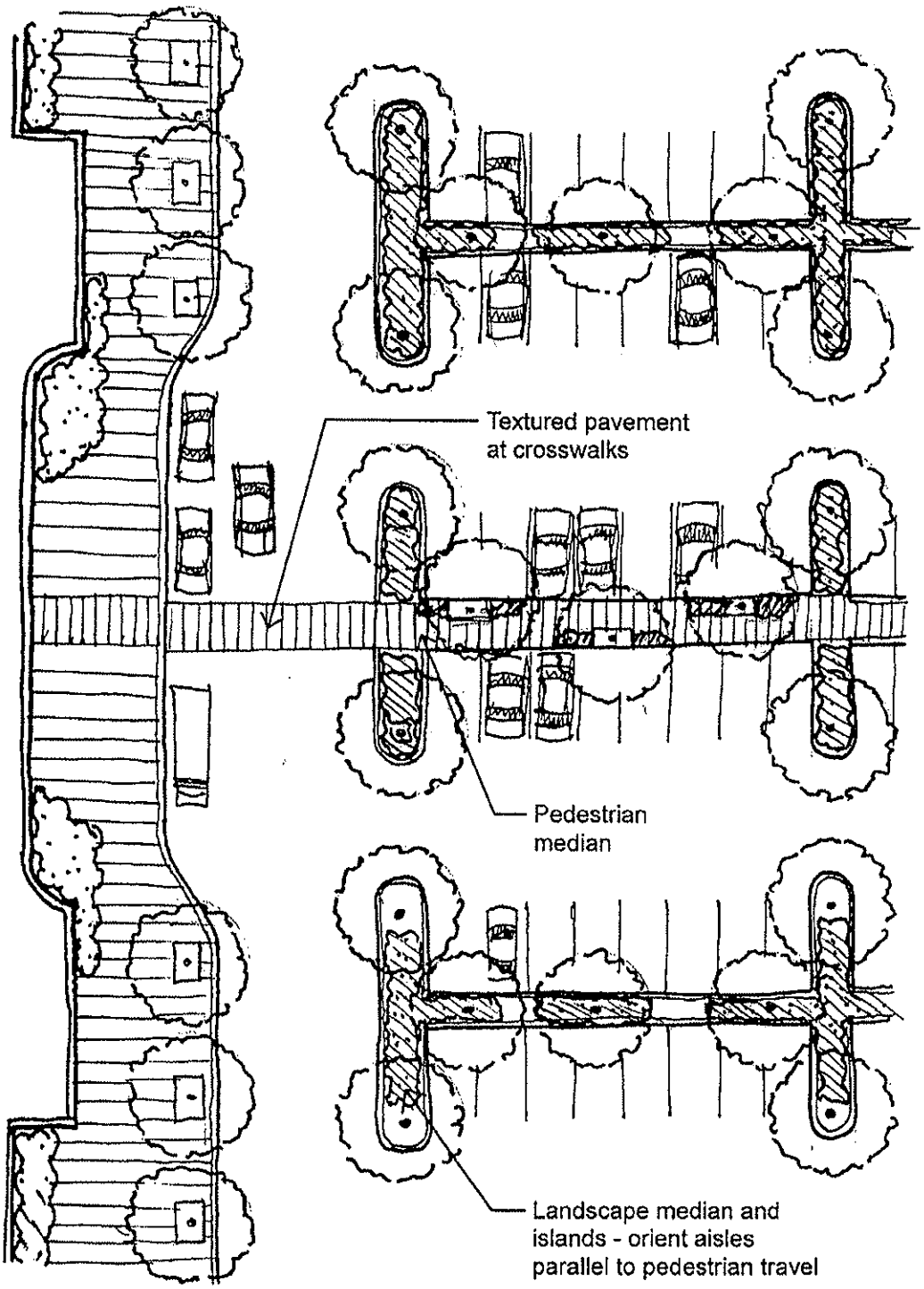


Landscape finger islands should be provided at one per twenty spaces and should be designed to accommodate vehicle door 'swing'

NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Landscape Plan — Figure 18

End Island Parking Lot Landscape



NOTE:
1. EXHIBIT FOR ILLUSTRATIVE PURPOSES ONLY.

Parking Pedestrian Median Landscape Concept

Parking lot bays, aisles and perimeter landscaping should be laid out with due consideration for snow plowing operations. Areas for snow storage should be sited at appropriate aisle-end locations. Plant species at these locations should be salt-tolerant and have a robust, horizontal branching structure that will not be damaged by snow load. Snowmelt water should be directed to drainage control devices such as bio-swales to prevent contamination of community water courses.

Tree and shrub species should include those listed for Surface Parking Lots in Appendix A: Approved Plant List.

Impervious areas directly connected to drainage structures are the greatest contributors to storm water pollution. Curbing design should allow passage of storm water into planted receiving areas and buffer strips (bio-swales) before discharge to a drainage system.

Utilities, connections, junction boxes and meters shall be located in inconspicuous locations and shall be screened from public view. Screening material shall be at least half the height of the object to be screened at the time of installation.

J. Green Streets

The responsible use of natural resources and native plants within the New England context is as important as developing a visually appealing landscape approach and design to NAS South Weymouth. Street trees, tree lawns, bioswales and landscape strips should be designed to balance aesthetic and ecological aims. Reference should also be made to the NAS South Weymouth Sustainable Standards and Guidelines. The following water considerations should guide the development of green streets in NAS South Weymouth:

Group plants according to irrigation needs.

Use solar orientation, exposure and drainage patterns to guide planting locations and palettes.

Prepare soil according to site conditions.

Prevent soil compaction around street trees and street landscaping through tree grates or un-mortared unit pavers.

Use drip or sub-surface drip irrigation systems or other efficient water irrigation methods for street trees and tree lawn areas.

Incorporate drought-tolerant, native plants that will spread and naturalize.

Select street trees with sufficient canopy to shade roadways and minimize heat island effect.

Locate bioswales and grass buffers along Primary Streets to mitigate stormwater runoff and promote natural irrigation.

ARTICLE V - INSPECTION

5.1 General Inspection Requirements

A. The Applicable Subdivision Board or its representative may inspect all site development activities, including erosion and sediment control devices and facilities while a development site subject to these Regulations is under construction. When facilities are not constructed according to approved plans, the Applicable Subdivision Board or its designee has the explicit authority to compel compliance with the approved plan and the objectives and standards of this Regulation.

B. All precautions should be taken by the Applicant and his/her contractors and subcontractors to observe common sense safety requirements. The Applicable Subdivision Board, or its designated agent, is to report all unsafe activities in preparation of the subdivision to the Applicable Subdivision Board.

C. The Applicable Subdivision Board assumes no responsibility for construction site safety, which shall remain the liability of the Applicant and his/her contractors and subcontractors.

D. Development sites involving land-disturbance of less than one (1) acre, when not a part of a larger plan of common development, may require the submission of an erosion and sediment control plan; however, such sites are subject to spot-inspection and site investigation by the Applicable Subdivision Board to determine that requirements of these Regulation are being met.

E. During the construction stage of any new roadway and associated work, the Applicant or his/her agent must notify the Applicable Subdivision Board and its designated "Director of Public Works" in advance of starting the following phases of construction:

(1) Pre-construction conference shall be held to review procedures, identify responsibilities and obtain listing of responsible individuals' names and phone numbers for emergencies, maintenance and protection of traffic, erosion and drainage controls, bonding, any previous Authority or Town approval requirements and outline inspection procedures.

(2) After all clearing, stumping and grubbing and prior to placement of any fill material or subbase gravel. Approval to proceed will not be given until the road segment is cleared of all slash, stumps and other debris which may affect the structural integrity of the road. A similar inspection shall be performed prior to issuance of approval to backfill of any drainage, water, sewer or utility trench. Offset stakes shall be set under the direction of a Registered Land Surveyor at fifty (50) foot intervals and at each sewerage and drainage structure and at each hydrant, to indicate the location and the exact amount of cut, fill, or grade.

(3) After placement of approved subbase material and prior to placement of crushed gravel. The Applicant shall make available a static 10-ton roller for this inspection to proof roll the subgrade prior to continuing with the next stages of construction. Any nonsuitable/ unstable subgrade areas shall be marked for removal and replaced with stable material. Re-inspection will be required in these areas. Sufficient grade stakes shall be available to the agent so that the profile can be checked.

(4) After placement of approved crushed gravel material and prior to placement of bituminous asphalt binder course. Prior to backfill of any drainage, water, sewer or utility trenched within the right-of-way, written approval shall be obtained by the Applicable Subdivision Board or applicable Director of Public Works or his/her agent.

(5) During the placement of asphalt materials. Certification by the asphalt supplier may be required, to verify that the materials and gradation conforms to MASSDOT Standards. Prior to final inspection, the Applicant's engineer shall provide the site grading plan documenting the intended site final grades. The Applicable Subdivision Board or applicable Director of Public Works shall inspect for defects of the improvements.

(6) After project completion and prior to a written request to the Authority or the Towns for acceptance of the roadway and its improvements, a punch list of deficiencies shall be prepared by the Applicable Subdivision Board or other town agent for review with the owner before the Authority or the Towns will entertain acceptance of the road.

(7) On newly constructed roadways, the wearing course of pavement should not be constructed within the same season as the construction of all other improvements. An inspection shall be made (and written approval provided) by the applicable Director of Public Works prior to allowing the wearing course to be placed. A tack coat of bituminous asphalt shall be placed over the binder course of pavement prior to placement of the wearing course.

5.2 Work Notification and Inspections

A. The applicable Wiring Inspector shall be notified prior to the installation of any telephone, electric, and other utility wires.

B. The Applicable Fire Department shall be notified prior to the installation of any work on the fire alarm system. No portion of any utilities shall be backfilled until approval for such backfilling is obtained in writing from the Applicable Subdivision Board or the Applicable Fire Department in the case of the fire alarm system. Such approval does not constitute acceptance of such utilities by the Authority or the Towns. Prior to backfilling, the Applicant shall, at his own expense, have the utilities located, including determination of elevation by a Registered Land Surveyor or Professional Engineer, and proof of such location, such as field notes, shall be presented to the Applicable Subdivision Board for approval prior to back-filling. Such will enable the Applicant to provide the "As-built" plans with ties to all utility structures required in these Regulations.

C. The Applicable Subdivision Board and its designated "Director of Public Works" shall be notified a minimum of three (3) working days prior to work requiring inspection.

5.3 Testing

The Applicant shall provide for compaction testing of each twelve (12) inch lift of fill, base and subbase materials. No further work shall proceed unless and until all inspections and test results pertaining to completed work are deemed satisfactory.

5.4 General Inspection Procedures

Inspection and enforcement actions shall include the following:

A. A copy of the approved erosion and sediment control plan shall be maintained on site or in a location easily accessible by the contractor and the inspector for the Applicable Subdivision Board.

B. On developing areas with disturbed areas in excess of one (1) acre, the Applicant may request that the applicable inspector inspect work completed at the stages of construction specified below to ensure accordance with the approved erosion and sediment control plan, the grading or building permit, and these Regulations:

(1) Upon completion of installation of perimeter erosion and sediment controls, prior to proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until initial approval by the applicable inspector is made; and

(2) Upon final stabilization before removal of sediment controls.

C. Every active site having a designed erosion and sediment control plan may be inspected for compliance with the plan at a frequency to be determined by the Applicable Subdivision Board.

D. Inspectors shall prepare written reports after every inspection.

E. The inspection report shall describe:

(1) The date and location of the site inspection;

(2) Whether or not the approved plan has been properly implemented and maintained;

(3) Any practice deficiencies or erosion and sediment control plan deficiencies; and the agreed upon type(s) of corrective action necessary to rectify any identified deficiencies;

(4) If a violation exists, the type of enforcement action taken; and

(5) The Applicant or an authorized representative of Applicant shall sign and receive a copy of the report before the inspector leaves the site.

F. The applicable inspector shall notify the on-site personnel or the Applicant when deficiencies are observed, describing the nature of the deficiency, the agreed upon corrective action and the time period in which to have the deficiency corrected.

G. If after a reasonable amount of time for voluntary compliance, the corrective actions are not undertaken to the satisfaction of the Applicable Subdivision Board, the Applicable Subdivision Board may issue a Notice of Violation and proceed with other enforcement remedies as provided by these Regulations.

H. Where the violations and/or deficiencies represent an immediate and substantial threat to the public health, safety or welfare, the Applicable Subdivision Board or its designee may immediately proceed with enforcement remedies as provided by these Regulations.

I. Failure to comply with the inspection procedure may necessitate removal of improvements at the expense of the Applicant or rescission of the approval of the plan in accordance with M.G.L. Chapter 41, Section 81W.

5.5 Final Inspection and Certification

A. Upon completion of the improvements, the applicable Director of Public Works, or authorized agent, shall file with the Applicable Subdivision Board a statement either certifying that the improvements have been completed in the specified manner or listing the defects in those improvements.

B. Upon completion of the improvements, the Applicant shall file with the Applicable Subdivision Board a statement stipulating that all improvements are complete, are constructed in compliance with these Regulations, are free of defects, and are free and clear of any encumbrance or lien.

C. Within forty-five (45) days after site final stabilization has been achieved, the Applicant shall file a Notice with the Applicable Subdivision Board that site activities are complete.

APPENDICES

APPENDIX A
PLANT PALETTE

1. INTRODUCTION

The urban forest benefits the local environment and makes our communities more livable. Trees and shrubs clean the air, control runoff, reduce flooding, provide sun and wind protection, define spaces for living and social interaction and can orient the visitor to the organization of an area. Conversely, conditions in the urban environment create stresses that are hostile to the health of many plants that would thrive in a more natural situation. Limiting environmental factors include air pollution, soil compaction and limited aeration, low soil fertility, lack of soil moisture or poor drainage, high summer heat and potential for de-icing salt spray. As planting conditions become more stressful, the plant palette will necessarily become more limited. Trees and shrubs that are not biologically adapted to urban conditions will incur higher mortality rates and increased maintenance costs.

A variety of spaces in the community will be planted. The types of spaces include:

Parkways /arterial streets

Collector streets

Local streets

Surface parking lots

Village squares and plazas

Pedestrian connections

Neighborhood parks and open spaces

Active recreation facilities

Landscaped buffer areas, forest edges and nature trailheads

Landscaped enhancements at wetland edges

Drainage ways and wetland mitigation areas

Some of these spaces share a common environmental regime and functional requirements for the plants to be installed. Plant lists for those spaces with similar characteristics have been consolidated for simplicity. These lists are intended to provide guidance and a point of departure. They are not intended to be definitive or exclusive. The lists emphasize native plant material, but also include non-invasive species that are not native, but are well-adapted to local conditions.

2. APPROVED PLANT LIST

A. PARKWAY AND SHEA BOULEVARD

Relevant requirements: Some de-icing salt tolerance (decreasing importance with distance from road), moderate pollution tolerance, moderate soil compaction tolerance, large mature stature (> 50 feet).

Shade Trees:
Minimum Installed Size: 3½ - 4 inch caliper

- Acer rubrum cultivars: Red Maple
  'October Glory', 'Red Sunset',
  'Autumn Spire', 'Autumn Flame',
  'Brandywine'
- Betula nigra River Birch
- Liquidambar styraciflua Sweetgum
- Liriodendron tulipifera Tuliptree
- Picea abies Norway Spruce
- Plantanus occidentalis American Sycamore
- Quercus alba White Oak
- Quercus coccinea Scarlet Oak
- Quercus palustris Pin Oak
- Quercus robur English Oak
- Quercus rubra Red Oak
- Quercus velutina Black Oak
- Tilia americana American Linden
- Ulmus americana American Elm
  'Liberty', 'Valley Forge',
  'New Harmony' or other disease-resistant cultivars

Ornamental Trees:
Minimum Installed Size: 2½ inch caliper

- Carpinus caroliniana American Hornbeam
- Cercis canadensis Eastern redbud
- Cornus Rutgers hybrids Dogwood
- Crataegus viridis 'Winter King' Hawthorne
- Malus sp.
  Crabapple
- Oxydendrum arboreum Sourwood
- Pyrus calleryana Callery Pear
  'Aristocrat' or 'Chanticleer'

B. PRIMARY STREETS, NEIGHBORHOOD STREETS AND NARROW NEIGBORHOOD STREETS

Relevant requirements: De-icing salt tolerance, pollution tolerance, soil compaction tolerance, medium to large mature stature (35 feet to > 50 feet) with more compact spread or lighter head

Shade Trees:
Minimum Installed Size: 3 - 3½ inch caliper

- Acer rubrum cultivars: Red Maple
  'October Glory', 'Red Sunset',
  'Autumn Spire', 'Autumn Flame',
  'Brandywine'
- Betula nigra River Birch
- Ginkgo biloba Ginko
  'Princeton Sentry'(male only)
- Gleditsia triacanthos Honeylocust
  'Shademaster' or 'Skyline'
- Liquidambar styraciflua Sweetgum
- Liriodendron tulipifera Tuliptree
- Prunus sargentii Sargent Cherry
- Pyrus calleryana Callery Pear
- 'Aristocrat' or 'Chanticleer'
- Quercus coccinea Scarlet Oak
- Quercus rubra Red Oak
- Quercus velutina Black Oak
- Tilia americana American Linden
- Ulmus americana American Elm
  'Liberty', 'Valley Forge',
  New Harmony' or other disease-resistant cultivars

Ornamental Trees:
Minimum Installed Size: 2½ inch caliper

- Acer buergerianum Trident Maple
- Amelanchier x grandiflora Apple Serviceberry
- Cornus Rutgers hybrids Dogwood
- Carpinus caroliniana American Hornbeam
- Halesia carolina Carolina Silverbell
- Oxydendron arboreum Sourwood
- Stewartia pseudocamellia Japanese Stewartia
- Syringa reticulata Japanese Tree Lilac

C. VILLAGE CENTER SQUARE

Relevant requirements: De-icing salt tolerance, pollution tolerance, soil compaction tolerance, medium to large mature stature (35 feet to > 50 feet) with more compact spread or lighter head

Shade Trees:
Minimum Installed Size: 3 - 3½ inch caliper

- Acer rubrum cultivars: 'October Glory', 'Red Sunset', 'Autumn Spire', 'Autumn Flame', 'Brandywine' — Red Maple
- Betula nigra — River Birch
- Ginkgo biloba 'Princeton Sentry'(male only) — Ginko
- Gleditsia triacanthos 'Shademaster' or 'Skyline' — Honeylocust
- Liquidambar styraciflua — Sweetgum
- Liriodendron tulipifera — Tuliptree
- Quercus coccinea — Scarlet Oak
- Quercus rubra — Red Oak
- Quercus velutina — Black Oak
- Tilia americana — American Linden
- Ulmus americana 'Liberty', 'Valley Forge', 'New Harmony' or other disease-resistant cultivars — American Elm

Ornamental Trees:
Minimum Installed Size: 2½ inch caliper

- Acer buergerianum — Trident Maple
- Amelanchier x grandiflora — Apple Serviceberry
- Cornus Rutgers hybrids — Dogwood
- Carpinus caroliniana — American Hornbeam
- Halesia carolina — Carolina Silverbell
- Oxydendron arboreum — Sourwood
- Stewartia pseudocamellia — Japanese Stewartia

D. SURFACE PARKING LOTS

Relevant requirements: De-icing salt tolerance, pollution tolerance, soil compaction tolerance, medium to large mature stature (35 feet to > 50 feet) with more compact spread or lighter head.

Trees:
Minimum Installed Size: 3 - 3½ inch caliper

- Acer rubrum cultivars: Red Maple
  'October Glory', 'Red Sunset',
  'Autumn Spire', 'Autumn Flame',
  'Brandywine'
- Betula nigra 'Heritage' River Birch
- Ginkgo biloba Ginko
  'Princeton Sentry'(male only)
- Gleditsia triacanthos Honeylocust
  'Shademaster' or 'Skyline'
- Prunus sargentii Sargent Cherry
- Pyrus calleryana Callery Pear
  'Aristocrat' or 'Chanticleer'
- Quercus coccinea Scarlet Oak
- Quercus rubra Red Oak
- Quercus velutina Black Oak
- Tilia americana American Linden
- Ulmus americana American Elm
  'Liberty', 'Valley Forge',
  'New Harmony' or other disease-resistant cultivars

Shrubs:
Minimum Installed Size: 2½ – 3 feet

- Aesculus parvifolia Bottlebrush Buckeye
- Aronia arbutifolia Chokeberry
- Buxus sp. Boxwood
- Cornus mas Cornelian Cherry
- Cotoneaster sp. Cotoneaster
- Cytisus sp. Broom
- Hamamelis vernalis Vernal Witchhazel
- Ilex glabra Inkberry
- Ilex x meserveae Meserve Hollies
- Juniperus sp. Juniper
- Myrica pensylvanica Northern Bayberry
- Pinus mugo mugo Swiss Mountain Pine

- Rhus aromatica 'Gro Low' — Fragrant Sumac
- Rosa virginiana — Virginia Rose
- Spirea x bumalda — Bumalda Spirea

Shrubs for Irrigated Areas may include:

- Clethra alnifolia 'Hummingbird' — Summersweet Clethra
- Fothergilla gardenii — Dwarf Fothergilla
- Itea virginica 'Henry Garnet' — Virginia Sweetspire

E. LARGE SCALE OPEN SPACES, ATHLETIC FIELDS AND FACILITIES

Relevant requirements: Large size, suitable for massing, visual impact at distance, no salt tolerance required, multi-season interest.

Trees:
Minimum Installed Size: 3 – 3 ½ inch caliper

- Acer rubrum cultivars: 'October Glory', 'Red Sunset', 'Autumn Spire', 'Autumn Flame', 'Brandywine' — Red Maple
- Acer saccharum — Sugar Maple
- Amelanchier arborea — Downy Serviceberry
- Betula nigra — River Birch
- Carya cordiformis — Bitternut Hickory
- Carya ovata — Shagbark Hickory
- Cladrastis kentukea — American Yellowwood
- Fagus grandfolia — American Beech
- Halesia tetraptera — Carolina Silverbell
- Juglans nigra — Eastern Black Walnut
- Liquidambar styraciflua — Sweetgum
- Liriodendron tulipifera — Tulip Tree
- Nyssa sylvatica — Black Tupelo
- Ostrya virginiana — American Hophornbeam
- Picea sp. — Spruce
- Pinus strobus — Eastern White Pine
- Platanus occidentalis — American Sycamore
- Quercus alba — White Oak
- Quercus rubra — Red Oak
- Thuja occidentalis — American Arborvitae
- Tilia americana — American Linden
- Ulmus americana 'Liberty', 'Valley Forge', 'New Harmony' or other disease-resistant cultivars — American Elm

Shrubs:
Minimum Installed Size: 2½ - 3 feet

▪ Aronia arbutifolia 'Brilliantissima'	Red Chokeberry
▪ Clethra alnifolia	'Hummingbird' Clethra
▪ Fothergilla major	Large Fothergilla
▪ Hamamelis x intermedia cultivars: 'Angelly', 'Arnold Promise', 'Diane', 'Pallida'	Witchhazel
▪ Hamamelis vernalis	Vernal Witchhazel
▪ Hydrangea quercifolia	Oakleaf Hydrangea
▪ Hydrangea sp.	Hydrangea
▪ Ilex glabra	Inkberry
▪ Ilex verticillata	Winterberry
▪ Juniperus sp.	Juniper
▪ Lindera benzoin	Spicebush
▪ Myrica pensylvanica	Northern Bayberry
▪ Rosa virginiana	Virginia Rose
▪ Syriga x meyeri	Meyer Lilac
▪ Vaccinium corymbosum	Highbush Blueberry
▪ Viburnum dentatum	Arrowwood Viburnum
▪ Viburnum trilobum	American Cranberrybush Viburnum

F. NEIGHBORHOOD PARKS, OPEN SPACES, PEDESTRIAN CONNECTIONS, MEWS AND PLAZAS

Relevant requirements: Limited de-icing salt tolerance, pollution tolerance, soil compaction tolerance, medium to large stature shade trees (35 inches to > 50 inches), small to medium size ornamental trees with multi-season interest and smaller evergreen, and deciduous shrubs with visual and textural interest suitable for foreground planting.

Trees:
Minimum Installed Size: 3 - 3½ inch caliper

▪ Acer rubrum cultivars: 'October Glory', 'Red Sunset', 'Autumn Spire', 'Autumn Flame', 'Brandywine'	Red Maple
▪ Amelanchier x grandiflora	Apple Serviceberry
▪ Betula nigra 'Heritage'	River Birch

- Cornus Rutgers hybrids Dogwood
- Cercis canadensis Redbud
- Ginkgo biloba 'Princeton Sentry'(male only) Ginko
- Gleditsia triacanthos 'Shademaster' or 'Skyline' Honeylocust
- Halesia carolina Carolina Silverbell
- Magnolia sp. Magnolia
- Malus sp. Crabapple
- Nyssa sylvatica Black Tupelo
- Oxydendron arboreum Sourwood
- Prunus sargentii Sargent Cherry
- Pyrus calleryana 'Aristocrat' or 'Chanticleer' Callery Pear
- Quercus coccinea Scarlet Oak
- Quercus rubra Red Oak
- Pinus strobus Eastern White Pine

Shrubs:
Minimum Installed Size: 2½ – 3 inches

- Aesculus parvifolia Bottlebrush Buckeye
- Buxus microphylla 'Green Mountain' Boxwood
- Clethra alnifolia 'Hummingbird' Summersweet Clethra
- Fothergilla gardenii Dwarf Fothergilla
- Hamamelis x intermedia cultivars: 'Angelly', 'Arnold Promise', 'Diane', 'Pallida' Witchhazel
- Hamamelis vernalis Vernal Witchhazel
- Hydrangea sp. Hydrangea
- Ilex glabra Inkberry
- Ilex x meserveae Meserve Hollies
- Itea virginica 'Henry Garnet' Virginia Sweetspire
- Juniperus sp. Juniper
- Kalmia latifolia Mountain Laurel
- Kolkwitzia amabilis Beautybush
- Myrica pensylvanica Northern Bayberry
- Rhododendron maximum Rosebay Rhododendron
- Rosa virginiana Virginia Rose
- Vaccinium angustifolium Low Bush Blueberry
- Vaccinium corymbosum Highbush Blueberry
- Viburnum acerifolium Mapleleaf Viburnum

- Viburnum trilobum — American Cranberrybush Viburnum

G. LANDSCAPE BUFFERS

Relevant requirements: Shade tolerance, moderate soil moisture, suitable for massing, wildlife shelter and food, no salt tolerance required, multi-season interest.

Trees:
Minimum Installed Size: 2½ - 3 inch caliper

- Acer rubrum cultivars: Red Maple 'October Glory', 'Red Sunset', 'Autumn Spire', 'Autumn Flame', 'Brandywine'
- Acer saccharum — Sugar Maple
- Amelanchier arborea — Downy Serviceberry
- Carya cordiformis — Bitternut Hickory
- Carya ovata — Shagbark Hickory
- Cladrastis kentukea — American Yellowwood
- Juglans nigra — Eastern Black Walnut
- Liquidambar styraciflua — Sweetgum
- Liriodendron tulipifera — Tulip Tree
- Nyssa sylvatica — Black Tupelo
- Ostrya virginiana — American Hophornbeam
- Pinus strobus — Eastern White Pine
- Quercus alba — White Oak
- Quercus rubra — Red Oak

Shrubs:
Minimum Installed Size: 2 – 2½ feet

- Aronia arbutifolia 'Brilliantissima' — Red Chokeberry
- Clethra alnifolia 'Hummingbird' — 'Summersweet Clethra
- Cornus amomum — Silky Dogwood
- Fothergilla major — Large Fothergilla
- Hamamelis vernalis — Vernal Witchhazel
- Hamamelis virginiana — Common Witchhazel
- Hydrangea quercifolia — Oakleaf Hydrangea
- Ilex glabra — Inkberry
- Ilex verticillata — Winterberry
- Juniperus sp. — Juniper
- Kalmia latifolia — Mountain Laurel
- Lindera benzoin — Spicebush

- Myrica pensylvanica Northern Bayberry
- Vaccinium corymbosum Highbush Blueberry
- Vaccinium angustifolia Lowbush Blueberry
- Viburnum acerifolium Mapleleaf Viburnum
- Viburnum dentatum Arrowwood Viburnum
- Viburnum trilobum American Cranberrybush Viburnum

H. WETLAND BUFFER ZONES, DRAINWAYS AND BIO-SWALES

Relevant requirements: Some wet soils tolerance, some shade tolerance, suitable for massing, wildlife shelter and food.

Trees:
Minimum Installed Size: 2 – 2½ inch caliper

- Acer rubrum cultivars: Red Maple 'October Glory', 'Red Sunset', 'Autumn Spire', 'Autumn Flame', 'Brandywine'
- Amelanchier arborea Downy Serviceberry
- Cladrastis kentukea American Yellowwood
- Liquidambar styraciflua Sweetgum
- Nyssa sylvatica Black Tupelo
- Platanus occidentalis American Sycamore
- Quercus bicolor Swamp White Oak

Shrubs:
Minimum Installed Size: 2 - 2½ feet

- Aesculus parvifolia Bottlebrush Buckeye
- Alnus incana Speckled Alder
- Aronia arbutifolia 'Brilliantissima' Red Chokeberry
- Ceanothus americanus New Jersey Tea
- Clethra alnifolia 'Hummingbird' Summersweet Clethra
- Cornus amomum Silky Dogwood
- Fothergilla gardenii Dwarf Fothergilla
- Hamamelis vernalis Vernal Witchhazel
- Hydrangea quercifolia Oakleaf Hydrangea
- Ilex glabra Inkberry
- Ilex verticillata Winterberry
- Myrica pensylvanica Northern Bayberry
- Rhododendron vaseyi Pinkshell Azalea

- Rhododendron viscosum Swamp Azalea
- Vaccinium corymbosum Highbush Blueberry
- Vaccinium angustifolia Lowbush Blueberry
- Viburnum acerifolium Mapleleaf Viburnum
- Viburnum dentatum Arrowwood Viburnum
- Viburnum trilobum American Cranberrybush Viburnum

I. SPECIAL CONDITIONS – SHRUBS/GRASSES FOR PLANTING AT ROADS

Relevant requirements: De-icing salt tolerance, full sun environment, pollution tolerance, soil compaction tolerance, suitable for massing.

Shrubs:
Minimum Installed Size: 2 - 2½ feet

- Aesculus parvifolia Bottlebrush Buckeye
- Aronia arbutifolia 'Brilliantissima' Red Chokeberry
- Clethra alnifolia 'Hummingbird' Summersweet Clethra
- Fothergilla gardenii Dwarf Fothergilla
- Hamamelis vernalis Vernal Witchhazel
- Hypericum sp. St. Johnswort
- Ilex glabra Inkberry
- Itea virginica 'Henry Garnet' Virginia Sweetspire
- Juniperus sp. Juniper
- Myrica pensylvanica Northern Bayberry
- Rosa rugosa Saltspray Rose
- Rosa virginiana Virginia Rose

Grasses:
Minimum Installed Size: #3 container

- Andropogon gerardii Big Bluestem
- Deschampsia cespitosa Tufted Hairgrass
- Elymus arenarius 'Glaucus' Blue Lyme Grass
- Panicum virgatum Switch Grass
- Phalaris arundinacea 'Feesey' Ribbon Grass

3. SUGGESTED PLANT LIST FOR PRIVATE NEIGHBORHOOD LANDSCAPE AREAS

These following species are a suggested, but not exclusive, plant palette for private landscapes. They are appropriate in scale to small properties, and can provide a basic framework for an attractive, private landscape.

▪ Acer griseum	Paperbark Maple
▪ Acer palmatum	Japanese Maple
▪ Acer triflorum	Three-flower Maple
▪ Amelanchier arborea	Downy Serviceberry
▪ Cercis canadensis	Eastern Redbud
▪ Chionanthus virginicus	White Fringetree
▪ Chionanthus retusus	Chinese Fringetree
▪ Cornus officinalis	Japanese Cornal Dogwood
▪ Cornus Rutgers hybrids	Dogwood
▪ Magnolia sp.	Magnolia
▪ Malus sp.	Crabapple
▪ Halesia carolina	Carolina Silverbell
▪ Halesia diptera	Two-wing Silverbell
▪ Heptacodium miconiodes	Seven-son Flower
▪ Magnolia stellata	Star Magnolia
▪ Oxydendron arboreum	Sourwood
▪ Styrax japonicus	Japanese Snowbell
▪ Stewartia pseudocamellia	Japanese Stewartia
▪ Stewartia koreana	Korean Stewartia

4. PROHIBITED PLANT LIST

Prohibited plants include those species selected from the *Massachusetts Prohibited Plant List* and other plants added due to unfavorable arboricultural characteristics.

Trees:

• Ailanthus altissima	Tree of Heaven
• Acer platanoides	Norway Maple
• Acer pseudoplatanus	Sycamore Maple
• Acer saccharum	Silver Maple (weak wood)
• Melaleuca quinquenervia	Melaleuca
• Phellodendron amurense	Amur cork-tree
• Prosopis pallida	Kiawe
• Prosopis reptans	Tornillo
• Prosopis strombulifera	Argentine screwbean
• Prosopis velutina	Arizona mesquite

• Robinia pseudoacacia	Black Locust

Shrubs:

• Berberis thunbergii	Japanese Barberry
• Berberis vulgaris	Common Barberry
• Elaeagnus umbellata	Autumn Olive
• Euonymus alatus	Burning Bush
• Frangula alnus	Glossy Buckthorn
• Ligustrum obtusifolium	Border privet
• Lonicera maackii	Amur Honeysuckle
• Lonicera morrowii	Morrow's Honeysuckle
• Lonicera tatarica	Tatarica Honeysuckle
• Lonicera x bella	Bell's Honeysuckle
• Lycium ferrocissimum	African boxthorn
• Melastoma malabathricum	Indian-rhododendron
• Mimosa diplotrichia	Giant false sensitive plant
• Mimosa pigra	Mimosa
• Rhamnus cathartica	Common buckthorn
• Rosa multiflora	Multiflora Rose
• Rubus fruticosus	Wild Blackberry Complex
• Rubus moluccanus	Wild Blackberry

Grasses:

• Arthraxon hispidus	Hairy jointgrass
• Carex kobomugi	Amur Peppervine
• Digitaria abyssinia	African Couch Grass
• Digitaria scalarum	African Couch Grass
• Digitaria velutina	Velvet Fingergrass
• Festuca filiformis	Hair Fescue
• Glyceria maxima	Tall Mannagrass
• Ischaemum rugosum	Murain-grass
• Microstegium vimineum	Japanese Stilt Grass
• Miscanthus sacchariflorus	Plume Grass
• Paspalum scrobiculatum	Kodo-millet
• Pennisetum clandestinum	Kikuyugrass
• Pennisetum macrourum	African Feather Grass
• Pennisetum pedicellatum	Kyasuma Grass
• Pennisetum polystachyon	Mission Grass
• Phalaris arundinacea	Reed Canary-Grass
• Phragmites australis	Common Reed
• Rottboellia cochinchinensis	Itchgrass

• Saccharum spontaneum	Wild Sugarcane
• Setaria pallidfusca	Cattail Grass
• Setaria pumila	Cattail Grass
• Urochoa panicoides	Liverseed Grass

Perennials

▪ Aegopodium podagraria	Bishops' Goutweed
▪ Ageratina adenophora	Crofton Weed
▪ Alliaria petiolata	Garlic Mustard
▪ Alternanthera sessilis	Sessile Joyweed
▪ Anthriscus sylvestris	Wild Chervil
▪ Asphodelus fistulosus	Onion Weed
▪ Avena sterilis	Animated Oat
▪ Azolla pinnata	Mosquito Fern
▪ Cabomba caroliniana	Carolina Fanwort
▪ Cardamine impatiens	Bushy Rock-Cress
▪ Carthamus oxycantha Bieb.	Wild Safflower
▪ Centaurea bieberstenii	Spotted Knapweed
▪ Chyrsopogon aciculatus	Golden False Beardgrass
▪ Commelina benghalensis	Benghal Dayflower
▪ Crupina vulgaris	Common Crupina
▪ Cuscuta	Dodder
▪ Cynanchum louiseae	Black Swallow-Wort
▪ Cynanchum rossicum	European Swallow-Wort
▪ Drymaria arenaroides	Drymary Sandwort
▪ Epilobium hirsutum	Hairy Willow-Herb
▪ Galega officinalis	Goatsrue
▪ Glauchium falvum	Sea or Horned Poppy
▪ Heracleum mantegazzianum	Giant Hogweed
▪ Hesperis matronalis	Dames Rocket
▪ Homeria	Cape Tulip
▪ Hygrophila polysperma	Miramar Weed
▪ Imperata brasiliensis	Brazilian Satintail
▪ Lepidium latifolium	Broad-Leaved Pepperweed
▪ Leptochola chinensis	Asian Sprangletop
▪ Lysimachia nummularia	Moneywort
▪ Mimosa invisa	sensitive plant
▪ Myosotis scorpiodes	Forget-me-not
▪ Nassella trichotoma	Serrated Tussock
▪ Opuntia aurantiaca	Jointed Prickly Pear
▪ Orobanche L.	Broomrape
▪ Oryza longistaminata	Red Rice
▪ Oryza punctata	Red Rice

▪ Oryza rufipogon Griffiths	Red Rice
▪ Polygonum cuspidatum	Japanese Knotweed
▪ Polygonum perfoliatum	Asiatic Tearthumb
▪ Ranunculus ficaria	Fig Buttercup
▪ Ranunculus repens	Creeping Buttercup
▪ Rubus phoenicolasius	Wine Raspberry
▪ Salsola vermiculata	Wormleaf Salsola
▪ Senecio jacobaea	Tansy Ragwort; Stinking Willie
▪ Solanum tampicense	Wetland Nightshade
▪ Solanum torvum	Turkeyberry
▪ Solanum viarum	Tropical soda apple
▪ Sparganium erectum	Exotic Bur-Reed
▪ Spermacoce alata	Winged False Buttonweed
▪ Striga Lour.	Witchweed
▪ Tridax procumbens	Coat Buttons
▪ Tussilago farfara	Coltsfoot
▪ Euphorbia esula	Leafy Spurge
▪ Euphorbia cyparissias	Cypress Spurge
▪ Iris pseudacorus	Yellow Iris
▪ Lythrum salicaria	Purple Loosestrife

Vines

▪ Ampelopsis brevipedunculata	Amur Peppervine
▪ Celastrus orbiculatus	Oriental Bittersweet
▪ Humulus japonicus	Japanese Hops
▪ Lonicera japonica	Japanese Honeysuckle
▪ Mikania cordata	Mile-a-minute
▪ Mikania micrantha	Mile-a-minute
▪ Pueraria montana	Kudzu; Japanese Arrowroot

Annuals

• Emex australis	Three-cornered Jack
• Emex spinosa	Devil's Thorn

Floating, Emergent, or Submerged Aquatic Plants:

• Caulerpa taxifolia	(A marine algae)
• Egeria densa	Brazilian Waterweed
• Eichhornia azurea	Anchored Water Hyacinth
• Hydrilla verticillata	Water-Thyme
• Ipomoea aquatica Forsk.	Chinese Waterspinach
• Lagarosiphon major	Oxygen Weed
• Limnophila sessiliflora	Ambulia
• Monochloria sacchariflorus	Heart-Shaped Pickerelweed
• Monochloria hastata	Pickerelweed
• Myriophyllum aquaticum	Parrot-feather; Brazilian Water-Milfoil
• Myriophyllum herterophyllum	Variable Water-Milfoil
• Myriophyllum spicatum	Water-Milfoil
• Najas minor	Brittle Water-Nymph; lesser naiad
• Nymphoides peltata	Yellow Floating Heart
• Ottelia alismoides	Duck-Lettuce
• Potamogeton crispus	Curly Pondweed
• Rorippa amphiba	Water Yellowcress
• Sagittaria sagittifolia	Arrowhead
• Salvinnia auriculata	Giant Salvinia
• Salvinia biloba	Giant Salvinia
• Salvinia herzogii de la Sota	Giant Salvinia
• Salvinia molesta	Giant Salvinia
• Trapa natans	Water Chestnut

APPENDIX B
LANDSCAPE INSTALLATION

1. INTRODUCTION

The trees, shrubs, grasses and groundcovers of our streets, parks and open spaces enhance the quality of our community life. They provide shade, cleaner air and gracefully shape spaces for human use. Plants in our cities and towns, however, face a variety of environmental and physical stresses, including pedestrian and vehicular traffic, deicing salt, soil compaction, air pollution and drought. To maximize the long-term survival of the urban forest are proper handling, landscapes require careful planting and immediate and continued after care. All approved landscape plans shall follow these guidelines, an approved equivalent or improved installation.

Species Selection

Growing conditions and microclimates vary from location to location within a district and across the community. Species selection should be determined by design goals and site conditions. The mature height and spread of street and shade trees should be considered to match the tree to the spacing requirements of the site. The selected tree should not cause interference with walks and other paved surfaces or affect underground utility lines or drainage systems.

2. LANDSCAPE INSTALLATION SPECIFICATIONS

A. Materials

1. Plants

- All balled and burlapped plants shall be dug immediately before moving unless otherwise specified. Plants shall be dug to retain as many fibrous roots as possible. Balled and burlaped trees shall have a solid ball of earth of the minimum specified size, securely held in place by untreated burlap and manila rope (nylon or polypropylene rope is prohibited). Loose, broken or manufactured root balls are unacceptable.
- All trees shall be typical of their species or cultivar. They shall have normal, well-developed branch structure and a fibrous root system. They shall be sound, healthy and vigorous plants, free from defects, disfiguring knots, sunscald, injuries, bark abrasions, diseases, insect eggs, borers and all forms of infestations. All single-stem trees shall have a straight trunk with an intact leader and be branched at least six feet from the ground.

- All plants shall be nursery grown within a 200-mile radius of the site. Plants held in storage are unacceptable if they show signs of growth during storage.
- Street and shade trees shall have at least three (3) to three and one half (3 ½) inches caliper measured at six (6) inches above the ground.
- Plant names shall agree with the nomenclature of *"Standardized Plant Names"* as adopted by the American Joint Committee on Horticultural Naming (1942 edition, as the same may be amended. Size and grading standards shall conform to those of the *"American Standards for Nursery Stock"* (2004 edition) by the American Association of Nurserymen, as the same may be amended, or subsequent equivalent.

2. Backfill

- Backfill shall consist of natural loam soil with the addition of humus only. No other soil type, such as a sand or clay type shall be acceptable. Topsoil shall be free of subsoil, obtained from an area that has never been stripped. It shall be removed to a depth of one foot, or less if subsoil is encountered. Backfill soil shall be of uniform quality, free from hard clods, stiff clay, hardpan, sods, lime, cement, ashes, slag, concrete, chips, sticks or any other undesirable material. No soil shall be delivered in frozen or muddy condition.
- Backfill shall conform with the following requirements:

  1) *Organic matter* must be between eight percent (8%) to twelve percent (12%) by weight as determined by the Dry Combustion Method for Total Carbon and Organic Carbon (using a multiplier factor of two (2)) as described in *Method of Soil Analysis*, #9, Part 2 (2nd ed.) published by the American Society of Agronomists, as the same may be amended. Organic content shall not exceed fourteen percent (14%).

  2) *pH range* shall be 6.0 to 7.0 inclusive

  3) *Sieve Analysis* (ASTM C-117): passing 2 inch sieve (100%), passing 1 inch sieve (95% - 100%), passing #4 sieve (90% - 100%), passing #100 sieve (30% - 60%).

  4) *Clay*. The test method to measure the clay content of the soil shall be ASTM D 422.

3. Mulch

   - Shredded bark mulch shall be a natural forest product of ninety-eight percent (98%) bark containing less than two percent (2%) wood or other debris. It shall be hemlock or pine bark of a uniform grade with no additives or any other treatment. Size of bark shall be 5/8 inch to 1 ½ inches. The pH factor should be from 5.8 to 6.2.

4. Mycorrhizal Inoculant

   - Mycorrhizal inoculant shall be a granular containing both Endo and Ectomycorrhizal fungi to colonize the roots of trees and shrubs when applied to the root zones of plants at planting time. Inoculant shall be applied by means of three (3) ounce, pre-measured, dry formulation packets such as Mycor Tree Saver Transplant as manufactured by Plant Health Care, Inc., Pittsburg, PA (800-421-9051) or an approved equal.

   - Inoculant shall be added after the trees have been placed in their hole. Open three packets for each 2 ½ inch – 3 inch caliper tree and four packets for each 3 ½ inch – 4 inch caliper tree. Thoroughly mix the inoculant into the upper six (6) to eight (8) inches of the backfill mix. Inoculant quantities for shrub plantings shall be as recommended by the manufacturer.

5. Water Retention Additives

   - Water Retention Additives shall be a granular polyacrylamide polymer of a potassium base and not a sodium base. The product should slowly release moisture into the root zone and shall be Terra Sorb as manufactured by Plant Health Care, Inc., Pittsburg, PA or an approved equal. Water Retention Additives shall be added to plant pits during dry season planting as defined by the Applicable Subdivision Board.

6. Irrigation System

   - With respect to any areas the Applicant intends to irrigate, an irrigation plan shall be provided by the Applicant to the Applicable Subdivision Board.

     1) Irrigation system shall be an appropriate combination of drip and spray irrigation. Drip irrigation is preferable to reduce water demand.

     2) System shall be capable of irrigation to a depth of one (1) inch per week with compete coverage of landscape or groundcover bed.

     3) System shall conform to all the regulations of the Applicable Subdivision Board.

4) System shall include an automatic rain sensor. Rain sensor shall be plastic in construction with adjustable interruption point, ½ inch IPS threads and stainless steel vandal resistant guard. Rain sensor shall be manufactured by Hunter Industries, model Rain- Clik or approved equal with sensor guard.

5) Recycled rainwater from building and parking area run-off should be incorporated into irrigation system wherever possible.

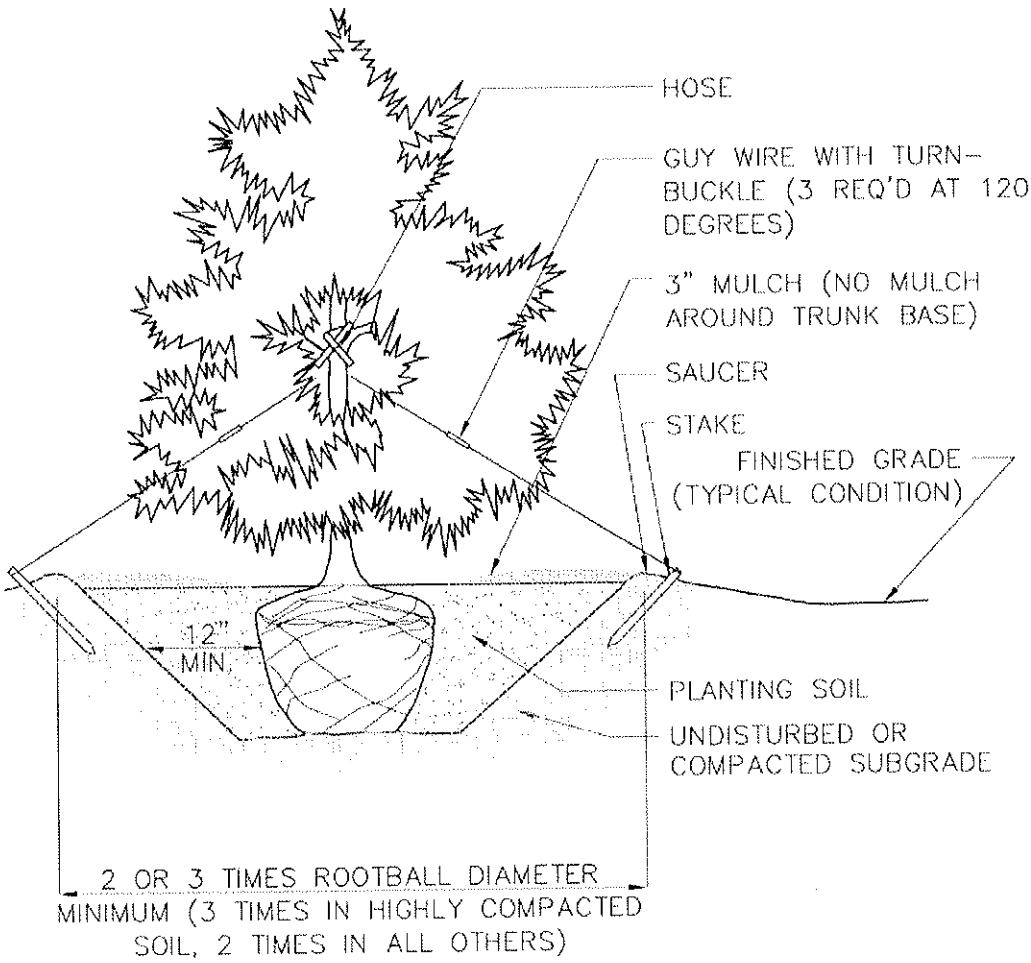
B. Planting Season

Balled and burlapped trees and shrubs may be planted only while dormant. Spring planting shall commence no earlier than March 15th and conclude no later than May 15th. Fall planting season shall be from October 15th to December 1st.

Container-grown plants may be planted anytime the ground is not frozen or muddy.

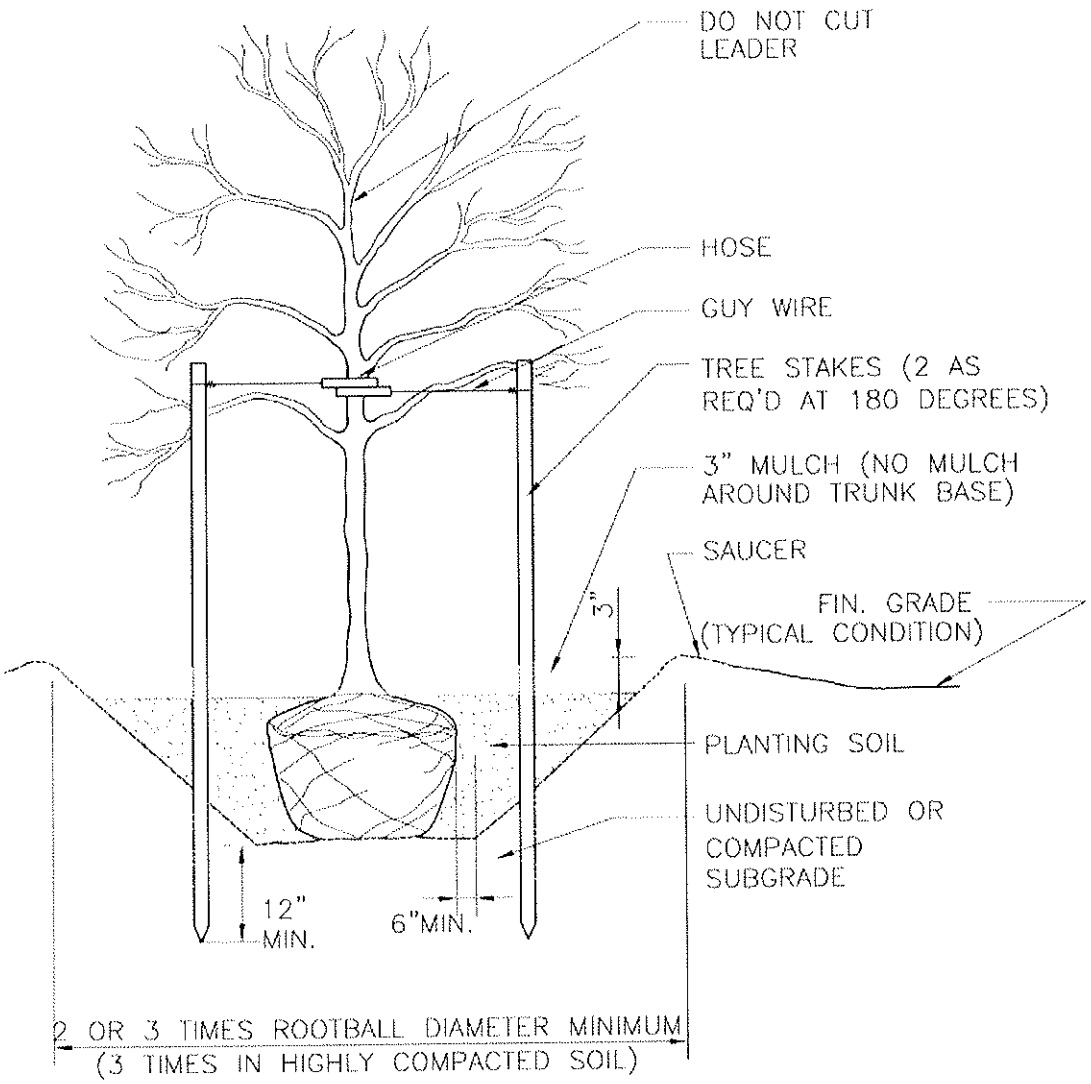
C. Installation

The Applicant shall do all work necessary to plant trees and shrubs as approved by the Applicable Subdivision Board. The work shall consist of excavating tree and shrub pits and planting and maintaining trees and shrubs of the size and type designated on the approved plan. All work shall be in accordance with these Regulations and to the satisfaction of the Applicable Subdivision Board representative. Refer to Figures B-1 through B-4 for tree planting specifications.



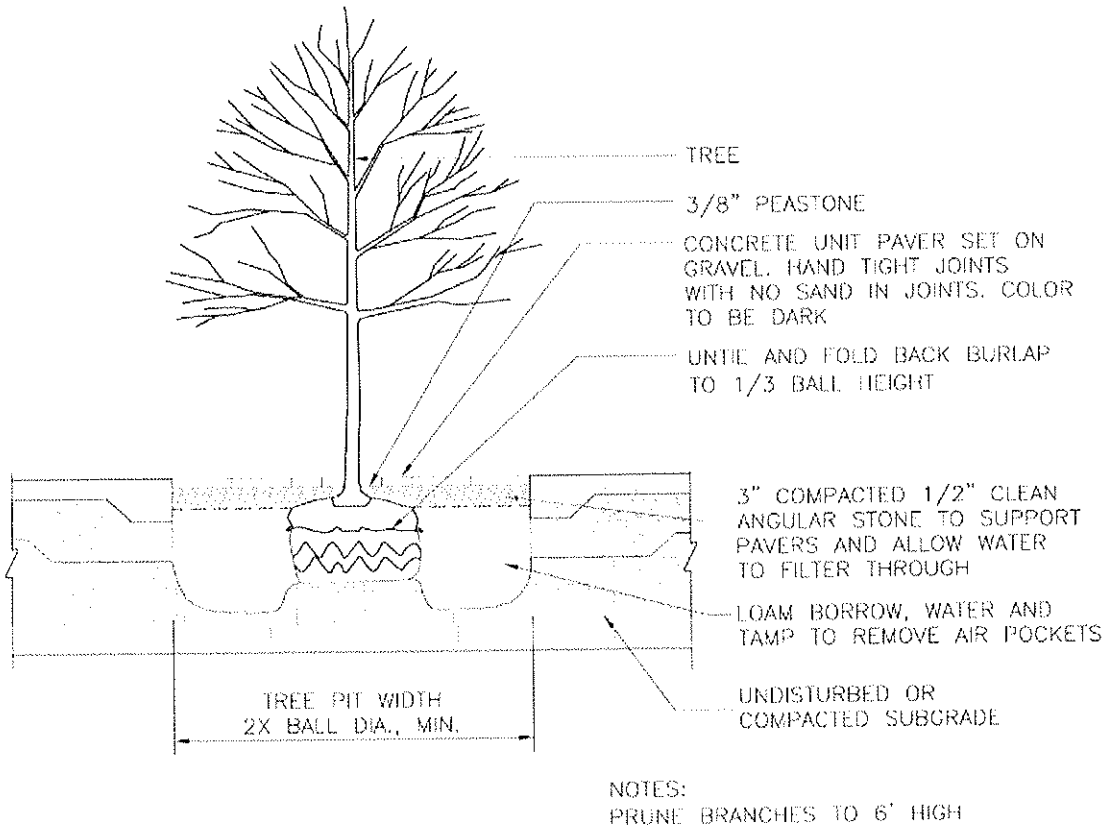
Landscape Plan — Appendix B, Figure 1

Evergreen Tree Planting in Lawn



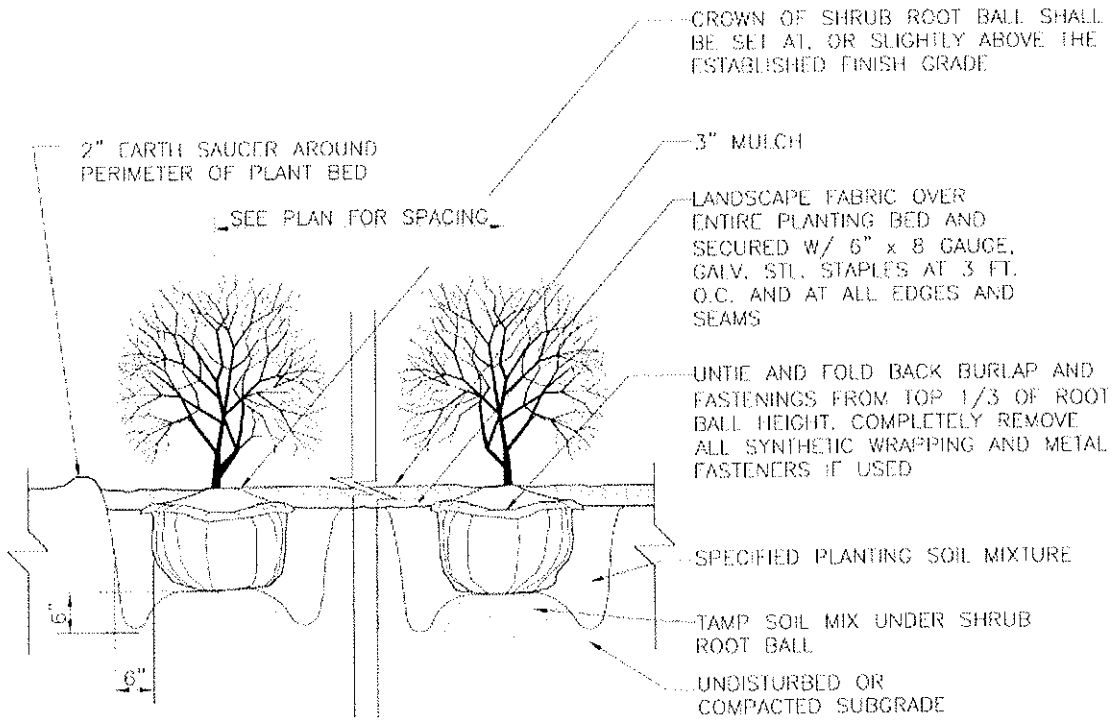
Landscape Plan — Appendix B, Figure 2

Deciduous Tree Planting in Lawn



Landscape Plan — Appendix B, Figure 3

Tree Planting in Pavement



Landscape Plan — Appendix B, Figure 4

Shrub Planting in Lawn

1. Excavation

- No street tree pits shall be dug until proposed locations have been marked on the ground and approved by the Applicable Subdivision Board representative to insure compliance with safety, sight distance and utility clearance regulations. The Applicant will then take full responsibility for the tree pit locations. All excavated material will be removed from the site and legally disposed of by the Applicant at the end of each day. The area is to be made safe and secure at the end of each workday.
- Installation of utilities and trees should be carefully coordinated. Required tree and utility separations should not be used as a means to avoid or restrict the planting of street trees.
- Shade trees shall be planted no closer than twenty feet from streetlights. Ornamental trees shall be planted no closer than fifteen (15) feet from streetlights. Ten (10) feet should be maintained between street trees and water and sewer lines. Four (4) feet should be maintained between street trees and gas lines.
- The Applicant shall be permitted to occupy an eight (8) foot lane adjacent to the curb. Traffic shall not be blocked off at any point during the construction process. Work shall not be performed on opposite sides of the street at the same time.
- The minimum allowable size for tree pits in sidewalks shall be five (5) feet by five (5) feet, excavated to the depth of the root ball. For narrow sidewalks, four (4) feet by six (6) feet is acceptable. A larger tree pit is encouraged when room permits, especially when larger caliper trees are planted.
- The Applicant shall remove all plants and plant materials from the tree pit for the full length and width of the tree pit to the depth of the root ball. For plant excavations in lawn, excavate an area at least three times the diameter of the tree or shrub root ball. Extreme care shall be taken not to excavate to a depth greater than required. The subgrade below the root ball shall be tamped slightly to prevent settlement.

2. Installation

- Place balled and burlapped material in the prepared planting pit by lifting and carrying by the root ball so that the root ball will not be loosened or its integrity compromised.
- Set the tree or shrub plumb and in the center of the planting pit. Plants shall be installed such that, after settlement, the base of the trunk and the beginning of the root zone known as the "trunk flare" (and top of the root ball) shall be level with the adjacent finish grade. The elevation of the root ball shall be adjusted by adding or removing soil below the root ball to achieve this relationship.

- Cut and remove rope or wire from the top half of the root ball. Cut and remove at least fifty percent (50%) of burlap fabric from the planting pit. The remaining burlap must be pulled back and completely buried to prevent to formation of air pockets and "wicking" of soil moisture. All synthetic fabric must be removed from the ball at the time of planting.
- At least two-thirds (2/3) of any wire basket enclosing the root ball must be removed from the top and sides of the root ball. Lateral wires shall be cut to prevent future root interference.
- Backfill soil mix shall be loose, friable and not frozen. Backfill shall be added and firmed in six to eight inch layers and thoroughly settled with water.
- Mycorrhizal inoculant and water retention additive shall be added after the tree or shrubs have been placed in their hole. For each 2 ½ inch to 3 inch caliper tree, add the contents of three packets of the inoculant and thoroughly mix into the upper six (6) to eight (8) inches of the backfill mix. Each tree shall receive three (3) ounces of the water retention additive or the amount specified by the product instructions for shrub installations. Half of the additive should be added at a depth of eight (8) to ten (10) inches and the other half just below finish grade.
- The Applicant shall cultivate and rake over finished planting areas and leave them in an orderly condition. A shallow watering basin, somewhat larger than the diameter of the tree ball, shall be constructed at each tree pit. At no time shall soil be mounded at the trunk of the tree. Final soil level, except for the shallow basin, shall be flush with the adjacent grade or sidewalk.

3. Tree Wrap
   - No tree trunks shall be wrapped. Remove all nursery tags and protective wrapping.
4. Staking
   - All staking shall be done during planting operation and shall be maintained throughout the first year of the two-year guarantee period.
   - Stakes shall be cedar and shall show no signs of cracking or decay. Trees shall be supported by two stakes. Stakes shall be eight (8) feet long and shall be no less then two (2) inches by two (2) inches or more then two and three-quarter (2 ¾) inches by two and three-quarter (2 ¾) inches in diameter. Stakes shall be placed no less than twenty-four (24) inches from the trunk taking care to avoid damaging the roots. Stakes shall be driven a minimum of thirty (30) inches into the ground and fastened to the tree with doubled No. 12 gauge annealed galvanized wire run though twelve (12)

inches of reinforced one-half (½) inch black rubber hose. The length of doubled wire between the tree and stakes shall be hand twisted several times prior to fastening to the stakes. Wires shall be tied off firmly at the stakes, not crank-twisted at the center. Trees shall be plumb after staking.

- Stakes at street trees shall be installed parallel to the curb.
- Stakes shall be dated with an impermeable marker on the date that they are placed.
- Stakes wires and hoses shall be removed at the end of the first year of the two-year guarantee period, unless directed otherwise by the Applicable Subdivision Board representative. At the time stakes are removed, any holes left by the stakes shall be filled with backfill mix.

5. Pruning

- Only crossing, broken or badly bruised branches shall be removed. All pruning shall be done with sharp pruning tools producing clean cuts. Pruning cuts shall be made at the base of the branch to be removed at such a location and angle that neither the branch collar nor the bark of the stem is damaged and that no branch stub extends from the collar.
- Crowns of trees shall not be cut back to compensate for root loss. No leaders shall be cut.

6. Irrigation System

- Coordinate installation of all sprinkler materials, including pipe, to avoid conflict with the trees, shrubs, or other plants.
- Each control zone shall be operated for a minimum of five (5) minutes and all heads checked for consistency of delivering water. Adjustments shall be made to irrigation equipment so that they match the manufacturer's standards. All sprinklers, valves, timing devices or other mechanical or electrical components, which fail to meet these standards, shall be rejected, replaced and tested until they meet the manufacturer's standards.

D. Maintenance

1. Watering

- At the time of planting, the soil around the base of trees shall be thoroughly saturated with at least twenty gallons of potable water. Shrub pits shall have at least five (5) gallons of water applied. Soils shall be firmed in six (6) to eight (8) inch layers and thoroughly settled with water.
- Watering shall take place throughout the guarantee period to insure the proper establishment of the plants. At least twenty (20) gallons

shall be applied to each tree at two (2) week intervals between May 1st and October 31st. The Applicable Subdivision Board representative may increase or reduce the frequency of watering based on weather conditions and the resulting soil water content.

- Water shall not be applied in a manner that damages plants, planting saucers, stakes or adjacent areas. Watering shall not cause uprooting or exposure of plant's roots to the air. Each plant saucer shall be carefully filled with water in a manner that does not erode the soil or the plant saucer.

2. Mulching

- Bark mulch shall be applied as a ground cover to the surface of all planting beds and again after stakes have been removed one year after planting. Mulch shall be applied to a uniform depth of three inches and shall be so distributed as to create a smooth, level cover over the exposed soil. A gap of two (2) inches should be left between the mulch and plant crown to avoid mounding above the trunk flare.

3. Irrigation System

- At the completion of the work, all parts of the installation shall be thoroughly cleaned. All equipment, pipe, valves and fittings shall be cleaned of grease, metal cuttings and sludge which may have accumulated by the operation of the system for testing.

- Take proper precautions so that irrigation equipment that is above grade will not be damaged by mowing operations.

- Continue sprinkler coverage adjustment as required by settlement, etc., throughout the guarantee period.

4. Other Maintenance Activities

- The Applicant shall maintain all new trees, shrubs and planted areas in accordance with the plans approved by the Applicable Subdivision Board and these Regulations for a "guarantee period" of two (2) years after the substantial completion and inspection of the work.

- Maintenance shall include weeding, cultivating edging, control of pests, fungi and other diseases by means of spraying with an approved insecticide or fungicide, pruning, repair of stakes and wires, repair of washouts, soil replacement and other horticultural operations necessary for the proper growth of trees and shrubs and for keeping the entire installation neat in appearance.

- All planted areas shall be weeded with hoes or other approved tools within the period from May 1st to October 31st and such

weeding shall be repeated monthly. Under no circumstance shall weeds be allowed to attain more than six (6) inches of growth. At the expiration of the guarantee period the Applicant shall leave the plant pits and beds weed-free.

E. Guarantee

1. Guarantee Period

a. Tree and Shrub

- The Applicant shall provide a guarantee for all installed trees, shrubs and planted areas in accordance with the plans approved by the Applicable Subdivision Board for a period commencing after the completion and final acceptance of the work. No construction or planting permit will be issued by the Applicable Subdivision Board without a two-year plant guarantee for trees and shrubs and ground cover.

b. Irrigation System

- The Applicant shall obtain the standard written manufacturer's guarantee of all materials in the Applicable Subdivision Board's name where such guarantees are offered in the manufacturer's published product data. All these guarantees shall be in addition to, and not in lieu of, other liabilities that the Applicant may have by law.

- In addition to the manufacturers guarantees, the Applicant shall warrant the entire irrigation system, both parts and labor, for a period of one (1) year from the date of acceptance by the Authority or the Towns. As part of the one-year warranty the Applicant shall perform the first year-end winterization and spring start-up for the irrigation system.

F. Replacement

1. Tree and Shrub Replacement

- The Applicant shall replace, in accordance with the contract plans and these Regulations, any tree, shrub or groundcover that is dead or, in the opinion of the Applicable Subdivision Board representative, is in an unhealthy or unsightly condition, or has lost its natural shape due to dead branches, excessive pruning, inadequate or improper maintenance or other causes including vandalism, prior to the expiration of the guarantee period.
- When directed by the Applicable Subdivision Board's representative, the Applicant shall replace trees that have died or are in unacceptable condition during the guarantee period in the next appropriate planting season, even when the next season falls outside the two-year guarantee period.
- Trees and shrubs that die within the two-year guarantee period shall be replaced as many times as is necessary so that there is a live tree or shrub at each location indicated on the approved plans at the end of the guarantee period.
- Where dead trees and shrubs have been identified, whether due to natural causes or vandalism, the Applicant shall remove the unacceptable material, including stakes and wires within three (3) weeks of notification. Where the dead tree is in a sidewalk, the Applicant shall add topsoil to planting pit to eliminate potential tripping hazard until the tree is replaced.

2. Irrigation System

- Should any problems develop within the warranty period because of inferior or faulty materials or workmanship, they shall be corrected to the satisfaction of the Applicable Subdivision Board at no additional expense to Applicable Subdivision Board.

G. Vandalism

- Where vandalism or related causes are the cause for tree or shrub replacement, the Applicant shall be responsible for one replacement during the two-year guarantee period.

Appendix C – Subdivision Forms

Form A

Application for Endorsement of Plan for which Approval is Not Required

To the (*Select Applicable Subdivision Board*)
[Authority] or
[Planning Board of the Town of Abington / Town of Rockland / Town of Weymouth]

The undersigned wishes to record the accompanying plan and requests a determination by said Board that approval by it under the Subdivision Control Law is not required. The undersigned believes that such approval is not required for the following reasons:

1. The division of land shown on the accompanying plan is not a subdivision because every lot shown thereon has the amount of frontage required by the Zoning and Land Use By-Laws for NAS South Weymouth and is on a public way, namely, _____

2. The division of land shown on the accompanying plan is not a subdivision for the following reasons:
   _____
   _____
   _____

The Owner's title to the land is derived under deed from _____ dated _____, _____ and recorded in [Norfolk / Plymouth] County Registry of Deeds, Book _____, Page_____ or Land Court Certificate of Title No. _____, registered in [Norfolk / Plymouth] County District Book _____, Page _____.

Assessors Map _____ Lot Number _____

Applicant's Name (printed) _____
Applicant's Signature _____
Applicant's Address _____
_____
Applicant's Phone No. _____
Applicant's E-mail _____

Owner's Signature and Address if not the Applicant
_____
_____
_____

Received by Filing Office:	Received by the[Authority][Planning Board]
Date:	Date:
Time:	Time:
Signature:	Signature:

Form B

Application for Approval of a Preliminary Plan

To the (*Select Applicable Subdivision Board*)
[Authority] or
[Planning Board of the Town of Abington / Town of Rockland / Town of Weymouth]

The undersigned, being the Applicant as defined under M.G.L. Chapter 41, Section 81L, hereby submits the accompanying plan, entitled

_____

By_____ Dated_____
as a Preliminary Subdivision Plan in accordance with the Subdivision Rules and Regulations for NAS South Weymouth and makes applications to the Board for approval of said plan:

Being land bounded and described as follows:

_____

_____

The undersigned's title to said land is derived from _____

_____

by deed dated_____ and recorded in the [Norfolk / Plymouth] County Registry of Deeds, Book No. _____ Page No. _____ or [Norfolk / Plymouth] County Registry District of the Land Court. Certificate of Title No. _____ Book No. _____ Page No. _____

Assessors Map _____ Lot Number _____

Applicant's Name (printed) _____
Applicant's Signature _____
Applicant's Address _____

_____

Applicant's Phone No. _____
Applicant's E-mail _____

Owner's Signature and Address if not the Applicant

_____

_____

_____

Received by Filing Office:	Received by the Applicable Subdivision Board
Date:	Date:
Time:	Time:
Signature:	Signature:

Form C

Application for Approval of a Definitive Plan

To the (*Select Applicable Subdivision Board*)
[Authority] or
[Planning Board of the Town of Abington / Town of Rockland / Town of Weymouth]

The undersigned, being the Applicant as defined under M.G.L. Chapter 41, Section 81L, hereby submits the accompanying plan, entitled

_____

By_____ Dated_____
as a Definitive Subdivision Plan in accordance with the Subdivision Rules and Regulations for NAS South Weymouth and makes applications to the Board for approval of said plan:

Being land bounded and described as follows:

_____

_____

The undersigned's title to said land is derived from _____

_____

by deed dated_____ and recorded in the [Norfolk / Plymouth] County Registry of Deeds, Book No. _____ Page No. _____ or [Norfolk / Plymouth] County Registry District of the Land Court. Certificate of Title No. _____ Book No. _____ Page No. _____

Assessors Map _____ Lot Number _____

Applicant's Name (printed) _____
Applicant's Signature _____
Applicant's Address _____

_____

Applicant's Phone No. _____
Applicant's E-mail _____

Owner's Signature and Address if not the Applicant

_____

_____

_____

Received by Filing Office:	Received by the Applicable Subdivision Board
Date:	Date:
Time:	Time:
Signature:	Signature:

Form D

Certified List of Abutters

To the (*Select Applicable Subdivision Board*)
[Authority] or
[Planning Board of the Town of Abington / Town of Rockland / Town of Weymouth]

The undersigned, being an applicant for approval of a [preliminary][definitive] plan of a proposed subdivision entitled _____
_____

submits the following list of the names and addresses of the adjoining owners and the abutters to the adjoining owners, including owners of land separated from the subdivision only by a street.

_____
Signature of Applicant

_____
Address

_____

_____

_____

_____
Date

To the (*Select Applicable Subdivision Board*)
[Authority] or
[Planning Board of the Town of Abington / Town of Rockland / Town of Weymouth]

This is to certify that at the time of the last assessment for taxation made by the Authority or the Towns the names and addresses of the parties assessed as adjoining owners to the parcel of land referenced above are accurate except where noted on the following list.

_____
Assessor

Owner	Street Address	Mailing Address	Map	Plot	Lot	Assessor Note

Page 2 of 2

Copy Additional Sheets as Necessary

Form E

Covenant

Know all men by these presents that whereas the undersigned has submitted an application dated _____, 2___, to the

(*Select One*)
[Authority] or
[Planning Board of the Town of Abington / Town of Rockland / Town of Weymouth]

for approval of a Definitive Plan of a certain subdivision entitled_____
_____

and dated _____, 2___, and has requested the Applicable Subdivision Board to approve such plan without requiring a performance bond.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH that in consideration of the Applicable Subdivision Board approving said plan without requiring a performance bond, the undersigned covenants and agrees with the

(*Select One*)
[Authority / Town of Abington / Town of Rockland / Town of Weymouth] as follows:

1. The undersigned will not sell any lot in the subdivision or erect or place any permanent building on any such lot until the construction of ways and services necessary to serve adequately such lot has been completed in the manner specified in the aforesaid application, and in accordance with the covenants, conditions, agreements, terms, and provisions thereof.
2. This agreement shall be binding upon the executors, administrators, devisees, heirs, successors, and assigns of the undersigned.

   It is the intention of the undersigned and it is hereby understood and agreed that this agreement shall constitute a covenant running with the land included in the aforesaid subdivision and shall operate as restrictions upon said land

   It is understood and agreed that lots within the subdivision shall, respectively, be released from the foregoing conditions upon either the recording of a Certificate of Performance executed by a majority of said Applicable Subdivision Board or by the posting of surety in accordance with M.G.L. Chapter 41 Section 81U and the Subdivision Rules and Regulations for NAS South Weymouth, sufficient in the opinion of the Applicable Subdivision Board to secure performance of the construction of ways and the installation of services required for lots in the subdivision.

3. The undersigned represents and covenants that the undersigned is the owner (if there is more than one owner, all must sign) in fee simple of all the land included in the aforesaid subdivision and that there are no mortgages of record or otherwise on any of said land, except such as are described below and subordinated to this agreement, and the present holders of said mortgages has assented to this agreement.

IN WITNESS WHEREOF the undersigned, Applicant as aforesaid, has executed this agreement under seal this _____ day of _____, 2_____.

OWNER(S) IF NOT APPLICANT

_____

_____

_____

_____

APPLICANT

_____

_____

_____

_____

Description of Mortgages
(Give complete names and Registry of Deeds reference):

_____

_____

_____

Assents of Mortgagees:

_____

_____

_____

COMMONWEALTH OF MASSACHUSETTS

_____, ss

On this ___ day of _____, 2____, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, which was _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

_____

Notary Public

_____

My Commission Expires

Form F

Certificate of Performance

The undersigned, being [a majority] [the required number of members] of the

(*Select One*)
[Authority] or
[Planning Board of the Town of Abington / Town of Rockland / Town of Weymouth]

hereby certify that:

The requirements for the construction of ways and public services called for by the Covenant dated _____, 2_____, and recorded in District Deeds, Book _____, Page _____ (or registered in _____ Land Registry District as Document No. _____ and noted on Certificate of Title No. _____ in Registration Book _____, Page _____) has been [Completed / Partially Completed], to the satisfaction of the Applicable Subdivision Board to adequately serve the enumerated lots shown on Plan entitled _____
Recorded by the Book _____, Plan_____, (or registered in said Land Registry District, Plan Book _____, Plan _____) and said lots are hereby released from the restrictions as to sale and building specified thereon.

Lots designated on said Plan as follows:
_____
_____
_____

Executed as a sealed instrument this _____ day of _____, 2_____.

(*Select One*)
Authority
Planning Board of the Town of Abington
Planning Board of the Town of Rockland
Planning Board of the Town of Weymouth

_____
_____
_____
_____
_____

Page 1 of 2

COMMONWEALTH OF MASSACHUSETTS

_____, ss

On this ___ day of _____, 2____, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, which was _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

_____ _____

Notary Public My Commission Expires