



Good example of perimeter fencing at Washington Navy Yard



Unobtrusive AT measures at NAVSTA Norfolk



Primary entrance of McCarty Little Hall (Building 27) at NAVSTA Newport that is easily identifiable

Plans

Landscape plans have been developed to address perimeter fencing, parking lots, and building perimeters. In all instances, the implementation of these plans can be phased if necessary based on available budget. It is recommended that the first phase of implementation include at minimum the canopy trees specified, which provide immediate, low maintenance enhancements.

PERIMETER FENCING

Perimeter fencing is a primary point of security for all installations and is an important AT/FP component. Perimeter fencing should be attractive in high-visibility areas such as main gates, and functional but unobtrusive when the neighboring land use is residential or commercial. A variety of techniques may be used in order to improve the appearance of fencing. In areas of high visibility, it may incorporate columns of a different material such as stone or brick. For more information, see Chapter 4: Standard Gates and Entries.

Plant material may be used to soften perimeter fencing and enhance the overall aesthetic of an installation by creating a rhythm or identity to its borders. Where perimeters are adjacent to residential housing or other community activities, it is possible to set the perimeter fence back from the property line to allow for a landscaped buffer to screen the neighboring installation. All new perimeter fencing should incorporate a mow strip at the base of the fence to reduce maintenance costs associated with hand trimming.

PARKING LOTS

All parking lots should mitigate stormwater runoff, allow for safe pedestrian use, and enhance the overall aesthetics of the installation while performing the primary function to the vehicle. This may be done through a range of treatments and techniques that are described below. All parking lots should use a variety of native and ornamental vegetation that is low in maintenance and attractive throughout the year. All parking lots should integrate vegetation via perimeter plantings, screening, planted islands, bio-swales, or some combination. Canopy trees are recommended in parking islands and perimeter plantings to minimize the heat island effect, block winds, and filter air. Landscape plans for parking areas are shown on the pages that follow.

The use of permeable pavement rather than traditional asphalt and concrete can significantly reduce the volume of water entering the stormwater infrastructure. The introduction of bio-retention areas into parking areas can help detain and filter stormwater on-site, thereby improving the quality of the water entering the stormwater system and local watershed. These areas should be planted with species that keep their form and maintain a neat appearance. For more information about parking lot design, see Chapter 5: Parking Lots.

BUILDING PERIMETERS

Building perimeters should be consistent, unified and establish a distinct sense of place. Perimeters should provide a hierarchy of building types and communicate the functions within each building through a perimeter's organization, sense of entry, plantings, signage, and site amenities such as seating. All building perimeters, regardless of function or hierarchy, should provide a strong sense of entry, both physically and visually, and be compatible with the buildings' uses. Plant material can be used to emphasize entrances by



Evergreen trees screen obtrusive views of warehouse buildings



Good example of a seating area and site amenities at NAVPHIBASE Little Creek



AT/FP compliant foundation plantings at Washington Navy Yard

accenting them as well as directing views and pedestrian movement. In more urban areas of an installation where there is little or no space for plantings, entrances can be articulated through pavement changes, signage, lighting, and architectural treatments such as awnings. It is also necessary to acknowledge adjacent buildings and functions in order to properly screen visual and audible activities that are unattractive and distracting.

AT/FP standards should be incorporated into all building perimeters without compromising the quality of the landscape. This can be successfully done through a variety of techniques, such as locating security bollards in planted areas to soften the appearance without negating security standards.

Primary Entrances

Primary entrances must be easily identified by both pedestrians and motorists. This can be accomplished through the strategic placement of signage, vegetation, and hardscape or paving materials. Treatments used to distinguish primary entrances should be appropriate for the building's function and visibility.

Secondary Entrances

Secondary entrances should be defined with the use of plant material and hardscape elements that are complementary to the primary entrance but are on a smaller scale. This creates a similar language for the building yet defines the hierarchy of the entrances.

Screening

Screening should be used to limit visual access of service areas and storage structures within the installation. Screening can be accomplished with the use of plant materials and/or fencing. Landscape screens can serve as visual, wind, and noise barriers. Plant materials used for screening should be evergreen

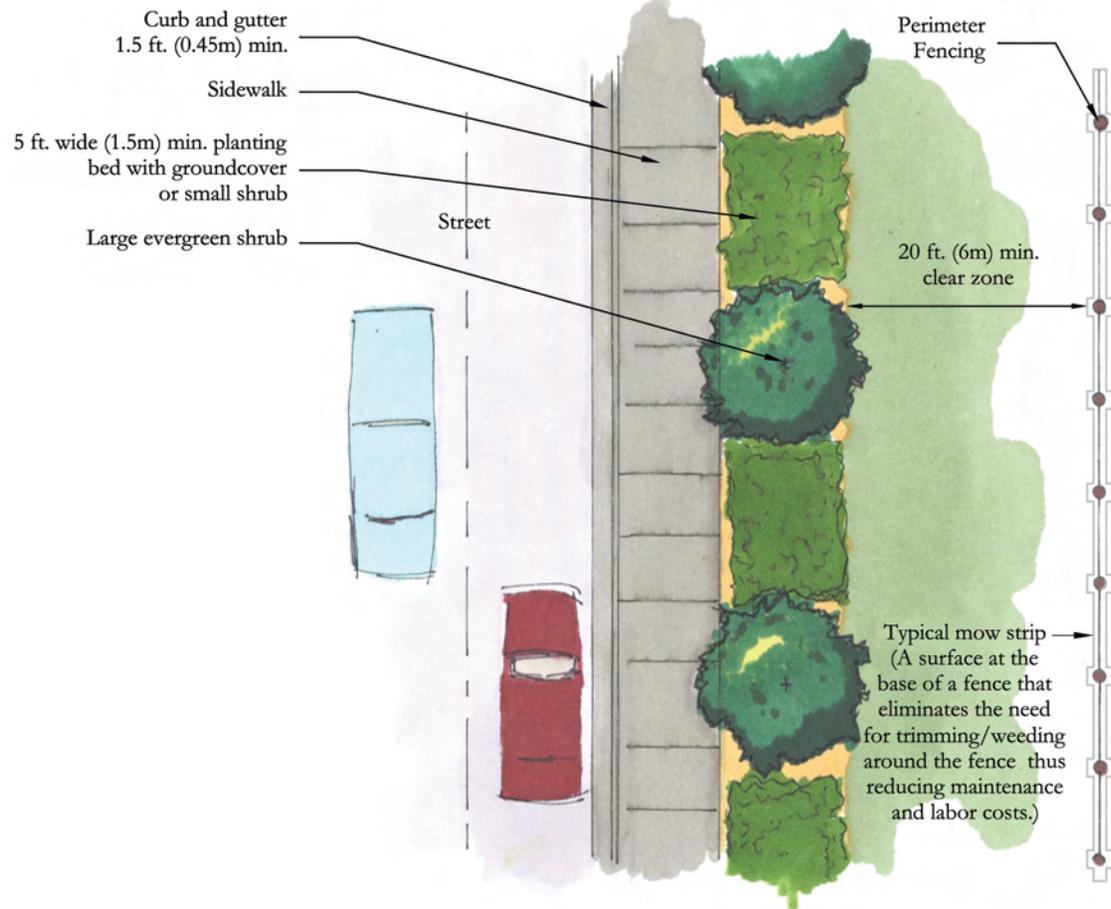
and planted in a manner allowing for growth into a continuous screen or hedge. In all instances, screening materials should be low-maintenance and conform with applicable AT/FP standards.

Seating Areas

Seating areas should be provided in courtyards and plazas for the comfort of installation personnel and visitors. The scale and configuration of a seating area is dependent upon its intended use. Seating areas should exist in locations of high public use, such as areas adjacent to Administrative and Training Facilities, and at regular intervals along major pedestrian thoroughfares. It is recommended that seating areas are located to take advantage of summer shade and winter sun.

Foundation Plantings

Foundation plantings should be used to enhance the appearance of the building perimeter. In accordance with AT/FP standards, these plantings should provide a level of transparency that allows observation and surveillance of the building perimeter. Techniques that can be used to provide transparency include the use of open branched shrubs, groundcovers less than six (6) inches (150mm) in height, and trees that can be limbed up. The use of trees is a low-maintenance, cost effective alternative to typical foundation plantings and offer many of the same benefits. Foundation plantings can also be used to screen building mechanical units and trash disposal areas. Where foundation plantings are used, a clear area should be established at the building edge, around building mechanical units, and surrounding trash dumpsters to allow access for routine maintenance and cleaning without damaging the landscaping.



Perimeter Fencing

This perimeter fencing plan provides intermittent screening with the use of large evergreen shrubs spaced to allow for plantings of small shrubs or groundcover in between. This plan creates a rhythm at the installation perimeter and improves the aesthetics of the border fencing. High-visibility gates and perimeters that abut housing or community activities should receive priority for implementation, and if phasing is necessary large shrubs should be installed first. In lower visibility areas the small shrubs and groundcover may be eliminated.

Plan Benefits:

- Screens activities within installation perimeter
- Provides transparency for visual surveillance
- Use of drought-tolerant vegetation reduces the need for irrigation and excessive maintenance.

CATEGORY	SELECTIONS
LARGE SHRUBS	<i>Juniperus chinensis</i> 'Torulosa' <i>Osmanthus x Burkwoodii</i> <i>Thuja occidentalis</i> 'Emerald'
SMALL SHRUBS	<i>Ilex glabra</i> <i>Ilex glabra</i> 'Compacta'
GROUNDCOVER	<i>Juniperus horizontalis</i> 'Bar Harbor' <i>Juniperus conferta</i> 'Blue Pacific'

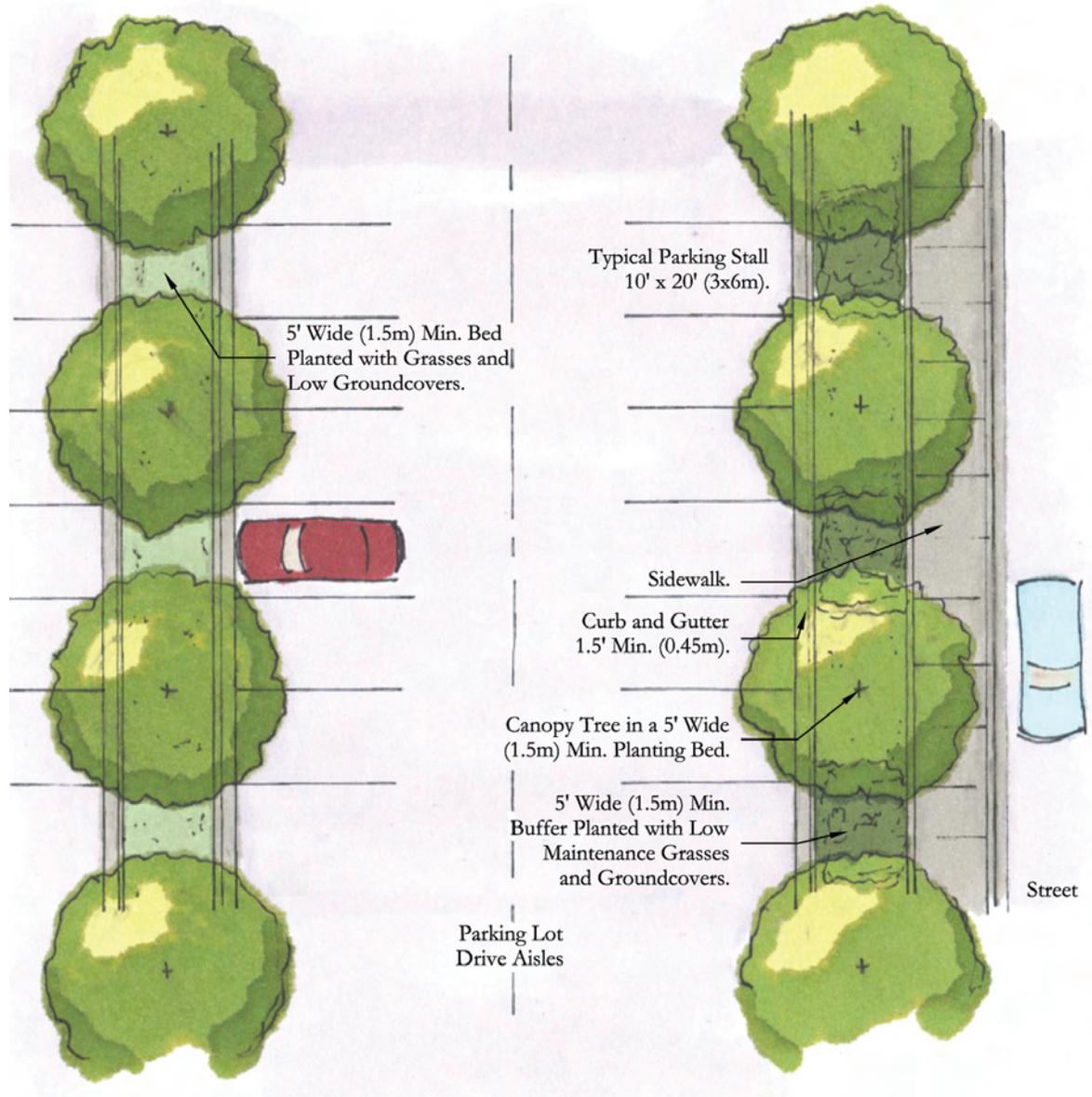
Parking Lots

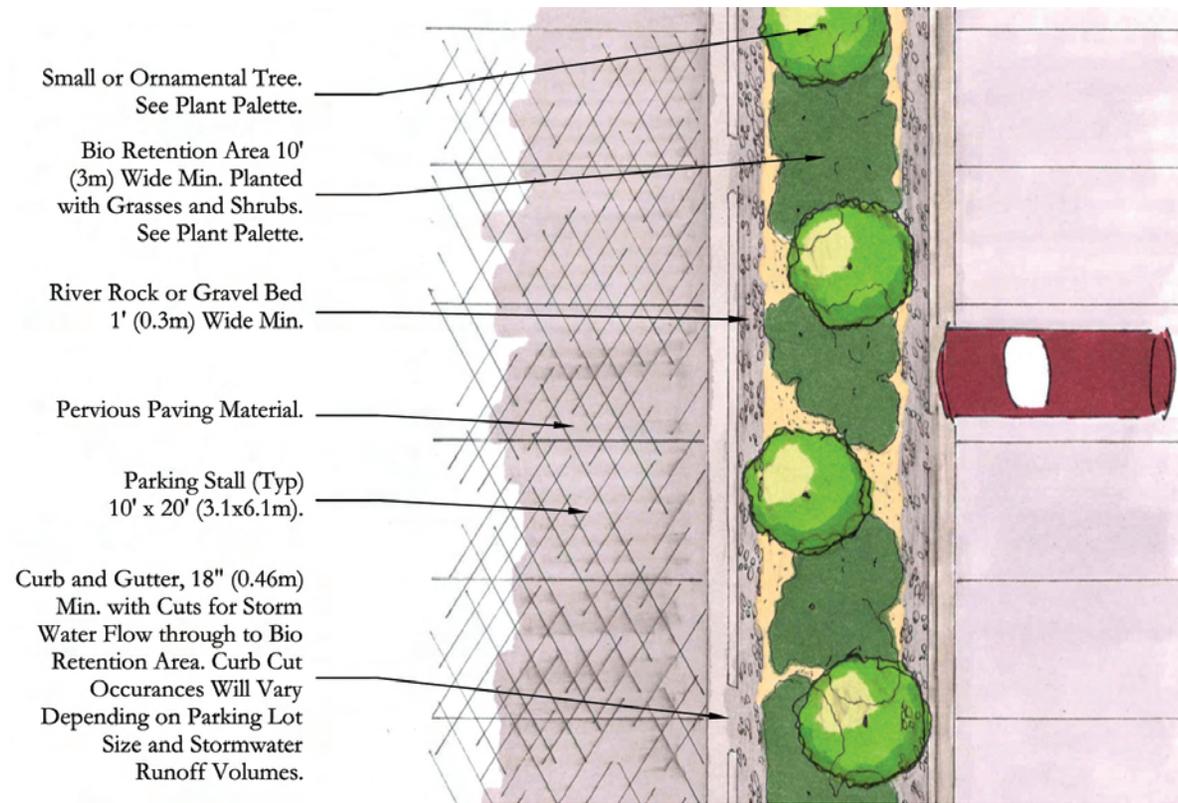
This parking lot plan incorporates planted islands within the parking lot as well as a planted exterior edge. This edge provides a visual buffer and spatially delineates the parking lot from the pedestrian. When located on a primary or secondary circulation route or in areas where the edge of parking is within close proximity to a building, this planted buffer may also include pedestrian amenities such as seating, lighting and trash receptacles. The islands should be planted with canopy trees, grasses, and groundcovers. Parking areas near high-visibility activities should receive priority for implementation, and if phasing is desirable, canopy trees and groundcover should be installed first, as both require minimal maintenance. For a less elaborate alternative applicable in low visibility areas, the grasses may be eliminated. This plan can be applied to parking lots with angled or 90 degree parking stalls.

Plan Benefits:

- Canopy trees reduce heat island effect
- Use of grasses and groundcover minimizes maintenance
- Provides a visual buffer for parking areas
- Clearly delineates parking area from pedestrian area
- Planted islands can assist in reducing stormwater runoff from parking lots.

CATEGORY	SELECTIONS
CANOPY TREE	<i>Acer rubrum 'Columnare'</i> <i>Ginkgo biloba 'Fastigiata' or 'Fairmount'</i>
GRASSES	<i>Pennisetum alopecuroides</i> <i>Miscanthus sinensis 'Yaku Jima'</i>
GROUNDCOVER	<i>Juniperus horizontalis 'Bar Harbor'</i> <i>Pachysandra terminalis</i>





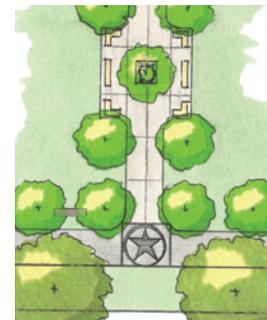
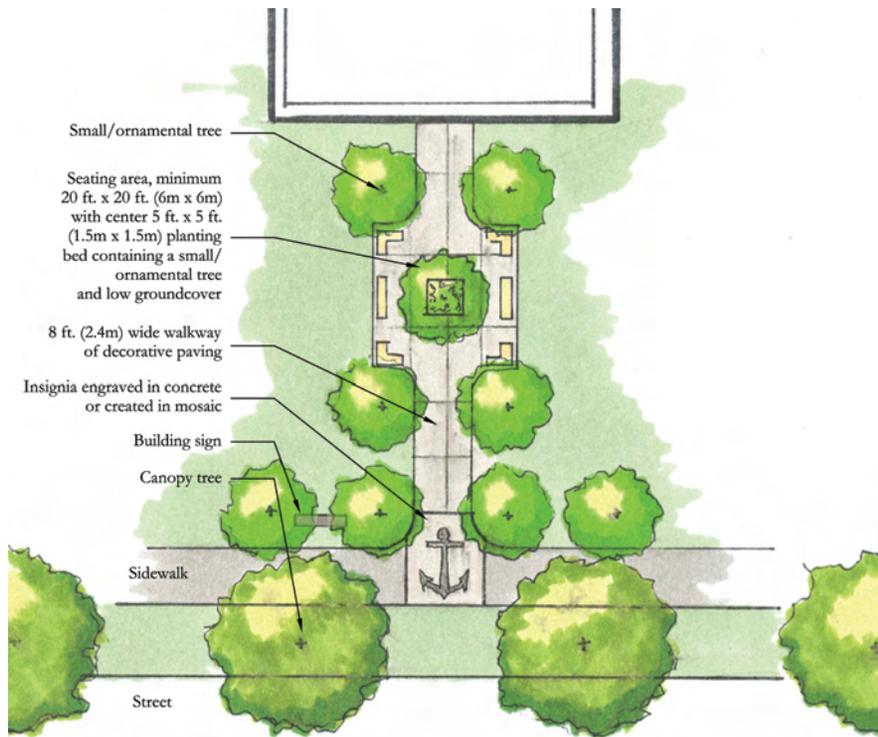
Parking Lots

This parking lot plan incorporates space for a small bio-retention area or rain garden to help mitigate stormwater runoff. The use of bio-retention areas or rain gardens also provides opportunities for increased vegetation and aesthetic value. Plant material consists of low maintenance or native vegetation to reduce maintenance costs. Curb cuts allow stormwater to flow into the rain garden or bio-retention area. Another way to reduce stormwater impacts is to use pervious pavement materials, which allow infiltration to occur through the surface of the pavement. Parking areas near high-visibility activities should receive priority for implementation, and if phasing is necessary trees and grasses should be installed first, as both require minimal maintenance. This plan can be applied to parking lots with angled or 90 degree parking stalls.

Plan Benefits:

- Trees reduce heat island effect
- Use of native and low maintenance vegetation minimizes upkeep
- Helps mitigate stormwater impacts and runoff from parking lots
- Vegetation in bio-retention areas and rain gardens provides plant diversity at the installation.

CATEGORY	SELECTIONS
SMALL/ORNAMENTAL TREE	<i>Carpinus carolinana</i> <i>Cercis canadensis</i> <i>Cornus amomum</i>
SHRUBS	<i>Hamamelis virginiana</i> <i>Ilex verticillata</i> <i>Lindera benzoin</i>
GRASSES	<i>Panicum virgatum</i> 'Northwind', 'Heavy Metal', or 'Cloud Nine'
PERENNIALS	<i>Echinacea purpurea</i> <i>Heliopsis helianthoides</i>



Alternate insignia for paving pattern

Building Perimeter

This building perimeter plan incorporates a seating area and central planting area close to the main entrance of the building. The main entry walk is lined with small/ornamental trees that provide a focus for the entrance, create seasonal interest, and help define the space. A naval insignia in the walkway marks the entrance of the building. Alternative insignias may be used to differentiate buildings per functional district. High-visibility buildings should receive implementation priority. When phasing, decorative paving and canopy trees should be installed first.

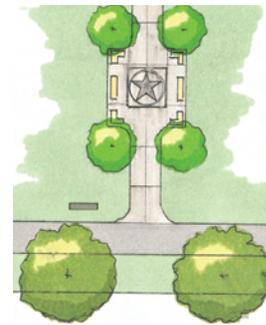
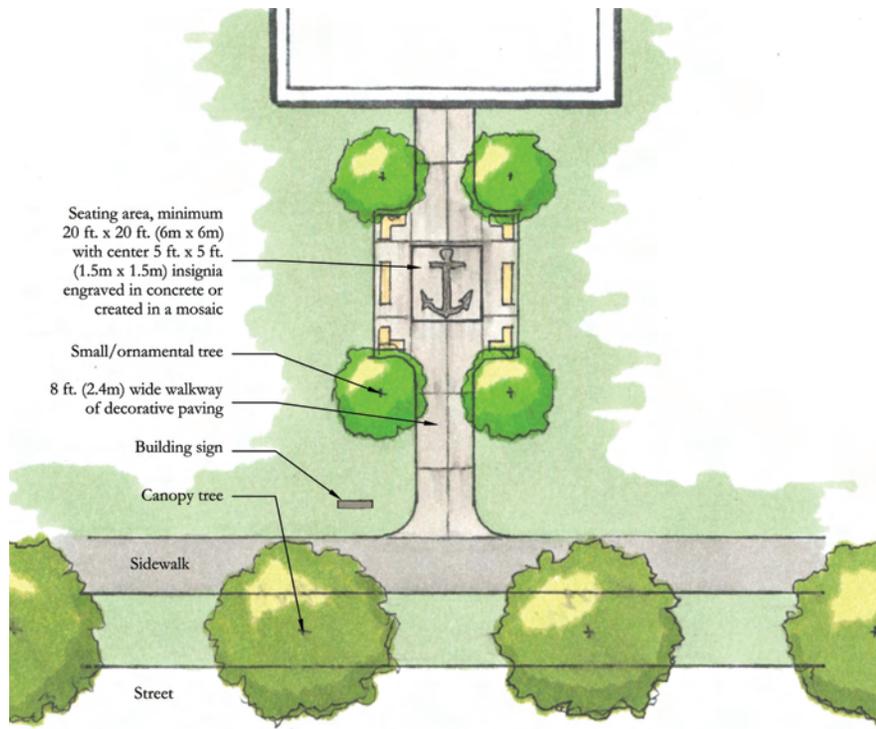
Plan Benefits:

- Meets current AT/FP standards for an inhabited and primary gathering building
- Use of drought-tolerant, native vegetation reduces irrigation and maintenance needs
- Formal organization of the design communicates building function and provides a conspicuous entrance for occupants and visitors
- Paving patterns and insignia can be incorporated without the removal of existing vegetation and require limited maintenance

CATEGORY	SELECTIONS
CANOPY TREE	See Street Tree Plan
SMALL/ ORNAMENTAL TREE	<i>Amelanchier arborea</i> <i>Cercis canadensis</i> <i>Chionanthus virginicus</i> <i>Magnolia virginiana</i> *
GROUNDCOVER	<i>Juniperus horizontalis</i> 'Bar Harbor' <i>Liriope spicata</i> ** <i>Phlox buckleyi</i> <i>Stachys lanata</i>

* Only for use as an accent plant in center island

** Must be planted in a contained area to reduce spreading (center island planting bed)



Alternate insignia for paving pattern

Building Perimeter

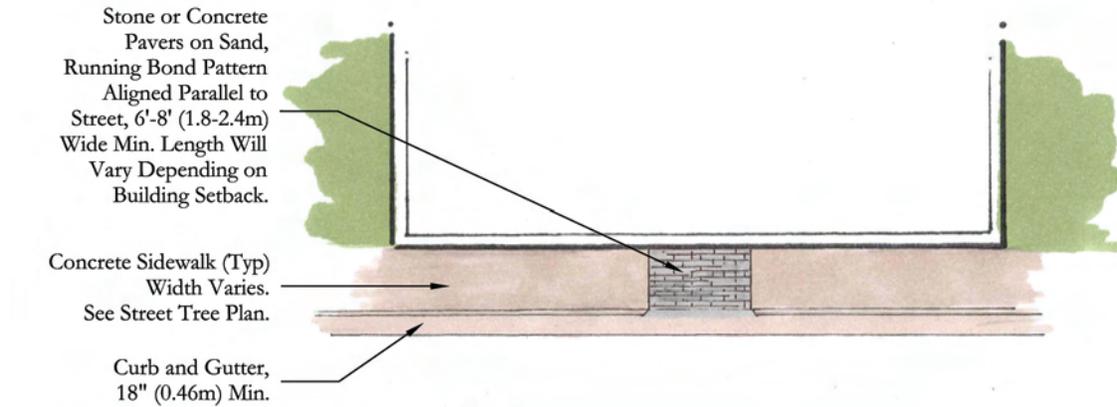
This building perimeter plan is a scaled-down version of that on the previous page. It incorporates a seating area close to the main entrance of the building, but replaces the central planting bed with a Naval insignia in the paving pattern. The main entry walk and seating area are lined with small/ornamental trees that provide a focus for the entrance, create seasonal interest, and help define the space. Alternative insignias may be used to differentiate buildings per functional district. High-visibility buildings should receive implementation priority. When phasing, decorative paving and canopy trees should be installed first.

Plan Benefits:

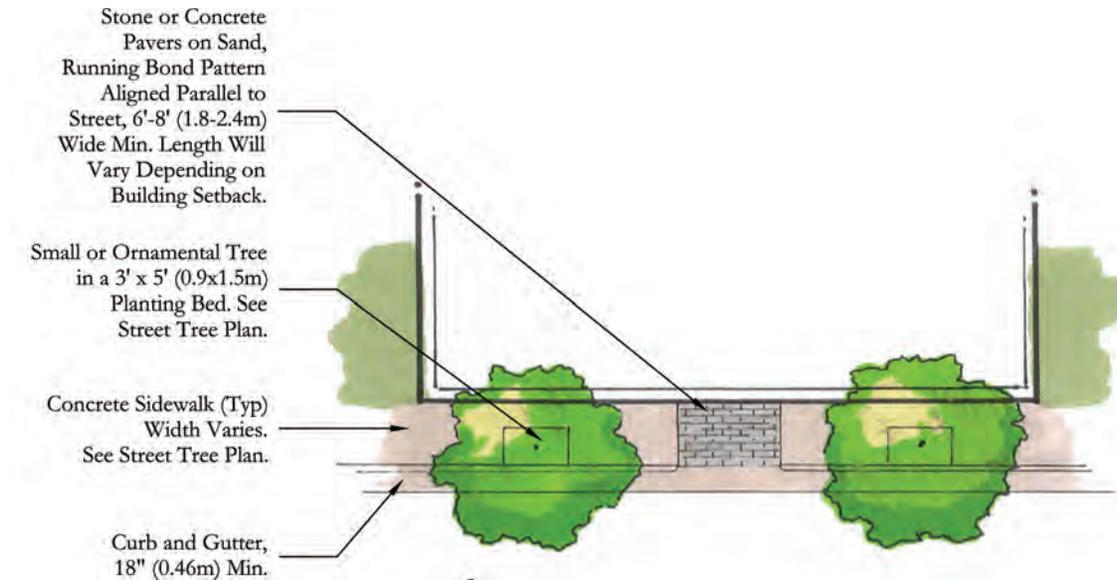
- Meets current AT/FP standards for an inhabited and primary gathering building
- Use of drought-tolerant, native vegetation reduces irrigation and maintenance needs
- Formal organization of the design communicates building function and provides a conspicuous entrance for occupants and visitors
- Paving patterns and insignia can be incorporated without the removal of existing vegetation and require limited maintenance

CATEGORY	SELECTIONS
CANOPY TREE	<i>See Street Tree Plan</i>
SMALL/ORNAMENTAL TREE	<i>Amelanchier arborea</i> <i>Cercis canadensis</i> <i>Chionanthus virginicus</i>

Building Perimeter - Industrial



Plan A



Plan B

CATEGORY	SELECTIONS
CANOPY TREE	See Street Tree Plan
SMALL/ORNAMENTAL TREE	<i>Acer buergerianum</i> <i>Gleditsia triacanthos var. inermis</i> 'Sunburst'

Plan A - Typical

This building perimeter plan offers a typical alternative for industrial facilities. The main entrance into the building is distinguished by a decorative paving pattern to delineate pedestrian traffic. The plan defines the entrance into the building while recognizing the impracticality of elaborate landscaping in an industrial district. High-visibility buildings should receive priority for implementation.

Plan Benefits:

- Meets current AT/FP standards for an inhabited and primary gathering building
- Limited use of vegetation reduces maintenance costs and upkeep
- Paving patterns delineate pedestrian movement and do not interfere with necessary operative activities.

Plan B - High-visibility

This building perimeter plan offers an alternative for high-visibility industrial facilities. The main entrance into the building is distinguished by a decorative paving pattern and two small and ornamental trees. The plan defines the entrance into the building while recognizing the impracticality of elaborate landscaping in an industrial district. High-visibility buildings should receive priority for implementation, and if phasing is desirable, decorative paving should be installed first.

Plan Benefits:

- Meets current AT/FP standards for an inhabited and primary gathering building
- Limited use of vegetation reduces maintenance costs and upkeep
- Paving patterns delineate pedestrian movement and do not interfere with necessary operative activities.



Example of decorative crosswalk at Washington Navy Yard



Proper signage and pavement markings are vital for successful vehicular and pedestrian circulation

Street Tree Plan

PRIMARY AND SECONDARY ROUTES

The circulation system at NWS Yorktown consists of primary and secondary routes. These routes are used by pedestrians and drivers at different intensities and for different purposes. For this study, primary routes act as main conduits for pedestrian and vehicular circulation. These routes include those leading to and from main entry points/gates, multi-lane roadways, and high use/volume roadways and pathways. Traffic speeds on these routes are typically higher than on secondary routes.

Secondary routes support the primary routes by providing connections and access between areas on the installation. Traffic on secondary routes is generally irregular and dispersed by comparison to primary circulation routes. Often these routes are used for internal movement within the installation.

The intent of this street tree plan is to further define the hierarchy of this circulation system and create an easily understood system with the use of landscape elements and site amenities. Since pedestrian and vehicular circulation create the larger system, these routes have been combined. For additional information regarding locations of vehicular and pedestrian routes, see page viii of the introduction.

PAVEMENT MATERIALS

Incorporating decorative pavement materials such as stamped pavement, colored pavement, stone, or brick on a primary route identifies it as an important corridor, contributes to the overall aesthetic of the route, and delineates pedestrian and vehicular movement. On primary streets where traffic volume is high, decorative paving material can be used for sidewalks, crosswalks and edging around plantings and building entrances.

If used consistently, this additional detail acts as a visual cue to drivers and pedestrians and informs them of the type of roadway on which they are traveling. This is helpful, particularly on roads leading to and from main gates, in communicating a hierarchy.

On primary routes through administrative/training and personnel support areas, the intensity of decorative elements should be higher than in industrial areas. Separation of vehicle and pedestrian movement is essential in all areas for safety and can be accomplished with decorative paving materials or striping. The use of varying pavement materials such as brick, pavers, colored asphalt, and granite can be used to designate entrances, pedestrian zones, and for decorative purposes. For example, a different paving pattern or material can be used in pedestrian crosswalks in order to clearly demonstrate where a pedestrian should cross, as well as serve as a traffic calming technique for motorists. It is necessary that materials and patterns are consistent across the installation as create an identifiable language, and that they are appropriate for a particular location.

AMENITIES

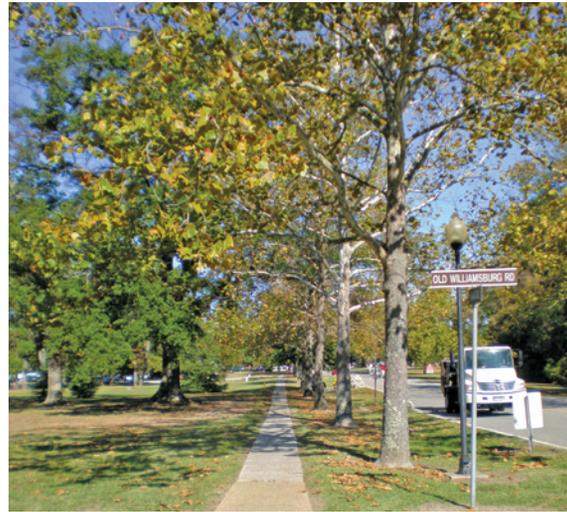
Amenities such as sidewalks, street furniture, lighting, naval displays, crosswalks, and traffic calming devices also help reinforce the circulation hierarchy and overall aesthetic of an installation. The intensity of the use is dependent upon the functional district. In administrative/training and personnel support areas, sidewalks and crosswalks should be wider and lighting should include pedestrian scale fixtures to accommodate higher pedestrian use and increase safety.

Navy displays can also be incorporated at major intersections and/or at regular intervals to provide consistency among primary routes and serve as a cue for

Landscaping



Good example of decorative paving, edging and vegetation at the Sub Museum in Groton, Connecticut



Mature trees provide shade and interest to the streetscape along Main Road



Example of existing streetscape conditions along Indian Field Road

the motorist and pedestrian to an important location. In industrial areas, amenities should be present only in select locations and can be scaled back. Although items such as street furniture should be concentrated in certain areas, it is essential that the style, color, and scale is consistent throughout the installation.

VEGETATION TYPE

The integration of various landscape treatments helps delineate and define primary pedestrian and vehicular routes within and through the installation. Successful streetscape plantings help to communicate a hierarchy among roadways, adds visual interest, and helps direct pedestrian and vehicular movement. Although street tree plantings should be incorporated into all roadways, the intensity and types of plantings differ on primary and secondary routes. The areas with the most intensity of vegetation are primary routes which should have large canopy trees and lower plantings within the landscape strip in order to emphasize important streets and reduce maintenance. Secondary routes should have smaller trees and lower plantings.

Plant material falls within the following four categories: canopy trees, small/ornamental trees, groundcovers, and grasses. Within each functional district a palette of plants is recommended for primary and secondary circulation routes. These palettes are comprised of low maintenance and primarily native species. Options are also provided for areas that have impediments such as overhead utilities.

PRIMARY CIRCULATION ROUTES

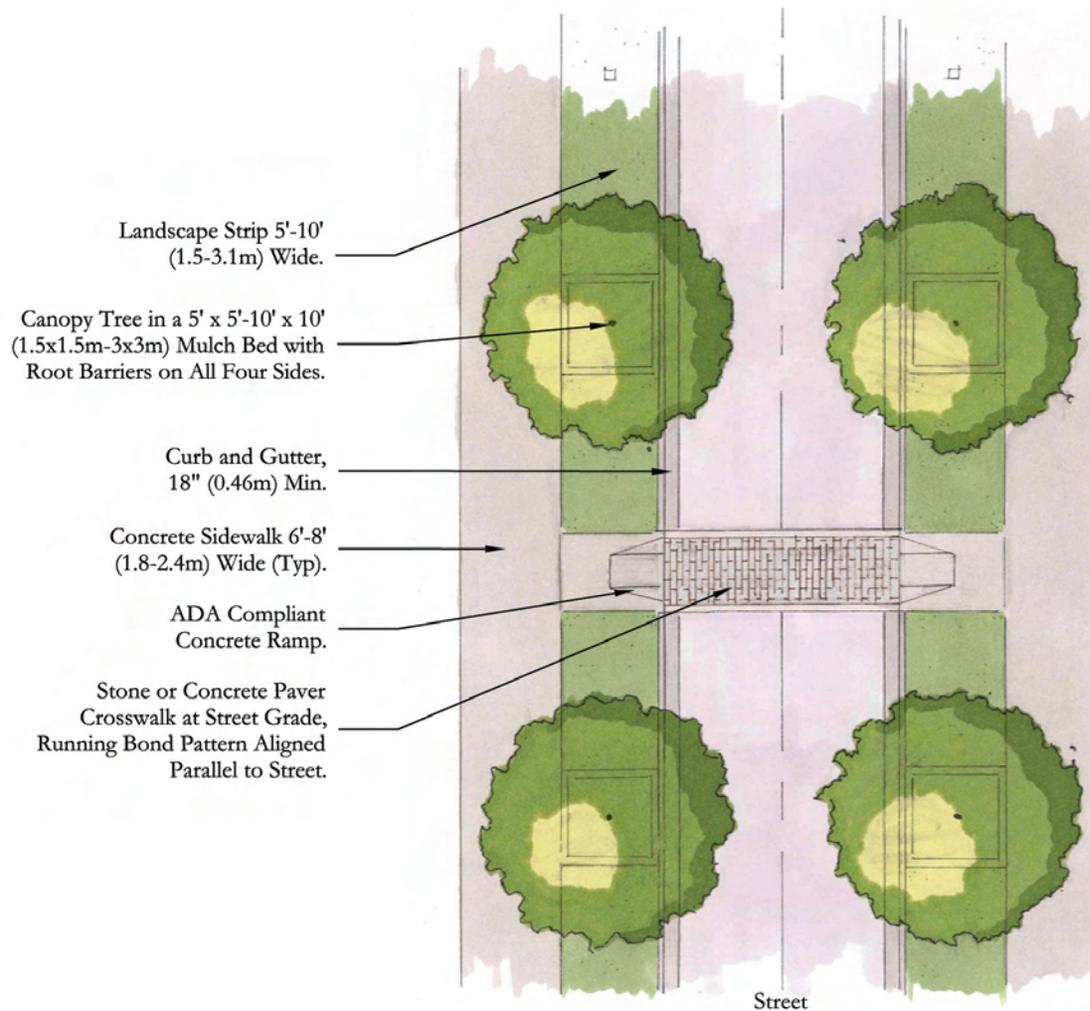
FUNCTIONAL DISTRICT	PAVEMENT MATERIALS	AMENITIES						VEGETATION TYPE			
	CROSSWALK	SIDEWALK	STREET FURNITURE	LANDSCAPE STRIP	LIGHTING	DISPLAYS	CROSSWALK	CANOPY TREE	SMALL / ORNTL. TREE	GROUNDCOVER	GRASSES
ADMIN./ TRAINING	Decorative paving	6'-8' wide (1.8-2.4m)	Seating, trash receptacles, bike racks	5'-10' wide (1.5-3m)	Street lighting, pedestrian lighting	Navy branding displays	10' wide (3m)	Palette A	None	Palette A	Palette A
PERSONNEL SUPPORT	Decorative paving	6'-8' wide (1.8-2.4m)	Seating, trash receptacles, bike racks	5'-10' wide (1.5-3m)	Street lighting, pedestrian lighting	Navy branding displays	10' wide (3m)	Palette A	None	Palette A	Palette A
INDUSTRIAL	Decorative paving	6'-8' wide (1.8-2.4m)	Seating, trash receptacles, bike racks	5'-10' wide (1.5-3m)	Street lighting, pedestrian lighting	None	10' wide (3m)	Palette A	None	Palette A	Palette A
WATERFRONT	Decorative paving	6'-8' wide (1.8-2.4m)	Seating, trash receptacles, bike racks	5'-10' wide (1.5-3m)	Street lighting, pedestrian lighting	At main points of arrival and departure	10' wide (3m)	Palette A	None	Palette A	Palette A

CATEGORY	PALETTE A
CANOPY TREE	<i>Acer rubrum 'Columnare'</i> <i>Gleditsia tricanthus var. inermis 'Sunburst'</i> <i>Ginkgo biloba 'Fairmount' or 'Fastigiata'</i> <i>Tilia cordata*</i> <i>Tsuga caroliniana</i>
SMALL / ORNAMENTAL TREE	N/A
GROUNDCOVER	<i>Juniperus conferta 'Blue Pacific'</i> <i>Juniperus horizontalis 'Bar Harbor'</i> <i>Liriope spicata**</i> <i>Pachysandra terminalis</i>
GRASSES	<i>Liriope muscari</i> <i>Cool Season grass mixture</i>

* Canopy tree for use under utility lines
(Small / Ornamental Trees can be used under utility lines as well).
** For landscape strip to reduce maintenance and eliminate mowing.

Primary Circulation Routes

The illustration at left is an example of a street tree plan for primary circulation routes. Large canopy trees line the street and are within a 5-10' width (1.5m-3m) landscape strip planted with grass or groundcover. The trees have a 5'x5'-10'x10' mulched bed to reduce mowing and trimming. Lighting for vehicles and pedestrians is present along with other amenities such as decorative paving. Crosswalks are 10 feet (3m) wide and use decorative material to clearly delineate pedestrian and vehicular traffic. This plan provides a consistency throughout all primary routes for the pedestrian and motorist.



Plan Benefits:

- Use of canopy trees reduces heat island effect
- Use of groundcover minimizes maintenance
- Provides a physical buffer between pedestrians and vehicles
- Use of pedestrian scale lighting increases safety
- Use of decorative crosswalk acts as a traffic calming device
- Use of decorative material throughout primary routes helps establish consistency and improves way-finding
- Use of crosswalk helps delineate pedestrian and vehicular traffic

SECONDARY CIRCULATION ROUTES

FUNCTIONAL DISTRICT	PAVEMENT MATERIALS	AMENITIES						VEGETATION TYPE			
	CROSSWALK	SIDEWALK	STREET FURNITURE	LANDSCAPE STRIP	LIGHTING	DISPLAYS	CROSSWALK	CANOPY TREE	SMALL / ORNTL. TREE	GROUNDCOVER	GRASSES
ADMIN./ TRAINING	Striped	4'-6' wide (1.2-1.8m)	Seating, trash receptacles, bike racks	4-6' wide (1.2-1.8m)	Street lighting	None	8' wide (2.4m)	Palette B	None	Palette B	Palette B
PERSONNEL SUPPORT	Striped	4'-6' wide (1.2-1.8m)	Seating, trash receptacles, bike racks	4-6' wide (1.2-1.8m)	Street lighting	None	8' wide (2.4m)	Palette B	None	Palette B	Palette B
INDUSTRIAL	Striped	4'-6' wide (1.2-1.8m)	Seating, trash receptacles, bike racks	4-6' wide (1.2-1.8m)	Street lighting	None	8' wide (2.4m)	Palette B	None	Palette B	Palette B
WATERFRONT	Striped	4'-6' wide (1.2-1.8m)	Seating, trash receptacles, bike racks	4-6' wide (1.2-1.8m)	Street lighting	None	8' wide (2.4m)	Palette B	None	Palette B	Palette B

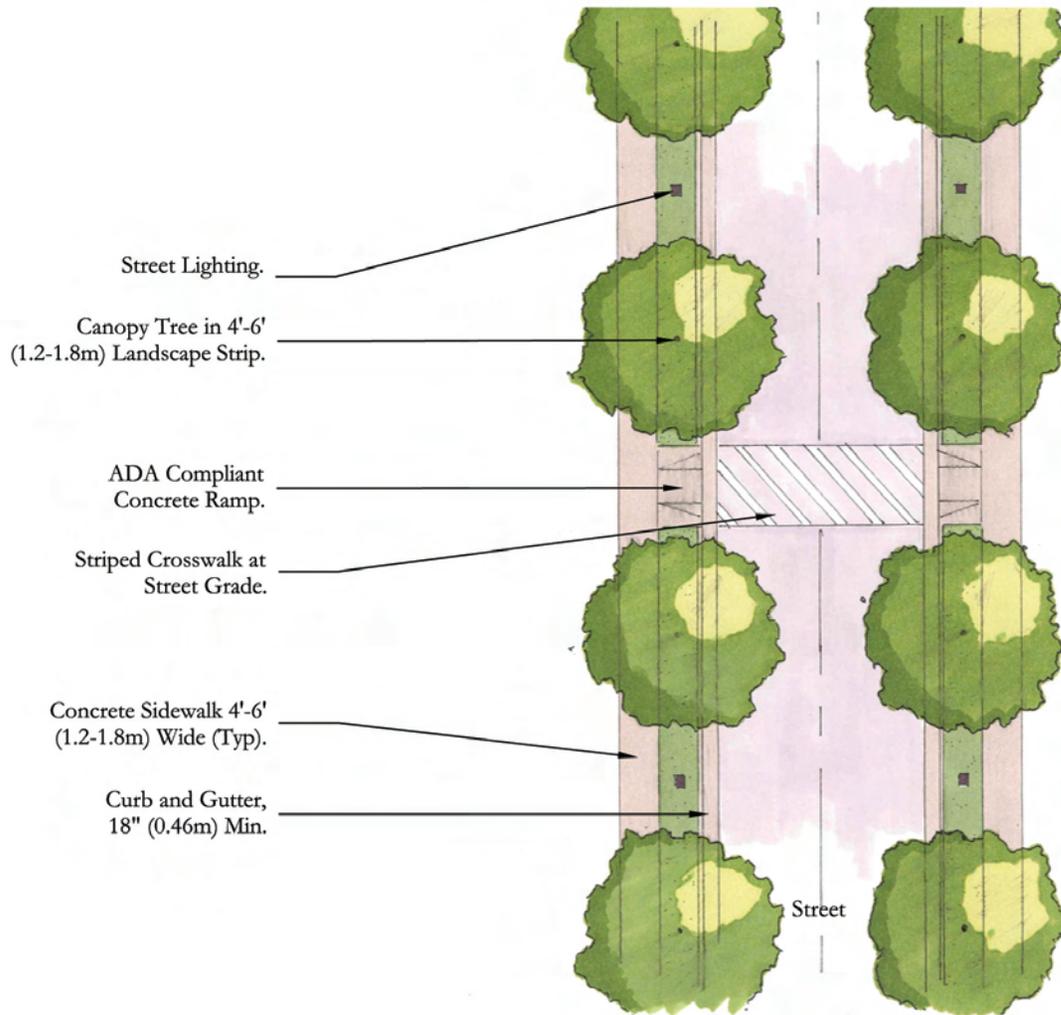
CATEGORY	PALETTE B
CANOPY TREE	<i>Acer buergerianum</i> 'Street Wise' <i>Fraxinus americana</i> 'Rosehill' <i>Fraxinus pennsylvanica</i> 'Summit' or 'Marshall's Seedless' <i>Tilia cordata</i> *
SMALL / ORNAMENTAL TREE	N/A
GROUNDCOVER	<i>Juniperus conferta</i> 'Blue Pacific' <i>Juniperus horizontalis</i> 'Bar Harbor' <i>Liriope spicata</i> ** <i>Pachysandra procumbens</i> <i>Pachysandra terminalis</i>
GRASSES	<i>Buchloe dactyloids</i> Cool Season grass mixture

* Canopy tree for use under utility lines (Small / Ornamental Trees can be used under utility lines as well).

** For landscape strip to reduce maintenance and eliminate mowing.

Secondary Circulation Routes

The illustration at left is an example of a street tree plan for secondary circulation routes. Canopy trees line the street and are planted in a 4'-6' wide landscape strip (1.2-1.8m) planted with grass or groundcover. Street lighting is present for vehicles and pedestrians. Crosswalks are 8' (2.4m) wide, and are striped to clearly delineate pedestrian and vehicular traffic. This plan provides a consistency throughout all secondary routes for the pedestrian and motorist.



Plan Benefits:

- Use of canopy trees reduces heat island effects
- Landscape strip provides a physical buffer between pedestrians and vehicles
- Use of groundcover eliminates mowing and provides additional texture to the landscaping
- Use of crosswalk helps delineate pedestrian and vehicular traffic

Recommended Plant Species

GENERAL PLANT SPECIES: NORTHEAST REGION

A plant list is provided on the following pages to help guide the selection and installation of plant material. The plant list includes the plant species name, common name, United States Department of Agriculture (USDA) Hardiness Zone, size, exposure, and spacing requirements. It is also noted whether a plant is native to the region and if it is deciduous or evergreen.

The recommended species have been selected for their adaptability to the region and their tolerance of a variety of conditions (i.e. drought, urban, and wet). The plants referenced previously in this IAP (in specific plant palettes) are included in this list. Additional plants were provided in order to increase the overall plant diversity on the installation, as well as allow for alternatives and flexibility in the plant palettes. The plants have been categorized into the following categories:

- Canopy Trees
- Small/Ornamental Trees
- Large Shrubs
- Medium Shrubs
- Small Shrubs
- Groundcover
- Grasses
- Perennials

Trees and shrubs are identified as deciduous (DEC) or evergreen (EG). Deciduous trees and shrubs lose their leaves in the fall and grow new leaves the following spring, while evergreen trees and shrubs hold most of their leaves year-round.

All plant materials are assigned a Hardiness Zone based on the USDA Plant Hardiness Zone Map. The zone is a geographically defined area in which a particular plant is able to grow, as defined by temperature and precipitation levels. NWS Yorktown is located within Zone 7.

Plants are identified as “native” (N) or “introduced” (I). This indicates whether a plant grows naturally in the region or has been introduced from some other area. In most cases it is recommended that native plants be used as they are most adapted to local conditions and often require less maintenance than introduced species.

The mature size and necessary exposure of each plant is provided to help in plant selection and placement. Additional recommendations are provided for plant spacing to ensure plant material performs at its optimum level. The plant spacing indicates the minimal distance between the centers of each plant and will be referred to as “on-center” spacing.

Species with special characteristics such as tolerance to salt spray were also indicated and are suitable for planting near the waterfront.

PLANT LIST

CATEGORY	DEC/EG	ZONE	NATIVE / INTRODUCED	LATIN NAME	COMMON NAME	SIZE	SALT SPRAY TOLERANT	EXPOSURE	SPACING
CANOPY TREE	DEC	5-8	I	<i>Acer buergerianum</i> 'Street Wise'	Street Wise Trident Maple	25-30'H, 20-30'W	X	Full sun	20'
CANOPY TREE	DEC	3-9	N	<i>Acer rubrum</i> 'Columnare'	Red Maple	70'H, 15-20'W	Moderate	Sun - shade	50-100'
CANOPY TREE	DEC	3-9	N	<i>Acer rubrum</i> 'Red Sunset'	Red Maple	50-60'H/W	Moderate	Sun - shade	50-100'
CANOPY TREE	DEC	4-8	N	<i>Acer saccharum</i>	Sugar Maple	40-60'H, 45-50'W		Full sun - part shade	30-40'
CANOPY TREE	DEC	4-9	N	<i>Betula nigra</i> 'Heritage'	Heritage River Birch	40-50'H, 40-60'W		Full sun - part shade	30-40'
CANOPY TREE	DEC	3-9	N	<i>Fraxinus americana</i> 'Rosehill'	Rosehill White Ash	35-40'H, 50-70'W	X	Full sun	35-40'
CANOPY TREE	DEC	3-9	N	<i>Fraxinus pennsylvanica</i> 'Marshall's Seedless' or 'Patmore'	Green Ash	50'H, 25-30'W – 'Marshall's Seedless' 60'H, 40'W – 'Patmore'	X	Full sun	50-75'
CANOPY TREE	DEC	3-9	I	<i>Ginkgo biloba</i> 'Fastigiata' or 'Fairmount'	Male Ginkgo	40-60'H, 20-40'W	X	Full sun	25-35'
CANOPY TREE	DEC	4-9	N	<i>Gleditsia triacanthos var. inermis</i> 'Sunburst'	Thornless Honeylocust	30-35'H, 30-40'W	X	Full sun	25-35'
CANOPY TREE	DEC	4-8	N	<i>Platanus x acerifolia</i> 'Bloodgood'	London Planetree	70-100' H, 65-80' W		Full sun - part shade	30'
CANOPY TREE	DEC	7-9	N	<i>Quercus falcata</i>	Southern Red Oak	70-80'H		Full sun	40'
CANOPY TREE	DEC	5-9	N	<i>Quercus phellos</i>	Willow Oak	50-70'H, 30-50'W		Full sun	30-40'
CANOPY TREE	DEC	4-8	N	<i>Quercus rubra</i>	Northern Red Oak	50-75'H, 50'W		Full sun	30-40'
CANOPY TREE	DEC	5-9	N	<i>Quercus shumardii</i>	Shumard Oak	40-60'H/W		Full sun	35-40'
CANOPY TREE	DEC	4-9	N	<i>Taxodium distichum</i>	Common Bald Cypress	50-70'H, 20-30'W		Full sun	20-30'
CANOPY TREE	DEC	3-7	I	<i>Tilia cordata</i> 'Chancole' or 'Greenspire'	Chancole Littleleaf Linden	50'H, 20'W – 'Chancole' 50'H, 35'W – 'Greenspire'		Full sun	20-30'
CANOPY TREE	DEC	5-8	I	<i>Zelkova serrata</i> 'Green Vase'	Green Vase Zelkova	70'H, 30-40'W		Full sun - part shade	35-40'
CANOPY TREE	EG	3-7	N	<i>Picea abies</i>	Norway Spruce	40-60' H, 25-30' W	X	Full Sun	25'
CANOPY TREE	EG	6-9	I	<i>Cedrus atlantica</i> 'auca'	Blue Atlas Cedar	To 60'H, 30'W		Full sun	30'

DEC - Deciduous
EG - Evergreen

PLANT LIST

CATEGORY	DEC/EG	ZONE	NATIVE / INTRODUCED	LATIN NAME	COMMON NAME	SIZE	SALT SPRAY TOLERANT	EXPOSURE	SPACING
CANOPY TREE	EG	7-8	I	<i>Cedrus deodara</i>	Deodara Cedar	To 80'H, 40'W		Full sun	30-50'
CANOPY TREE	EG	5-9	N	<i>Ilex opaca</i>	American Holly	30-60'H, 20-40'W	X	Full-part sun	30-50'
CANOPY TREE	EG	2-9	N	<i>Juniperus virginiana</i>	Eastern Red Cedar	40-50'H, 15-30'W	X	Full sun	15-20'
CANOPY TREE	EG	6-9	N	<i>Pinus taeda</i>	Loblolly Pine	50-90'H, 30-40'W		Full sun - part shade	30-50'
CANOPY TREE	EG	6-9	N	<i>Quercus hemisphaerica</i>	Laurel Oak	40-50'H		Full sun	40'
CANOPY TREE	EG	7b-10	N	<i>Quercus virginiana</i>	Live Oak	30-50'H, 50-80'W	X	Full sun	50-100'
SMALL / ORNMTL TREE	DEC	4-9	N	<i>Amelanchier arborea</i>	Downy Serviceberry	10-25'H, 10-15'W	X	Sun-part shade	15-20'
SMALL / ORNMTL TREE	DEC	3-9	N	<i>Carpinus carolinana</i>	American Hornbeam	20-30'H/W		Full sun - part shade	20'
SMALL / ORNMTL TREE	DEC	4-9	N	<i>Cercis canadensis</i>	Eastern Redbud	20-30'H, 20-30'W		Full sun - part shade	15-20'
SMALL / ORNMTL TREE	DEC	3-9	N	<i>Chionanthus virginicus</i>	Fringe Tree	12-20'H/W		Full sun - part shade	15-20'
SMALL / ORNMTL TREE	DEC	3-7	N	<i>Cornus alternifolia</i>	Pagoda Dogwood	15-25'H		Part shade	15-20'
SMALL / ORNMTL TREE	DEC	5-9	N	<i>Cornus florida</i>	Flowering Dogwood	20-30'H/W		Part shade	15-20'
SMALL / ORNMTL TREE	DEC	7-9	I	<i>Lagerstroemia spp.</i>	Crepe Myrtle	15-30'H, 6-15'W	Moderate	Full sun	8-10'
SMALL / ORNMTL TREE	DEC	4-9	I	<i>Magnolia stellata</i>	Star Magnolia	15-20' H, 10-15' W		Full sun	15'
SMALL / ORNMTL TREE	DEC/EG	5-9	N	<i>Magnolia virginiana</i>	Sweet Bay Magnolia	10-60'H, 10-20'W	Moderate	Full sun	10-20'
SMALL / ORNMTL TREE	EG	7-9	N	<i>Ilex vomitoria</i>	Yaupon Holly	15-20'H, 10-20'W	X	Full-part sun	10-20'
SMALL / ORNMTL TREE	EG	7-8	N	<i>Ilex vomitoria</i> 'Pendula'	Weeping Yaupon Holly	20-25'H, 10-12'W	X	Full-part sun	10-20'
SMALL / ORNMTL TREE	EG	6-9	I	<i>Ilex x attenuata</i> 'Fosteri'	Foster's Holly	20-30'H, 7-10'W		Full sun - part shade	15-20'
DEC - Deciduous EG - Evergreen									

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SMALL/ ORNMTL TREE	EG	7b-11	N	<i>Myrica cerifera</i>	Wax-Myrtle, Southern Bayberry	10-15'H, 8-10'W	X	Full-part sun	10'
SMALL/ ORNMTL TREE	EG	5-8	I	<i>Pinus thunbergiana</i>	Japanese Black Pine	20-50'H, 15-25'W	X	Full sun	15-20'
SHRUB LG	DEC	4-8	I	<i>Euonymus alatus</i> 'Compactus'	Compact Winged Euonymus	6-10'H, 4-6'W		Full-part sun	6-8'
SHRUB LG	DEC	4-9	N	<i>Hamamelis virginiana</i>	Common Witch Hazel	10-15'H/W		Part shade - shade	10'
SHRUB LG	DEC	3-9	N	<i>Ilex verticillata</i>	Winterberry	6-10' H/W		Full-part sun	2-3'
SHRUB LG	DEC	4-8	N	<i>Vaccinium corymbosum</i>	Highbush Blueberry	6-12' H	X	Full sun - part shade	6-8'
SHRUB LG	DEC	3-9	N	<i>Viburnum prunifolium</i>	Black Haw	12-15'H, 8-12'W		Full sun – part shade	8-10'
SHRUB LG	EG	7-9	I	<i>Ilex cornuta</i> 'Burfordii'	Burford Holly	8-20'H, 5-10'W	X	Full-part sun	3-4'
SHRUB LG	EG	7-9	I	<i>Ilex crenata</i> 'Sky Pencil'	Sky Pencil Holly	12'H, 2'W	X	Full-part sun	3-4'
SHRUB LG	EG	4-9	I	<i>Juniperus chinensis</i> 'Robusta Green'	Robust Green Juniper	15'H, 5-7'W	X	Full-part sun	1-2'
SHRUB LG	EG	4-9	I	<i>Juniperus chinensis</i> 'Torulosa'	Hollywood Juniper	To 20'H, 10'W	X	Full-part sun	10'
SHRUB LG	EG	5-9	N	<i>Lindera benzoin</i>	Spicebush	6-12'H/W		Full sun	5-10'
SHRUB LG	EG	7-9	I	<i>Mahonia bealei</i>	Leatherleaf Mahonia	6-8'H, 10' W	Moderate	Full sun – part shade	4-6'
SHRUB LG	EG	6-8	N	<i>Osmanthus x 'Burkwoodii'</i>	Burkwood Osmanthus	8-10'H/W		Full-part sun	6-8'
SHRUB LG	EG	7-10	N	<i>Prunus caroliniana</i>	Carolina Cherry-Laurel	20-40'H, 15-20'W	X	Full-part sun	20-25'
SHRUB LG	EG	7b-10	I	<i>Rhaphiolepis x 'Majestic Beauty' P.P.#3349</i>	Majestic Beauty Indian Hawthorne	8-10'H/W	X	Full-part sun	5-10'
SHRUB LG	EG	2-8	N	<i>Thuja occidentalis</i> 'Emerald'	Emerald Arborvitae	15'H, 5'W		Full sun	5-10'
SHRUB MED	DEC	3-9	N	<i>Clethra alnifolia</i>	Summersweet	4-10' H/ W	X	Full-part sun	4-8'
SHRUB MED	DEC	3-9	N	<i>Hydrangea arborescens</i>	Smooth Hydrangea	3-5'H, 4-6'W		Partial shade	4-6'

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SHRUB MED	DEC	6-9	N	<i>Rhododendron atlanticum</i>	Coastal Azalea	3-6'H/W		Full sun - part shade	4-5'
SHRUB MED	DEC	5-9	N	<i>Hydrangea quercifolia</i> spp.	Oak Leaf Hydrangea	4-8'H/W		Partial shade	4-8'
SHRUB MED	DEC	6-9	N	<i>Rhododendron canescens</i>	Southern Pinxterflower	4-10'H, to 10'H		Full sun - part shade	6-12'
SHRUB MED	EG	5-9	N	<i>Ilex glabra</i>	Inkberry Holly	4-8'H, 6-10'W	X	Full sun	5-10'
SHRUB MED	EG	5-9	N	<i>Ilex glabra 'Compacta'</i>	Dwarf Inkberry Holly	4-6' H/W	X	Full-part sun	4-6'
SHRUB MED	EG	5-9	N	<i>Leucothoe racemosa</i>	Sweetbells	4-6' H/W		Part shade - shade	3-5'
SHRUB MED	EG	8-9	I	<i>Rhaphiolepis indica 'Snow White'</i>	Snow White Indian Hawthorn	4-5' H, 5-6' W		Full sun	3-4'
SHRUB SM	DEC	6-8	I	<i>Berberis thunbergii 'Crimson Pigmy'</i>	Crimson Pigmy Barberry	2-3'H, 3-4'W		Sun – part shade	3-5'
SHRUB SM	DEC	4-9	N	<i>Rosa x 'Radrazz'</i>	Knockout Rose	3-4'H/W		Full sun	3-5'
SHRUB SM	EG	7-9	N	<i>Ilex opaca 'Maryland Dwarf'</i>	Maryland Dwarf American Holly	3'H, evergreen	X	Full sun	6'
SHRUB SM	EG	7-10	N	<i>Ilex vomitoria 'Nana'</i>	Dwarf Yaupon Holly	1 ½ -2'H, 4-6' W		Full sun	6-8'
SHRUB SM	EG	7b-10	I	<i>Rhaphiolepis umbellata 'Minor'</i>	Dwarf Yeddo Hawthorn	3-4' H/W	X	Full sun-part shade	5'
SHRUB SM	EG	2-8	N	<i>Thuja occidentalis 'Golden Globe'</i>	Golden Globe Arborvitae	4' H/W		Full - part sun	2-3'
SHRUB SM	EG	4-9	N	<i>Yucca filamentosa</i>	Adam's Needle	2-4'H/W	X	Full sun	3-4'
SHRUB SM	EG	4-9	N	<i>Yucca filamentosa 'Golden Sword'</i>	Golden Sword Yucca	3-4'H, 5'W	X	Full sun	3-4'
SHRUB SM	EG	5-7'	I	<i>Taxus baccata 'Repandens'</i>	Repandens Yew	12-18" H, 4-5' W	X	Full sun - part shade	4'
GROUNDCOVER	EG	6-8	I	<i>Juniperus chinensis 'Sargentii'</i>	Sargent's Juniper	1-2' H, 6-8' W	X	Full sun	5'
GROUNDCOVER	EG	6-8	I	<i>Juniperus conferta 'Blue Pacific'</i>	Blue Pacific Juniper	10-12" H, 10'W	X	Full sun	5'
GROUNDCOVER	EG	4-9	N	<i>Juniperus horizontalis 'Bar Harbor'</i>	Bar Harbor Juniper	12" H, 6' W	X	Full sun	6'

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GROUND COVER	EG	4b-9	I	<i>Juniperus horizontalis 'Wiltoni'</i>	Blue Rug Juniper	4-6" H, 5-10' W	X	Full-part sun	6'
GROUND COVER	EG	4-9	I	<i>Juniperus procumbens 'Nana'</i>	Dwarf Japanese Juniper	1-2' H, 10' W	X	Full-part sun	6'
GROUND COVER	EG	6-9	I	<i>Liriope muscari</i>	Big Blue Lily-Turf	1-2' H, 2-3' W		Shade – part sun	9-12"
GROUND COVER	EG	6-9	I	<i>Liriope muscari 'Variegata'</i>	Variegated Big Blue Lily-Turf	10-15" H, 2' W	X	Shade – part sun	9-12"
GROUND COVER	EG	4-9	I	<i>Liriope spicata</i>	Creeping Lily-Turf	8-12" H, 6-12" W		Part shade - shade	2-3'
GROUND COVER	EG	6-9	I	<i>Ophiopogon japonicus</i>	Mondo Grass	6-8" H, 12" W		Part shade - shade	6-9"
GROUND COVER	EG	7-8	I	<i>Ophiopogon japonicus 'Nana'</i>	Dwarf Mondo Grass	3" H, 12" W		Part shade - shade	6-9"
GROUND COVER	EG	4-7	I	<i>Pachysandra terminalis</i>	Japanese Spurge	5-12" H		Sun-part shade	6"
GROUND COVER	EG	4-7	I	<i>Pachysandra terminalis 'Variegata'</i>	Variegated Japanese Spurge	8-12" H		Part shade - shade	6"
GROUND COVER	EG	5-8	N	<i>Phlox buckleyi</i>	Phlox	6-12" H, 12-24" W		Sun – part shade	12-15"
GROUND COVER	EG	3-9	N	<i>Phlox subulata</i>	Creeping Phlox	2-4" H, 2' W		Full sun	18-24"
GROUND COVER	EG	3-8	N	<i>Sedum spurium</i>	Two-Row Stonecrop	2-6" H		Sun – part shade	4-6"
GROUND COVER	EG	3-8	N	<i>Sedum ternatum</i>	Mountain Sedum	3-6" H		Part shade - shade	6-12"
GRASS		4-9	N	<i>Buchloe dactyloides</i>	Buffalo Grass	4-6" H		Full sun	8-18"
GRASS		4-10	I	<i>Elymus arenarius</i>	Blue Wild Rye	2-3' H/W	X	Full sun	2'
GRASS		4-8	I	<i>Helictotrichon sempervirens</i>	Blue Oat Grass	2' H, 3' W		Sun – part shade	2'
GRASS		5-9	I	<i>Miscanthus sinensis 'Morning Light'</i>	Morning Light Miscanthus	5-6' H/W		Sun - part shade	3'
GRASS		6-11	N	<i>Muhlenbergia capillaris</i>	Pink Muhly Grass	1.5-4' H	X	Full sun	2'
GRASS		4-9	N	<i>Panicum virgatum 'Northwind'</i>	Switchgrass	3-4' H		Full sun-part sun	3'

DEC - Deciduous
EG - Evergreen