

PART SIX - ATTACHMENTS

6 Landscape

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Part 6 Landscaping Design Concepts

GENERAL LANDSCAPE DESIGN CONCEPTS

Landscape features and plantings must provide a SAFE ENVIRONMENT :

- Plants with thorns will not be selected. Poisonous or toxic plants will not be used in the landscape design
- Plants that produce seeds, nuts, or fruit that could be a choking hazard will not be used in the landscape design.
- Water features are often desirable for their visual appeal, their auditory appeal, and the variety of plants and animals they support. The potential danger of accidental drowning, however, suggests that their use be limited and their location must be carefully placed and secured to insure safety of small children. Any guard rails used to separate water features from travel paths should conform to height and opening size as defined in the International Building Code.
- Earth berms are recommended as buffers to separate play areas from traffic areas. Height should be three to four feet with a 3:1 maximum slope. Taller berms at the site perimeter can help provide acoustical separation from unwanted noise and may increase security.
- Plants with flowers that attract pollinators such as bees and wasps should be identified to the staff so they can allow children to enjoy flowers at a safe distance during the pollination season.
- Fertilizers, pesticides, and herbicides should be organic and safe for children.
- To create a more pleasant environment trees can be placed to provide natural windbreaks against winter winds and to provide shade for relief of hot summer sun.

The landscape design should provide for CHILD LEARNING OPPORTUNITIES:

- The design should help contradict cultural forces that tend to disconnect our children from the natural environment as described by Richard Louv in his book "Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder", The children in the CDC today will someday inherit our great national parks and other landscape treasures; they must be prepared for this responsibility. The design should help create children who are ecologically aware citizens.
- The design should preserve existing natural landscape features, including topography, trees, and vegetation where possible. These features should provide opportunities for children to explore different aspects of nature.
- Use of a variety of native trees, shrubs, and plants which are adapted to the Bethesda environment.
- Plants should be selected with a variety of shapes, sizes, and textures.
- Color is an important part of the plant world. Spring and fall colors should be considered and a variety of shades is desirable.
- A mix of deciduous and evergreen plants should be selected.
- A variety of plant scents and fragrances should be considered in plant selection.
- Plants should be selected to attract a variety of pollinators, birds and other wildlife.
- Terrain features such as small hills, boulders, and other items should be added to complement the planting scheme. These should be accessible while under supervision to the children.

- Courtyard areas that are not subject to ATFP restrictions should be heavily planted and provide walking paths and seating.
- Labels should be prepared and installed on the selected species, and the CDC staff can then use the plant selections as part of the educational program.
- Consideration also should be given to plant selection within the viewshed of the CDC. Although not immediately accessible, specimen plants should be located where they can be enjoyed visually by the occupants of various interior spaces.
- All portions of outdoor activity areas will be visible to adult staff members.
- Plantings at the building entry should be visually interesting in all seasons and create a sense of welcoming for the children.

DURABILITY is an important part of the landscape design:

- Plants should be local, native, durable species that can thrive with little to no supplemental watering.
- Invasive plants and those require excessive trimming and other maintenance will be avoided.
- In play areas where children will grab and touch plants, the plants need to be durable and able to take such rough use.
- Any irrigation system components should be designed to prevent tripping hazards. Any valves or controls should be located in a secure area.

SPECIFIC DESIGN CONCEPTS:

The landscape design should create an interesting natural environment which is inspirational for both children and staff. Landscaped areas can be divided into areas which are outside of the controlled playground environment and those within the controlled playground environment.

Primary Entrance:

- Unified lighting and paving should connect the existing CDC to the new building.
- A variety of landscaping should beckon the visitor to enter the CDC, and it should present a welcoming experience. If this face of the building receives the winter wind, plantings should help provide a windbreak.
- The main walkway system should connect to secondary around the building walkways to provide for supervised walks by the children, the possibility of parades, and to connect various natural areas as part of the educational program.
- Items such as wind catchers, colorful hanging bottle displays, and other such items should be incorporated into the design. Children love bright colors and shiny objects.
- Butterfly houses, plants that attract butterflies and hummingbirds, and plants that attract songbirds should be incorporated into the design.
- Accessory walkways could be done with decomposed granite or other semi-pervious material to avoid too much hard pavement. Pavers are possible in some areas but must meet UFC criteria to avoid tripping hazards.
- Benches and other landscape furniture should be incorporated with shade trees and other site features. Small water features, sundials, sculptural rocks all help enliven the visitor and staff experience. Cedar is an acceptable wood for such furnishings.
- Low Impact Development features such as rain gardens should be integrated into the landscape design. A small bridge could be included on the walkway; the only restriction would be the requirement to meet balustrade spacing as required by the UFC.

- Any water feature should be accessible for supervised visits by the children but must either be intermittent or constantly gently flowing to prevent stagnation.

Perimeter of the Building outside of the individual play areas:

- At various locations depending on building designs an access path could be designed with gentle curves to make a pleasant walking experience for staff and children on supervised walks. Along Jones Road a low berm could be incorporated but the center does not want to isolate children completely from the outside world. These perimeter areas will also become an area to be viewed and enjoyed by children visually when both inside their classrooms and when in the play areas.
- A variety of attractive deciduous trees could be planted along walkway, preferably native trees, which demonstrate to the children their differentiation in such characteristics as leaf shape, fall color, tree form, bark type, and spring flowering. Identifying name plates will be installed on the trees with Latin and common names and some useful facts as part of the educational program. These trees will help shade any proposed South Facing playgrounds in the summer.

Entrance to the building from the parking lot – main entrance:

- Unified lighting and paving should connect the existing CDC to the new building.
- A variety of landscaping should beckon the visitor to enter the CDC, and it should present a welcoming experience. As this face of the building receives the most winter wind, plantings should help provide a windbreak.
- The primary walkway system should connect to the secondary walkways to provide for supervised walks by the children, the possibility of parades, and to connect various natural areas as part of the educational program.
- Items such as wind catchers, colorful hanging bottle displays, and other such items should be incorporated into the design. Children love bright colors and shiny objects.
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- Low Impact Development features such as rain gardens should be integrated into the landscape design. A small bridge could be included on the walkway; the only restriction would be the requirement to meet balustrade spacing as required by the UFC and IBC.
- Any water feature should be accessible for supervised visits by the children but must either be intermittent or constantly gently flowing to prevent stagnation.

Individual play areas:

- Play areas should be enriching environments that let children interact with nature. Because the play areas are contained by a fence and constantly supervised and inspected some AFTP limitations of typical landscaping are not as restrictive where they would limit the learning experience for children and staff.
- Recommended proportion of impervious poured play surface to natural area is 60%/40%.
- Large rocks for climbing of an age appropriate height work well. Rounded river rocks should be large enough to prevent swallowing and use as weapons.

- Small durable shade trees are encouraged. Turf grass should be incorporated in areas where active play occurs. Other ornamental grasses and appropriate shrubs should be incorporated.
- Tricycle paths should have rounded corners to prevent “cutting the corner” by users.
- Gardening and planting are a growing part of the CDC program. Raised beds of appropriate height should be included in the design, and a rainwater harvesting system should be seriously considered in the design. This system could be individual rain barrels or a more complex cistern system. It should not require excessive maintenance or promote stagnant water.
- Each playground will have its own piece of play equipment which requires proper clearance and an ABA accessible platform so that all children can enjoy it.
- Provisions for adding tents or other structures should be planned. A series of recessed adaptors for tent poles in the ground would allow a variety of such structures.
- An important feature of the overall experience of the building and site are the individual storage buildings in the playground areas used to store outdoor toys and games. Too often these are ignored in the design process, and ugly storage sheds are simply added before the playgrounds are opened for use. These ugly sheds are often the first thing visible when you drive up to a new CDC facility, and the most prominent item in the viewshed of the building occupants. The storage buildings are to be individually designed to enhance the overall project aesthetics as described in the Part Three Engineering System Requirements Section G205090. Each storage building will have provisions for a combination lock.

--End of Section--

Part 6 Attachments:

Additional Native Small trees for Consideration (supplement to plant list in Bethesda Installation Development Plan):

1. *Abies fraseri* Fraser Fir
2. *Acer pensylvanicum* Striped Maple
3. *Amelanchier arborea* Downy Serviceberry
4. *Calycanthus floridus* Sweetshrub
5. *Carpinus caroliniana* American Hornbeam
6. *Crataegus phaenopyrum* Washington Hawthorn
7. *Halesia tetraptera* Carolina Silverbell
8. *Hydrangea quercifolia* Oakleaf Hydrangea
9. *Hypericum frondosum* Golden St. Johnswort
10. *Ilex verticillata* Common Winterberry
11. *Itea virginica* Virginia Sweetspire
12. *Kalmia latifolia* Mountainlaurel
13. *Myrica pensylvanica* Northern Bayberry
14. *Pinus virginiana* Virginia Pine
15. *Rhododendron sp* Native Azalea
16. *Sassafras albidum* Common Sassafras
17. *Symphoricarpos albus* Common Snowberry
18. *Vaccinium corymbosum* Highbush Blueberry

(Note that some trees may not be suitable for areas within the play areas accessible by children due to swallowing hazards)

Low Groundcovers for ATFP compliance – maximum 6” height :

Ground Covers suggested by Virginia Extension Department:

1. Juniperus horizontalis Creeping Juniper (also found in Bethesda IAP)
2. Phlox subulata Moss Pink (small areas)
3. Hosta spp Dwarf Hosta (shade, winter die-back problems, may grow more than 6”)
4. Pachysandra terminalis Pachysandra (shade, confirm height, has been used)
5. Liriope spicata Liriope (spicata is lower cultivar – it may grow more than 6” depending on the variety)
6. Sedum sp Sedum (full sun, insure low growing species)
7. Ophiopogon sp Mondo grass

Useful groundcovers with invasive tendencies from Virginia Extension – may be applicable in contained areas:

9. Ajuga reptans Ajuga (shade or part shade)
10. Vinca minor Common Periwinkle

Other potential ground covers

11. SEmpervivum tectorum Hens and Chicks (small areas)

For turf grass typically use a drought resistant tall thin-blade fescue mix in our area.

Please note that this list is neither an endorsement nor a directive to use these plants at a specific project; it is merely a suggestion of potentially suitable plants. These also are not typically native plants.