

APPENDICES

Appendix A

PLANT GUIDE FOR LANDSCAPING AND SCREENING

A. Recommended Shade Trees suitable for Street Trees, Parking Lots, Buffers and Screens

Botanic Name	Common Name	Comments
Acer rubrum	Red Maple	
Celtis occidentalis	Hackberry	
Cladastris lutea	Yellow Wood	
Corylus colurna	Turkish Filbert	
Ginkgo biloba	Ginkgo	(male only)
Gleditsia triacanthos, inermis & cvs	Thornless Honeylocust	
Koelreuteria paniculata	Golden Rain Tree	
Liquidamber styraciflua	Sweet Gum	
Platanus occidentalis	Sycamore	
Quercus bicolor	Swamp White Oak	
Quercus borealis	Scarlet Oak	
Quercus imbricaria	Shingle Oak	
Quercus phellos	Willow Oak	
Quercus prinus	Chestnut Oak	
Quercus rubra	Red Oak	
Robinia pseudoacacia	Black Locust	
Sopohora japonica	Japanese Pagodatree	
Tilia americana	American Linden	
Tilia cordata & cvs.	Little Leaf Linden	
Tilia tomentosa	Silver Linden	
Ulmus sp. & cvs.	Elm	(Species with high resistance to Dutch Elm Disease)
Zelkova serrata	Japanese Selkova	

B. Recommended Shade or Canopy Trees suitable for Property Line Buffers and Non-vehicular Use Areas Only

Botanic Name	Common Name	Comments
Acer saccharinum	Silver Maple	(Large over-extending limbs open areas only)
Acer saccharum	Sugar Maple	
Betula lenta	Sweet Birch	
Betula nigra	River Birch	
Carya ovata	Shagbark Hickory	
Carya sp.	Hickory	
Fagus grandifolia	American Beech	
Fagus sylvatica	European Beech	
Fraxinus Americana	White Ash	
Juglans nigra	Black Walnut	
Liriodendron tulipifera	Tuliptree	
Meta sequoia glypostroboides	Dawn Redwood	
Ostrya virginiana	Hop Hornbeam	
Phellodendron amurense	Amur Cork Tree	
Plantanus acerifolia	London Plane	
Prunus virginiana	Chokecherry	
Quercus alba	White Oak	
Quercus coccinea	Scarlet Oak	
Quercus palustris	Pin Oak	
Quercus vellutina	Black Oak	
Sassafras albindum	Sassafras	

C. Recommended Ornamentals suitable for Property Line Buffers or Site Element Screens (10-30 feet at maturity)

Botanic Name	Common Name	Comments
Amelanchier canadensis	Serviceberry	
Carpinus carolinia	Ironwood	
Cercis candensis	Red Bud	
Chioanthus virginicus	Fringetree	
Cornus florida	Flowering Dogwood	
Cornus kousa	Japanese Dogwood	
Cornus mas	Cornelian Cherry	
Crataegus sp. & cvs.	Hawthorns	
Eleagnus augustofolia	Russian Olive	
Halesia carolinia	Silverbells	
Hammamelis virginiana	Witch Hazel	
Koelreuteria paniculata	Golden Raintree	
Laburnum vossi	Goldenchain	
Magnolia soulangeana	Saucer Magnolia	
Magnolia virginiana	Sweetbay Magnolia	

Malus sp.	Crab Apple Species	(apple scab resistance variety only)
Oxydendrum arboreum	Sourwood	
Prunus sargentii	Sargent Cherry	
Prunus serrulata cv Kwanzan	Kwanzan Cherry	
Pyrus calleryana cv Bradford	Bradford Pear	
Pyrus calleryana cv Redspire	Redspire Pear	
Rhus glabra	Smooth Sumac	
Rhus typhina	Staghorn Sumac	
Sorbus aucuparia	European Mountain Ash	
Styrax japonica	Japanese Snowbell	
Syinga amurensis japonica	Japanese Tree Lilac	

D. Large Deciduous Shrubs suitable for Property Line Buffers or Site Element Screens (not clipped hedges) – Mature height between 5 and 15 feet

<u>Botanic Name</u>	<u>Common Name</u>	<u>Comments</u>
Aronia arbutifolia	Black Chokeberry	
Calycanthus floridus	Sweet Shrub	
Cephalanthus occidentalis	Buttonbush	
Clethra acuminata	Summersweet	
Cornus serica	Red Osier Dogwood	
Enkianthus campanulatus	Redvien Enkianthus	
Euonymous alatus	Burning Bush	
Forsythia sp.	Forsythia	
Fothergilla major	Large Fothergilla	
Ilex verticilsata	Winterberry	
Lindera benzoin	Spicebush	
Lonicera spp. (shrubbery variety)	Honeysuckle Bush	
Myrica pennsylvania	Bayberry	
Philadelphus spp.	Mock Orange	
Pysocarpus opulifolius	Common Ninebark	
Sambucus canadensis	Elderberry	
Spirea nipponica	Snow Mound Spirea	
Vaccinium corymbosum	Blueberry	
Viburnum dentatum	Arrow Wood	
Viburnum lentago	Nannyberry	
Viburnum prunifolium	Black Haw	
Viburnum spp.	Other large Viburnums	
Viburnum trilobum	American Cranberry	

E. Deciduous or Evergreen Shrubs suitable for Clipped Hedges in Property Line Buffers or Site Element Screens (6-20 feet at maturity)

Botanic Name	Common Name	Comments
Acanthopanax pentaphyllum	Five Leaf Aralia	
Aronia arbutifolia	Chokeberry	
Berberis sp.	Barberry Sp.	
Cornus mas	Cornelian Cherry	
Cotoneaster salicifolia	Willowleaf Cotoneaster	
Euonymus alatus	Winged Euonymous	
Euonymus fortunei vegetus sarcoxie	Big Leaf Wintercreeper	
Ilex crenata compacta	Compact Japanese Holly	
Ilex glabra	Inkberry	
Ilex crenata hetzi	Hetz Holly	
Juniperus chinensis pfitzeriana compacta	Compact Pfitzer Juniper	
Ligustrum ibolium	Ibolium Privet	
Lonicera fragrantissima	Winter Honeysuckle	
Philadelphus lemionei	Mock Orange	
Ribes alpinum	Current	
Taxus baccata	English Yew	
Taxus brownii	Brown's Yew	
Taxus canadensis	Canada Yew	
Taxus densiformis	Dense Yew	
Taxus media Hatfieldi	Hatfield Yew	
Viburnum dentatum	Arrow Wood	
Viburnum lentago	Nannyberry	
Viburnum opulus	European Cranberry Bush	
Viburnum prunifolium	Black Haw	
Thuja sp.	Arborvitae	

F. Evergreen Shrubs suitable for Site Element Screens

Botanic Name	Common Name	Comments
Azalea-evergreen species	Azalea	must reach 3-foot height
Chamaecyparis obtusa	Chamaecyparis	
Chamaecyparis pisifera	Chamaecyparis	
Ilex crenata "hetzi"	Japanese Holly	
Ilex glabra	Inkberry	
Ilex mesevvea	Blue Holly Series	
Juniperus virginiana	Eastern Red Ceder	
Kalmia latifolia and cvs	Mountain Laurel	
Leucothoe fontanessiana	Leucothoe	
Pieris floribunda	Mountain Andromeda	

Peiris japonica	Japanese Andromeda
Rhododendron sp.	Various Large Rhododendrums
Taxus sp.	Yew
Thuja Sp.	Arbovitae
Viburnum rhyzidophillum	Leatherleaf Viburnum

G. Evergreen Trees suitable for Property Line Buffers or Site Element Screens

Botanic Name	Common Name	Comments
Abies concolor	White Fir	
Ilex opaca	American Holly	
Picea abies	Norway Spruce	
Picea omorika	Siberian Spruce	
Picea pungens	Colorado Spruce	
Pinus strobus	White Pine	
Pinus thunbergii	Japanese Black Pine	
Pseudotsuga menziesii	Douglas Fir	
Tsuga canadensis	Canadian Hemlock	
Tsuga caroliniana	Carolina Hemlock	

H. Canopy Trees suitable for Storm Water Detention Basins

Note: * = Usually well drained, but subject to occasional flooding
 + = Permanently wet areas

Botanic Name	Common Name	Comments
Acer rubrum	Red Maple	+
Acer saccharinum	Silver Maple	*
Betula nigra	River Birch	*
Fraxinus americana	White Ash	*
Ilex opaca	American Holly	*
Liquidambar styraciflua	Sweet Gum	+
Nyssa sylvatica	Black Gum	*
Quercus phellos	Willow Oak	*
Quercus bicolor	Swamp White Oak	+
Quercus pallustris	Pin Oak	*
Taxodium distichum	Bald Cypress	+

I. Deciduous or Evergreen Ornamental Trees suitable for Stormwater Detention Basins

Note: * = Usually well drained, but subject to occasional flooding

+ = Permanently wet areas

Botanic Name	Common Name	Comments
<i>Amelanchier canadensis</i>	Shadbush	*
<i>Carpinus carolinia</i>	Ironwood	*
<i>Chloanthus virginiana</i>	Fringetree	*
<i>Magnolia virginiana</i>	Sweetbay	*
<i>Salix caprea</i>	Willow	+
<i>Salix discolor</i>	Willow	+
<i>Thuja occidentalis</i> cv <i>nigra</i>	Arborvitae	*

J. Deciduous or Evergreen Shrubs suitable for Stormwater Detention Basins

Botanic Name	Common Name	Comments
<i>Aronia arbutifolia</i>	Red Chokeberry	+
<i>Caly canthus florida</i>	Sweetshrub	*
<i>Cephalanthus occidentalis</i>	Button Bush	+
<i>Clethra alnifolia</i>	Summersweet	+
<i>Cornus amomum</i>	Silky Dogwood	+
<i>Cornus serica</i>	Red-Stem Dogwood	+
<i>Hammamelis virginiana</i>	Witch Hazel	*
<i>Ilex glabra</i>	Inkberry	+
<i>Ilex verticillata</i>	Winterberry	+
<i>Lindera benzoin</i>	Spice Bush	*
<i>Myrica cerifera</i>	Southern Bayberry	*
<i>Myrica pennsylvanica</i>	Northern Bayberry	+
<i>Rhododendron nudiflorum</i>	Pinxterbloom Azalea	+
<i>Rhododendron viscosim</i>	Swamp Azalea	+
<i>Sambucus canadensis</i>	Elderberry	*
<i>Viburnum cassanoides</i>	Witherod	*
<i>Viburnum dentatum</i>	Arrow Wood	*
<i>Viburnum lentago</i>	Nannyberry	*
<i>Viburnum tribolum</i>	American Cranberry	*

K. Herbaceous Perennials suitable for Stormwater Detention Basins

Note: * = Usually well drained, but subject to occasional flooding

+ = Permanently wet areas

Botanic Name	Common Name	Comments
<i>Aster novae angliae</i>	New England Aster	*
<i>Chrysanthemum leucanthemum</i>	Ox-Eye Daisy	*
<i>Echinacea purpurea</i>	Purple Cornflower	*
<i>Eupatorium dubium</i>	Jo Pye Weed	*+
<i>Eupatorium fistulosum</i>	Hollow Joe Pye Weed	*+
<i>Hemerocallis</i> sp.	Day Lily	*
<i>Hesperis matronalis</i>	Dames Rocket	*
<i>Hibiscus moscheutos</i>	Rose Mallow	+
<i>Iris pseudocaris</i>	Yellow Iris	*+
<i>Iris versicolor</i>	Blue Flag	+
<i>Lobelia cardinalis</i>	Cardinal Flower	*+
<i>Lobelia siphilitica</i>	Blue Lobelia	*+
<i>Monarda didyma</i>	Bee Balm	*
<i>Panicum virgatum</i>	Switchgrass	*+
<i>Phalaris arundinacea</i>	Canary Reed Grass	*
<i>Rudbeckia</i> sp.	Black Eyed Susan	*
<i>Scirpus acutus</i>	Hard Stem Bullrush	+
<i>Spartina alternifolia</i>	Cordgrass	+
<i>Typha angustifolia</i>	Narrowleaf Cattail	+
<i>Typha latifolia</i>	Common Cattail	+
<i>Veronica noveboracensis</i>	New York Iron Weed	*+

Appendix B

DESIGN GUIDELINES

A. Purpose

The purposes of this section are to:

1. The purpose of this Section is to establish procedures and standards to serve as a guide for the design, location, and relationship of new development with respect to adjacent properties and the already existing development within Mantua Township. .
2. To aid in maintaining a sense of the physical aspects of Mantua Township. Pertinent to the physical appearance is the design of the site, buildings, structures, planting, signs, street hardware, and other objects that are observed by the public. These standards are not intended to restrict innovation or variety or to dictate a particular architectural style, but rather to assist in focusing on design principles which can produce creative solutions that will result in a satisfactory and complimentary visual appearance within the township, preserve property values, and promote the public health, safety and welfare.
3. To aid in maintaining a sense of the physical aspects of rural areas and rural character of the Mantua Township. Pertinent to the physical appearance is the design of the site, buildings, structures, plantings, signage and other features observed by the public.
4. To retain remaining examples of physical design and construction in the township that reflects its heritage, history, culture and architecture, while encouraging revitalization and infill development of Mantua Township.

B. Design Guidelines and Standards

The following guidelines are intended to give general and specific guidance to the form and appearance of development within the Township. These guidelines and standards are to serve as the guidelines for the appropriate community design.

Relationship to Adopted Plans and Policies

1. The plan shall conform to and reflect all Township plans and policies; all community master plans or comprehensive plans; and other adopted plans or policies related to the development of the Township.
2. The plan shall conform to all Federal, State, Regional, and County adopted rules, regulations, plans and/or policies that relate to the development and redevelopment of the Township.
3. The plan shall conform to the statement of intent for the zoning district in which it is located.

C. Objectives of the Design Criteria

The quality of the Township will be maintained by preserving and respecting its historic buildings and structures, pattern and scale of development, building profiles and significant features, both natural and manmade, and by ensuring compatible development, which correspondingly enhances the community's heritage, culture and rural/small town character. The preservation of historic buildings and significant features are of primary importance. Preservation and conservation of historic buildings and structures as well as other significant features associated with the site need to be an integral part of any project's design. The removal or alteration of historic buildings or structures or significant features should only take place after all other alternatives have been considered.

The objectives of the design guidelines and standards are to evaluate the relationship of the proposed development's features in order to minimize the possibility of adverse impacts upon surrounding properties and the community. The overall design of the project should show the following:

1. That a proper relationship exists between thoroughfares, driveways, and parking areas to ensure pedestrian and vehicular safety.
2. That the design of the buildings is developed with consideration to the adjacent properties in terms of building height, material, and overall character.
3. That the building's location and placement should be developed with consideration given to minimizing the removal of trees and change of topography.
4. That the on-site vehicle circulation is designed to ensure adequate access for fire and police protection.
5. That the project's design provides for adequate screening of the site, parking lots, and service areas from surrounding properties by landscaping.

D. Design Elements

1. Building Design Standards

Building design should be appealing and compatible with surrounding buildings in terms of massing, roof shapes, heights, and window proportions. The exterior form of the building should be emphasized through variations in horizontal and vertical orientation, colors, textures, and materials.

a. Scale, Height, and Mass

1. The scale, height, and mass of structures should be related to, and compatible with, its site and with the use, scale, and architecture of the buildings that have a

functional or visual relationship to the proposed structure. For instance, taller buildings should be stepped down to lower buildings along the property periphery. Where structures out of scale with surrounding land uses are unavoidable, it is preferred that landscaping techniques be utilized to give the appearance of a reduction in building height to a scale more compatible with neighboring buildings.

2. It is generally desirable for the building to be composed of either one primary form that is carved into or added upon it to give the building some distinction.
3. Another approach is to create a composition of distinct forms and connect them through common elements such as bands of material, window rhythm, etc. This is especially important when you have large buildings such as industrial structures.
4. Using office spaces, loading areas, entrances, etc. to break up large facades is quite effective.
5. Small areas can receive distinctive treatments in color, canopies, awnings, columns, and the like to break down the over bearing nature of the building.
6. Roof shapes and pitches for additions should be compatible with those of the main building and should match neighboring structures as to pitch and general proportion.

b. Colors and Materials

The exterior colors and materials used on a building should complement the surrounding buildings and blend with the natural setting. The use of natural materials and earth tones is highly desirable. However, bright colors may be appropriate for some structures.

c. Lighting of Building and Signs

1. External lighting should enhance the building's design and landscaping, as well as, provide for safety and security. External lighting shall be designed to function without creating glare on adjoining properties and/or streets.
2. External lighting of signs is preferred.

d. Compatibility with Neighboring Buildings and Structures

Structures should relate in size and general appearance to adjacent buildings and to the local neighborhood. A building's design, architectural features, and landscaping are ways by which a proposed building can be made aesthetically compatible with neighboring properties.

e. Public Spaces

Formal and informal outdoor places for the public to congregate should include access to, and protection from the sun, wind, and rain. The area should be landscaped utilizing shade trees to whatever extent possible. Public spaces should be designed in a manner to provide a strong connection to the surrounding neighborhood and the street (if located in close proximity to the roadway).

f. Intrusive Impacts

The design of any proposed development should include techniques to minimize visual and auditory intrusion impacts. The development should be designed in such a manner as to contain any potential nuisances, and to protect individual occupants from any potential nuisances originating from adjoining lots. Design should incorporate the mitigation of any potential noise impact on sleeping quarters through building layout and/or orientation on the site. Landscaping arrangements can work well as sound insulation materials.

g. Additions and Accessory Structures

Any proposed building additions and accessory structures should be compatible with the original structure(s), so that the result appears to be an integrated whole. Moreover, design specifications should ensure that the buildings and/or structures blend with the natural terrain and vegetation of the site.

h. Residential Conversions to Other Uses

Any residential dwelling converted to another use should retain its residential appearance in order to be compatible with the surrounding residential neighborhood. Conversions should be done in manner so that the only the exterior resembles a commercial use by means of screening walls, awnings, new windows and doors, landscaping, walkways, and permissible signage.

2. Energy

Buildings should be designed to minimize reliance on mechanical heating and cooling through insulation and design. All proposed buildings should be designed and oriented to make use of sunlight for direct heating, solar water heating, and illumination, whenever possible. Also, natural ventilation and shading should be used to help keep buildings cool. Site layout, building design, and landscaping should all be coordinated to maximize energy conservation.

3. Existing Structures

All of the existing structures on a property proposed for development should be examined regarding their potential value for continued use. Any structure in good condition, which provides potential housing, architectural significance, or historic value, should be considered for the following options (in the order given):

1. The structure should be integrated into the plans for the proposed development;
2. The structure should be moved to another site where it might be utilized;
3. The structure should be materially recycled; or
4. The structure should be demolished.

Reduction of parking, setback or other requirements may be considered if it would facilitate preservation of a structure. Projects using existing structures of historic or architectural value should respect the traditional exterior style of the building.

4. Landscaping

Landscaping must be included on all development plans in accordance with Section 700.00 of this Resolution. The landscaping must relate to the whole development. The landscaping should be integrated with the building's design to enhance the appearance of the project. Landscaping is also used to soften any adverse impacts of the buildings and any paved surfaces.

In addition, landscaping is important in controlling ground erosion, managing storm water runoff, and enhancing energy conservation strategies. The landscaping should consist of a combination of trees, shrubs and ground cover. The landscaping of any project should blend with the existing vegetation on nearby properties (if the neighboring vegetation is healthy and in compliance with these requirements). Moreover, innovation in landscape designs and choice of plants is encouraged to serve both aesthetic and functional purposes.

5. Pedestrian and Bicycle Enhancements

The advancement of pedestrian and bicycle facilities to enhance non-motorized transportation opportunities should be incorporated in all development plans. The community's primary objective is to link residential areas, commercial and employment centers, and parks and open space areas with improvements that can be safely used by residents and tourists for non-motorized transportation and recreational purposes.

