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RESIDENTIAL DEVELOPMENT LANDSCAPE STANDARDS

Landscape Requirements & Maintenance Standards
for Residential Developments along Arterial Streets
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Prepared in collaboration with
City of Brookfield Planning Department

&

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INTRODUCTION

Landscape Development or Site Stabilization?

Life in the municipality doesn't have to mean the elimination of country living. The city of Brookfield historically is a rural community replete with natural resources upon which it depends for a great deal of its charm. Recently, the City of Brookfield has experienced rapid residential growth. Much of the remaining rural landscape and lowlands are being turned under to make way for new streets and neighborhoods. More importantly, the landscape treatment in many residential developments addresses landscape design as a function of site stabilization rather than a landscape development approach where screening, buffering, human scale and aesthetics are key components of the design program. Therefore, it is necessary for the future of the City that there be some mechanism in place which requires owners & developers to provide minimal landscape development in a way which enhances and protects the rural integrity of roadway corridors and maintains the quality of life Brookfield residents have come to expect.

Aside from the rather obvious advantages of providing seasonal color, texture, climatic control, and environmental/energy savings, proper landscaping offers many benefits. Certain plants are ideal for screening incompatible adjacent uses, buffering objectionable views, sound reduction and air quality. Landscaping unifies and organizes disparate site elements, creating visual continuity and human scale.

Developers also benefit financially from proper landscaping. In new developments, trees and other landscape amenities temper the land's rawness. Well-developed landscapes incorporating shade trees, evergreens, flowering shrubs and perennials add value to their projects. Lots with trees sell faster than properties without trees.

The City of Brookfield is cognizant of its rapid, yet controlled residential developments within the last 10 years. The establishment of landscape standards for residential developments will provide the City with quality landscape development that is environmentally and aesthetically compatible with the surrounding natural systems.



PURPOSE

Safeguarding property values, protecting public and private investments and promoting high-quality developments are implicit goals for many municipalities. The purpose of landscape standards is to protect and preserve the appearance, character, quality and quantity of landscape developments which are visible from public roadways and adjacent land uses. Landscape standards will improve the aesthetic quality of individual projects, serve to implement the City's aesthetic and environmental goals to maintain, and continue to provide for a balanced coexistence with the natural and the built environment. Landscape requirements are an effective way to ensure that landscaping is an integral part of development, not an afterthought.

The standards apply to any residential development abutting arterial streets that involves the construction on an unplatted, undeveloped residential lot or the recording of a subdivision plat or certified survey map for residential development.

The residential landscape standards require landscape improvements within the street yard area of a residentially developed property. A street yard is a defined area of a lot which lies between the property line abutting an arterial roadway to an inside distance of thirty (30) feet.

The standards require landscape screening coverage within a minimum percentage of the total street yard area and establish a minimum plant material requirement to be incorporated within the landscaped coverage area. The intent is to allow for maximum design flexibility by addressing the function, quantity and size of the plant materials selected rather than the specific plant palettes.

To insure that the standards are accomplished, an applicant is required to submit for approval a landscape plan developed by a licensed landscape architect, deposit with the City a fiscal security to assure compliance and following installation, provide a written certification that all the required landscape materials have been installed in substantial conformance with the plans as approved by the Plan Commission.

Purpose of these standards is as follows:

1. To aid in stabilizing the environment's ecological balance by



contributing to the processes of air purification, oxygen regeneration, ground water recharge, and storm water runoff retardation, while at the same time aiding in noise, glare and heat abatement.

2. To ensure that the local stock of native trees and vegetation is preserved and replenished.
3. To provide visual buffering and enhance the beautification of the City.
4. To safeguard and enhance property values and to protect public and private investment.
5. To preserve and protect the unique identity and environment of the City of Brookfield and preserve the economic base attracted to the City by such factors.
6. To conserve energy, water, and natural resources through the use of applicable landscape materials and maintenance procedures and strategies.
7. To protect the public health, safety and general welfare.



APPROVAL PROCESS

PLAN REQUIREMENTS

1. A subdivider or developer submitting an application for approval under this landscape/maintenance development provision must establish that the plan complies with the requirements set forth in this provision and with the applicable requirements of the City of Brookfield Zoning and Subdivision Code.
2. A registered landscape architect knowledgeable in design and local vegetation must stamp & certify the plan as being complete, accurate and in compliance with the requirements of this provision. The requirement that such plans and specifications be certified by a registered landscape architect may be waived for minor alterations and improvements which, in the sole discretion of the Department of City Planning, do not require the services of such a professional.
3. When a site plan review is required, the plan shall contain landscaping information in accordance with this provision and the City's minimum requirements for site plan information. All landscape plans must include the following information:
 - a. The location and dimensions of all existing and proposed structures, project boundary lines, parking lots, drives, roadways and right-of-way, delineation of traffic vision corners (Section 17.10(1)(d) of the City Zoning Code), sidewalks, bicycle paths, signs, refuse disposal areas, bicycle parking areas, architectural features, utility equipment, utility easements and lines (above & below ground), conservation easements, and lighting.
 - b. The plan shall show the location of all proposed vegetation including a plant schedule indicating a plant's scientific and common names, sq. ft. coverage area, quantity, size at time of planting, root ball condition, and spacing of shrubs and ground covers.



- c. All existing vegetation which is equal to or exceeds the following sizes must be inventoried and shown on the plan: deciduous trees 3" cal. or greater, evergreen trees 7' high or greater, and shrubs 36" high or greater.
 - d. The location of all proposed berms indicating contours at one (1) foot intervals and percent of slope.
 - e. Details, sections and/or elevations of all proposed architectural features, walls, lighting standards, bridges, etc.
 - f. All plans must also have a Title Block including the following information:
 - 1. North Arrow
 - 2. Scale
 - 3. Name of Developer
 - 4. Address of Project
 - 5. Name of Project
 - 6. Date
 - 7. Name of Landscape Architect with Registration Stamp
 - 8. Space for Revision Dates
 - 9. Sheet Number
 - 10. Statement accompanying registered stamp stating that plan is in compliance with the standards.
4. Landscape plans approved by the Plan Commission as part of a development site plan shall not require further approval by other city agencies if the approved landscape plan meets all the requirements of this provision.
5. The Inspection Department shall inspect each site to insure compliance with this provision. Prior to final landscape inspection, a sealed letter of concurrence shall be provided to the Department from a registered engineer, architect or landscape architect representing the development, which letter shall verify that the project has been implemented in accordance with the City approved plans and is in full compliance with this provision.



EXEMPTIONS

1. Except as otherwise provided below, this provision shall apply to all residentially developed land requiring approval and meeting all applicable Zoning and Subdivision Codes, including:
 - a. Single family developments with 5 or more dwelling units or lots.
 - b. Multi-family developments with 2 or more dwelling units.
 - c. Small land divisions via a Certified Survey Map (CSM).
2. A common development which includes more than one lot shall be treated as one lot for the purposes of this provision. Split ownership, planning in phases, construction in stages, or multiple building permits for a project shall not prevent it from being such a common development. Each phase of a phased project shall comply with this provision.
3. This provision shall not apply to the following:
 - a. Single-family residences where only one structure is constructed on a previously platted lot.
 - b. Substantial restoration which occurs within a 12 month period of a building which has been damaged by fire, explosion, flood, tornado, riot, act of a public enemy, or accident of any kind.
 - c. Restoration of buildings with a historic designation.
 - d. Interior or façade remodeling as long as the front and side exterior walls of the building remain in the same location.
4. These provisions are subordinate to provisos pertaining to traffic and pedestrian safety identified in appropriate chapters of the Zoning or Subdivision Code and engineering standards.
5. Developed property or platted lots of record which are impacted by a subsequent right-of-way condemnation may be developed without strict compliance with the requirements in this provision, under the following situations:
 - a. Improvements (structures and related facilities) which are shown on the remainder of the platted lot after condemnation has occurred may be constructed subsequent to the approval by the



Plan Commission of a modified landscape plan reflecting the impact of the right-of-way condemnation.

b. Improvements on developed property which is lost through the right-of-way condemnation may be replaced elsewhere on the remaining lot and only the area contained within the new limits of construction for the recaptured improvements shall be required to comply with the requirements of this provision.

ALTERNATIVE COMPLIANCE

1. Notwithstanding the foregoing requirements of this provision, and in unusual situations where a hardship would be created, a landscape plan which proposes an alternative to strict compliance with the various landscape requirements in this provision may be approved by the Plan Commission if the Plan Commission finds that such a plan adequately achieves, or is an improvement on the intent of the landscaping requirements in this provision.
2. Preferential consideration should be given to the preservation of large existing native trees and vegetation not necessarily in the required landscape areas.

LANDSCAPE CREDIT/PRESERVATION

Many trees that are growing in Brookfield have been here for many generations. These trees should be preserved to the maximum extent feasible for the education, and enjoyment of future generations. Designating trees for preservation and ensuring that they survive grading and construction procedures require special attention. Those trees designated to be preserved shall be clearly shown on the plans and special attention should be given to them at the time of construction.

These areas should be unmistakably identified in the field as “no disturbance” areas, so that it is obvious to all equipment operators and other construction personnel that care should be taken to avoid damage.

Barriers such as snow fence or rope or flags shall be located in the field prior to the start of construction to guide machinery and operators and to prevent intrusion into areas to be preserved. Harmful practices such as grading or trenching within the area, placing backfill near trees, driving or parking equipment in preservation areas and dumping trash, oil or paint within the vicinity is prohibited and enforceable by



Inspection Services.

It is the intent of the City of Brookfield to preserve environmentally sensitive or significant natural areas including woodlands and wetlands, with respect to specific site development, to retain and incorporate - as far as practical - substantial stands of healthy, disease free vegetation into the landscape development. Credit for the retention of existing healthy, disease free vegetation which is desirable and acceptable may be given by the Plan Commission to satisfy requirements of this provision.

Existing vegetation within the street yard area can be credited as part of the landscape requirements accordingly:

1. Each square foot of existing vegetation that falls within the required landscape area and is primarily comprised of deciduous trees greater than 2" cal. and woody evergreens exceeding 36" in height shall be credited as one square foot of landscaped area for the purposes of satisfying the minimum requirements, provided the condition of the existing vegetation meets with Planning Department approval.
2. Each existing 3" to 4" cal. deciduous tree, located within the required landscape area, shall be credited as one shade tree. Trees 5" to 7" cal. in size shall be credited as two (2) shade trees. Trees greater than 8" cal. shall be credited as three (3) shade trees.
3. Each existing evergreen tree 7 feet in height or greater, located within the required street yard landscape area, shall be credited as one evergreen tree for the purposes of satisfying the minimum evergreen tree requirements. Additional evergreen trees can be credited as shade trees at a rate of two evergreen trees to one shade tree for the purposes of satisfying the shade tree requirements.

In addition:

1. No clear cutting of wooded areas shall be permitted unless it is shown that they will unduly restrict the development of the site.
2. All natural wooded areas destroyed during construction that were not identified for destruction on the approved plan shall be



repaired and/or replaced, in accordance with the following schedule:

TREE TYPE	SIZE OF TREE DESTROYED	SIZE OF REPLACEMENT TREE
Deciduous	3-7" dbh tree	One 5-7" dbh tree <i>Or</i> Two 3" dbh trees
	8-11" dbh tree	Two 5-7" dbh trees <i>Or</i> Three (3) 3" dbh trees
	12" dbh tree or larger	Three 5-7" dbh trees <i>Or</i> Six 3" dbh trees
Coniferous	10' or taller tree	One 10' tall tree <i>Or</i> Two 7' tall trees

FISCAL SECURITY

At the time of final execution of a Certified Survey Map or Subdivision Plat and Landscape Plan to the City, the owner is required to make a fiscal arrangement with the City, either by bond, certificate-of-deposit or letter-of-credit, to ensure that the owner is in full compliance with landscape installation and maintenance requirements.

To ensure compliance with the landscape installation requirements, a fiscal security shall be required in an amount calculated in accordance with the rate set forth in this provision. The fiscal arrangements shall reflect the cost of required landscaping to ensure that such landscaping is installed.

Additionally, a maintenance bond is required to ensure that the landscape installation is maintained during its critical establishment (three years) period following installation. The amount of the maintenance bond is calculated in accordance with the rate set forth in this provision.

After the critical three-year establishment period following initial installation, the developer shall be responsible for continued maintenance until such time when the Homeowner's Association or



designee shall be responsible for the perpetual care and maintenance of the required landscape area.

Any owner must also grant a temporary access easement and license to the City or its licensed contracted agent to enter upon the land for the purposes of installing the required landscaping for the length specified for maintenance compliance, typically three years, in the event that such landscaping is not in place by the date specified in the agreement.

Should the City have to provide for full compliance, the applicant will forfeit the fiscal deposit. Such fiscal arrangements shall be released when landscape improvement verification and compliance is received.

1. Installation Compliance Security - A fiscal arrangement in the amount of \$2,400.00/1000 sq. ft. (where sq. ft. is total street yard area) shall be deposited with the City at the time of execution of an approved development agreement.
2. Maintenance Compliance Security - A fiscal arrangement in the amount of \$315.00/1000 sq. ft. (where sq. ft. is total street yard area) shall be deposited with the City at the time of execution of an approved development agreement.



LANDSCAPE REQUIREMENTS

The intent of the landscape requirements is to provide minimal tree plantings along with a diversity of plant materials within the street yard area of a lot. For purposes of determining the number of shrubs necessary to meet the minimum at-grade coverage area requirements we have categorized plant types by size and coverage provided.

<u>Plant Type</u>	<u>Area of Coverage Provided</u>
Shade Tree	0*
Ornamental Tree	0*
Evergreen Tree (>8' dia.)	75 sq. ft.
Large Shrub (6-8' dia.)	38 sq. ft.
Med. Shrub (4-6' dia.)	20 sq. ft.
Small Shrub (2-4' dia.)	12 sq. ft.
Perennial (4.5" pot.)	6 sq. ft.

* Note: Shade and Ornamental trees are not considered a plant type contributing to at-grade coverage.

1. On all lots, at least 60% of the total street yard area shall be landscaped utilizing at-grade coverage plant materials.
2. At least one deciduous tree - no less than 3" cal. - shall be incorporated into the design and included as part of the installation per the following ratios:
 - a. In street yards less than 10,000 sq. ft., one tree per 1,000 sq. ft. or a fraction thereof:
 - b. In street yards between 10,000 and 50,000 sq. ft., one tree per 2,000 sq. ft. or fraction thereof, of street yard area over 10,000 sq. ft. is added to the required ten (10) trees for the first 10,000 sq. ft.
 - c. In street yards over 50,000 sq. ft. one tree per 5000 sq. ft., or fraction thereof, of the street yard area over 50,000 sq. ft. is added to the requirement of 30 trees. An existing or planted tree which is six inches or greater in diameter shall be considered as two trees for the purpose of satisfying this provision.
 - d. Ornamental trees may be used in lieu of shade trees at a ratio of two (2) ornamental trees for every one (1) shade tree.



3. At least one evergreen tree at least 7' high shall be incorporated into the design and included as part of the installation as per the following ratios:
 - a. In street yards less than 10,000 sq. ft., one tree per 1,250 sq. ft. or a fraction thereof:
 - b. In street yards between 10,000 and 50,000 sq. ft., one tree per 2,000 sq. ft. or fraction thereof, of street yard area over 10,000 sq. ft. is added to the required eight (8) trees for the first 10,000 sq. ft.
 - c. In street yards over 50,000 sq. ft. one tree per 5000 sq. ft., or fraction thereof, of the street yard area over 50,000 sq. ft. is added to the requirement of 28 trees. An existing or planted tree which is at least six inches in diameter shall be considered as two trees for the purposes of satisfying this provision.
4. To assure a diversity of color, texture and year-round interest, the total number of woody shrubs must be comprised of a minimum 30% evergreen type, but not to exceed 65% of the total.
5. Elements within the traffic vision corner shall not obstruct the view between the street and the access drives near the street yard entries and exits. Plant materials and/or landscape elements shall not exceed 24" in height.
6. All required plant material shall be installed according to the Installation Guidelines included in these standards, and/or planting details and specifications as shown on the landscape plan showing clearly how growing conditions adequate to sustain vigorous and healthy growth will be achieved.

These may include:

- a. Protect and support tree trunks (guying, staking, tree wrap, etc.)
- b. Provide adequate conditions for root development and establishment (type of soil mix, soil amendments, planting hole depth, pruning, fertilizing, etc.).
- c. Provide for retention of moisture (mulching, ground cover, etc.).
- d. Protect plants from construction equipment damage.



- e. Provide planting holes twice the diameter of the root ball and backfill with clean topsoil rich in organic material.

SCREENING REQUIREMENTS

Screening landscape buffers reduce or eliminate the effects of dust, litter, noise, odor, signs and glare of lights within the residential development. Where architectural features or berms are used, the minimum 60% at-grade landscape coverage area shall still apply. Architectural features such as decorative walls and/or fences shall not be more than 3 feet in height.

1. Screening shall be provided within the street yard area. Such screening shall meet the following minimum requirements:
 - a. Shall be a minimum 4' high above finished grade and, measured from the right-of-way pavement elevation, utilize berms, architectural features, shrubs, plantings, etc., or a combination thereof.
 - b. Berms with side slopes greater than 3:1 must be landscaped with a combination of trees, shrubs, groundcovers and perennials where the maximum slope allowed is 2:1. Mowed turf will not be acceptable on slopes greater than 3:1.
 - c. Where fences and/or architectural features are used, plantings shall be provided adjacent to them on the street side of the feature, in accordance with the City's fence code,



MAINTENANCE STANDARDS

Environmental quality and its protection is a high priority. The goal of the landscape maintenance standards is to provide a well-maintained landscape in the most visible public areas of a development emphasizing minimum environmental impact with reduced chemical use.

In addition to routine maintenance (watering, fertilizing, and pruning) which is critical to the success of new landscapes, the landscape investment needs to be protected from pest damage. This fact needs to be balanced with the goal of protecting the neighboring waters, soils, flora, and fauna from damaging chemical build-up. Environmental conditions such as temperature, humidity, rainfall, and snow cover influence pest populations and can help to predict periods when pests are likely to reach unacceptable levels. These factors can be weighed with field monitoring to determine when pest controls are necessary and which control method will be most effective. Modification of horticultural practices to respond to changing environmental conditions can minimize pest problems.

Mechanical and biological controls are preferred over pesticide applications. Non-toxic chemicals and biodegradable chemicals are preferred. Applications of pesticides in the environment should be pest specific, time specific, quantity controlled, and monitored for effectiveness. Pesticide use should not become routine or institutionalized on a "blind" schedule. As chemical technology changes, it is important to stay current on all Integrated Pest Management techniques.

In manicured landscape areas, weekly lawn mowing will be necessary including spring clean-up, control of broadleaf weeds, attention to fertilization, pruning of woody plant material, edging of planting beds and leaf removal in fall.

Maintenance practices are identified herein as required practices and as advisory practices.

REQUIRED MAINTENANCE PRACTICES

1. The developer shall be responsible for the upkeep and continued maintenance of the required landscape materials as per the maintenance standards set forth in this provision, until such time



when the care and maintenance of the development becomes the responsibility of the Home Owner's Association or designee. The continued maintenance of the required landscape areas per the standards set forth in this provision shall then be the responsibility of the Homeowners Association or designee. They include:

- a. The regular maintenance of all required landscape areas and plant materials in a vigorous and healthy condition, free from diseases, pest, weeds, and litter. This maintenance shall include weeding, watering, fertilizing, pruning, mowing, edging, mulching or other needed maintenance in accordance with generally accepted horticultural practices.
 - b. The maintenance, repair, or replacement of landscape structures (walls, architectural features, etc.) to a structurally sound condition.
2. Failure to regularly maintain as described in these maintenance requirements shall constitute a violation of this provision and may be enforced in accordance with City of Brookfield Building Inspection policy. Notice of noncompliance may be issued to the owner requiring the immediate attention to conforming to these maintenance requirements. The City may correct, repair or replace landscape materials as required by this provision. Costs for such repair, or replacement within the first three years, will be covered by the developer's maintenance security deposit.
 3. Required plant materials, if dead, diseased, or severely damaged, shall be removed by the owner as soon as possible, but no later than 60 days after notification. All such plants shall be replaced within 60 days of notification, or by the next planting season, whichever comes first.
 4. Replacement plants must be of the same size and species as shown on the approved landscape plan or must be equivalent in terms of quality and size. Such replacement will not be considered an amendment to the approved plan.
 5. All water shall be provided by the Owner with adequate hose bibs and/or hydrants.
 6. All fertilizers and pesticides shall be applied in accordance with manufacturer's directions. Where alternate products are available,



the environmental impact of the products shall govern which is used.

7. Wood Mulch: Maintain at a 3-4" depth. Apply annually as needed.
8. Stone Mulch: Maintain at a 2-3" depth. Clean and remove leaf and wind blown debris and apply fresh stone as needed.
9. Watering: All trees shall be watered as necessary to maintain vigor. On average, trees require one inch of rainfall a week. Supplemental watering is necessary if this rainfall does not occur. Water availability is particularly critical during the tree's transition periods: when the tree is putting on new leaves and again at leaf drop. Plants should not be watered until a moisture check has been made of representative plants in the landscape. Check the soil to a depth of four (4) inches. If it is still moist, don't water. Over watering will suffocate the roots and kill the tree. This is particularly true in heavy, clay soils. Maintain a large enough mulch saucer around the perimeter of the root zone to fill with water. When hand watering, use a water wand to break the water force. In rainy seasons, open basins to allow surface drainage away from the root crown where excess water may accumulate.

Lawns should be watered at such frequency as weather conditions require to replenish soil moisture four (4) to six (6) inches below the root zone. Apply water in the morning. In hot weather, normally a total of 1" to 1-1/2" of water is needed weekly.

10. Pruning: All trees shall be pruned to develop proper structure and form.

Pruning Tips:

- Damaged trees or those that constitute health or safety hazards shall be pruned at any time of the year as required.
- Remove dead, diseased or damaged branches that are smaller in diameter than the trunk or branch to which they are attached which have a vertical spacing of from 18-48" and radial orientation so as not to overlay one another.
- Remove branches clean and close to the main branch without leaving "stubs".

11. Mowing: Turf should be kept at a height of two (2) to three (3) inches. Mowing should be done frequently enough so that no more



than 1/3 of the grass blade is removed per cutting. Cutting away half or more of the grass stems at once exposes stems that have been shaded, which shocks the root thus requiring extra recovery time. These stems may also burn in strong sunlight. Mowing equipment such as mulching mowers shall be used as often as possible to permit recycling of clippings. Blades on all equipment should be kept sharp to prevent the tearing of the grass blades. Grass adjacent to fixed objects should be trimmed to the same height as the general turf.

ADVISORY MAINTENANCE PRACTICES

1. Landscape debris shall be removed from the site at the end of each day.
2. Turf areas: In Spring:
 - a. Collect and remove all debris and leaf accumulations.
 - b. Rake out any gravel or debris left by snow removal operations.
 - c. Edge all walks.
 - d. Repair any damage caused by snow removal, traffic and erosion.
3. Planting Beds: In Spring:
 - a. Collect all debris.
 - b. Remove all leaf accumulations from bed areas.
 - c. Prune woody plant materials showing damage or deadwood.
 - e. Hand spade all shovel cut bed edges.
 - f. Apply pre-emergent herbicide to all planting beds.
4. Mulching: All trees in lawns shall have a large mulch ring (4-5' Dia.) maintained around the base of the trunk at a depth of 3-4" for a minimum of three (3) years following planting. This will reduce damage to tree trunks and roots by machinery, keep roots cool, and avoid lawn/root competition. Use hand weeding whenever possible to control growth in these areas. Do not use weed whips around trees to do trimming or weeding. Avoid frequent soil cultivation that destroys shallow roots and breaks the seal of any pre-emergent herbicides if present. Do not allow the mulch to build up against the trunk of the tree.



5. **Fertilizing:** Once, in early Spring before bud break/leaf expansion, apply fertilizer to the root ball and base of the main stem rather than spreading it evenly under the plant out to the drip line.
6. **Pruning:** All trees shall be pruned once each year following leaf drop in late fall for the first five years following installation. Once “scaffolding” or structural branches have been established, the trees should be put on a 5-7 year pruning cycle.
7. **Insect Control:** Carefully monitor trees and shrubs for insect populations, particularly as they build up in early spring. Spot control with insecticides if manageable. If necessary, apply a broad-spectrum contact insecticide between May 15 to June 15 to affected trees for controlling aphids, inchworms, leafhoppers, sawflies, and tent caterpillar and other chewing and sucking insects active at that time.
8. **Disease Control:** Carefully monitor trees for the presence of diseases. Treatments are based on extent of the damage and the environmental impact of the product chosen. It’s best to consult with the County Extension Agent.
9. **Special Needs:** Some trees have a tendency to become chlorotic due to a mineral or nutrient deficiency. For iron chlorosis in trees (4-8” cal.), broadcast four (4) pounds of granular sulfur from inside the drip line to the trunk in a 20’ x 20’ area. This treatment should be done in early spring before the bud break/leaf expansion.

Shrub Care

1. **Watering:** All shrubs shall be watered as necessary to maintain the health and vigor of the plant. Do not over water. Plants should be watered after a moisture check has been made of representative plants in the landscape. Use a probe or other tool to check the moisture in the root zone.
2. **Fertilization:** Once, in spring apply an organic fertilizer. Re-fertilize in early to mid-summer. Fertilize in fall to promote root growth.
3. **Pruning:** The objectives of shrub pruning are to maintain the



natural form of the plant as it occurs in nature and to allow plants to grow together as a mass to maximize the plant's natural beauty and develop a dense screen.

When maintaining shrubs as a clipped hedge, pruning should be done twice a season, where the base is kept wider than the top of the shrub. Evergreen shrubs should be pruned once a season in early summer but before the end of August.

4. Insect Control: Carefully monitor shrubs in Spring for the infestation of insect populations. Spot control with insecticides or soaps if the infestation is minor. Apply a broad spectrum contact insecticide between May 15 and June 15 to control aphids, inchworms, leafhoppers, sawflies, and tent caterpillars and other chewing and sucking insects active at that time of the year. Consult with your County Extension agent for insect problem identification.
5. Disease Control: Carefully monitor shrubs for the presence of disease. Environmental impact shall govern the product chosen for control and how frequently and extensively it is used.

Perennial /Ground Cover Care

1. Watering: Water enough so that moisture penetrates throughout the root zone and as frequently as necessary to maintain healthy vigor and growth.
2. Mulching and Cultivation: Control weeds, preferably with hand weeding, to keep grass from encroaching into the planting bed and to maintain a neat appearance. Hoe beds sparingly and carefully to avoid plant root injury. All leaves should be removed from beds by December 1.
3. Fertilization: Fertilize in spring with a 10-10-10 balanced fertilizer.
4. Insect, Disease and Rodent Control: Monitor plants for the presence of insects, disease or rodent damage. The method of control is based on the proper identification of the cause of the problem. The foliage of affected plants should be removed and disposed of off-site.



5. Winterization: Two options are available:

- a. In late fall cut back and dispose of the foliage to within 3-5" of the plant's crown.
- b. Allow foliage to remain until early spring (Late March) and then cut back and remove the dead foliage.



Lawn Care

1. Fertilizing and Weed Control: Lawn areas need to receive 4-5 pounds of nitrogen per 1000 sq. ft. annually. To help minimize runoff into streams and wetlands, do not apply fertilizer over frozen ground. Fertilization and weed control should occur as follows:

Time of Application	Type of Application
Early Spring (before April 20 th)	Fertilize with pre-emergent
Early Summer	Weed and Feed
Late Summer	Weed and Feed
Late Fall	Feed only

2. Aeration: Core aerate lawn areas every year in late October. Do not remove plugs. Immediately follow with an application of Milorganite.
3. Mowing: Turf areas should be mown at least once a week during the growing season.
4. De-thatching: De-thatch areas which have developed over 1/2" of thatch every three to five years.
5. Edging: Maintaining a neat edge to the lawn assures a clean line to the lawn panels. Where there is no mechanical edge material present and the edge is created with a shovel cut, re-cutting the edge should be done in early spring on an annual basis.
6. Winterization: Leaves should be removed from turf by December 1. If salt is used on hard pavements, minimize the amount used to avoid damage to the turf. In spring, if there are signs of salt damage, thoroughly water the area to leach the salt residue through past the root zone. To minimize the damage, you can apply Gypsum in a band six (6) feet wide to all turf areas adjacent to the pavement at a rate of 20 lbs/1000 sq. ft. late fall.



DEFINITIONS

Architectural Feature:

Built improvements (i.e. water features, overhead trellis, fixed seating, arbor, entrance fencing, lighting, etc.).

Berm:

An earthen mound designed to provide visual interest, screen undesirable views and/or decrease noise.

Buffer:

The use of plant materials, other than mowed turf, along with berms, walls, or decorative architectural features that at least partially and periodically obstruct the view, in a continuous manner, from the street.

Coniferous:

A needled evergreen plant with foliage that persists and remains green year-round.

dbh:

The diameter of a tree measured at breast height (approximately 4' above grade).

Deciduous:

A plant with foliage that is shed annually.

Developer:

The owner or representative of land proposed to be subdivided who is responsible for any undertaking that requires review and/or approval under these standards.

Homeowners Association:

An association or organization, whether or not incorporated, which operates under and pursuant to recorded covenants or deed restrictions through which each owner of a portion of a subdivision - be it a lot, parcel site, condominium, or any other interest - is automatically a member as a condition of ownership and each such member is subject to a charge or assessment for a pro-rated share of expense of the association which may become a lien against the lot, parcel, unit, condominium, or other interest of the member.



Maintained Turf:

Areas of mown ground cover grasses primarily consisting of bluegrass, fescue and rye grass.

Minimum Coverage Area:

The minimum 60% landscape area of a street yard consisting of a diversity of plant types generally designed to screen and buffer views with at-grade coverage plant material.

Ornamental Tree:

A deciduous tree planted primarily for its ornamental value, tends to be smaller at maturity than a shade tree.

Owner:

Any person, group of persons, firm or firms, corporation or corporations, or any other legal entity having legal title to or sufficient proprietary interest in the land sought to be subdivided.

Potential Growth Size:

An estimated mature width size of a plant over time, based on 75% of its expected mature size.

Removal:

Uprooting or severing the main trunk of a tree, or any act which causes or may reasonably be expected to cause a tree to die, including damage inflicted upon the root system by machinery, storage of materials, soil compaction, substantially changing the natural grade around the trunk, excessive pruning, or paving with impervious materials in a manner which may reasonably be expected to kill the tree.

Root ball:

The roots of a plant kept intact in soil usually wrapped in burlap, nylon or wire baskets. The root ball should be kept tight. Loose root balls should be avoided.

Shade Tree:

A self-supporting woody plant having at least one well defined stem or trunk and normally attaining mature height and spread of at least 25 feet and having a trunk that may, at maturity, be kept clear of leaves and branches at least six (6) feet above grade. A deciduous tree planted primarily for its high crown of foliage or overhead canopy.



Shrub:

A woody plant consisting of several small stems from the ground or small branches near the ground which may be deciduous or evergreen.

Street Yard:

The area of a lot which lies between the property line(s) abutting an arterial street and the thirty (30) foot street yard setback line. A street yard is the area of the lot that must be landscaped in accordance with the Residential Development Landscape Standards.

Street Yard Setback:

The distance (30 feet) inside the property line(s) abutting arterial frontage road right of way dedicated to the installation of required landscape elements.

Thatch:

A tightly intermingled layer of partially decomposed stems and roots of grass which develops between actively growing grass and the soil surface. Grass clippings do not contribute to thatch.



LANDSCAPE DESIGN CONSIDERATIONS

DESIGN PHILOSOPHY

The City of Brookfield encourages a natural approach to landscape design, utilizing large massing of shrubs and perennials which provide an established, healthy, vigorous landscape. Plant material should be arranged as a series of rhythmic layers with the larger plant materials located to the back of the border and shorter shrubs/perennials located near the front of the border. Rhythm, as in nature, is created through the repetition of form, texture, and color, where clusters of trees, rather than equally spaced trees, is preferred. When walls or architectural fencing is used, plant materials should be placed intermittently along them to create a softening affect.

BERMING

Berms are mounds of soil used primarily to provide screening and interesting undulations within the landscape. More often than not, berms are created from the residue resulting from grading and excavating operations. Generally the soil is incompatible for plant growth. Therefore, it is critical that the plantings be installed as per the Installation Guidelines. When using berms as a screen element in the landscape, the following items should be considered:

1. Berms shall be a minimum height of four (4) feet with a maximum side slope of 3:1 when planted in maintained turf.
2. Trees should not be planted at the very top of a berm. Rather, they should be planted on the slope side of a berm.
3. Berms should be designed carefully to blend in with the surrounding environment. The gradient on berms should fluctuate in order to repeat characteristics found in nature.
4. Improperly placed berms may restrict water flow. Water must always be allowed to flow out of an area to its point of collection.
5. Berms alter the microclimate. Plant material selected for a berm must be tolerant of those climatic conditions (i.e. dry soil conditions).



SELECTING PLANT MATERIALS

Plants chosen for the Brookfield area must have a proven climatic adaptability to southeastern Wisconsin. While the adaptability of plant hardiness for our area is largely determined by temperature extremes, wind, soil, and snowfall, yearly precipitation should also be considered. Few plants are without disease and insect problems, but in many plants these problems are minor. Try to select plant material that is disease resistant and will not present future problems or require extensive care and treatment.

Smoke, fumes, ventilation systems and salt can restrict or even destroy plant material. Likewise, people may also do considerable damage by trespass or deliberate vandalism. Proper design and plant selection will help minimize some of these problems. Careful evaluation of site conditions and uses, along with matched plant selection, will provide a lasting landscape.

All plant materials selected shall be a good quality species capable of withstanding the extremes of the hardiness zone in southeastern Wisconsin, be suitable to the soil conditions present, and be compatible with site-specific microclimates. Salt tolerant species are identified with an asterisk and should be considered for areas subject to salt spray and snow storage.

The selected woody plant materials, for use in the landscape development, must be chosen from the following list. The plants are categorized by their potential growth size and square foot coverage area. This is useful in selecting plants for compliance in meeting the minimal coverage area required in the 40% street yard landscape area. All are hardy in the Brookfield area. This list will be reviewed every five years as new selections are constantly being introduced which may be superior in hardiness, resistance to disease, better flowers or fruit, etc.



Brookfield Plant List
February, 1996

<u>Plant Type</u>	<u>Area of Coverage Provided</u>
Shade Tree	0*
Ornamental Tree	0*
Evergreen Tree(>8' Dia.)	75 sq. ft.
Large Shrub(6-8' Dia.)	38 sq. ft.
Med. Shrub(4-6' Dia.)	20 sq. ft.
Small Shrub(2-4' Dia.)	12 sq. ft.

*Note: Shade and Ornamental trees are not considered a plant type contributing to 'at grade' coverage.

TREES

Shade Trees: 3" cal. (dbh) Minimum Planting Size

Acer platanoides*	Norway Maple
Acer ribri, (& cultivars)	Red Maple (prefers neutral to acid soils)
Acer saccharum (& cultivars)	Sugar Maple (requires well-drained soils)
Aesculus hippocastanum	Horsechestnut
Aesculus hippocastanum "Baumannii"	Baumann Horsechestnut
Betula nigra	River Birch
Betula nigra "Heritage"	Heritage Birch
Betula platyphylla var jap. "Whitespire"	Japanese Whitespire Birch
Carya ovata	Shagbark Hickory
Catalpa speciosa	Northern Catalpa
Celtis occidentalis	Hackberry
Celtis occidentalis "Prairie Pride"	Prairie Pride Hackberry
Fagus grandifolia	American Beech
Fraxinus americana "Autumn Applause"*	Autumn Applause White Ash
Fraxinus americana 'Rosehill'*	Rosehill White Ash
Fraxinus pennsylvanica*	Green Ash
Fraxinus pennsylvanica 'Marshall Seedless'*	Marshall Seedless Ash
Fraxinus pennsylvanica 'Summit'*	Summit Ash
Ginkgo biloba*	Ginkgo (male only)
Gleditsia triacanthos 'Skyline'*	Skyline Honeylocust
Gleditsia triacanthos 'Moraine'*	Moraine Honeylocust
Gleditsia triacanthos 'Shademaster'*	Shademaster Honeylocust
Gleditsia triacanthos 'Imperial'*	Imperial Honeylocust
Gymnocladus dioicus	Kentucky Coffeetree
Juglans nigra	Black Walnut
Phellodendron amurense "Macho"	Macho Amur Cork Tree



Populus tremuloides	Quaking Aspen
Quercus alba	White Oak
Quercus bicolor	Swamp White Oak
Quercus macrocarpa	Bur Oak
Quercus robur	English Oak
Quercus rubra	Red Oak
Salix alba "Tristis"	Niobe Weeping Willow
Tilia americana	American Basswood
Tilia cordata (& cultivars)	Littleleaf Linden
Tilia tomentosa	Sterling Silver Linden
Tilia x euchlora "Redmond"	Redmond Linden (intolerant of salt)
Ulmus "New Horizon"	New Horizon Elm

*Salt tolerant species

** Crabapples: Choose only fireblight, scab and cedar-apple rust resistant species with fruit no larger than 1" diameter.

Ornamental Trees: 2.5" - 3" cal. (dbh) Minimum Planting Size*

Acer campestre	Hedge Maple
Acer ginnala	Amur Maple
Aesculus x carnea 'Briotii'	Ruby Horsechestnut
Alnus glutinosa	Black Alder
Amelanchier arborea	Downy Serviceberry
Amelanchier x grandiflora	Apple Serviceberry
Amelanchier laevis	Alleghany Serviceberry
Betula nigra	River Birch
Betula nigra "Heritage"	Heritage Birch
Betula platyphylla "Whitespire"	Japanese Whitespire Birch
Carpinus caroliniana	Musclewood
Cercidiphyllum japonicum	Katsuratree
Cercis canadensis (Columbus Strain)	Columbus Strain Redbud
Chionanthus virginicus	Fringetree
Cornus alternifolia	Pagoda Dogwood
Corylus colurna	Turkish Filbert
Crataegus crusgalli	Cockspur Hawthorn
Crataegus phaenopyrum	Washington Hawthorn
Crataegus viridis "Winter King"	Winter King Hawthorn
Magnolia x loebneri 'Dr. Merrill'	Dr. Merrill Magnolia
Magnolia x soulangiana	Saucer Magnolia
Malus sp.**	Flowering Crabs
Ostrya virginiana	Ironwood
Prunus mackii	Amur Chokecherry
Pyrus calleryana 'Autumn Blaze'*	Autumn Blaze Callery Pear
Pyrus calleryana 'Chanticleer'*	Chanticleer Callery Pear
Pyrus calleryana 'Redspire'*	Redspire Callery Pear
Salix matsudana 'Tortuosa'	Corkscrew Willow
Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac
Syringa reticulata 'Summer Snow'	Summer Snow Japanese Tree Lilac



**Evergreen Trees: 7' High Minimum Planting Size
(75 Sq. Ft. Coverage)**

Abies concolor.	Concolor Fir
Juniperus virginiana	Eastern Red Cedar
Larix decidua	European Larch
Larix laricina	Tamarack
Picea abies	Norway Spruce
Picea glauca var. Densata	Black Hills Spruce
Picea omorika	Serbian Spruce
Juniperus virginiana	Eastern Red Cedar
Larix decidua	European Larch
Larix laricina	Tamarack
Picea abies	Norway Spruce
Picea glauca var. Densata	Black Hills Spruce
Picea omorika	Serbian Spruce
Picea pungens	Colorado Green Spruce
Picea pungens "Glauca"*	Colorado Blue Spruce
Picea pungens "hoopsii"*	Hoopsii Spruce
Pinus nigra*	Austrian Pine
Pinus strobus	Eastern White Pine
Pinus sylvestris	Scots Pine
Pseudotsuga menziessii	Douglas Fir

*Salt tolerant species

** Crabapples: Choose only fireblight, scab and cedar-apple rust resistant species with fruit no larger than 1" diameter.



LARGE SHRUBS - 38 Sq. Ft. Coverage Area

Deciduous Shrubs: 48" High Minimum Planting Size

Caragana arborescens	Siberian Peashrub
Cornus mas	Cornelian Cherry
Corylus americana	Hazelnut
Cotinus coggygria	Smokebush
Euonymus alatus*	Burning Bush
Forsythia x intermedia `Meadowlark`	Meadowlark Forsythia
Forsythia x intermedia `Northern Sun`	Northern Sun Forsythia
Hamamelis virginiana	Common Witchhazel
Ligustrum amurense	Amur Privet
Ligustrum japonicum	Japanese Privet
Magnolia stellata	Star Magnolia
Myrica pennsylvanica*	Bayberry (Prefers acid soil)
Prunus cerasifera	Purpleleaf Plum
Rhus typhina*	Staghorn Sumac
Samabucus canadensis (& cultivars)	Elderberry
Syringa vulgaris	Common Lilac
Viburnum dentatum	Arrowwood Viburnum
Viburnum lantana	Wayfaringtree Viburnum
Viburnum lantana `Mohican`	Mohican Viburnum
Viburnum lentago	Nannyberry Viburnum
Viburnum opulus	European Highbush Cranberry
Viburnum prunifolia	Blackhaw Viburnum
Viburnum trilobum	American Highbush Cranberry Viburnum

Large Evergreen Shrubs: 30" High Minimum Planting Size

Juniperus chinensis `Hetzii`	Hetz Juniper
Juniperus chinensis `Pfitzeriana`*	Pfitzer Juniper
Pinus mugo	Mugo Pine

*Salt tolerant species

** Crabapples: Choose only fireblight, scab and cedar-apple rust resistant species with fruit no larger than 1" diameter.



MEDIUM SHRUBS - 20 Sq. Ft. Coverage Area

Deciduous Shrubs: 24" High Minimum Planting Size

Aronia arbutifolia 'Brilliantissima'	Brilliant Red Chokeberry
Aronia melanocarpa	Black Chokeberry
Aronia melanocarpa var. Elata	Glossy Black Chokeberry
Cornus sps.	Dogwood
Cotoneaster sps.	Cotoneaster
Euonymus alatus 'Compacta'*	Dwarf Burning Bush
Forsythia x intermedia 'Northern Gold'	Northern Gold Forsythia
Hamamelis vernalis	Vernal Witch Hazel
Hydrangea sps.	Hydrangea
Ligustrum amurense	Amur Privet
Ligustrum japonicum	Japanese Privet
Philadelphus virginialis	Mockorange
Prunus tomentosa	Flowering Almond
Rhus aromatica	Fragrant Sumac
Ribes alpinum	Alpine Currant
Rosa rugosa (cultivars)*	Rugosa Rose
Rose sps.	Hardy Shrub Rose
Spiraea nipponica 'Snowmound'	Snowmound Spirea
Spiraea prunifolia	Bridal Wreath Spirea
Syringa patula 'Miss Kim'	Dwarf Lilac
Viburnum carlesii	Korean Spice Viburnum
Viburnum opulus 'Xanthocarpum'	Yellow fruited Viburnum
Viburnum trilobum 'Wentworth'	Wentworth Viburnum

*Salt tolerant species

** Crabapples: Choose only fireblight, scab and cedar-apple rust resistant species with fruit no larger than 1" diameter.

Medium Evergreen Shrubs: 24" High Minimum Planting Size

Juniperus chinensis 'Ames'	Ames Juniper
Juniperus chinensis 'Armstrong'	Armstrong Juniper
Juniperus chinensis 'Fairview'	Fairview Juniper
Juniperus chinensis 'Iowa'	Iowa Juniper
Juniperus chinensis 'Keteleeri'	Keteleeri Juniper
Juniperus chinensis 'Mint Julep'	Mint Julep Juniper
Juniperus chinensis 'Mountbatten'	Mountbatten Juniper
Juniperus chinensis 'Mint Julep'	Mint Julep Juniper
Juniperus chinensis 'Sea Green'	Sea Green Juniper
Juniperus communis depressa	Old Field Juniper
Juniperus sabina	Savin Juniper
Juniperus squamata 'Meyeri'	Meyer Juniper



Pinus mugo var. mugo	Dwf. Mugo Pine
Taxus cuspidata	Spreading Japanese Yew
Taxus x media (cultivars)	Japanese Yews
Thuja occidentalis	Arborvitae

SMALL SHRUBS - 12 Sq. Ft. Coverage Area

Deciduous Shrubs: 24" High Minimum Planting Size

Amelanchier stolonifera	Running Serviceberry
Cotoneaster apiculatus	Cranberry Cotoneaster
Diervilla lonicera	Dwf. Bush Honeysuckle
Potentilla sps.	Potentilla
Rhus aromatica `Gro Low`	Gro Low Fragrant Sumac
Salix purpurea nana	Dwarf Arctic Willow
Spiraea japonica `Little Princess`	Little Princess Spirea
Spiraea x bumalda `Anthony Waterer`	A.W. Spirea
Spiraea x bumalda `Froebelii`	Froebel Spirea
Viburnum opulus `Compactum`	Compact European Viburnum

Evergreen Shrubs (under 4' tall at Mature Size)

18" High Minimum Planting Size

Juniperus chinensis `Pfitzeriana Compacta`*	Compact Pfitzer Juniper
Juniperus chinensis `Kallay's Compact`	Kallay Juniper
Juniperus chinensis var. sargentii `Glauca`	Sargent Juniper
Juniperus procumbens `Nana`	Dwarf Japgarden Juniper
Juniperus squamata `Blue Star`	Blue Star Juniper
Juniperus sabina `Broadmoor`	Broadmoor Juniper

Evergreen Ground Covers (under 2' tall at Mature Size)

Juniperus c. var. sargentii `Glauca`	Blue Sargent Juniper
Juniperus horizontalis `Bar Harbor`	Bar Harbor Juniper
Juniperus horizontalis `Blue Chip`	Blue Chip Juniper
Juniperus horizontalis `Hughes`	Hughes Juniper
Juniperus horizontalis `Jade River`	Jade River Juniper
Juniperus horizontalis `Plumosa`	Andorra Juniper
Juniperus horizontalis `Wiltonii`	Blue Rug Juniper
Juniperus horizontalis `Wisconsin`	Wisconsin Juniper
Juniperus sabina `Calgary Carpet`	Calgary Carpet Juniper
Juniperus squamata `Blue Carpet`	Blue Carpet Juniper

*Salt tolerant species

** Crabapples: Choose only fireblight, scab and cedar-apple rust resistant species with fruit no larger than 1" diameter.



PROHIBITED PLANT MATERIALS

There are some woody plant species that are regarded as invasive or undesirable by the Wisconsin Department of Resources, and therefore should not be planted.

They include:

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
Acer negundo	Box Elder
Acer saccharinum	Silver Maple
Berberis thunbergii	Japanese Barberry
Elaeagnus angustifolia	Russian Olive
Ginkgo biloba (female)	Ginkgo
Lonicera tatarica	Tartarian Honeysuckle
Populus deltoides	Cottonwood
Rahmnus cathartica	Common Buckthorn
Rhus glabra	Smooth Sumac
Robinia pseudoacacia	Black Locust
Rosa multiflora	Multiflora Rose
Ulmus pumila	Siberian Elm



INSTALLATION GUIDELINES

Successfully maintained landscapes are a direct result of the quality of the landscape installation. Improper planting techniques will adversely affect the growth of new plant materials. Quality products and installation also reduces the amount of maintenance required. A healthy vigorous plant requires less maintenance than a sick or problematic plant. Therefore, it is essential that all new planting installations be done in a quality manner, using quality materials.

The following installation guidelines are intended to provide new plantings with the proper environment with which to grow healthy and vigorous.

MATERIALS

1. Plant names shall conform to those given in "Standardized Plant Names", 1942 edition, American Joint Committee on Horticultural Nomenclature.
2. Plant materials, methods, etc. shall conform to the requirements described in the latest edition of "American Standard for Nursery Stock", which is published by the American Association of Nurserymen, (ANSI Z60.1-Latest Edition).
3. Plants shall equal or exceed the measurements specified in the plant schedule. Measure before pruning with branches in normal position. Height and spread refers to main body of plant and not from tip to tip of branches and roots.
4. All plants shall be of the highest quality. Plants shall have typical growth habit as species. Plants shall be sound, healthy, vigorous and free from insect pests, plant diseases and injury. One sided plants and plants taken from tightly planted nursery rows will be rejected.
5. All plants shall be true to name and legibly tagged as to name, size and source.



6. Plants designated B/B shall be balled and burlapped. They shall be dug with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls shall be firmly wrapped with burlap or similar materials and bound with twine, coed or wire baskets.
7. Topsoil shall be fertile, friable, natural loam screened surface soil, reasonably free of subsoil, clay lumps, brush, weed, other litter, roots, stumps, stones larger than two inch in any dimension, or any extraneous or toxic matter harmful to plant growth.
8. Sod shall be free of objectionable grassy and broadleaf weeds. Sod shall be considered free of such weeds if less than five such plants are found per 100 sq. ft. of area. Sod will not be acceptable if it contains any of the following weeds: common Bermuda grass, quackgrass, Johnson grass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, garlic mustard, ground ivy, perennial sorrel and brome grass.
9. Bark Mulch: Furnish shredded bark from disease-free hardwood trees. Provide generally flat bark, maximum of 1" wide and 3" long, graded down to sawdust, and relatively free of deleterious matter.

EXECUTION

The most important step in assuring the lively success of the plant material is to provide suitable growing conditions. Therefore the most important component is the execution of the planting pit and backfill. Generally, the planting pits should be executed as follows:

1. All pits shall generally be circular in outline, with vertical, sloping sides. Break up compacted or glazed soil on side of planting pits and flare the planting hole edges.
2. Pits shall be deep enough to allow the top of the root ball to be flush or slightly higher than the surrounding grade. Plants shall rest on undisturbed soil or well-compacted backfill.
3. Holes for trees and shrubs shall be at least three times the spread diameter of the root ball.



4. Dispose of the subsoil removed from the landscape excavations. Do not mix with planting soil or use as backfill.
5. Fill excavations for trees and shrubs with water and allow it to percolate out before planting.
6. Place plants vertical in the center of the hole and at the same depth as they were previously grown. The root collar shall be even or slightly higher than the soil line. Place no soil on top of the root ball.
7. Cut ropes or strings from the top of the root ball after the plant has been set. Leave burlap wrapping intact around the base and sides of the root ball. Cut away or turn under and bury portions of burlap exposed at the top of the root ball. If the root ball is wrapped in a non-biodegradable material, remove the wrapping completely from around the root ball.
8. Provide a mulch saucer around each plant.
9. When approximately 2/3 of the planting pit has been backfilled, fill the hole with adequate water and allow soil to settle. Complete filling and saturate the plant pit with water within 24 hours of planting.
10. Fertilizer shall be applied at the time of planting and mixed with the backfill. Apply, 10 lbs. of phosphate containing fertilizer such as 0-20-0, 0-46-0, 4-12-4, or 5-10-5, per cubic yard of backfill. A rate of 10 lbs. of phosphate per cubic yard is approximately equal to 0.5 lb. fertilizer per bushel of backfill.
11. Areas designated as shrub beds or hedge trenches shall be cultivated to at least 18 inches in depth.
12. Areas designated for perennials, ground covers and vines shall be cultivated a minimum 12 inches.
13. All trenches and shrub beds shall be edged and cultivated to the lines shown on the approved plans.
14. Stakes and support ties are needed only if the plant needs support to remain upright, or if protection is needed from people. Fastening material shall be 1/4 inch poly-rope or similar material. Wire shall not be used. Hose to encase fastening material shall be 2 ply 1/2 inch diameter reinforced rubber garden hose.
15. Protect all public right-of-ways including street and/or sidewalks from damage.

