

APPENDIX A



LANDSCAPE MANUAL
Washington County, Tennessee

APPROVAL

This Landscape Manual was approved by the Washington County, TN Planning Commission on July 2, 2013 and the County Commission on October 28, 2013.

GENERAL PROVISIONS

INTENT:

It is the intent of the Washington County Regional Planning Commissions and the citizens of Washington County to make our county even more attractive and environmentally sound through the requirement of new landscaping and the preservation of existing landscaping.

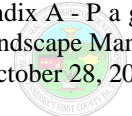
The landscaping of parking areas, street yards, and transitional yards is intended to not only improve aesthetics but to also reduce the heat island effect of parking lots, reduce thermal pollution of stormwater runoff, reduce the quantity of stormwater runoff, improve air quality through the filtering of the air by the plants, reduce noise and light pollution, and lessen the impact of high intensity uses on the community.

APPLICABILITY:

1. All new development, excluding active agricultural uses and the individual development of one single-family or two-family detached dwelling unit, shall comply with this landscape manual.
2. For redevelopment sites, this landscape manual only applies to the new stand alone building(s), parking, vehicular storage or display areas, or access drive areas being created. If the existing parking, vehicular storage or display areas, and/or access drive areas are being demolished and re-constructed then this landscape manual is applicable to those areas also.
3. For redevelopment sites that involve an expansion of an existing building, this landscape manual is applicable when the additional gross floor area (GFA) exceeds twenty-five (25) percent of the existing gross floor area or any change of use which results in the property becoming a higher impact use, as determined by transitional yard section of this manual, and shall comply with the following:
 - a. The site shall be modified to provide at least twenty-five (25) percent of the amount of landscaping which would be required for a comparable new development. The developer is allowed some flexibility in the placement of the landscaping as long as the intent of this landscape manual is being adhered to.
 - b. Any change in use, which results in a higher impact, may require transitional yards per this landscape manual if the adjoining use(s) is a lower impact.

LANDSCAPE PLAN:

1. A landscape plan, prepared by someone knowledgeable of landscape design, shall be submitted as part of the site plan or as a separate plan, as applicable, and shall contain adequate information to determine compliance with this manual. The following elements should be shown on the landscape site plan:
 - Title, name of owner, date, graphic scale, and north arrow;
 - Name and phone number of person or firm responsible for landscape plan;
 - Common name and size of plant materials to be used;
 - Boundary lines and lot dimensions;
 - Current zoning of site and adjoining properties;
 - Current use of site and adjoining properties;
 - Existing and proposed building locations;



- Location of existing and proposed streets, driveways, sidewalks, and parking areas;
 - Location of drainage swales or ditches;
 - Location, species, sizes, and spacing of plant material;
 - Size and location of landscaped areas, islands, screening, and transitional yards;
 - Planting details;
 - Location, species, size, diameter breast height (dbh), and location of root zone protection area of any tree(s) to be preserved;
 - The location and extent of both underground and overhead utilities including electric, telephone, cable TV, natural gas, water, sewer, storm drain, utility poles, and interior lighting poles.
2. Landscape plans shall be designed to assure adequate sight distance and maintain appropriate clear sight triangles at all entrances and exits to developments and parking areas.

TREE PRESERVATION:

It is the goal of the County to encourage and facilitate the preservation of healthy trees wherever possible. The following incentives are designed to achieve that goal:

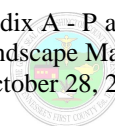
1. Preservation of healthy trees, four (4) inches dbh or greater, shall be credited toward the required number of trees per the following ratio: for every four (4) inches of diameter preserved, a credit of one tree shall be granted, provided credit is limited to thirty (30) percent of required trees. The Planning director or designee shall approve any tree to be preserved for which credit is to be given.

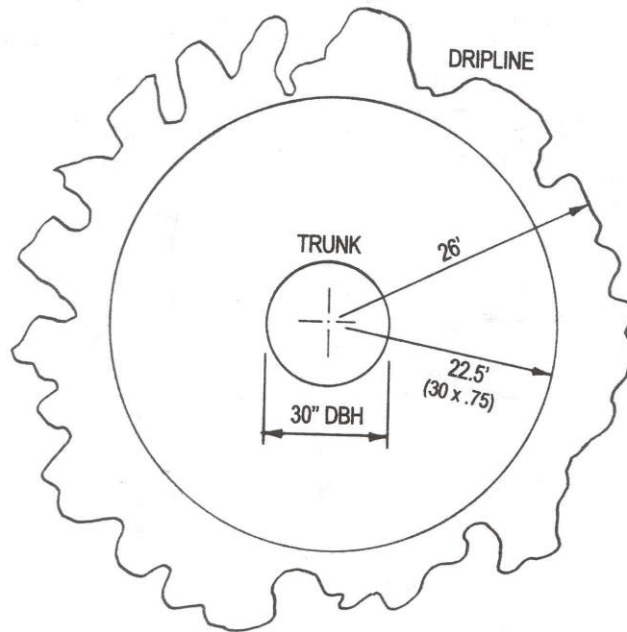
TREE PROTECTION DURING CONSTRUCTION:

In order to receive credit for an existing tree or grove of trees, a critical root zone (CRZ) shall be established. The critical root zone shall have a minimum area equal to the distance from the trunk to the average drip line or the distance derived from the CRZ calculation, whichever is greater.

$$\text{CRZ calculation} = (\text{tree dbh in inches} * .75 \text{ feet})$$

Example: a tree with a thirty (30) inch dbh would require a minimum CRZ of 22.5 feet or the distance from the trunk to the average drip line, whichever is greater.





In this example, the CRZ is determined to be the distance from the trunk to the average drip line due to the fact that the distance derived from the CRZ calculation is less than the distance to the drip line.

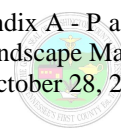
The critical root zone shall not be disturbed by construction activity, excluding sodding or the placement of other landscape materials. This area shall be barricaded and marked with signage during construction. Curbing placed around preserved trees shall be located no closer than the edge of the critical root zone. Damage to trees, including injuries resulting from chemical poisoning, concrete wash water, construction equipment, soil compaction, grading, paving and/or other mechanical injuries to the roots, trunk, or branches of the tree that will result in their death within one year of construction shall nullify or void any credit given for preservation.

MIXTURE OF TREES:

Sites with required new shade trees of more than five (5) shall provide a variety of trees.

| Number of Required Trees | Minimum Required Variety of Trees | Maximum Percent of Any Variety |
|--------------------------|-----------------------------------|--------------------------------|
| 6-14 | 2 | 65% |
| 15-29 | 3 | 50% |
| 30-44 | 4 | 40% |
| 45+ | 5 | 35% |

Example: Site requires 12 shade trees. Based on the above table, at least 2 varieties of shade trees shall be planted and no more than 7 trees of a single variety.



UNACCEPTABLE TREES:

The landscape designer should be knowledgeable of plant material and select appropriate species. There are specific trees that should not be selected for use due to physical constraints such as overhead utility lines, being weak or short lived trees, or due to invasive root system.

As a minimum, the following trees shall not be used:

- Bradford Pear
- Silver Maple (near any sidewalk or underground pipes)
- Weeping Willows (near any underground pipes)
- Type I shade trees under or within 25' of overhead utility line
- Type I or II shade trees over or within 20' of underground utilities

TREE TYPES:

Shade trees and Evergreen transitional yard trees are separated into two groups, Type 1 and Type 2.

- Type 1 trees are those that have a mature height of thirty (30) feet or more.
- Type 2 trees are those that have a mature height of less than thirty (30) feet.

SIZE, SPACING, AND LOCATION REQUIREMENTS:

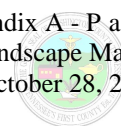
At the time of planting, the plants shall meet the following requirements:

- Type 1 shade trees shall have a minimum trunk diameter of one and one half (1 1/2) inches measured at six (6) inches above ground level.
- Type 2 shade trees shall have a minimum trunk diameter of one (1) inches measured at six (6) inches above ground level.
- Type 1 transitional yard trees shall have a minimum height of five (5) feet.
- Type 2 transitional yard trees shall have a minimum height of four (4) feet.
- The minimum size for required shrubs in transitional yards shall be three (3) gallon container or twenty-four (24) inches tall balled and burlapped when planted and able to achieve a minimum mature height of six (6) feet.
- The minimum size of shrubs used outside of transitional yards shall be two (2) gallon container or eighteen (18) inches tall balled and burlapped when planted and able to achieve a minimum mature height of two (2) feet.
- All required evergreen transitional yard trees shall have a minimum center to center horizontal separation from other required evergreen transitional yard trees of ten (10) feet. Transitional yard shrubs shall have a minimum spacing of four (4) feet.
- All required type 1 shade trees shall have a minimum center to center horizontal separation from other required type 1 shade trees of twenty-five (25) feet.
- All required type 2 shade trees shall have a minimum center to center horizontal separation from other required type 2 shade trees of fifteen (15) feet.
- All trees shall be placed no closer than four (4) feet from any curb or sidewalk. All newly planted trees shall have a minimum radius of three (3) feet located around the base of the trunk containing mulch.
- The type and location of trees and shrubs planted shall take into account the exposure requirements and hardiness of the plants, their ultimate size, structures on both the subject site and the adjoining property, and other structures such as walkways and utilities so that appropriate plants are installed for long term survivability and health.

REQUIRED TREE CALCULATIONS:

The number of trees required shall be calculated per the requirements in this Landscape Manual. Any fraction of trees required shall be rounded the nearest whole number as follows:

1. From 0.01 to 0.49, the number of trees shall be rounded down.
2. From 0.5 and higher, the number of trees shall be rounded up.



Example: The tree calculation requires 6.4 trees, then the trees required is 6. If the tree calculation requires 6.5 trees, then the trees required is 7.

PLANT QUALITY STANDARDS:

Plant material installed to satisfy the requirements of this Landscape Manual shall conform to the plant quality standards of the most recent edition of the American Standard for Nursery Stock (ANSI Z60.1), published by the American Association of Nurserymen. Trees with co-dominant stems shall not count toward meeting the requirements of this landscape manual.

MAINTENANCE:

1. Failure to maintain landscaped areas as required shall be considered a violation of this Landscape Manual. The property owner shall be responsible for the routine maintenance of all required plant material. Maintenance activities include but are not limited to watering, pruning, mulching, mowing, weeding, and fertilizing. All landscaped areas must present a healthy, neat and orderly appearance and shall be kept free from refuse and weeds. Trees or shrubs that are dead, diseased, or otherwise deemed by Planning director to be in an unsafe condition shall be removed by the property owner and replaced with new plantings provided that the new plantings are in compliance with this Landscape Manual.
2. Walls and fences used as screening structures shall be repaired or replaced so that they remain in a structurally sound condition.
3. Shrubs used in transitional yards shall not be pruned to a height less than five (5) feet.
4. Tree topping of any required tree is prohibited and may, at the determination of the Planning director, negate a tree from being used to satisfy the requirements of this Landscape Manual. Tree topping is the practice of removing whole tops of trees or large branches and/or trunks from the tops of trees, leaving stubs or lateral branches that are too small to assume the role of a terminal leader. The selective pruning of existing trees by utility companies to protect overhead utility lines is exempt from this requirement.

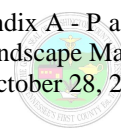
REMOVAL OF REQUIRED PLANT MATERIAL:

A property owner shall notify and receive approval from the County Planning director or designee before any healthy tree or shrub planted per this Landscape Manual is removed. Notification is not required for the removal of dead or diseased plant material. All plant material must be replaced in accordance with the requirements of Landscape Manual.

Removal of required plant material without approval of the County Planning director is a violation of this Manual and the Zoning Resolution.

MODIFICATIONS:

The Planning director or their designee shall have the authority to grant a request for modification of any requirements in this Landscape Manual upon receipt of a written request, which outlines the rationale for the modification. The Planning director or their designee shall review each request and grant a modification only under unusual circumstances such as extreme topography or geology, which cause an unreasonable hardship; or, when an innovative or alternative approach can be made which still meets the intent and purpose of this Landscape Manual.



APPEALS:

Any person aggrieved by the administration, interpretation, or enforcement of this Landscape Manual may appeal to the Board of Zoning Appeals within 30 days of a decision of the Planning director or their designee.

VIOLATIONS:

Any violation of the terms of this Landscape Manual shall be a violation of the Zoning Resolution, and shall be subject to the penalties for violations established in the Zoning Resolution.

FRONTAGE LANDSCAPE YARDS

APPLICABILITY:

Frontage landscape Yards are required in all zones, excluding single-family and two-family detached dwelling units, unless specifically required by the Zoning Resolution.

PLANTING REQUIREMENTS:

A frontage landscape yard shall be established on the subject property along all abutting public streets in accordance with the following:

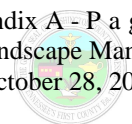
1. Minimum width shall be ten (10) feet, excluding those zones where the front yard setback is less than ten (10) feet, in which case landscape yard width shall equal the front yard setback or ten (10) feet, whichever is less.
2. One (1) Type 1 shade tree or two (2) Type 2 shade trees shall be provided per fifty (50) linear feet of property line along public street frontage. Trees may be spaced or grouped at the discretion of the developer in the landscape yard. Required trees shall not be placed in street rights-of-way.
3. When the landscape yard occurs under or within 30' of overhead utility lines, Type 2 shade trees, specified for use near power lines, shall be planted at a rate of one (1) tree for each fifty (50) feet of property line along public street frontage.

Alternative #1:

In lieu of planting all of the required trees, a combination of trees and shrubs may be planted in accordance with the following:

1. The trees may be reduced by up to 50% but shrubs must be substituted for the trees not planted.
2. Shrub planting rate is eight (8) shrubs per required tree not being planted.
3. Shrubs must meet the minimum size requirements of the Landscape Manual. Groundcover and perennials do not count as a shrub.
4. The shrubs shall be planted in a mulched planting bed.

Example: Landscape Manual requires five (5) trees along the public street frontage. Two (2) trees may be replaced with sixteen (16) shrubs. Planting requirement is three (3) trees and sixteen (16) shrubs.



Alternative #2:

When parking spaces in a parking lot abut a street right-of-way must encroach into the 10' landscape yard, the landscape yard may be replaced by a parking lot screen, which is a minimum of four (4) feet in width with tire stops in the parking lot to prevent vehicles from overhanging the curb and damaging the landscaping.

1. The screen shall include one (1) Type 1 shade tree for every one hundred (100) feet of frontage. The trees may be situated in a landscape island which is connected to the landscape yard and has a minimum area of 144 square feet. If these trees are planted within landscape islands as mentioned above, the trees shall not count towards any required parking area tree.
2. Parking lot screens shall be provided in one of the following configurations:
 - a. A brick, stone, or masonry wall which, measured from the edge of the parking lot, is a minimum of three (3) feet in height; or
 - b. A row of evergreen shrubs, capable of reaching a minimum ultimate height of 3', spaced a maximum of five (5) feet on center. The entire landscape yard containing the shrubs used as a parking lot screen shall be mulched and shall not have a slope exceeding a ratio of 2:1.

PARKING AREA LANDSCAPING

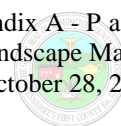
APPLICABILITY:

All off-street parking or vehicular storage or display areas shall be landscaped if either of the following occurs:

1. Parking lot with ten (10) spaces or more, excluding parking garages; or
2. Areas used for parking, vehicular storage or display, or access total at least 2,700 square feet.

PLANTING REQUIREMENTS:

1. One (1) Type 1 shade tree shall be provided for every 4000 square feet of parking, vehicular storage or display, and access drive areas.
2. A maximum of thirty-three (33) percent of the required Type 1 shade trees may be replaced by Type 2 shade trees at a ratio of one and one-half (1 1/2) Type 2 trees for each Type 1 tree replaced.
3. Provide minimum 5% of the parking, vehicular storage or display, and access drive areas as green space.
4. Any green space planted with a tree shall meet these requirements:
 - a. Minimum of one hundred forty (140) square feet in area.
 - b. The minimum dimension of any portion of a landscaped area shall be eight (8) feet. All measurements for landscape islands shall be made from the back of the curb.
 - c. All landscaped areas shall be surrounded with a raised curb or other means to protect the trees from impact from vehicles.
 - d. Small curb breaks are allowed for drainage into or out of a planted area.
 - e. If asphalt, concrete, or sub-base exists where the landscaped area is to be located, it shall be removed down to uncompacted soil prior to planting.
5. In lieu of providing numerous minimum size landscaped areas within the parking lot or vehicular storage or display area perimeter, the landscaped areas may be grouped together to form fewer but larger areas for landscaping.



Alternative #1:

If the developer cannot place all of the required trees required within the green space of the parking lot or vehicular storage or display areas due to sight visibility, delivery truck access, or other concerns, the following is allowed if all conditions are met:

1. The trees not planted within the green space of the parking lot or vehicular storage or display areas shall be planted along the perimeter of these areas but at a rate of two (2) trees for every tree not planted within the perimeter. The priority areas for planting along the perimeter are the south, southwest, and west edges to provide maximum shading during the hottest times of the day.
2. No more than 50% of the trees required within the green space may be relocated as described in Item 1 above.
3. The entire required green space should be provided with the above or the following is also allowed:
 - a. The required green space can be reduced by up to 25% if needed for delivery truck access or if there is limited site area to meet parking requirements. However, an additional shade tree, above the requirements mentioned above, for every 144 square feet reduction in green space area shall be planted along the perimeter.

Example: Seven (7) trees total are required for the required green space. The developer is able to show that three (3) of the required trees cannot be planted within the green space because of truck access and the building signage will be blocked. Final design is four (4) trees planted within the green space and six (6) trees (2x3=6) planted along the perimeter for a total of ten (10) trees.

TRANSITIONAL YARDS

APPLICABILITY:

Transitional yards are required where the development of a higher impact use abuts a lower impact use.

IMPACT CLASSIFICATION:

The impact classification is based on actual use and not zoning classification unless the adjoining property is vacant. In that scenario, the impact classification shall be based on the zoning.

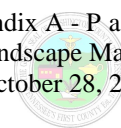
No impact (N):

All permitted uses in the following zones are considered to have no impact, unless a specific use is listed elsewhere; A-1, A-2, R-1, R-1A, and R-1B. The following uses shall be considered to have no impact, regardless of zoning classification; cemeteries, golf courses without night lighting, parks, single-family and two-family residential.

Low impact (L):

All permitted uses in the following zones are considered to have a low impact, unless a specific use is listed elsewhere; R-2, R-2A, and B-1, the following uses shall be considered to have a low impact, regardless of zoning classification; churches, day-care centers, community recreational facilities, neighborhood recreational facilities, public buildings, schools, and venues.

Medium impact (M):



All permitted uses in the following zones are considered to have a medium impact; A-3, R-3, R-3A, B-2, PRD, PR-BD, and PBD-1. The following uses shall be considered to have a medium impact, regardless of zoning classification; gasoline service stations, neighborhood convenience stores and centers, parking garages (without first floor retail or office), and self-storage or mini-warehouses.

High impact (H):

All permitted uses in the following zone are considered to have a high impact, unless a specific use is listed elsewhere; B-3, B-4, M-1, M-2, M-E,MS, PBD-2, and PMD. The following uses shall be considered to have a high impact, regardless of zoning classification; junk yards, outdoor storage yards, any property with parking for more than four-hundred fifty (450) cars, and off-site parking areas located in residential zones.

TRANSITIONAL YARD TYPE:

Required transitional yard types are determined according to the following chart:

| | | <u>Proposed Use Classification</u> | | | |
|-------------------------------------|----------|------------------------------------|----------|----------|----------|
| | | N | L | M | H |
| <u>Adjoining Use Classification</u> | N | none | 1 | 2 | 3 |
| | L | none | none | 1 | 2 |
| | M | none | none | none | 1 |
| | H | none | none | none | none |

Example: A new strip shopping center is considered a medium impact use. Directly behind the shopping center is a residential neighborhood zoned R-1, a no impact use. The shopping center is required to provide a type 2 transitional yard.

LOCATION REQUIREMENTS:

A transitional yard shall be provided by the Proposed Use along the rear and side property lines abutting a lesser impact Adjoining Use.

Where a development occurs on only a portion of the property, or the adjoining property is very large and the existing improvements are a significant distance away, or there are significant topographic differences between the properties, the Planning director or their designee may approve modifications to the placement and extent of the transitional yard. These modifications may be lesser or greater than the general transitional yard standards depending on the situation.

Transitional yards shall not exceed a 2:1 slope. Plants shall be located within the transitional yard to maximize their buffering impact and shall not be located on a slope steeper than 3:1.

The type and location of transitional yard trees planted shall take into account structures on both the subject site and the adjoining property so that the trees do not become a hazard or nuisance.

PLANTING REQUIREMENTS:

Plant material shall be chosen and spaced so that a more natural buffer is provided instead of a green screen. All wood fences shall have the finished side facing outward.

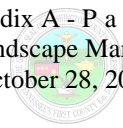
The following chart describes the planting requirements for every 100 feet, or fraction thereof, of transitional yard:

| MINIMUM REQUIREMENTS <u>FOR EVERY 100' OF TRANSITIONAL YARD</u> | | |
|---|-------------------------------|--|
| Transitional Yard Type | Transitional Yard Width (ft.) | Plant Material Options |
| TYPE 1 | 10 | a) 7 Type 1 Evergreen and 3 Type 1 Shade Trees |
| | 8 | b) 6 ft. Wood Fence or Masonry Wall and 5 Type 1 Evergreen trees |
| TYPE 2 | 15 | a) 10 Type 1 Evergreen Trees and 5 Type 1 Shade Trees |
| | 10 | b) 6 ft. Wood Fence or Masonry Wall and 5 Type 1 Evergreen Trees and 3 Type 1 Shade Trees |
| TYPE 3 | 20 | a) 14 Type 1 Evergreen Trees and 6 Type 1 Shade Trees |
| | 15 | b) 8 ft. Wood Fence or Masonry Wall and 7 Type 1 Evergreen Trees and 3 Type 1 Shade Trees |
| TYPE 4 | 30 | a) 8 ft. Wood Fence or Masonry Wall and 14 Type 1 Evergreen Trees and 6 Type 1 Shade Trees |

TRANSITIONAL YARD TREE SUBSTITUTIONS:

Plants may be substituted as follows:

- Type 2 evergreen trees and evergreen shrubs may be used to substitute a maximum of fifty percent (50%) of the required number of Type 1 evergreen trees as follows:
 - One and a half (1 1/2) Type 2 evergreen trees or three (3) evergreen shrubs for each Type 1 evergreen tree.
- There can be no more than 2 new deciduous trees planted adjacent to each other in the transitional yard. There must be at least one evergreen tree between single or double groups of deciduous trees.
- Type 2 shade trees may replace Type 1 shade trees in areas where there is limited space such as along buildings or near utility lines.



MIXTURE OF TRANSITIONAL YARD TREES:

Sites with required transitional yard trees of ten (10) or more shall provide the following variety:

| Number of Required Transitional Yard Trees | Minimum Required Variety of Transitional Yard Trees | Maximum Percent of Any Variety |
|--|---|--------------------------------|
| 10-20 | 2 | 65% |
| 21-40 | 3 | 50% |
| 40+ | 4 | 35% |

TRANSITIONAL YARD CONFIGURATION:

A transitional yard planting plan can be configured in many ways. Plant selection and spacing should be based on each plant's growing habit, site characteristics, drainage, exposure, and location of adjoining use(s).

NATURAL VEGETATION:

The Planning director or their designee may approve the use of existing vegetation to satisfy the transitional yard requirements. The vegetation shall be in healthy condition and consist of native, non-invasive species. The existing vegetative transitional yard shall be of substantial depth as to provide a natural buffer. The Planning director or their designee may require additional plantings to areas of the natural transitional yard where the buffering effect is deficient.

PROTECTIVE SCREENING

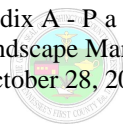
APPLICABILITY:

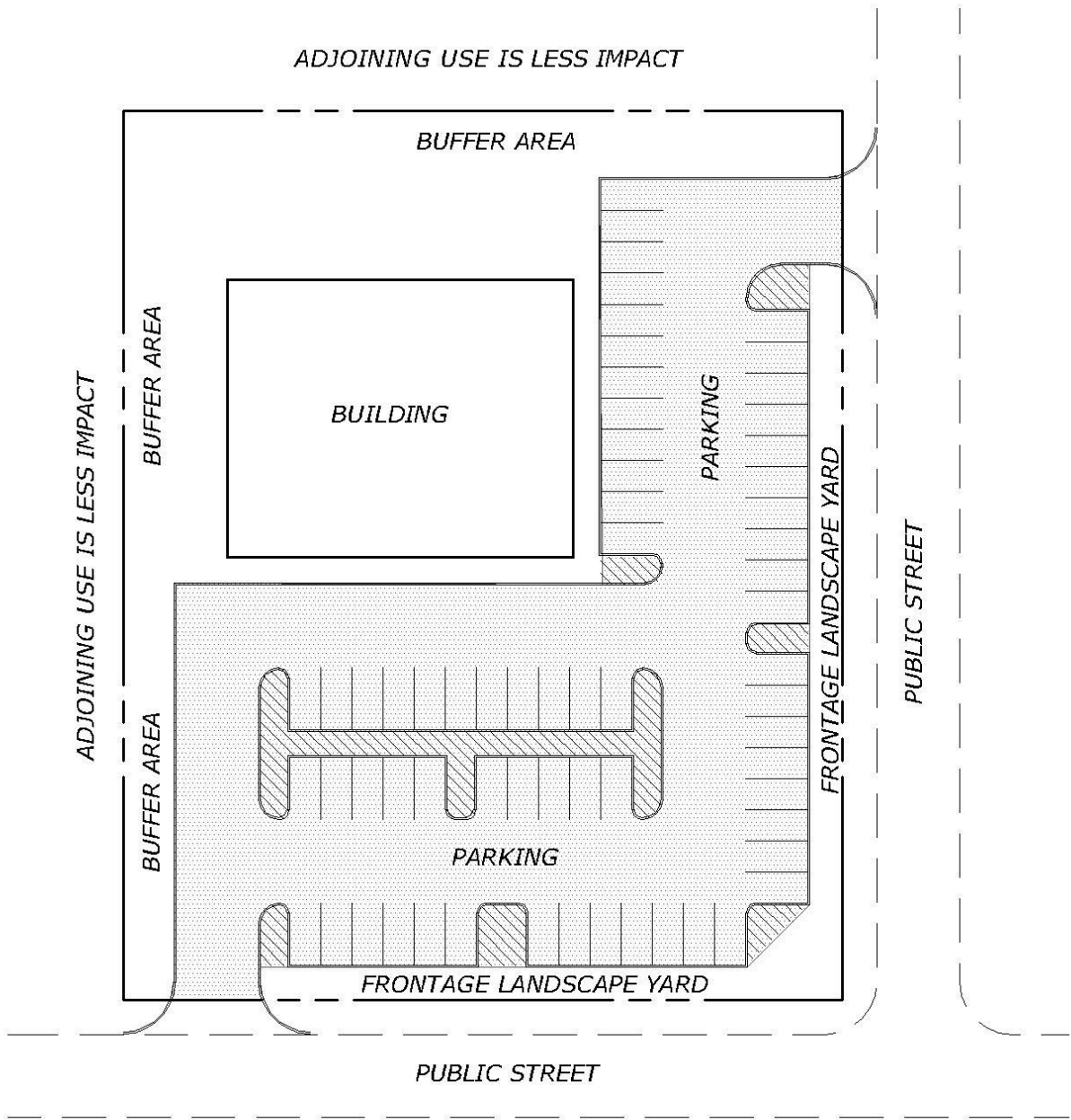
Excluding the development of individual single-family or two-family detached dwelling units, protective screening shall be provided in all zones.



SCREENING REQUIREMENTS:

A protective screen in the form of a masonry wall, wood fence, opaque fence or gate, or opaque landscaping to prevent view from any public right-of-way (excluding alleys) or adjoining property shall be provided for the following:

- Dumpsters.
 - An opaque gate(s) shall also be provided if the access to the dumpster(s) faces a public right of way or an adjoining residential use.
- Mechanical equipment larger than five (5) feet by five (5) feet by four (4) feet high





-  PARKING/DRIVE AREA
-  GREEN SPACE AREA