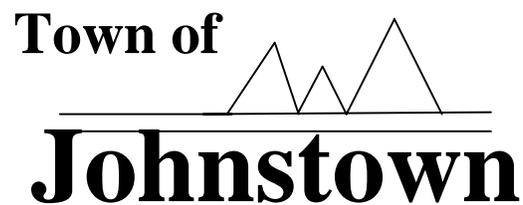


Town of Johnstown

LANDSCAPE STANDARDS AND
SPECIFICATIONS



Update Adopted: July 19, 2004

Town of Johnstown Landscape Standards and Specifications

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A. Purpose

1. The purpose of this section is to regulate and define the landscape requirements of the Town to enhance the appearance of Johnstown. Common areas and open space contribute to the overall impression of a neighborhood. Landscape elements help define a neighborhood while providing a sense of Town continuity. The entire community benefits from an enhanced visual experience and an improved quality of life, and through the protection of environmentally sensitive areas. Standards and criteria for landscaping have been established to promote the following:
 - a. The landscaping standards will further the goals, policies, and strategies stated in the Johnstown Area Comprehensive Plan (JACP).
 - b. Landscaping will be used to screen or separate incompatible uses.
 - c. The landscaping standards promote safe and compatible design.
 - d. Landscaping will be designed to conserve water and other limited resources, and to protect environmentally sensitive areas.
 - e. Xeriscape designs (water-efficient landscape and irrigation techniques) are encouraged for all projects; all Town projects are required to incorporate xeriscape standards.
 - f. The use of non-potable water for landscape irrigation shall be required where feasible.
2. These standards represent minimum landscape requirements. They are intended to allow Developers to create a signature landscape design for their development while still satisfying Town requirements.

B. Goals

1. The Developer shall attempt to design a landscape that has year round appeal through consideration of seasonal color and texture of flowers, leaves, bark, and fruit.
2. Designs shall make every attempt to incorporate the following design goals:
 - a. Create a pedestrian friendly environment.
 - b. Soften architectural materials, including signs and fences.
 - c. Enhance the surrounding streetscape/parkway environment.
 - d. Provide shade and climate control through the use of deciduous trees that will provide an overhead canopy when mature.
 - e. Provide buffers between incompatible land uses or site areas.
 - f. Provide screening of service structures and other non-essential site elements.
 - g. Irrigate with non-potable water where not already required.

3. Sustainability of natural resources through the use of xeriscaping principles, water-efficient landscape and irrigation techniques, and promotion of land stewardship and long-term resource protection through the proper selection of appropriate plant materials is encouraged.
4. Xeriscape practice is encouraged wherever possible on privately owned areas, and is required on all publicly dedicated and/or maintained areas. Developers are encouraged to incorporate creative designs that meet xeric principles into all landscaped areas. Xeriscape standards are further described in Section H.12 of this document.

C. Landscape Plans Required

1. Landscape plans are required according to the following Table 1.01-I and are subject to the review procedures for the type of development application involved.

Type of Development Application	Preliminary Landscape Plan ^(a)	Final Landscape & Irrigation Plans ^(b)
Site Plan		X
Conditional Use Site Plan		X
Site Plan Amendment		X
Preliminary Plat	X	
Preliminary PUD Development Plan	X	
Final Plat		X
Final PUD Development Plan		X
Final Construction Plan		X
Final PUD Construction Plan		X

NOTES TO TABLE 1.01-I:

(a) A preliminary landscape plan may be combined with a final landscape plan when the preliminary and final plats or development plans of a project are being reviewed concurrently.

(b) Irrigation plans are only required for rights-of-way, greenways or any other publicly dedicated areas that will be maintained by the Town. All other irrigation systems are to meet the criteria listed in Section H.5 of these standards.

D. Plan Requirements

1. Preliminary Landscape Plans. A preliminary plan shall be required for all Preliminary Site Plan and Preliminary Development Plan review submittals. Plans shall include the following general information as a minimum:
 - a. Scale of drawings at 1"=50' or larger. North arrows, scale, street names and other standards plan notations to be shown.
 - b. Existing plant materials identified on the plans showing their location as surveyed, tree size measured at 4-1/2' above adjacent grade, species and condition or health. Also it should be indicated if the trees / shrubs are to remain or be removed as part of the site development.
 - c. Preliminary grading concept showing berming or landforms. Contours should be shown at two-foot intervals.
 - d. Preliminary landscape plan showing plant groupings, general plant type (deciduous, ornamental or coniferous trees); shrub beds; flower beds; water features; bikepaths or walkways, fences and other unique features.
 - e. List of suggested plant species for each type of plant material shown on the plan.
 - f. Delineation and labeling of all areas not contained within developed tracts, including, but not limited to, common open space, detention areas, required buffers, Primary Greenways, secondary greenways, pocket parks, and rights-of-way. Each area to be identified in terms of length and square footage of area.
 - g. Details or sections of each distinct area with a typical landscape treatment described. Scale of detail or section to be 1"=20' scale or larger.
 - h. Plan notes that include the following (also see specific notes per each sub-section of this chapter):
 - i. A Design Intent statement that clarifies in general terms the proposed landscape treatment.
 - ii. A maintenance obligation statement that clarifies for each individual area, who is the responsible entity for on-going maintenance. Include clarification for arterial rights of way, primary greenways, on-site improvements (common open space) and/or detention ponds.
 - iii. A development obligation statement that clarifies the responsibility of the Developer to install landscaping and irrigation according to the most current Landscape Standards and Specifications in effect at the time of construction.
 - iv. A statement, that clarifies the obligation of the Developer to prune any existing trees within the project limits, if they are to remain.
 - v. Landscape calculations section defining square footage of all regulated areas, including rights-of-way, greenways, common

open space, buffers, medians, etc. as described in this document. Clarify the size of each type area and include the required quantity of trees, shrubs and ground cover.

2. Final Landscape Plans. A final plan shall be required for all Final Site Plan, Final Development Plan, Plot Plan, Conditional Use Site Plan, Construction Plans and Site Plan Amendment review submittals. Plans shall include all of the information required for Preliminary plans and the following information as a minimum:
 - a. Scale of drawings at 1"=30' or larger. North arrows, scale, street names and other standard plan notations to be shown. Clear drafting notations and professional quality mapping will be required including matchlines. All plans including multi-sheet sets shall include original key clarifying where each sheet lies in overall development.
 - b. Final grading concept showing berming or landforms. Existing and proposed contours are to be shown at a 1' contour interval. Illustrate floodplain boundary definition showing 10-year floodplain for trail corridors along ditches, rivers and other waterways.
 - c. Final landscape plan showing individual plant layout at 2/3 mature size, specific plant species for each plant as identified by a key that relates to a full landscape schedule showing key, quantity per species, botanical name, common name, size and condition purchased (e.g., balled & burlaped / B&B, and mature height and spread etc.). Proposed seed and sod mixtures are to be provided. Also show and include general dimensions and material notes for all water features, bike paths or walkways, fences, and other unique features.
 - d. Show and label all right-of-way boundaries, buffers boundaries, property lines, etc. to facilitate review.
 - e. All existing and proposed utilities and their associated easements, graphically shown in their correct alignment and labeled as existing or proposed; underground or overhead, and with dimensions describing the width of the easements.
 - f. Final irrigation plans for all areas to be maintained by the Town showing all equipment, layout, pipe sizing, sleeves, equipment legend and notes to clearly indicate components and construction. Tap location, pump station or meter pit assembly, controller, electrical service, valves and other locations as relevant shall be clearly indicated.
 - g. Irrigation tap locations and notes that meet the requirements listed in Section H.5 of these Standards for all areas to be privately maintained. For areas where raw water irrigation is to be used, details of pumps, vaults, and associated appurtenances shall be provided on the plans.
 - h. Appropriate construction details, including, but not limited to, tree and shrub planting, concrete bikepath, irrigation trench depth, spare wire quantities, locking controller connection, remote controlled valve

installation, drip emitter installation, and all other details relevant to the construction of the irrigation system. Irrigation details are only required when irrigation plans are required.

- i. Plan notes, in addition to those required for Preliminary Plans that include the following:
 - i. It is the responsibility of the Developer and their Contractors to build the project according to approved plans and details and in accordance with current Town of Johnstown Landscape Standards and Specifications. Field changes to these plans are to be approved by the Town of Johnstown prior to any work. Field conditions that conflict with or jeopardize the longevity of the proposed improvements shall be brought to the attention of the Town of Johnstown for resolution. Failure to bring such matters to the Town's attention or to obtain approval of remedial measures will in no way relieve the Developer/Contractor of their obligation to resolve the matter to the satisfaction of the Town of Johnstown.
 - ii. It will be the responsibility of the Developer to replace all dead plant material and/or re-sod or seed turf areas that are not established during the warranty period established by the Development Agreement for this project.
- j. An inventory chart for each publicly dedicated area (i.e. rights-of-way and greenways) detailing square footage of bike path, irrigated turf, native turf, number of trees and shrubs, etc.
- k. A note clarifying intended soil preparation for planting areas.
- l. A statement that clarifies mulch type, depth and type of water permeable weed barrier underlayment.
- m. A landscape calculations section defining length and square footage of all areas distinguished in Section D.1.f above, including rights-of-way, greenways, common open space, buffers, medians, etc. Perimeter lengths of detention ponds shall also be included, as defined in Section E.4 below. Clarify the size of each type area and include the required quantity of trees, shrubs and ground cover.
- n. A statement and detail that clarifies fence type, height, and materials. If applicable, include a note that clearly states that the fence and/ or signage is to be maintained by the Homeowner's Association, property owner or individual homeowner, as relevant to the project.

E. Landscape Standards for Private Property

1. Planned Unit Development Standards for Single-family and Multi-family Residential Uses
 - a. Single-Family Residential Lots

- i. At least 75 percent of the yards adjacent to the street will be treated with landscape materials. At least four (4) shrubs will be planted on every lot containing a one-family dwelling. At least one (1) tree of one and one-half (1½) inch caliper shall be provided for each lot of seventy (70) foot frontage or less and at least two (2) trees for every lot in excess of seventy (70) foot frontage. For corner lots, the same quantities shall be required for each street. The trees shall be located so as not to interfere with sight distances at driveways. Trees required in the adjacent right-of-way may not be used to meet this lot standard.
 - ii. Trees and shrubs required on residential lots shall be installed in conjunction with the issuance of a building permit and prior to a certificate of occupancy unless the seasonal time of year prevents installation. In such an event, a certificate from a local nursery must be provided to the homeowner with a copy to the Building Inspector.
- b. Privately Owned and Maintained Property
- i. Common open space, which is land commonly owned and maintained by an owner's association, required in all subdivisions and PUDs shall be landscaped as follows:
 - (a.) Common open space areas will have irrigated live ground cover over at least seventy-five percent (75%) of the area, unless otherwise approved by the Town. Bluegrass is not the only option for these areas and the Town encourages the Developer to pursue water saving goals as listed in Section H.12 of these Standards.
 - (b.) All ground cover shall have an irrigation system that is designed to meet the needs of the plants and that is designed to meet Town Standards. Any dryland-seeded areas approved by the Town shall have a temporary irrigation system provided for establishment purposes.
 - (c.) Common open space in one-family subdivisions or PUDs or portions of subdivisions or PUDs containing one-family dwellings shall be landscaped at a ratio of at least one (1) tree and five (5) shrubs for every 4,500 square feet of landscaped area.
 - (d.) Up to 30% of the required shrubs may be substituted by trees at the rate of one tree for ten shrubs.
 - (e.) At least 50 percent of the trees will be overstory/shade deciduous species and 25 percent of the trees will be coniferous species, where appropriate.

(f.) The developer shall have all landscaping improvements completed and in acceptable condition prior to the Town's construction acceptance of public improvements and prior to turning the common open space areas over to a property owners association for maintenance. If all other public improvements except for landscape/irrigation are completed between the winter months of November and March, the Developer shall provide a letter of credit to the Town for all remaining required work, as based on a certified cost estimate.

ii. Pocket Parks, which are a negotiated item during Development Plan approval, will meet the following criteria:

- (a.) Pocket parks shall have irrigated live ground cover over at least seventy-five percent (75%) of the area.
- (b.) Pocket parks shall be landscaped at a ratio of at least one (1) tree or shrub for every five hundred square feet or portion thereof, plus one tree for every 2,000 square feet or portion thereof.
- (c.) Up to 30% of the required shrubs may be substituted by trees at the rate of one tree for ten shrubs.
- (d.) The plants shall be located to preserve and enhance the use of the site and the functional open areas.

c. Stormwater Detention/Retention Areas: See Section E.4 of these Standards.

d. Landscape Buffers Adjacent to Arterial Rights-of-way: See Section E.4 of these Standards.

2. Non-Residential Uses including PUDs

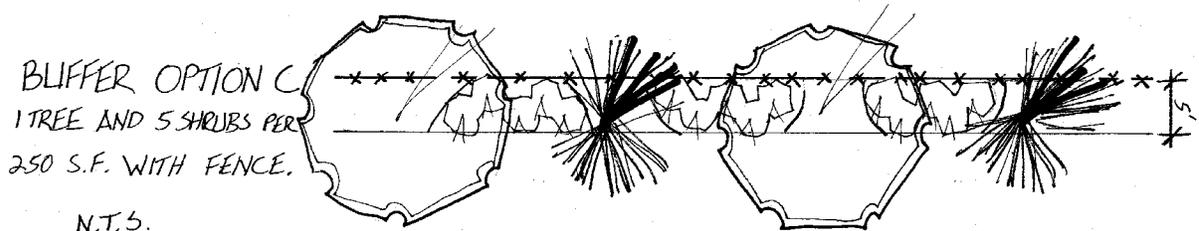
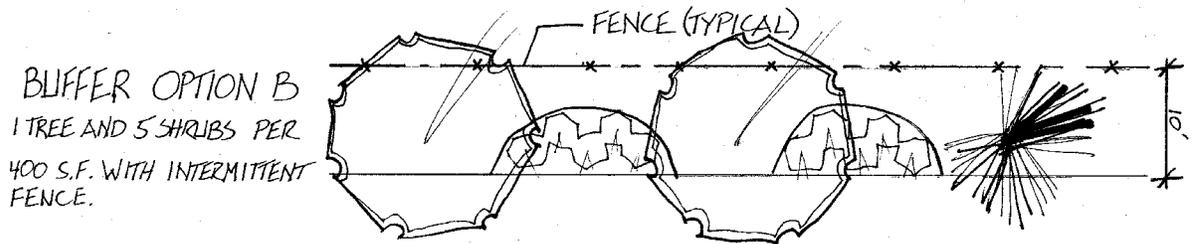
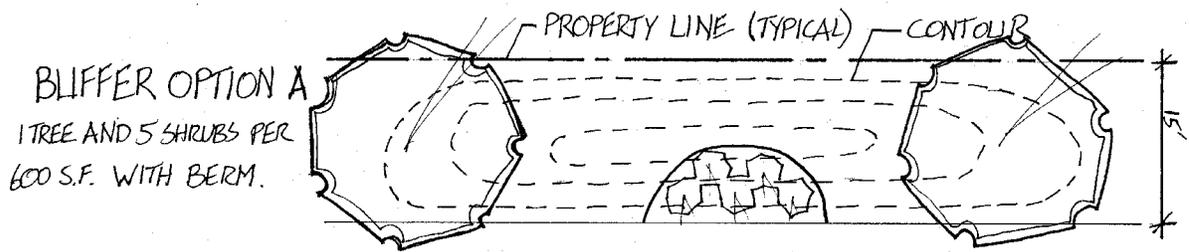
a. A minimum of twenty (20) percent of the lot/parcel will be landscaped area.

b. Landscaped areas will be landscaped at a ratio of at least one (1) tree and five (5) shrubs for every 1,000 square feet. Plants used to fulfill buffer requirements, as described below, do not count toward fulfilling these required plant quantities.

c. Buffer landscaping will be provided as follows:

- i. In addition to the above requirements, where nonresidential, multifamily or group living uses are adjacent to existing or projected residential or duplex uses, one of the following shall be provided:

- (a.) A 15 foot wide on-site landscape area with berming and one (1) tree and five (5) shrubs per 600 square feet or portion thereof; or
 - (b.) A 10 foot wide on-site landscape area with one (1) tree and five (5) shrubs per 400 square feet or portion thereof with intermittent 6 foot privacy fencing; or
 - (c.) A 5 foot wide on-site landscape area one (1) tree and five (5) shrubs per 250 square feet or portion thereof with a continuous 6 foot privacy fence.
- ii. Buffers may be interrupted only for necessary pedestrian and vehicle access.
 - iii. Buffer planting requirements shall supercede planting requirements for typical landscaped areas.
 - iv. Any plantings used shall not count toward required plant quantities.
 - v. The square footage of buffer areas may be deducted from the overall square footage of landscaped areas when calculating required plant quantities.
 - vi. The following drawings represent sample designs for the three different buffer options that meet the above requirements. Please note that these drawings are for illustrative purposes only and should not dictate design ideas for individual developments.



3. Parking Lots.

- a. Perimeter Landscaping Requirements. Perimeter parking lot landscaping should be designed per the buffer requirements described in Section E.2.c of these Standards.
 - i. Parking lot planting requirements shall supercede planting requirements for other landscaped areas when located with common areas.
 - ii. Where parking areas are located directly adjacent to residential development, both the parking lot buffer requirement and the nonresidential buffer requirements described in Section E.2.c of these Standards shall apply. The requirements shall compound for these areas.
- b. Interior Row Landscaping Requirements. Parking lots that have interior rows of parking spaces will provide parking lot landscaping, as follows:
 - i. Interior rows of parking spaces will provide a landscape island at the end of each row of parking spaces. Landscape islands

will also be provided within the row of parking spaces so that there are no more than 20 consecutive parking spaces without a landscape median.

- (a.) Landscape medians will have minimum dimensions of eight (8) feet width by the length of the parking row.
 - (b.) Islands will be landscaped at a rate of at least one (1) overstory/shade tree and 5 shrubs for each 10 parking spaces or portion thereof. Overstory/shade trees will comprise at least 75 percent of the trees within the landscape islands. Evergreen trees shall be prohibited in parking lots unless island widths are sized to accommodate mature growth.
- ii. Interior rows of parking spaces in large parking lots (over 100 parking spaces) will be divided by landscape medians parallel to the parking rows so that there are no more than twenty (20) consecutive parking spaces without a landscape median.
- (a.) Landscape medians will have minimum dimensions of 10 feet (without a pedestrian walk) or 18 feet (with a pedestrian path) by the length of the row of parking spaces.
 - (b.) Landscape medians will have at least (1) one overstory/shade tree or two (2) ornamental trees and five (5) shrubs for every 30 linear feet along the length of the median. Overstory/shade trees will comprise at least 75 percent of the trees within the landscape medians.
 - (c.) Landscape medians will contain mulch or irrigated grass.
 - (d.) A concrete pedestrian walk, at least six (6) feet wide, will be provided along the length of the landscape median closest to the building entrance. The walk will connect to perimeter pedestrian walks, whenever possible, and include raised and striped crosswalks.
 - (e.) Planting of trees and non-low-growing shrubs in the vehicle overhang area is not allowed.

4. Other Regulated Landscape Areas:

a. Stormwater Detention/Retention Areas

- i. Detention/retention areas are generally not acceptable for dedication to the public for parkland dedication and/or maintenance. Buffalo grass or other approved dryland seed mixtures is to be planted and maintained by the homeowners

association.

ii. Detention areas to be considered for dedication to the Town for use as a recreational area or a sports field shall be landscaped as follows:

- (a.) The perimeter of detention areas will be landscaped with plant groupings sensitive to the detention area design and will include at least one (1) tree and five (5) shrubs for every 75 linear feet of perimeter. The perimeter is calculated by the distance around the pond as measured along the top of side slope. Plants may be clustered and/or placed along the side slopes of the pond, provided they do not interfere with the engineered function of the pond and are of appropriate species to survive infrequent moist soil conditions. At least 50 percent of the trees will be overstory/shade deciduous species and 25 percent of the trees will be coniferous species, where appropriate.
- (b.) Grass or other comparable vegetation will be the primary ground cover. All areas within the areas of inundation, including, but not limited to, the detention area bottom, shall be planted with sod and irrigated with an underground irrigation system. Other areas may be seeded with dryland grass if it is maintained free of weeds and an underground irrigation system is provided. Live plant material other than grass may be planted if it is suitable to the area and is maintained free of weeds and irrigation is provided. Exceptions to these requirements may be considered by the Town on a case-by-case basis, depending on the design of the stormwater system for the development.
- (c.) An automatic irrigation system will be provided.
- (d.) The landscape plan will indicate the five-year and one-hundred-year storm detention areas.
- (e.) The side slopes of the pond shall not exceed 6:1 slope.
- (f.) The bottom of the pond shall have a minimum 1%-2% slope to ensure proper drainage, eliminate mud bogs, flush siltation buildup and promote multiple use of the detention pond.
- (g.) A concrete slab near the outlet shall be installed and sized properly to reasonably accommodate siltation to ease maintenance.
- (h.) A concrete trickle channel shall be included and shall be located on the perimeter of the pond to facilitate multiple use of the pond.

iii. Detention areas not being dedicated to the Town shall be

landscaped as follows:

- (a.) Buffalo grass or other approved drought tolerant turf blends as approved by the Town will be the primary ground cover. In some instances, irrigated turf may be permitted in these areas. All areas within the areas of inundation, including, but not limited to, the detention area bottom, shall be planted with the approved grasses, provided they are established and maintained free of weeds and irrigation is provided until the grasses are fully established. Live plant material other than dryland grasses may be planted if it is suitable to the area and is maintained free of weeds and irrigation is provided.
 - (b.) Detention areas will be landscaped around the perimeter with plant groupings sensitive to the detention area design and will include at least one (1) tree and five (5) shrubs for every 100 linear feet of perimeter. The perimeter is calculated by the distance around the pond as measured along the top of side slope. Plants may be clustered and/or placed along the side slopes of the pond, provided they do not interfere with the engineered function of the pond and are of appropriate species to survive infrequent moist soil conditions. Trees and shrubs are encouraged in other landscape areas where appropriate.
 - (c.) Grading per above Standards.
 - (d.) Tree clusters shall be separated by a minimum of 20' as measured at maturity.
- b. Landscape Buffers Adjacent to Arterial Rights-of-way, as defined by the Johnstown Transportation Plan.
- i. Landscape buffers adjacent to arterial rights-of-way shall have irrigated live ground cover over at least seventy-five percent (75%) of the area.
 - ii. Landscape buffers adjacent to arterial rights-of-way shall be landscaped at a ratio of at least one (1) tree and five (5) shrubs for every 2,000 square feet or portion thereof.
 - iii. The plants shall be located to provide additional buffer between the highly traveled street and the residential lots. Breaking up the long lengths of fencing is preferred.

F. Landscape Guidelines for Publicly Dedicated Property

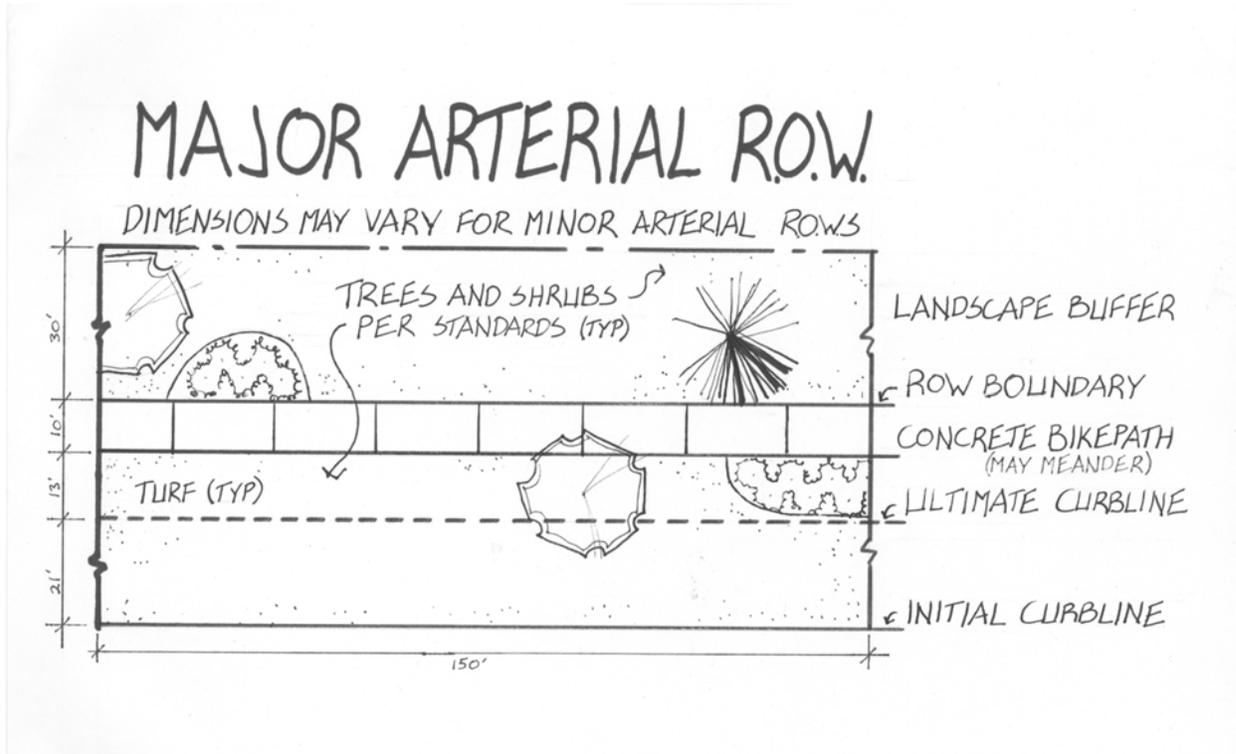
- 1. Arterial Rights-of-Way: The developer is responsible for landscaping the

entire area from the back of the ultimate curb alignment to the property line as part of the public improvements construction for the project. Arterial landscaping is intended to provide an overstory street canopy along arterial streets and a landscaped area between the street and pedestrian areas.

- a. The right-of-way will be landscaped at a ratio of at least one (1) tree and five (5) shrubs for every 1,000 square feet of landscaped area (excluding bikepaths). Please note that these ratios are to be used to establish required quantities only and that trees and shrubs may be clustered appropriately as part of a landscape design theme. For narrow landscaped areas, at least one tree for every 50 linear feet of right-of-way shall be required.
 - i. Where the Initial Phase of an arterial street is being required to be built (as determined by the Town Traffic Engineer), only the area between the future Ultimate Phase curb and the property line shall be used for landscape area calculations. The area between the Initial Phase curb and the future Ultimate Phase curb and/or existing edge of asphalt shall be covered with turf only and irrigated with zones separate from the rest of the right-of-way.
- b. At least 75 percent of the trees will be overstory/shade deciduous species and 25 percent of the trees will be coniferous species, where appropriate. Evergreen trees must be placed a minimum of ten (10) feet off the southern edge of bikepath or curb to minimize shading and icing concerns where possible.
- c. Trees will be placed to create a street tree canopy that provides an aesthetic gateway along arterial streets, and functions to cool street pavement. Trees will be planted primarily between the curb and the bikepath when the bikepath is detached from the curb, and unless not appropriate due to utilities, highway restrictions or other physical constraints.
- d. Shrubs may be used to buffer on-site areas and to provide pedestrian separation between the bikepath and the street.
- e. Irrigated grass will be the primary ground cover except for shrub bed areas.
- f. A 10'-wide concrete bikepath shall be provided along the arterial right-of-way.
- g. Detached sidewalks and bikepaths will be constructed to eliminate hard-to-maintain strips of land between pedestrian traffic and private property. Detached paths and walks shall be squared off to the curb where spaces less than 24 inches wide exist.
- h. For right-of-way areas where it is not possible to provide the full arterial right-of-way landscaping, an alternative landscape plan may be provided. The alternative landscape plan may include use of tree grates within or adjacent to the bikepath or pedestrian walk.

Landscaping will be provided commensurate with the scope of the development and width of the landscape area with the intent to provide a street canopy along arterial streets.

- i. The following drawing represents a sample design for an Arterial Right-of-way that meets the above requirements. Please note that this drawing is for illustrative purposes only and should not dictate design ideas for individual developments.



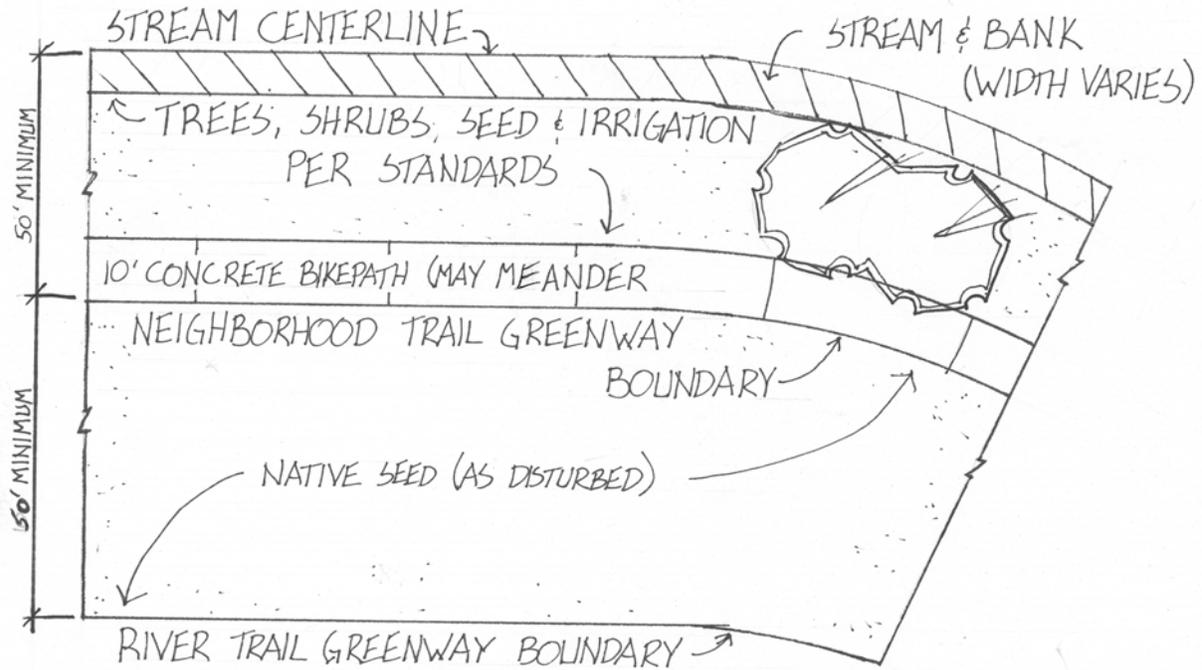
2. Arterial or Expressway Right-Of-Way that is also a State or Federal Highway. This section is intended to provide as close to the full arterial landscaping requirement as allowed or recommended by the Colorado Department of Transportation (CDOT).
 - a. If curb and gutter is to be installed within the right-of-way with the development, full arterial right-of-way landscaping standards in subsection F.1 above shall apply.
 - b. If curb and gutter is to be installed in the future, but not as part of this development as determined by the Town Engineer, the developer will provide information on the plan as required under a final landscape plan to identify which portions of the full arterial standards apply.
 - c. If curb and gutter will not be installed in the future as determined by the Colorado Department of Transportation and/or the Town Engineer, the developer will provide information on the plan as required under a final landscape plan to identify the clear zone as defined and regulated by CDOT. Outside the clear zone, the

developer will be required to install trees and shrubs in the quantities required per subsection F.1 above. The developer will also seed the right of way, using a suitable dryland grass seed mixture and temporary irrigation and establish and maintain all such areas.

- d. If full arterial landscaping is not to be installed in conjunction with the development or redevelopment public improvement construction, it may be completed at a later time as determined by the Town Engineer. In the event of such deferment, the developer will seed the right of way or portion thereof, at such time as to ensure a viable grass and wildflower stand using a suitable grass and wildflower seed mixture and temporary irrigation and establish and maintain all such areas. At the request of the Town, the Developer will deposit with the Town a letter of credit for the required landscaping and other public improvements for future construction, based on a certified cost estimate.
3. Major Collector Street Right-Of-Way. Major collector streets are as defined by the Johnstown Transportation Plan and as determined by the Town Transportation Engineer. The developer is responsible for landscaping the entire area from the back of the curb to the property line as part of the construction for the project. Major collector street landscaping is intended to provide an overstory street canopy along collector streets and a landscaped area between the street and pedestrian paths.
 - a. Overstory/shade trees will be provided between the curb and the sidewalk with at least one overstory/shade tree for every fifty (50) linear feet of right-of-way. At least 75 percent of the trees will be overstory/shade deciduous species.
 - b. Shrubs shall be provided at 1 shrub per 200 square feet. Shrubs may be clustered at street intersections to limit potential conflicts with future driveways.
 - c. Irrigated grass will be the primary ground cover except for shrub bed areas.
 4. Primary Greenways: In these Standards and Specifications, the term “Primary Greenways” refers to the Linear Parks along designated waterways, as described in the Johnstown Area Comprehensive Plan and to trail corridors along ditches and rivers, as designated by the Johnstown/Milliken Parks, Trails and Open Space Master Plan. The Master Plan differentiates between Neighborhood Trails (50’ minimum width from the centerline of the ditch) and River Trails (100’ minimum width from the centerline of the river). Developers along these areas are responsible for landscaping primary greenways as part of the construction for the project, and dedicating the required land width to the Town as public right-of-way, in compliance with the Johnstown Area Comprehensive Plan and the above referenced Trails and Open Space Master Plan.

- a. The greenway will be landscaped at a ratio of at least one (1) tree and five (5) shrubs for every 2,000 square feet of landscaped area (excluding the required bikepath, the ditch or river channel, and ditch or river banks that are already established with grasses and vegetation other than weeds and that will remain undisturbed through construction.).
- b. At least 50 percent of the trees will be overstory/shade deciduous species and 25 percent of the trees will be coniferous species, where appropriate.
- c. Up to 25% of the required shade trees may be substituted with ornamental deciduous trees at the rate of three (3) ornamental trees for one (1) shade tree.
- d. Tree placement shall be sensitive to the greenway design, existing vegetation and wildlife habitat, and shall provide screening where appropriate.
- e. The Developer shall be responsible for all environmental testing, trapping and surveying, as required by the approved Master Plan and shall abide by the results.
- f. There may be areas in a Greenway that do not need to be disturbed by construction. These areas should be preserved and incorporated into the Greenway as much as possible. Existing trees and shrubs may be used to help satisfy planting requirements. A site visit with a Town representative must be scheduled to verify the quantity and quality of existing plants prior to approval of this substitution.
- g. A 10'-wide concrete bike path shall be required along the Greenway. Connections shall be made to any existing Greenway trails adjacent to the property. Bridge crossings may be required to facilitate pedestrian access.
- h. Areas within the Greenway shall not exceed a 3:1 slope in seeded areas, except for those areas that are already established with grasses and vegetation other than weeds and that will remain undisturbed through construction. Where slopes exceed the 3:1 slope, riprap shall be required, per the Town's direction. Crushed concrete will not be acceptable.
- i. A dryland grass and wildflower mixture shall be the primary ground cover except for in shrub bed areas. Native grass areas will require an irrigation system that will be used by the Developer and the Town until the grass is fully established and on an as-needed basis after that time.
- j. Land dedications shall adhere to the Johnstown/Milliken Parks, Trails and Open Space Master Plan, including a 10'-wide concrete bikepath.
- k. An underground greenway irrigation system shall be provided separate from the irrigation system on adjacent private or common property.
- l. The following drawing represents a sample design for a Primary Greenway that meets the above requirements. Please note that this drawing is for illustrative purposes only and should not dictate design

ideas for individual developments.



PRIMARY GREENWAY

5. Secondary Greenways. Secondary greenways are narrow corridors (typically twelve (12) feet wide) that make connections between living areas and Primary Greenways, schools and/or parks and open space. Locations of Secondary Greenways will be decided at time of platting. They shall be designed and installed by the developer as part of the public improvements, and then dedicated to the Town as public right-of-way, in compliance with the Johnstown Area Comprehensive Plan or generally accepted planning principles. Secondary greenways shall be landscaped as follows:
 - a. Secondary greenways will be landscaped with at least five (5) shrubs for every 30 linear feet of greenway, where space allows.
 - b. Fencing will be required along both sides of secondary greenways where adjacent to residential lots.
 - c. Concrete paths of at least 8' in width shall be required. A 2' minimum offset from path edges to fences, walls and other vertical objects shall be required.
6. General Comment

- a. All landscaping to be provided on publicly dedicated property will be treated same as all other public improvements through the public improvements acceptance process.

G. Modifications of the Above Standards

1. When Impractical to Meet the Requirements

- a. When it is impractical to meet the requirements stated above based on existing conditions that reasonably preclude compliance, such as exceptional narrowness or shallowness of a parcel, the size or shape of the parcel, or if the scope of the redevelopment project is minor in nature, the Town Administrator may approve minor modifications from the landscape area requirements using the following Standards:

- i. The landscape area required is commensurate with the scope of the project, depending on the type of use proposed and extent of site changes. Redevelopments with extensive site changes and/or building additions will be required to meet the majority of the landscaping standard. Redevelopments that completely clear the lot/parcel will meet the landscape standards for new development unless an exception is approved. Redevelopments with minor site changes and/or building additions will have more flexibility in meeting the landscape standards.

- (a.) Redevelopments, if permitted to provide a lower percentage of landscaping, must do so by providing a higher quality, denser, or otherwise more desirable landscape improvement.

- ii. All redevelopments are responsible for landscaping the adjacent town right-of-way as a minimum, with the following exceptions:

- (a.) Areas where staff decides it is not practical to have the right-of-way landscaped because the right-of-way is exceptionally narrow, shallow, or shaped to preclude a viable landscaped area, or for other reasons that landscaping would not be in the public interest or would be detrimental to the public safety;

- (b.) Where the scope of the redevelopment is so minor that the strict application of these landscape area requirements would make it virtually impractical or unreasonable to meet the landscaping standards cited above, the areas to be landscaped will be determined by the Town Administrator;

- (c.) Negative impacts on adjacent properties are mitigated with the use of landscaping.

2. Alternative Compliance with Landscape Standards

- a. In circumstances where existing vegetation, topography, land area, or other conditions reasonably preclude strict compliance with this section's landscaping standards, or where strict conformance with the standards would negatively affect the public purpose or would not promote the best landscaping design, the Applicant may submit an alternative landscape design and plan satisfying the intent, purpose, and spirit of this section. The Town Administrator or designee may approve such alternative design in place of strict compliance with this section.

H. General Landscaping Requirements for All Areas

1. Compliance with Town Standards. General landscaping and irrigation requirements for all areas will be per the Town Standards. In addition to the landscaping standards for specific types of uses and areas the following general standards shall apply:

- a. Landscape areas will be covered with live irrigated ground cover over at least 75 percent of the lot/parcel, unless otherwise required. Pedestrian walks and other hardscape landscape features (excluding parking spaces and drives) may comprise up to 25 percent of the lot/parcel. No large open mulch or bare soil areas are allowed. Bluegrass is not the only option for these areas and the Town encourages the Developer to pursue water saving goals as listed in Section H.12 of these Standards.
- b. Plantings will be located to preserve and enhance the use of the site and complement the open space.
- c. At least 50 percent of the trees will be overstory/shade deciduous species and 25 percent of the trees will be coniferous species, as appropriate.
- d. Grading of landscape areas will not exceed slopes greater than 4:1 in areas with irrigated turf, and 3:1 where shrub beds or native grasses are provided.

2. Screening.

- a. Service areas and mechanical equipment will be orientated away from residential uses and public right-of-way to the extent practical.
- b. A screen six (6) feet high or more, including walls, fencing, berming and landscaping will be provided around all service areas subject to public view, including but not limited to service yards, trash dumpsters, loading docks, storage areas and utility/mechanical

equipment areas so that facilities and areas are no more than 25 percent visible.

- c. When plants are used for screening, they will be spaced to provide a solid screen within four years from the time of planting.
- d. Mechanical equipment on the roof of a building will be screened from public view to the extent possible by locating equipment in the center of the roof and/or providing screening materials (that match the building materials and color) around the mechanical equipment.
- e. Parking lots will be screened with berming, landscaping, or walls to obstruct parked vehicles and vehicle headlights per the parking lot planting requirements in these Standards.

3. Preservation of Existing Trees and Vegetation. Existing vegetation, particularly mature trees, are considered a valuable asset to Johnstown. The intent is to preserve and protect existing quality trees and vegetation that are in good health and condition, from damage during site development. Special attention shall be paid to preserving within each development the natural vegetation that is significant because of its unique character, history, size, variety or growth habit, especially within land required for dedication to the Town. This includes all mature trees (excluding restricted species) greater than 3 inches in diameter and significant understory plants and shrubs. The following standards shall be followed:

- a. Locate site and building improvements to preserve significant natural vegetation.
- b. Preserve and incorporate into the landscape plan any existing healthy tree (meeting species restrictions) of 6-inch caliper or larger and located more than 20 feet from any proposed building location. Preserve all trees over 24-inch caliper, unless deemed unhealthy or unsuitable for preservation.
- c. Incorporate tree wells or retaining walls as necessary in the landscape plan to protect existing trees required for preservation and to maintain historic drip lines.
- d. All existing plants that are incorporated into the design will be adequately protected from damage during construction by an orange construction fence (4' high) secured with steel t-posts at the drip line of each tree. Sufficient posts shall be used to maintain the fence in erect condition at all times. Hand grading only shall be allowed within the limits of the construction fencing. No more than 6" of cut or fill shall be allowed within the drip line of any tree designated to remain.
- e. If it is feasible to relocate a tree that cannot remain in its existing location, it will be spaded and relocated by a professional tree spade company. All measures will be taken to ensure the survival and health of the tree.
- f. If on-site relocation is not possible, the developer shall provide an equal replacement of caliper lost on-site as mitigation for any

desirable trees lost due to or prior to construction, as directed by the Town.

- g. Existing landscaping may be used to satisfy the plant quantity requirements of these landscape standards. One existing tree or shrub may be considered as satisfying one tree or shrub requirement.
- h. All existing trees over 6" in diameter will be surveyed as part of the landscape requirements and have location, species, size, and condition or health noted. Trees that are of good or better quality, and are a desirable species, should be incorporated into the design in their existing location whenever possible. If design solutions create undue hardship, as determined by the developer and agreed to by the Town, replacement shall be made per the relocation requirements above.

4. Ground Covers.

- a. Grass or other living plants will be the primary ground covers in required landscaped areas. Both sod planting and seeding is acceptable, although sod is required in Arterial Rights-of-way.
 - i. All grass species used in all areas, including irrigated turf, shall be drought tolerant varieties, as per the National Turfgrass Evaluation Program (www.ntep.org).
 - ii. Native grasses may be permitted in landscape areas deemed appropriate by the Town and required in some areas. Adequate irrigation shall be provided and grass shall be maintained at a maximum height of twelve (12") to eighteen (18") inches, free of weeds and debris and shall not present a fire hazard. The use of several species is required.
- b. Final grades in irrigated turf areas shall not exceed 4:1. Final grades in native seeded areas shall not exceed 3:1.
- c. Soil preparation shall be at a rate of 3 cubic yards of approved soil amendment per 1000 square feet of landscaped area, unless site conditions warrant otherwise. The Town shall approve any variations to this standard.
- d. Ground covers other than grass shall be planted in required landscape areas to provide complete coverage within two growing seasons. Vines shall not be planted adjacent to pedestrian areas.
- e. Mulches and other inorganic ground cover shall be installed per the following:
 - i. Materials such as river rock, cobble, patterned concrete, bark and pole peelings shall be limited to small areas and shall not exceed 25% of the required landscape area. All such ground covers shall be a minimum of four inches deep and shall be placed on a water permeable geo-textile fabric or approved equal.

- ii. Lightweight materials such as bark shall not be used in areas unshielded from high winds. Loose gravel shall not be used in areas abutting publicly dedicated streets or sidewalks, unless it is larger than three-inch minimum aggregate size.
- iii. In commercial areas where on-street parking is prevalent and the sidewalk is offset from the curb, the area between the curb and the walk shall be landscaped to safely and comfortably accommodate pedestrians crossing the walk. Cobble, gravel and other uneven surfaces shall not be permitted in these areas.

5. Irrigation.

- a. All landscape areas shall have an automatic clock-activated irrigation system unless waived by the Town. Landscape areas without an irrigation system (when waived by the Town) and bearing live plant material will require temporary irrigation until the plants are established and a reliable water source sufficient to sustain plant life is provided. This watering shall be the responsibility of the Developer until acceptance is granted by the Town. Temporary watering responsibilities shall not be turned over to a Homeowners Association.
- b. All irrigation systems shall meet the following criteria. Add notes to all landscape plans conveying that the following criteria will be met during design and construction.:
 - i. All potable-water irrigation systems shall be designed with a 6:00 p.m. – 8:00 a.m. watering window to minimize evaporative loss. Systems shall also be designed with zoning to minimize tap sizes.
 - ii. An automatic controller shall activate the system. Remote control valves shall operate each zone valve.
 - iii. The system shall provide head-to-head coverage to all landscaped areas.
 - iv. The system shall not spray or irrigate impervious surfaces, including sidewalks, streets and parking areas.
 - v. All potable water systems shall be equipped with a backflow prevention device.
 - vi. All mainline piping shall be Class 200 PVC. Lateral piping for systems that will be turned over to the Town for maintenance will be Class 200 PVC, though this material is encourages for lateral piping for all systems.
 - vii. All piping shall be buried a minimum of eighteen (18) inches. For systems that will be turned over to the Town for maintenance, mainline shall be buried a minimum of twenty-four (24) inches.
 - viii. In-line isolation valves shall be located on mainlines when the

- ix. mainline crosses any publicly dedicated street. All piping shall be sleeved where located under paved surfaces. Electric wiring shall be sleeved separately from piping.
 - x. Three (3) spare electrical wires shall be extended to each end of the mainline. The wires shall be looped in each valve box (eighteen (18) inch minimum loop) for possible future use.
 - xi. Spray heads, rotors and drip systems shall all be zoned separately from one another.
 - xii. Drip irrigation shall be provided for all trees and shrubs located in shrub beds and in all native seeded areas (even those areas approved for temporary irrigation for native seed). Trees located in irrigated turf areas shall not receive drip. Drain valves shall be included at the end of each drip lateral pipe.
 - xiii. In-line quick couplers shall be provided three hundred (300) feet on center for all native area irrigation systems to be turned over to the Town for maintenance.
 - xiv. Along arterial rights-of-way, where ultimate improvements are not required, the area between the Initial Phase curb and the future Ultimate Phase curb and/or existing edge of asphalt shall be irrigated with zones separate from the rest of the right-of-way system.
- c. The use of untreated water for irrigation supply is required where feasible. The developer, at the developer's sole expense, shall install an aboveground pump station in a pumphouse. The Developer shall design and install the pumphouse plans and specifications, including the sizing of all pumps, pipes, wetwells, and other appurtenances by a qualified irrigation engineer. The Town shall review and approve plans for these systems. At all times of use, a conspicuous notice shall be posted warning that untreated ditch water is being used for irrigation.
- d. Portions of irrigation systems may be comprised of temporary irrigation components to irrigate native areas if the Town determines that all of the following standards are met. A clear description of proposed temporary irrigation must be provided on the landscape plan and approved by the Town.:
- i. Plant selection, design, installation specifications and site conditions combine to create a microclimate that will sustain the plant material in a healthy condition without regular irrigation after the plant establishment period.
 - ii. All portions of the landscaped area served by temporary irrigation will be within one hundred fifty (150) feet of an exterior water source to enable hand watering during extended dry periods.

- iii. Above ground temporary irrigation systems shall be approved on a case-by-case basis only if the native area is large enough to warrant the use. Above ground systems will be the responsibility of the Developer until grasses are established and the system is removed. No such system shall be permitted to be turned over to a Homeowner's Association for maintenance.
 - iv. The temporary irrigation will provide reliable automated irrigation for the plants during the establishment period.
 - v. The Developer has demonstrated the ability to provide ongoing maintenance of xeriscape areas necessary to keep plant material healthy without irrigation.
6. Maintenance of Landscaping and Irrigation. Maintenance includes all reasonable and regular irrigation, weeding, weed control, fertilizing, pruning, installation and removal of tree wrap, and bike path snow and ice removal per standard horticultural practices and Town code. Plant materials that show signs of insect pests, diseases and/or damage shall be appropriately treated. Dead plant material will be replaced according to an approved landscape plan. An initial inspection of landscaping installation will be done at the time of development or change in use.
- a. The developer and subsequent owner(s) shall be responsible for maintaining all on-site and common landscaping as shown on an approved landscape plan or as existing if an approved landscape plan does not exist. Compliance shall be subject to zoning requirements and/or approved plans.
 - b. The developer and subsequent owner(s) shall be responsible for maintaining the landscaping public improvements on all adjacent rights-of-way as shown on an approved landscape plan or as existing if an approved landscape plan does not exist, unless a maintenance agreement is reached with another entity. The Town, at its discretion, may add, remove, replace, or maintain landscaping within the right-of-way per Town standards.
 - c. The developer may request Town maintenance of arterial right-of-way where there will not be a property owners association in the development or subdivision. The following standards shall apply:
 - i. Acceptance of maintenance will be based on the determination that the public interest is served by Town maintenance.
 - ii. Design and installation of all landscaping and improvements shall meet or exceed Town Standards.
 - iii. The developer will maintain the public improvements for at least one year following construction acceptance by the Town of such improvements, and thereafter until the Town has granted final acceptance for maintenance for those improvements.

- d. The developer may request Town maintenance of other facilities not included above. The following standards shall apply:
 - i. Acceptance of maintenance is based on the determination that the public interest is served by Town maintenance.
 - ii. Installation of all improvements shall meet or exceed Town Standards.
 - iii. The developer will maintain the improvements for at least one year following construction acceptance by the Town of such improvements, and thereafter until the Town has granted final acceptance for maintenance for those improvements.

- e. The developer and subsequent owner(s) shall be responsible for maintaining all irrigation systems in sound condition and so all plant material receives the necessary amount of water. Leaks and other broken and/or non-performing equipment shall be repaired in a timely manner. Systems shall be periodically adjusted to eliminate water spraying onto paved surfaces. Watering times shall be regularly adjusted to meet the seasonal needs of the plants while minimizing overwatering.

7. Median Landscaping.

- a. Landscaped medians are required during the construction of the Ultimate Phase of a Major Arterial Street, per the Johnstown Transportation Plan.
- b. Landscaped islands within street cul-de-sacs, loop lanes, or bulb-outs will be required when appropriate to minimize the amount of asphalt and enhance the appearance of the streetscape. Islands will be landscaped with trees, shrubs and mulch, including irrigation commensurate with the size of the island.
- c. Where median landscaping is included as part of a project, the developer or his assignees will be responsible to build and maintain such areas. The Town, at its discretion, may add, remove, replace, or maintain landscaping within the right-of-way per Town Standards.
- d. Median landscaping will include xeriscape design, construction, and maintenance per Town Standards.
- e. A combination of trees, shrubs and ornamental grasses shall be used in the medians. Irrigated turf shall not be permitted. Shade trees are to be spaced a maximum of 35' on center.
- f. Where required by the Town Engineer, an underdrain system shall be built under irrigated medians. The underdrain design shall be reflected on the civil construction drawings.

- e. For small development projects, exceptions to the above diversity requirement may be allowable where the size of the development makes minimum diversity percentages unreasonable. A variance request is to be made by a note on the landscape plans and shall be subject to approval by the Town.
- f. Coniferous trees shall comprise 25% of any landscaped area, where suitable. Unsuitable areas include areas where icy conditions may be created with the use of conifers at road intersections, road curves, bikepath intersections, bikepath curves site distance restricted areas or narrow areas. Locate conifers so mature spread will not overgrow streets or walks.
- g. Ornamental trees can only replace large canopy trees at a rate of three (3) ornamental trees to one large canopy tree (not to exceed 25% of the total tree requirements). Fruit bearing or thorny trees shall not be permitted within 5' of sidewalks or streets, as calculated from mature canopy width of tree.
- h. Shrubs shall be a mixture of evergreen and deciduous varieties. Large (over 4' in height) species shall be placed between the bikepath and the property line along street rights-of-way to provide buffering. Small shrubs shall be used between the bikepath and the curb along street rights-of-way to avoid safety obstructions.
- i. Street tree minimum standards are as follows:
 - i. Species that generally have branches less than 15' above the roadway at maturity shall not be used as street trees unless they are located such that no interference with the roadway will occur at maturity. Minor trimming and branch removal should be performed to maintain the 15' requirement and 8' minimum clearance over sidewalks and bikepaths.
 - ii. In arterial rights-of-way where the bikepath is within 5' of the bikepath edge, deep rooting trees shall be used. Names of pre-approved deep rooting trees are included in the appendix of these Standards. Other trees may be approved in these locations on a case-by-case basis.
 - iii. Trees prohibited from planting within the Town of Johnstown include the following: cotton-bearing Cottonwood, Lombardy Poplar, Box-elder, Siberian/Chinese Elm, and Russian Olive.
 - iv. Trees prohibited from planting within street right of ways include the above plus the following: Fruit and/or thorn bearing trees (prohibited from within 5' of bikepath as measured from edge of mature canopy), willow (all varieties), Tree of Heaven, Cottonwood (all

varieties), and Silver Maple.

- (a.) Trees recommended for use within the Town of Johnstown include those listed in Plant Materials List found in appendix of these Landscape Standards.

9. Planting Sizes.

- a. An immediate landscape impact is desired within all commercial developments, Arterial Rights-of-way and Primary Greenways. To facilitate this, the following minimum plant-size standards shall be required. Larger sizes are encouraged.

- i. Deciduous shade trees: 2-inch caliper.
- ii. Ornamental trees: 1-1/2-inch caliper.
- iii. Evergreen trees: 6 feet – 8 feet height (with a minimum of 25% at 8 feet height).
- iv. Multi-stem ornamental trees: 8 feet – 10 feet height
- v. Shrubs: 5 gallon container
- vi. Vines: 1-gallon container.
- vii. Ground cover/perennials: 2-1/4 inch pots

- b. The following minimum plant-size standards shall be required for all other regulated areas (including, but not limited to, common open spaces, private parks, detention ponds, minimum lot plantings):

- i. Deciduous shade trees: 2-inch caliper
- ii. Ornamental trees: 1.5-inch caliper.
- iii. Evergreen trees: 6 feet – 8 feet height.
- iv. Multi-stem ornamental trees: 6 feet – 8 feet height
- v. Shrubs: 5 gallon container
- vi. Vines: 1-gallon container.
- vii. Ground cover/perennials: 2-1/4 inch pots

- c. Plants exceeding required quantities are not subject to size requirements.

10. Restricted Planting Areas. Landscaping shall not interfere with public safety or the safe movement of motor vehicles, bicycles, or pedestrians. Planting will be restricted in certain areas per Town Standards.

- a. Landscape materials shall not obstruct the operation and maintenance of utilities.

- i. No large deciduous trees or evergreen trees shall be planted within five feet on either side of water or sewer lines

- ii. Trees planted underneath overhead power lines shall be a species that does not, in this region, achieve a mature height that would reach or interfere with such lines, as recommended by the power supplier.
 - b. Landscaping or plant material may not interfere with the function, safety, and access to any publicly dedicated easement or right-of-way, or the flow of stormwater runoff.
 - i. No trees shall be planted within 6' of the edge of concrete sidewalk, curb or other paved areas unless specific approval from the Town is granted. If granted, the Town may require devices be installed that deter roots from heaving paved areas.
 - c. In order to preserve sight distance, an unobstructed view shall be maintained within these triangular areas:
 - i. At the intersection of two streets, or where a street intersects with an alley, a triangle defined by measuring 30 feet in length along each curb or edge of roadway from their point of intersection, the third side being a diagonal line connecting the first two. The Town may require a greater distance in certain high-volume, high-speed, or non-conventional traffic intersections.
 - ii. At the intersection of a driveway and a street, two sides of a triangle defined by measuring 15 feet in length along the edge of the driveway and along the curb or edge of roadway line from their point of intersection, the third side being a diagonal line connecting the first two.
 - iii. No plant material, boulders, berms, fences or other material constituting visual obstructions shall exceed a height of 36 inches (36") above grade of the lowest point of the intersecting roadways within the triangular area. Fencing or other landscape elements shall be exempted from the 36-inch height limitation provided the fence or element does not exceed 42 inches in height and is at least 50% open, such that the sight distance is not impaired.
 - d. All landscaping shall be limited to 36-inch (36") mature height within 6-feet (6') of motor vehicle travel lane.
11. Soil Preparation. Minimum requirements for soil preparation shall include 3 cubic yards of organic material for 1000 square feet of existing soil tilled to a minimum depth of 6 inches. Tree and shrub pits shall be backfilled using a mixture of one-third existing site soil, one-third topsoil and one-third organic matter. Notes shall be added to all construction plans describing this

requirement.

12. Xeriscape Standards. The principle of “xeriscaping” is to promote low water use through water efficient landscaping.

a. The seven principles to xeriscape are:

- i. Plan and design for water conservation from the beginning.
- ii. Create practical turf areas of manageable sizes, shapes and appropriate grasses.
- iii. Select low water requiring plants and group plants of similar water needs together.
- iv. Improve the soil with organic matter like compost or manure, as needed by the site and the specific plants.
- v. Use mulches, such as wood chips, to reduce evaporation and keep the soil cool.
- vi. Irrigate efficiently with properly designed systems (including hose-end equipment) and by applying the correct amount of water at the correct time.
- vii. Maintain the landscape properly by mowing, weeding, pruning and fertilizing at the correct times.

b. The Town will use the following standards to determine if a landscape design meets the xeriscape standards of this section. All publicly dedicated areas and other areas to be owned or maintained by the Town are to be planted to meet these requirements.

- i. Site analysis will take into account slopes, soils, drainage, activity areas, privacy/screening needs, winds, sunny/shady areas, existing site features, existing and future structures and site improvements, and the design will complement the site and structures.
- ii. Appropriate techniques are specified for soil amendment and improvement.
- iii. Turf areas are minimized and low water demand alternative turf grasses are used wherever permitted by the Town.
- iv. Mulches are used to cover soil, save moisture, and reduce weed growth.
- v. The irrigation system is designed to suit the landscape design and conserve water by:
 - (a.) Irrigating turf separately from other areas
 - (b.) Zoning the system to serve plant groupings with similar water needs
 - (c.) Incorporating efficient head layout
 - (d.) Zoning heads on tops of slopes differently from those on bottoms of slopes.

- (e.) Using drip or sub-surface irrigation where appropriate.
- (f.) Designing for efficient water distribution patterns.

- vi. Low water demand plants are selected. Refer to the xeriscape plant list published by the Denver Water Board.
- vii. Regular maintenance is provided to preserve the landscape and conserve water. Proper mowing, weeding, fertilization, pruning, mulch replacement and watering are provided according to evapotranspiration standards.
- viii. The developer is encouraged to investigate alternative sources of irrigation water for all landscaped areas. Alternative sources shall be owned and maintained by the developer or an organization formed for such purpose, unless the Town agrees otherwise.

I. Application of Standards to Redevelopment Areas.

1. These Standards shall be considered to be the maximum landscape requirements when applied to redevelopment proposals. Negotiations for landscaping of redevelopment proposals shall begin with the maximums set forth herein.

APPENDIX A

Plant Materials List

The following list are trees specifically PROHIBITED by the Town of Johnstown for use in the areas described below (and discouraged from use elsewhere)

Tree name	Any area	Streetscapes
Russian Olive	●	●
Lombardy Poplar	●	●
Siberian Elm	●	●
Boxelder Maple	●	●
Cotton-bearing Cottonwood	●	●
Fruit-bearing trees*		●
Thorn-bearing trees*		●
Willow (all varieties)		●
Tree of Heaven		●
Cottonwood (all varieties)		●
Silver Maple		●

The following list are trees RECOMMENDED for Town of Johnstown Street Rights-of-way & other regulated areas. * Adaptability rating includes cold, soils, & moisture tolerance and disease resistance

Growth rate: S = Slow, M = Medium, F = Fast Adaptability: H = Hardy, A = Average, M = Marginal

Tree Common name	Botanical name	Size category	Growth rate	Adaptability
Alder - Thinleaf	<i>Alnus tenuifolia</i>	Ornamental	F	H
Maple - Hedge	<i>Acer campestre</i>	Ornamental	S	H
Maple - Autumn Blaze	<i>Acer freemanii</i> var.	Canopy	S	M
Maple – Ginnala	<i>Acer ginnala</i>	Ornamental	S	H
Maple - Deborah, Emerald Luster, Emerald Queen, Royal Red	<i>Acer platanoides</i> var.	Canopy	S	A
Maple - Red Sunset	<i>Acer rubrum</i> var.	Canopy	M	M
Maple - Green Mtn, Sugar	<i>Acer saccharum</i> var.	Canopy	M	A
Maple - Tatarian	<i>Acer tataricum</i>	Ornamental	S	H
Serviceberry - Saskatoon	<i>Amelanchier alnifolia</i> var.	Ornamental	S	H
Serviceberry - Shadblow	<i>Amelanchier canadensis</i> var.	Ornamental	S	H
Serviceberry - Autumn Brilliant	<i>Amelanchier grandiflora</i> var.	Ornamental	S	H
Birch - Native River	<i>Betula fontinalis</i>	Ornamental	M	A
Birch - Whitespire	<i>Betula platyphylla japonica</i>	Ornamental	M	A
Hornbeam - Pyramidal European	<i>Carpinus betulus</i>	Ornamental	M	H
Hornbeam - American	<i>Carpinus caroliniana</i>	Ornamental	M	H

Tree Common name	Botanical name	Size category	Growth rate	Adaptability
Catalpa - Western	Catalpa speciosa	Canopy	S	H
Hackberry - Western	Celtis occidentalis	Canopy	M	H
Redbud - Eastern	Cercis canadensis	Ornamental	S	M
Hawthorne - Russian	Crataegus ambigua	Ornamental	S	H
Hawthorne - Thornless Cockspur, Crusader	Crataegus crus- galli inermis var.	Ornamental	S	H
Hawthorne – Washington	Crataegus phaenopyrum	Ornamental	S	H
White Ash - Autumn Purple	Fraxinus americana var.	Canopy	M	M
Green Ash - Bergeson, Fallgold, Marshall, Patmore, Summit	Fraxinus pennsylvanica var.	Canopy	M	H
Honeylocust - Imperial, Shademaster, Skyline	Gleditsia triacanthos inermis var.	Canopy	M	H
Kentucky Coffeetree	Gymnocladus dioica	Canopy	S	H
Goldenrain Tree	Koelreuteria paniculata	Ornamental	S	M
Goldenchain Tree	Laburnum watereri	Ornamental	S	M
Crabapple - Brandywine, Centurion, Coralburst, Indian Magic, Prairifire, Radiant, Spring Snow, Thunderchild, White Cascade	Malus sp. var.	Ornamental	M	H-A
Cottonwood - Lanceleaf	Populus acuminata	Canopy	F	H
Cottonwood - Narrowleaf	Populus angustifolia	Canopy	F	H
Cottonwood - Plains	Populus sargentii	Canopy	F	H

Tree Common name	Botanical name	Size category	Growth rate	Adaptability
Plum - American	Prunus americana	Ornamental	S	H
Plum - Newport	Prunus cerasifera	Ornamental	S	A
Cherry - Montmorency	Prunus cerasus	Ornamental	M	A
Plum - Amur	Prunus maackii	Ornamental	S	A
Mayday Tree	Prunus padus	Ornamental	S	H
Cherry - Canada Red, Shubert	Prunus virginiana var.	Ornamental	M	H
Pear - Aristocrat, Chanticleer, Redspire	Pyrus calleryana var.	Ornamental	M	A
Oak - Swamp White	Quercus bicolor	Canopy	S	H
Oak - Gambel	Quercus gambelii	Ornamental	S	H-A
Oak - Bur	Quercus macrocarpa	Canopy	S	H
Oak - English	Quercus robur	Canopy	M	H
Oak - Red	Quercus rubra	Canopy	M	A
Willow - Russian Golden	Salix alba vitellina	Canopy	F	H
Willow - Prairie Cascade	Salix pentandra	Canopy	F	H
Lilac - Japanese Tree	Syringa reticulata	Ornamental	M	A
Linden - Redmond, American	Tilia americana var.	Canopy	M	H
Linden - Greenspire, Glenleven	Tilia cordata var.	Canopy	M	H
Juniper - Rocky Mtn.	Juniperus scopulorum var.	Evergreen	S	H
Spruce - Blue, Bacheri	Picea pungens var.	Evergreen	M	H
Bristlecone Pine	Pinus aristata	Evergreen	S	A
Pinon Pine	Pinus edulis	Evergreen	M	H

Tree Common name	Botanical name	Size category	Growth rate	Adaptability
Austrian Pine	Pinus nigra	Evergreen	M	H
Scotch Pine	Pinus sylvestris	Evergreen	M	H
Ponderosa Pine	Pinus ponderosa	Evergreen	M	H
Southwestern White Pine	Pinus strobiformis	Evergreen	S	A
Mugo Pine	Pinus mugo	Evergreen	M	H