Town of Frederick
Board of Trustees Agenda

Frederick Town Hall
Board Chambers
401 Locust Street
Tuesday, January 30, 2024

6:00 P.M.
Work Session

1. Draft Landscape Code

2. Portable Water Infrastructure Master Plan Presentation

Board of Trustee Work Sessions are not livestreamed. Interested parties are invited to attend the meeting in person. The next livestreamed meeting will be held on Tuesday, February 13, 2024 at 7:00 PM at Town Hall (401 Locust Street). If you have questions about meeting attendance, work sessions, regular meetings or matters related to Board of Trustee Meetings please contact the Town Clerk's Office:

Kelly Green, Deputy Town Clerk
kgreen@frederickco.gov
720-382-5500

Or

Emily Nitcher, Assistant Town Clerk
enitcher@frederickco.gov
720-382-5500

TOWN OF FREDERICK
Board of Trustees
Information Memorandum

Tracie Crites, Mayor

Dan March, Trustee
Mark Lamach, Trustee
Kevin Brown, Trustee

Adam Mahan, Trustee
Windi Padia, Trustee
Chad teVelde, Trustee

Proposed Landscape Code Update – Land Use Code Section 2.14

Agenda Date: Town Board Work Session - January 30, 2024

Attachments:
a. Draft Landscape Code
b. 10-Year Water Supply Plan Excerpt
c. Long-Term Water Supply Plan Excerpt
d. Water Efficiency Plan Excerpt

Submitted by: **Kylie Couch**
Civil Engineer

Approved for Presentation: Bryan Ostler
Town Manager

Strategic Plan Alignment:

Strategic, Reliable & Sustainable Infrastructure – Incorporating water conservation into land use and municipal code is discussed in the Town's 2022 Water Efficiency Plan. The Water Efficiency Plan aligns with the Town's dedication to investing in strategic, reliable, and sustainable infrastructure in supporting water conservation programs that will help create a sustainable future for the Town of Frederick.

Summary Statement:

On June 13, 2023, Town Staff asked the Board for feedback about what they would like to see in an update to the landscape design section of the Town's Land Use Code. Based on that feedback and community outreach, Town Staff has worked with the Town's Land Use Attorney to create a draft of new, more water-wise landscape code.

Detail of Issue/Request:

Updating the Town's landscape ordinances to support efficient water use was included in the 2022 Water Efficiency Plan as one of the next steps the Town would take to conserve water. Additionally, outdoor water conservation is integrated into the Town's 10-Year and Long-Term Water Supply Plans. The 10-Year Water Supply Plan assumes that outdoor conservation programs implemented over a 10-year period would be capable of reducing potable water demands by 5%; updating the Town's landscape ordinances will contribute to achieving this goal.

The update proposed here includes a full rewrite of Section 2.14 of the Land Use Code, which dictates landscape design for all land uses except parks and open space. After getting input from the Board in June 2023 and collecting data on the community's landscaping preferences (data will be shared at work session), Town Staff and the Town's Land Use Attorney have drafted a landscape code that promotes water conservation and high-quality landscaping. To achieve this, the draft contains some standards that are substantially different than those in the current code:

1. Not more than 30% of any landscaped area may be planted with turfgrass, except that:
    a. Larger areas of turfgrass are allowed for athletic fields, playgrounds, and public recreation areas; and
    b. Up to 50% of the front yard of a single-family detached, duplex, or multiplex residential form may be planted with turfgrass. *(No requirement or limitation for backyards.)*
2. Landscaped areas shall be designed such that a minimum of 50 percent of groundcover is living material and not inorganic or non-living material.
3. Artificial turf is allowed in public parks and playgrounds, but shall not be used as a groundcover in other settings. The Director may approve the use of artificial turf on private nonresidential property if it is demonstrated that natural turf or alternative groundcover is not a viable alternative due to the nature or intensity of use of the area proposed to be covered by artificial turf.

The proposed new code language will encourage aesthetically diverse landscaping in limiting the amount of allowable turf, promoting installation of low-water plants, and prohibiting landscaped areas from being covered exclusively in wood/rock mulch. Notably, it is the intention for existing development to be grandfathered into the new code with existing landscaping. Landscaping in these areas would be required to meet code only if the landscaped area is being updated.

Legal Comments:

Based on feedback from the Board, Staff will continue to work with the Town Attorney and Land Use Attorney's to complete a final draft of the new landscape code.

Alternatives/Options:

The Board could choose to change any of the recommendations outlined in the draft of the Landscape Code.

Financial Considerations:

Based on feedback from the Board, Staff will continue to work with existing Town outside legal counsel to bring final drafts to the Board for adoption on March 26.

Staff Recommendation:

Staff in Engineering, Planning, and Economic Development are supportive of the updates in the provided draft. Staff recommend the Board receive the presentation on January 30th and provide feedback to Staff on next steps. Staff will be present at the January 30th Work Session to present these proposed changes in detail and solicit input from the Board.

TOWN OF FREDERICK, COLORADO

ORDINANCE NO. _____

AN ORDINANCE OF THE TOWN OF FREDERICK, COLORADO TO AMEND THE FREDERICK LAND USE CODE TO UPDATE LANDSCAPING PROVISIONS AND PROVIDE RELATED DEFINITIONS BY AMENDING SECTION 1.15, DEFINITIONS, BY ADOPTING A NEW ARTICLE 17, LANDSCAPING AND BUFFERING, BY REPEALING SECTION 2.14, LANDSCAPE DESIGN, AND PROVIDING FOR REPEALER, SEVERABILITY, AND EFFECTIVE DATE.

WHEREAS, the Town of Frederick is in the process of updating its comprehensive plan and revising its Land Use Code; and

WHEREAS, during the process, the Board of Trustees determined that interim amendments to the existing Land Use Code to update and modernize the landscaping provisions would provide immediate public benefits in terms of protection enhancement of community character and conservation of water; and

WHEREAS, the Board intends that the interim updates to the landscaping provisions, with adjustments as appropriate, will be incorporated into the revised Land Use Code when itis complete; and

WHEREAS, on _____, the Town of Frederick Planning Commission reviewed the proposed amendments to the Land Use Code and upon such review, recommended that the Board adopt same.

BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF FREDERICK, WELD COUNTY, COLORADO, AS FOLLOWS

Section 1. Amendments to Section 1.15, Definitions, Town of Frederick Land Use Code. Sec. 1.15 is amended to add definitions for “corner island,” “endcap island,” “interior island,” “parking module,” and “planting season,” as follows (strikethrough represents deleted text, underline means added text, and * * * means large blocks of unmodified text):

Sec. 1.15. Definitions

* * *

Convenience lending means: (1) A business engaged in providing short-term loans to individuals in exchange for personal checks or bank account access as collateral; or (2) A business that, for a fee, cashes checks, warrants, drafts, money orders, or other commercial paper serving the same purpose, but is not a state or federally chartered bank, savings association, credit union, industrial loan company, or retail store that is engaged primarily in the business of selling consumer goods.

Corner island means the landscaped area defined by the extension of the outer edges of intersecting parking modules.

* * *

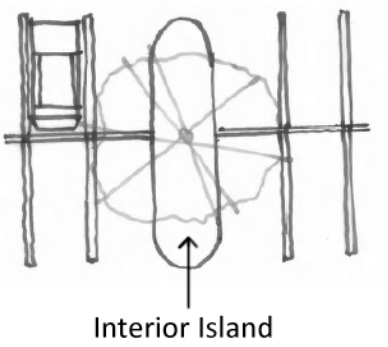
Employees means the total number of persons to be employed in a building during normal periods of use.

Endcap island means the landscaped area at either end of a parking module.

* * *

Intensive agriculture means the raising, care, or feeding of livestock, where the animals are stabled, confined, fed and/or maintained a total of 45 days or more in any 12-month period, and where crops, vegetation, forage growth, or post-harvest residues are not growing, irrigated, or sustained in the normal growing season over any portion of the lot or facility. The phrase "intensive agriculture" also includes concentrated aquatic animal production. The phrase "intensive agriculture" does not encompass (without more) cattle and sheep that are moved between winter and summer pastures, including those confined for more than 45 days due to adverse conditions, and breeding stock on property where other cattle are grazing.

Interior island means the landscaped area between endcap islands, which are located within the length of a parking module.



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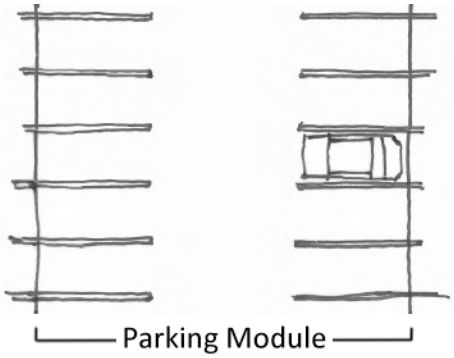
Parking lot. See surface parking.

Parking module means the portion of surface parking that is made up of a drive aisle with parking stalls on either or both sides.



* * *

Plant nursery and greenhouse means any land or structure used primarily to raise trees, shrubs, flowers, or other plants for sale or for transplanting.

Planting season means the period from March 15 to June 15 and the period from September 1 to October 15 of any calendar year.

Section 2. Adoption of Article 17, Landscaping and Buffering. Article 17, Landscaping and Buffering, is adopted (all text is new):

Article 17. Landscaping and Buffering

Division 17.1. Purpose and Intent; Applicability; Landscape Plan Required.

Sec. 17.1.1. Purpose and Intent.

a. *Purpose*. The purpose of this Article is to establish minimum landscaping and buffering requirements.

b. *Intent*. The intent of this Article is to preserve and enhance the Town's special character, and integrate new development into the community by promoting high quality landscape design that:

(1) Reinforces the identity of the community and each neighborhood;

(2) Provides tree-lined and landscaped streets, which contribute to the comfort of pedestrians and motorists;

(3) Contributes to desired community character by softening the visual impacts of buildings and development, breaking up the appearance of building mass, and providing contextually appropriate balances among landscaping, buildings, and paved areas;

(4) Screens unsightly land uses and structures from view from public rights-of-way and neighboring residential properties and contributes to the mitigation of off-site impacts of dust, noise, and external lighting;

(5) Provides tree canopies over, and landscaping within, paved areas, to enhance community aesthetics, reduce the urban heat island effect, and slow stormwater runoff;

(6) Preserves existing trees, conserves and efficiently utilizes water, and prioritizes the planting of native species (when appropriate), and enhances valuable habitat, all of which promote natural resource stewardship;

(7) Promotes health, wellness, community vitality, interest, public safety and physical comfort; and

(8) Provides for structured and non-structured recreation areas.

Sec. 17.1.2. Applicability.

The standards of this Article apply to all new development, redevelopment, or substantial improvements to existing sites or buildings.

Sec. 17.1.3. Landscape Plan Required.

a. *Applicability and exceptions*.

(1) All land development or redevelopment applications shall be accompanied by an appropriate site analysis and landscape plan. Building permit applications for individual single-family residences will not require landscape plans, but landscaping shall comply with applicable requirements of this Article.

(2) Any portion of existing landscaping that is renovated and requires an irrigation system or issuance of a plumbing permit for an irrigation system shall comply with this Article. Renovations include expansions and rehabilitation of landscape materials (except pruning) and components installed (except replacement of rocks or mulch) prior to the adoption of these regulations.

b. *Landscape plan requirements*.

(1) All final and approved landscape plans shall be developed and stamped by a professional Landscape Architect who is certified by the State of Colorado, or an equivalent approved by the Director. Landscaping improvements on a lot used for single-family detached or duplex purposes are exempt from this requirement, except as may be provided in an agreement between the Town and the developer.

(2) Landscape and utility plans shall be coordinated.

Division 17.2. Landscaping Categories and Calculations

Sec. 17.2.1. Landscaping Categories.

a. *Categories established*. This Article establishes standards for four (4) categories of landscaping:

(1) *General landscaping*. General landscaping is the landscaping that is required on a subject property, outside of parking lots, buffer areas, and right-of-way landscaping (in the event that right-of-way landscaping is provided on the subject property).

(2) *Parking lot landscaping*. Parking lot landscaping is the landscaping within and on the boundaries of surface parking lots.

(3) *Buffer landscaping*. Buffer landscaping is contextual. That is, buffers are required (or not) based on standards that may apply to the use of the subject property, and / or based on the zoning, development type, or right-of-way type that adjoins the subject property, as provided elsewhere in this Code.

(4) *Right-of-way landscaping*. Right-of-way landscaping is landscaping that is required within public street rights-of-way or adjacent to public street rights-of-way as provided in this Article.

b. *Designation of categories on landscape plans*. Landscape plans shall delineate areas within the subject property to which each applicable landscaping category applies, and shall provide a table showing the number square feet of land within each landscaping category and the proportion of the subject property (expressed as a percentage) occupied by each landscaping category.

Sec. 17.2.2. Calculations.

a. *Counting areas*. No area of a subject property shall be counted more than once for the purposes of applying landscaping requirements.

b. *Minimum required landscape area*. The minimum percent required landscape area of a given site to satisfy the requirements of this Article is set out in Table 17.2.2, *Minimum Landscape Area by Zoning District*. The areas of a site that are eligible to be counted toward this minimum are general landscaping, parking lot landscaping, buffer landscaping, and right-of-way landscaping that is provided within the boundaries of the subject property.

Table 17.2.2
MINIMUM LANDSCAPE AREA BY ZONING DISTRICT

Zoning District	**Low Density Residential Uses:** Single-Family Detached, Duplex, Multiplex, Manufactured Home, & Group Home[1, 2]	**High Density Residential & Commercial Uses:** Townhome, Group Home[2], Multifamily, Assisted Living or Congregate Care, Boarding and Rooming House, Residential mixed-use, Nursing Home, Memory Care, Alzheimer's Care, Protective Care, & all uses in tables 3-2, 3-4, 3-5, & 3-6[3]	**Industrial Uses[4]:** All uses in tables 3-7[5], 3-8, 3-8, & 3-10[3]
R-E	20	30	n/a
R-1	15	20	n/a
R-2	15	15	n/a
R-3	10	10	n/a
R-MH1	10	n/a	n/a
R-MH2	15	n/a	n/a
D-A	10	0	n/a
D-B	15	0	n/a
C-N	15	10	n/a
C-C	n/a	10	10
C-H52	15	10	10
C-E	15	10	10
BLI	n/a	10	10
I	n/a	10	5

TABLE NOTES:

[1] Only front yards of residential uses may count toward minimum landscape area.

[2] Group homes are allowed in low or high density residential uses.

[3] Refer to tables in Article 3. Zoning.

[4] Agricultural uses are exempt from the minimum requirements of 17.2.2.

[5] Resource Extraction (Oil and Gas) uses are exempt from the minimum requirements of 17.2.2. However, these uses are not exempt from other landscape, screening, and buffer requirements provided elsewhere in this Code.

c. *Stormwater areas*. No more than 40 percent of the area of vegetated stormwater detention ponds and stormwater retention ponds may be counted toward the minimum required landscape area of a site.

Division 17.3. Landscape Design Principles

Sec. 17.3.1. Application of Landscape Design Principles.

The landscape design principles of this Division are intended as guidelines for landscape design. They are not intended to be applied to require more landscape material or larger setbacks or buffers than otherwise required by this Code. However, the Town may request redesign or alternative arrangement of required landscaping to optimize the application of these principles.

Sec. 17.3.2. General Landscape Design Principles.

Landscape plans shall be guided by the following design principles:

(1) Building orientation, site design, and planting schemes should address climatic and micro-climatic conditions to promote the wise use of water and energy resources;

(2) Plant and turf selection and placement should focus on minimizing energy, water use, and maintenance requirements;

(3) Soil moisture should be maintained, and evaporation reduced, through the optimal use of layered landscaping (e.g., organic mulch, ground cover, shrubs, forbes, and over-story landscaping);

(4) Plant materials should be organized into hydrozones according to microclimatic needs and water requirements;

(5) Soil should be augmented as needed to promote plant health and longevity;

(6) Irrigation systems should be efficient, with weather and rain gauges to minimize resource consumption, waste, and optimize the efficiency of water use;

(7) Landscapes should be attended to with appropriate maintenance, care, and irrigation schedules;

(8) Where landscaping is adjacent to a transportation corridor, it should be designed to provide for the safety and comfort of all users of the transportation corridor, provide access to all ages and abilities, and reduce opportunities for illicit activity or behavior;

(9) As appropriate to Colorado's climate and to the extent allowed by Colorado water law, materials (e.g., permeable pavers), systems, and landscape designs that minimize storm water runoff and maximize infiltration while reducing the potential for non-point source groundwater pollution should be used;

(10) Native species and natural drainage ways should be protected;

(11) Landscapes should provide for seasonal variation in interest, as well as framing and buffering of views (as appropriate), and the careful placement of over story and under story materials to mitigate winter winds and provide shade from summer sun;

(12) Where a subject property is adjacent to a natural resource or amenity such as a flood plain, trail corridor, park, or other open space, the landscape plan should be designed to compliment the natural character and integrity of the resource or amenity; and

(13) Near natural streams and wetlands in particular, trees and shrubs should be preserved in the streamside zone and middle zone (within the floodplain), and grasses and groundcovers should planted in the outer zone in order to filter runoff (see Figure 17.3.2)

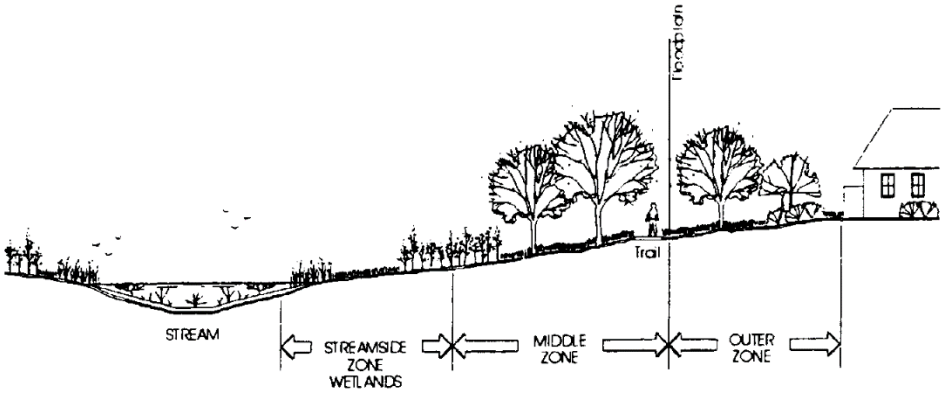


Figure 17.3.2

Division 17.4. Minimum Planting Requirements; Tree Preservation Credits; Selection and Arrangement of Trees

Sec. 17.4.1. Size and Quality of Landscape Plants.

a. *Size and quality of landscape plants*. In general, plant materials that are installed according to the requirements of this Article shall meet the standards that are set out in this Section. However, the Town may require larger sizes as it determines necessary to ensure survival, or to implement a condition of approval of a limited use, a conditional use, or a requirement that is set out in an approved planned unit development document.

b. *Minimum size of landscape materials.* The minimum sizes of landscape materials used to satisfy the requirements of this Article are set out in Table 17.4.1, *Minimum Size of Landscape Materials*.

Table 17.4.1 MINIMUM SIZE OF LANDSCAPE MATERIALS	
Type of Plant Material	Minimum Caliper, Height, or Container Size
Evergreen Trees	6 ft. Height
Deciduous Shade Trees	2 in. Caliper[1]
Deciduous Ornamental Trees	2 in. Caliper[1]
Shrub	5 gallon minimum; If used in buffers, estimated growth to 3 ft. in height within 3 years
TABLE NOTE: [1] Multi-trunk trees shall have three or more canes, and be 6 inches in diameter measured 4 inches above ground, and shall be a minimum of 5 feet in height	

c. *Specification of landscape materials.* All plant material shall be true to type, form, species, quality and free of injury, broken root balls, pests and diseases as well as conform to the minimum requirements described in "American Standards for Nursery Stock" (ANSI Z60.1), published by AmericanHort, as may be amended from time to time, and follow the Green Industries of Colorado ("GreenCo") Tree Planting Recommendations, as may be amended from time to time. Plant materials shall have normal, well-developed branches and vigorous root systems.

Sec. 17.4.2. Tree Preservation Credits.

a. *Applicability and exceptions*. Existing trees that are preserved on a subject property count towards the planting requirements of this Article, provided that:

(1) They are established for at least five years and not a species that is prohibited by this Article; and

(2) They are not overmature, diseased, poor in form, leaning heavily over buildings, too close to building foundations, damaging sidewalks and driveways, or impacting utilities.

b. *Calculation of credits*. Preserved trees may count as more than one tree for the purposes of the landscaping requirements of this Article, as set out in Table 17.4.2, *Tree Preservation Credits*.

Table 17.4.2 TREE PRESERVATION CREDITS			
DBH of Tree to be Preserved			
Min. Diameter	Up to, But Not Including	Tree Credit	Landscape Area Where Credit May Be Applied
none	10 inches	1	Location of preserved tree.

Table 17.4.2 TREE PRESERVATION CREDITS			
DBH of Tree to be Preserved		Tree Credit	Landscape Area Where Credit May Be Applied
Min. Diameter	Up to, But Not Including		
10 inches	15 inches	2	Location of preserved tree.
15 inches	20 inches	3	Location of preserved tree, or any other location except a buffer.
20 inches	no limit	5	Location of preserved tree, or any other location except an industrial buffer.

c. *Restrictions within dripline or critical root zone of trees used for credit.* Construction activities around trees that are used for credit pursuant to this Section are restricted, within the larger of the perimeter of the dripline or the critical root zone.

(1) The following are construction activities are not allowed:

(a) Cutting or filling;

(b) Storage of building materials or debris;

(c) Disposal of wastes;

(d) Installation of buildings, structures, or impervious paving.

(2) The larger of the dripline or the critical root zone shall be barricaded during construction to prevent damage to the preserved trees and their roots by construction equipment.

Sec. 17.4.3. Selection and Arrangement of Trees.

a. *Tree spacing*. Trees shall be spaced as provided in this Section. Exceptions to these requirements may be approved by the Director where utilities are not located in their standard designated locations, or where the landscape design is otherwise compatible with existing and planned utility installations. Tree and utility separations shall not be used as a means of avoiding the planting of required street trees.

(1) Tree spacing shall allow for adequate growth of plants at maturity and for intersection visibility.

(2) Landscaping near pedestrian and vehicle intersections shall meet sight triangle requirements as noted in the *Town of Frederick Design Standards and Construction Specifications*.

(3) Trees that reach a mature height of more than 25 feet shall not be planted within 20 feet of an overhead utility line.

(4) Trees shall be spaced from street lights as follows:

(a) Deciduous shade trees and evergreens that reach a mature height of 15 feet or larger: 40 feet

(b) Deciduous ornamental trees and evergreens that reach a mature height of less than 15 feet: 15 feet

(5) Trees shall be spaced 15 feet from water and sewer mains and gas collection lines, and six feet from water, sewer, and gas service lines.

b. *Approved plant species*. The Director shall maintain and periodically update an "approved plant list," which shall list plant species (including references to family and genus) that may be used to demonstrate compliance with the requirements of this Article, and which shall classify trees as evergreen, deciduous shade trees, or deciduous ornamental trees. The approved plant list shall be attached to this Code as Appendix B, *Approved Plant List*.

c. *Prohibited plant species*. The Director shall maintain and periodically update a "prohibited plant list," which shall list plant species that are prohibited in the Town of Frederick (or prohibited in certain locations as may be specified). The prohibited plant shall be attached to this Code as Appendix C, *Prohibited Plant List*.

d. *Plant selection.* Plants shall be selected from the approved plant list. The Director may approve or conditionally approve other plants if the Director finds that they are low-maintenance, non-invasive, drought-tolerant, water-wise, and otherwise appropriate for use in the locations in which they are proposed.

e. *Required biodiversity*.

(1) Within each category of required planting (*i.e.*, canopy trees, understory trees, and evergreens):

(a) Not more than 30 percent shall be of any one family;

(b) Not more than 20 percent shall be of any one genus; and

(c) Not more than 10 percent shall be of any one species.

(2) Native, drought-tolerant, and water-wise plants and turf shall be used where practicable.

(3) Plants shall be compatible with project soils.

Sec. 17.4.4. Groundcovers.

a. *Generally*. Landscaped areas shall be designed such that a minimum of 50 percent of groundcover is living material and not inorganic or non-living material.

b. *Artificial turf*. Artificial turf is allowed in public parks and playgrounds, but shall not be used as a groundcover in other settings. The Director may approve the use

of artificial turf on private nonresidential property if it is demonstrated that natural turf or alternative groundcover is not a viable alternative due to the nature or intensity of use of the area proposed to be covered by artificial turf.

c. *Rock and gravel*. Areas that are covered with rock or gravel shall either have borders to contain the rock or gravel, or the rock shall be chipped rock that is not less than 1.5 inches in size.

d. *Wood mulch*.

(1) Wood mulch shall not be placed within two feet of a sidewalk or vehicular use area, except that wood mulch is permitted in parking lot islands that are enclosed by curbs that contain the mulch.

(2) Wood mulch, where used, shall be applied over a weed control barrier to a depth of three inches, and shall be contained by edging.

e. *Natural turfgrass*. Not more than 30 percent of any landscaped area may be planted with turfgrass, except that:

(1) Larger areas of turfgrass are allowed for athletic fields, playgrounds, and public recreation areas; and

(2) Up to 50 percent of the front yard of a single-family detached, duplex, or multiplex residential form may be planted with turfgrass.

Sec. 17.4.5. Water-Wise Landscapes Required.

All landscaping plans shall be designed to incorporate water conserving materials and techniques through application of Xeriscape landscaping principles. Xeriscape landscaping principles do not include or allow artificial turf or plants, large mulched (including gravel) beds or areas without landscape plant material, paving of areas that are not required for walkways, plazas, or parking lots, bare ground, weed covered or infested surfaces, or any landscaping that does not comply with the standards of this Article.

Sec. 17.4.6. Irrigation.

a. *Generally*. All required landscaping shall be irrigated as required for plant establishment, health, and maintenance. Irrigation systems shall be zoned appropriate to the type and scope of the landscape improvements and plant requirements, including but not limited to landscaping within the right-of-way. Irrigation systems shall be capable of supporting multiple zones and settings, including adjusting for weather conditions and water restrictions. All irrigation systems shall be connected to a back flow prevention device.

b. *Exceptions*. Irrigation systems are not required for certified Xeriscaped environments that do not require supplemental water for survival.

c. *Irrigation water*. The developer shall provide water taps, irrigation improvements, and dedicate water as needed to supply the landscaping. Use of non-treated water for irrigation is encouraged if a permanent, suitable supply is available.

d. *Temporary irrigation*. Temporary irrigation may be used to establish and maintain ground cover and plantings within natural areas, or areas set aside for later development, as approved by the Town.

Sec. 17.4.7. Community Gardens and Orchards.

If a community vegetable garden is desired, such garden shall be placed in the rear yard of the property unless the Director finds that, due to extenuating circumstances such as poor sunlight or poor access, another location is more appropriate. Gardens that are visible from public lands, roads, or rights-of-way may be screened by shrubs, and shall be kept in good order, maintained weed and rodent free, and arranged to prevent loss of soil from wind or water erosion.

Sec. 17.4.8. Constructed Water Features (Ponds, Water Bodies, and Fountains).

Ponds, water bodies, or fountains over 18 inches deep or five feet in any horizontal dimension require prior approval by the Town, and shall not be located within any minimum required setback or utility or access easement.

Sec. 17.4.9. Drainage.

Landscaping improvements shall not alter the drainage pattern or amount of storm water run-off that is set out in the applicable, approved grading plan.

Division 17.5. Requirements by Landscape Category

Sec. 17.5.1. General Landscaping.

a. *Applicability and exceptions.* General landscaping is required as set out in this section. The standards of this section apply in all zoning districts except D-A. Additionally, the following are excepted from the requirements of this Section regardless of zoning district:

(1) Single-family detached dwelling units on individual lots; and

(2) Duplexes on individual lots (which may or may not include a lot line that divides the two units in the duplex).

b. *Tree Planting Requirements.*

(1) Trees shall be planted in all general landscaping areas at a rate of not less than one tree per 2,000 square feet of general landscaping area, with fractions dropped, and excepting out the following areas from the calculation of general landscaping area:

(a) Areas within and extending up to 15 feet from plazas, play fields, golf greens and fairways, or other outdoor gathering spaces or recreation areas, the use of which would be diminished by the presence of trees;

(b) Areas within designated outdoor storage or outdoor work areas;

(c) Areas within, and within five feet of, irrigation ditch property or easements, or within 35 feet of the outer toe of the ditch bank if the easement does not have delineated boundaries;

(d) Areas used for agriculture or gardens;

(e) Wetlands and waterbodies;

(f) Utility and drainage easements;

(g) Areas where ground-mounted solar panels (of any type) are installed, and any areas around them that must be kept clear of vegetation to avoid shading of the panels in order to optimize their use;

(h) Permeable areas that are less than eighty (80) square feet that are enclosed by any combination of buildings, structures, impermeable surfaces such as asphalt or concrete; and

(i) Areas in which the soils or topography are not suitable for the establishment and growth of healthy trees, and which cannot reasonably be made suitable using soil amendments or grading. Soil and topography must be appropriate for plant species.

(2) Areas within vegetated stormwater detention ponds and stormwater retention ponds that are counted towards landscaping requirements shall be used for the calculation of tree planting requirements. However, the resulting required trees shall be planted elsewhere on the subject property.

(3) The tree planting requirements are not spacing requirements. Trees may be planted in formal or informal arrangements.

c. *Waiver or reduction of tree planting requirements.* The Director may waive or decrease planting requirements if the total number of trees that are required exceeds the number that can be reasonably planted on the subject property

without materially increasing fire risk, compromising the health of the trees, or diminishing the use of the property.

d. *Groundcovers.* Groundcovers shall be planted or installed as appropriate to meet the requirements of this Article and to stabilize soil and prevent erosion.

Sec. 17.5.2. Parking Lot Landscaping.

a. *Applicability and exceptions.* Parking lot landscaping is required as set out in this Section. The standards of this section apply to surface parking lots associated with all nonresidential and multifamily uses, except parking lots that contain fewer than 10 parking spaces, and except in the D-A zoning district.

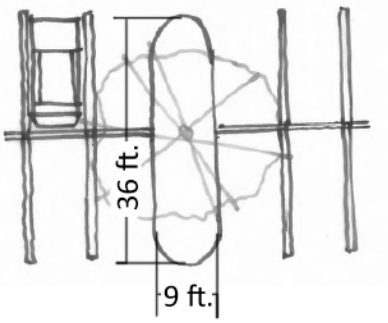
b. *Curbs.* Parking lot landscape areas shall be protected by a concrete curb. Minimum dimensions of parking lot landscape areas are measured to the inside of the curb unless specified otherwise.

c. *Parking lot landscape lreas.* Landscaping is required in all of the following areas:

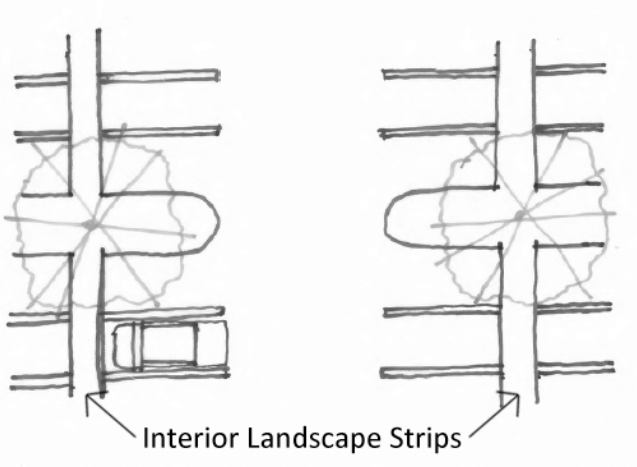
(1) At the ends of parking aisles, planted in endcap islands that are not less than nine feet wide and 36 feet long (18 feet where the parking module does not adjoin another parking module), with 10 foot curb radii on the side that faces outward from the parking aisle;

(2) Between the endcaps of parking rows, either:

(a) Planted in interior islands that are not less than nine feet wide and 36 feet long (18 feet where the parking module does not adjoin another parking module), with five foot curb radii at both ends; or



(b) Planted in interior landscape strips that are at least five feet wide that are located between parking modules, or at the edges of parking modules where parking modules do not adjoin each other.



(3) At the corners of parking lots, planted in corner islands.

d. *Spacing of parking lot landscape areas.* Parking lot landscape areas shall be spaced so that no parking lot landscape area is more than 100 feet from any other parking lot landscape area, measured from curb to curb.

e. *Planting requirements*.

(1) Each endcap island, interior island, and corner shall be planted with a minimum of one canopy tree or two understory trees.

(2) Each landscape strip shall be planted with not less than one canopy tree or two understory trees per 100 linear feet. Formal arrangement of the trees in the landscape strip is not required.

(3) The Director may waive the planting requirements of this subsection, or allow the landscaping to be planted in an alternative location on the subject property (if reasonably available), for any particular landscape area or portion thereof if:

(a) The tree or trees will interfere with sight triangles that are necessary for safe ingress to or egress from the parking lot; or

(b) The landscape area is not conducive to the healthy growth of trees (e.g., due to topography, solar orientation, or soil types); or

(c) The landscape area is part of a stormwater conveyance system, and is not suitable for tree planting.

Sec. 17.5.3. Buffer Landscaping.

a. *Generally.* Buffer landscaping is required as set out in this section, and as set out in this Code for specific uses or situations.

b. *Applicability and exceptions.* The standards of this Section apply to all required buffers, and are based on the classification of the required buffer.

c. *Buffer classifications.* For the purposes of this Code, there are three classifications of buffers, as set out in Table 17.5.3., Buffer Classifications.

Table 17.5.3.
BUFFER CLASSIFICATIONS

Bufferyard Classification	Width	Required Trees per 100 Linear Feet			Berm, Opaque Fence, or Wall[1]
		Canopy	Understory	Evergreen	
Light	5 ft.	1	1	1	Not required
Medium	10 ft.	2	1	1	Not required
Heavy	25 ft.	2	2	4	6 ft. high

TABLE NOTE:
[1] If a fence or wall is used, all understory trees, and not less than 50 percent of the canopy trees and evergreen trees shall be planted on the outside of the wall.

Sec. 17.5.4. Right-of-Way Landscaping.

a. *Generally; Modifications and Waivers; Exceptions*.

(1) Generally. Landscaping within the right-of-way shall be provided as set out in this Section.

(2) Modifications and Waivers. The Town Engineer, after consultation with the Director, may waive or modify the requirements of this Section in order to resolve conflicts with utilities or street design requirements. Such waivers or modifications shall minimize reductions in the overall number of trees required by this Article, and off-site tree plantings may be used to mitigate necessary reductions in the right-of-way adjacent to a subject property.

(3) Exceptions. Right-of-way landscaping is not required in the Agricultural (A) zoning district.

b. *Street trees in general*.

(1) Location.

(a) Street trees shall be planted by the developer within the tree lawn portion of the right-of-way with adequate spacing to allow for the mature spread of the trees.

(b) Where a tree lawn is not available within the right-of-way, street trees shall be planted on the subject property within 10 feet of the right-of-way boundary.

(2) Minimum number of street trees. For calculating the minimum required number of street trees, there shall be one tree for every 40 linear feet of

road frontage or curb, unless otherwise specified by this Code (see Figure 17.5.4.b.).

(3) Spacing. In general, street trees shall be evenly spaced, except to accommodate intersections, driveways, bridges, culverts, street lights, and utility crossings. However:

(a) In the Estate zoning district, regular spacing is not required; and

(b) Street tree spacing may be modified as necessary to enhance the visibility of buildings and signage for land uses that are listed in Tables 3-2, 3-3, 3-4, 3-5, and 3-6.

(4) Rights-of-way adjacent to parks and open space. Street trees that are required to be located along parks and open space shall conform to the requirements of Section 2.11.4(a).

c. *Tree lawn standards*.

(1) Collector and local streets. The developer shall install tree lawns with live groundcover, including a combination of grass, flowers, shrubs, street trees, and mulch. The developer shall also install an automatic irrigation system within the tree lawn that conforms to requirements noted in the approved version of the *Town of Frederick Design Standards and Construction Specifications*, as they may be amended from time to time.

(2) Arterial streets. The developer shall install tree lawns with live groundcover, including a combination of grass, flowers, street trees, planter beds, ornamental structures, paving and one shrub for every 150 square feet of right-of-way landscape area, clustered into planting beds. The developer shall also install an automatic irrigation system within the tree lawn that conforms to the approved version of the *Town of Frederick Design Standards and Construction Specifications*, as they may be amended from time to time.

Sec. 17.5.5. Gateway Landscaping Standards.

a. *Applicability*. Developments adjacent to Highway 52, Highway 119, Colorado Boulevard, Aggregate Boulevard, Bella Rosa Parkway, and Tipple Parkway shall conform to the standards of this Section.

b. *Landscape setback*.

(1) Landscape Setback Required. A minimum landscape setback of 30 feet shall be provided from the edge of rights-of-way. No building, parking, or drive shall be permitted within the landscape setback. Signage may be included in this setback, provided that it conforms to Article 7 of the Land Use Code and applicable site triangle requirements.

(2) Reduction of landscape setback. The required landscape setback may be reduced to 15 feet if used in combination with a three foot tall or taller

articulated masonry or stone decorative wall with trees, shrubs, and ground cover planted on both sides of the wall.

(3) Planting arrangement within landscape setback. Internal and external views of significant cultural, economic, or natural features are to be preserved while plantings are placed to meet the screening requirements of this Article and Section 2.16. Distribution of the landscape features and addition plantings may be required by the Town to ensure that views of significant cultural, economic, or natural features are preserved and framed.

c. *Streetscapes*. Street trees may be combined and distributed into a regular massing of trees, shrubs, and ornamental plantings as required interspersed with other surface applications and improvements including character or seasonal lighting, public art, and landscape structures, and to promote community identity, aesthetic harmony, traffic calming, and visual interest as reviewed and approved by Town Staff.

d. *Medians*.

(1) Developers shall provide landscape medians for traffic calming and community character on all arterials that intersect with Highway 52 and Highway 119. Such medians shall:

(a) Extend a minimum of one quarter quarter mile from the intersection, as approved by the Town;

(b) Be designed with a raised splash pan and maintain consistency with the character of the improvements on Colorado Boulevard near Highway 52, as approved by the Town in terms of articulation and design features; and

(c) Be landscaped as follows:

i) Not less than one half of the required median shall consist of landscaped area and planter bed, which shall include required plantings and organic mulch.

ii) Trees within medians shall be spaced 40 feet on-center. Fewer median trees may be placed if the Director determines that such reduction will ensure that views of significant cultural, economic, or natural features are preserved and framed. Each median tree so removed shall be replaced with ten shrubs.

iii) Shrubs shall be provided at a ratio of one shrub per 75 square feet of landscaped area.

iv) Ornamental ground covers are required. Turf grass or lawn area is not allowed.

(d) Include an underground irrigation system, with water provided by the adjacent owners or property owners association.

(2) Lighted exhibit space for works of art and site features are required within the medians. The installation of works of art and site features within these areas may substitute for comparable parks and open space requirements, as approved by the Board of Trustees.

(3) Medians shall be lighted in a fashion that is similar to the character of the improvements on Colorado Boulevard near Highway 52, as approved by the Town.

(4) In locations where a landscape master plan has been approved by the Town, such as adjacent to Colorado Boulevard, landscaping shall be substantially consistent with the approved master plan.

(5) Roads intersecting with the I-25 Frontage roads are not required to have landscaped medians; however the other applicable requirements of this Section shall apply along the I-25 frontage.

Division 17.6. Maintenance Standards.

Sec. 17.6.1. Generally.

All landscaping elements and irrigation equipment shall be maintained in good condition. Ongoing maintenance, including but not limited to pruning, replacement of dead or unhealthy plantings, and replenishment of mulches, is required for areas that are landscaped pursuant to an approved landscape plan.

Sec. 17.6.2. Right-of-Way Landscaping.

All property owners or occupants shall be jointly and severally responsible for the maintenance of landscaping within the portion of the public right-of-way between the back of the curb or street pavement and their adjacent property.

Sec. 17.6.3. Tree Pruning Techniques.

a. *Public rights-of-way and heavy buffers*. All pruning of trees within the public right-of-way or industrial buffers shall be performed in accordance with ANSI A300, Part 1 (Pruning), as amended from time to time, and Tree Pruning Best Management Practices or Best Management Practices - Utility Pruning of Trees, as applicable (published by the International Society of Arboriculture), as either may be amended from time to time.

b. *Other Private Property*. The following pruning techniques are prohibited on trees that are preserved or planted pursuant to an approved landscape plan, and that are not otherwise subject to subsection a., above:

(1) Topping (cutting large vertical branches of the tree to reduce its height).

(2) Tipping (cutting branches between nodes).

(3) Bark ripping (cutting branches so that the bark rips when the branch falls).

(4) Flush cuts (cutting the branch too close to the collar, the area where the branch connects to the tree).

(5) Stub cuts (cutting branches too far away from the collar, the area where the branch connects to the tree).

Sec. 17.6.4. Timing of Installation; Surety.

a. *Generally*. All approved and required landscaping outside of individual lot landscaping (*i.e.*, subdivision outlots, pocket parks, subdivision open space, right-of-way tree lawns, etc.) shall be installed as stipulated in the MOAPI (however titled) prior to final acceptance of public improvements. For lot-specific development, such as single family residential, multi-family, commercial, industrial, or other developments, all landscaping shall be installed prior to Temporary Certificate of Occupancy or (in the case of residential development) Certificate of Occupancy, as applicable, or final inspection unless prior arrangements are approved by Town staff.

b. *Seasonal Delays*. In no event shall landscaping be delayed beyond seven months from issuance of a temporary certificate of occupancy or three weeks into the beginning of the next planting season, whichever is sooner.

c. *Surety*. If weather conditions prevent installation, the developer shall post a financial guarantee for the installation of the improvements, based on an estimate of the 125 percent of the estimated total cost of installation. The estimated total cost of installation shall include all required labor, materials, and all necessary activities required for installation of the approved landscaping. This guarantee shall be released following a passed final inspection.

Section 3. Repeal of Section 2.14, Town of Frederick Land Use Code. Section 2.14, Landscape design, Town of Frederick Land Use Code, is repealed.

Section 4. Codification Amendments. The codifier of the Frederick Land Use Code is hereby authorized to make such numerical and formatting changes as may be necessary to incorporate the provisions of this ordinance into the Frederick Land Use Code.

Section 5. Repealer. All ordinances or resolutions, or parts thereof, in conflict with this Ordinance are hereby repealed, provided that such repealer shall not repeal the repealer clauses of such ordinance nor revive any ordinance thereby.

Section 6. Severability. If any part, section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be invalid, such invalidity shall not affect the validity of the remaining sections of the Ordinance. The Board of Trustees hereby declares that it would have passed the Ordinance including each part, section, subsection, sentence, clause or phrase thereof, irrespective of the fact that one or more parts, sections, subsections, sentence, clauses or phrases be declared invalid.

Section 7. Effective Date. This Ordinance shall become effective immediately.

Section 8. Necessity. The Board of Trustees of the Town of Frederick finds that this Ordinance is necessary for the immediate preservation and protection of the health, safety, welfare and property of the inhabitants and owners of property in the Town of Frederick.

Section 9. Certification. The Town Clerk shall certify to the passage of this Ordinance and make not less than one copy of the adopted Code available for inspection by the public during regular business hours.

INTRODUCED, READ, PASSED, ADOPTED AND ORDERED PUBLISHED THIS __ DAY OF _____, 2024.

ATTEST: **TOWN OF FREDERICK**

By: By:

_____ _____

Town Clerk Tracie Crites, Mayor

Appendix A Approved Plant List

Generally:

(to be developed by Town Staff)

Street Trees Approved for Right-of-Way Landscaping:

(to be developed by Town Staff)

Draft Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft

Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft, Draft

Appendix B Prohibited Plant List

The following plants are prohibited:

- All plants listed as an invasive species by the Colorado State University Cooperative Extension Service.
- All plants identified as noxious, invasive, or prohibited by the United States or the State of Colorado.
- Russian Olive (*Elaeagnus angustifolia*)
- Salt Cedar (*Tamarix ramosissima*)
- Aspen (all *Populus tremuloides* species and cultivars)
- Cottonwood (*all species*), unless being used to continue the native appearance along the border with open space or natural areas, riparian areas, or within non-street frontage buffers, but not in connection with curbside landscape areas or abutting walks and/or buildings
- Tamarisk (*all species*)
- Ash (*Fraxinus* species)
- Siberian Elm (*Ulmus pumila*)
- Tree of Heaven (*Ailanthus sp.*)
- Eastern Red Cedar (*Juniperus virginiana*)

Infrastructure costs to implement the potable conversion project are still being evaluated by Town staff. For comparison against other projects under consideration, a planning-level cost of $4.3 million for infrastructure was used based on information in the 2008 Plan.[10] This planning-level analysis indicates that the cost to implement the potable conversion project is approximately $94,000/AFY of demand reduction.

3.2.4 Outdoor Conservation

The Town is evaluating opportunities to reduce potable demands through outdoor conservation programs that will be implemented under the forthcoming 2021 WEP update; however, preliminary planning-level demand reduction values have been incorporated into the 10-Year Water Resources Plan analyses for comparison against other projects. It has been assumed that outdoor conservation programs implemented over the 10-year planning period would be capable of reducing outdoor potable demands by 5%, which would result in a demand reduction of approximately 100 AFY in 2030.

A robust water conservation program would be necessary to achieve outdoor demand reductions on the order of 5% over the 10-year planning period. It is also important that the selected programs continue to be implemented over time so that the savings are maintained. Following are examples of the types of measures being evaluated with Town staff.

- Improved utility water loss control.
- Rebates for landscape irrigation technology such as irrigation controllers that adjust watering due to actual weather conditions.
- Landscape water budgets and water rates tied to each customer's budget.
- Turf replacement incentive program.
- Water-efficient landscape ordinances for new construction, redevelopment, and municipal facilities.

The preliminary annual budget for implementing the outdoor conservation program is estimated at $200,000 per year in 2022 and $450,000 per year in subsequent years through 2030 with adjustments for inflation. These planning estimates are based on a review of six recent WEPs published by Colorado Front Range utilities and include a combination of program and infrastructure costs.[11] The planning estimate includes the addition of a full-time equivalent staff person to focus on implementing the selected programs, as success is unlikely without a dedicated staff member.

The total planning-level cost for the outdoor conservation program over the 10-year planning period is $4.3 million. This indicates that the cost to implement this project is approximately $43,000/AFY of demand reduction; however, the costs would be ongoing beyond the 2030 planning horizon. The projected costs will be further refined as part of the WEP and Long-Term Water Resources Plan.

3.3 Potable Alternatives

The Town's current C-BT and Windy Gap supplies are insufficient to meet the projected potable demands through 2030. Four alternative combinations of the projects described above in Section 3.2 (Alternatives 1 – 4) were originally prepared for consideration by Town staff and the Board of

[10] Based on information in the 2008 Raw Water Infrastructure Master Plan to construct Systems B, E, and F, adjusted by inflation for this report.
[11] Implementation of certain types of water loss control projects could far exceed these costs and are not accounted for in this plan.

- **Non-residential growth**: The Town's planning department provided information about the amount of non-residential developed space that is expected at buildout, which was used to calculate the amount of future non-residential development. Non-residential developed space was projected to increase at a 2.5% annual growth rate under all of the Town's planning scenarios, reaching the maximum level of development around 2060.
- **Non-residential indoor conservation**: As described in the Technical Update, it is impractical to develop non-residential indoor water usage benchmarks due to variations in customer types, developed space, and water use characteristics for commercial and industrial water customers. However, some amount of reduced indoor water use may be possible through future advances in fixture and appliance technology. Accordingly, the Town's planning scenarios applied non-residential indoor water use reductions ranging from 0% to 5% from the baseline water use factors. Therefore, depending on the scenario, a certain percentage reduction is applied to the non-residential indoor baseline water use factor (AFY/unit) based on future indoor efficiency assumptions.
- **Outdoor water conservation**: Future outdoor water use may be reduced due to advances in irrigation system technology as well as more rigorous regulations should they be adopted by the Town. The Town's recent 2022 WEP focuses on developing outdoor water efficiency programs in the shorter-term and future plan updates were assumed to continue advancing this effort. Actual outdoor water savings will be dependent on the outdoor efficiency programs, the regulations adopted by the Town, and the engagement level of customers. To reflect varying levels of water use reductions through efficiency programs, the Town's planning scenarios applied outdoor water use reductions ranging from 5% to 20%.
- **Climate adjustment factor**: Future changes in climate are assumed to affect future outdoor water use, with warmer and drier conditions increasing evapotranspiration rates, extending growing seasons, and influencing customers to apply more water to outdoor use for longer periods. Climate drivers were prepared by County in support of the Technical Update for "In Between" and "Hot and Dry" conditions in the year 2050. Based on information prepared for the Technical Update for Weld County, the Town selected a climate adjustment factor of 14% that was applied to increase all outdoor water use in one of the scenarios. Climate change studies typically represent the impacts of climate change at a future point in time relative to current conditions rather than as an annual rate of impact. For illustrative purposes, the analysis assumes that the 14% increase is evenly distributed through 2050 when the full adjustment factor is reached, and no further adjustment is applied beyond 2050.

Table 1: Scenario Demand Drivers for Potable Demand Projections.

Scenario	Population Growth (%)	Res Indoor (gpcd)	Adoption Rate (%)	Non-Res Growth (%)	Non-Res Indoor Conservation (%)	Outdoor Conservation (%)	Climate Adjustment Factor (%)**
Low Conservation	2.5%	42.4	40%	2.5%	0.0%	-5%	0%
Moderate Conservation	4.0%*	36.4	55%	2.5%	-2.0%	-10%	0%
High Conservation	2.5%	36.4	75%	2.5%	-5.0%	-20%	0%
Highest Conservation with Climate	2.5%	33.3	75%	2.5%	-5.0%	-20%	14%

* Population growth is assumed to have an annual growth rate of 2.5% through 2034 and 4% from 2035 through buildout.
** Climate adjustment factor is based on information prepared for the Technical Update for Weld County by 2050.

4.3.2.3 Outdoor Water Use Management of Town Properties

The Town has identified 18 properties that are currently served by potable supplies that can physically and legally be supplied with raw water for irrigation purposes. Conversion of these properties, most of which are parks, will begin in 2022 and are expected to be completed by 2030. Based on historical metered use for these accounts, a reduction in potable water use of about 76.6 AFY is expected. Note that some of these properties are not owned by the Town.

The Town currently maintains a xeriscape demonstration garden at one of its parks. Over the coming years, the Town will install additional xeriscape demonstration gardens throughout its parks with the intent to replace irrigated turf with low water use landscapes and as an educational tool for customers.

Irrigation of the Town's parks is actively managed and current Public Works staff have identified the potential to remove or replace turf in some areas that are not actively used by the public. Staff has also identified opportunities to install smart controllers at public parks. Full development and implementation of a Town parks efficiency program will be managed by the Parks and Open Space Director. It is estimated that up to about 4.9 AFY of water could be saved through these efforts

4.3.3 Ordinances and Regulations

Local ordinances and regulations serve to support water efficiency programs through policies and enforcement mechanisms. The Town's Municipal Code currently includes Waste of Water and Water Shortage sections. The Town's Land Use Code includes requirements for landscape design and the Town's Design Standards and Specifications include both landscape and irrigation design standards.

4.3.3.1 Water Efficient Landscaping and Irrigation Standards

The Town currently has a comprehensive set of landscaping and irrigation design standards that support efficient water use. These standards are supported through the Town's Land Use Code with the primary focus of preserving the Town's character and integrating new development into the community by promoting quality landscape design. The Town will audit its current design standards to expand requirements to further target efficient water use focusing on new development with the intent to establish procedures for the design, installation, and maintenance of water efficient landscape and irrigation systems. Integration with HOAs will be evaluated as part of this review process.

A key planned addition to the Town's landscape design standards is the application of a landscape water budget for new development permit applications. Landscape designs would be required to stay within a maximum allowed water budget. The allowable water budget will be calculated based upon the local reference evapotranspiration and adjusted using plant factors for specific types of plant materials and the irrigation efficiency. Areas containing plants with similar water needs and within the same irrigation application type are referred to as "hydrozones". Water needs using a specified irrigation efficiency will be summarized by hydrozone and summed to determine the water demand for the full landscaped area. Introduction of the landscape water budget design requirement for new development will support future efforts by the Town to apply a water budget-based billing system.

Another potential addition to the landscaping and irrigation standards is the requirement for landscape and irrigation designers and installers to obtain and maintain a professional certification through an accepted program. The Town will evaluate potential certification programs such as the Qualified Water Efficient Landscaper (QWEL) and those offered by the Irrigation Association. The

Town will also evaluate opportunities to collaborate with neighboring water providers and Northern Water to develop a regional certification program. Upon implementation, selected Town staff with landscape and irrigation management responsibilities will also likely pursue certification. Contractor certification has unmeasured water saving benefits alone but will support savings estimated through the landscape standard revisions.

The Town will consider requiring landscape irrigation audits to be conducted by a third-party certified landscape irrigation auditor. The irrigation audit may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rates, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming. Land Use Code revisions necessary to enforce landscape and irrigation standards will be reviewed and applied as needed. Up to 20 AFY of water savings is estimated by 2030 assuming standards are updated for all new development. Additional savings may be realized if standards also include requirements for redevelopment.

4.3.4 Public Education and Information

Public education and information are a vital component to many of the Town's conservation programs. An informed and engaged public will more actively participate in adjusting behaviors with efficiency in mind. The Town plans to expand its current education and outreach programs to include additional customer water use workshops and pursue a messaging partnership with Northern Water. The Town will continue to have staff presence at the local Farmers' Market and will expand its printed resources for distribution through that event. The Town will also invite local contractors and businesses to the Farmers' Market to set up booths to provide the public with water use information. This may include landscaping, irrigation, or other professionals that support the efficient use of water. The Town will also organize a separate educational event with contractors and professionals to provide landscaping, irrigation, and water efficiency resources to the public. The planned new low water use and xeriscape gardens throughout the Town will potentially be used as a meeting location for public landscaping and efficient irrigation workshops. The Town sponsors an annual tree sale event, selling around 100 drought-tolerant trees to customers. The Town will consider how to expand this voucher program to include xeric plants. This provides another opportunity for expanded messaging and outreach. The new Conservation Specialist will work closely with the Town's Communications department to advance its conservation and efficiency messaging campaign and formalize an annual messaging schedule. This will include expanding efficiency messaging and resources through the Town's website. While conservation messaging programs help to support a water-wise culture and local stewardship, these programs typically do not result in water savings on their own, but rather support the entire suite of local conservation and efficiency measures.

4.3.5 Integration of Land Use Efforts

The Town is fortunate to have land use jurisdiction throughout its water service area. The Town intends to formalize arrangements for sharing data and information between departments that impact its management of water resources including Planning, Engineering, Public Works, and the newly formed Parks department. Regular communication between these departments is foundational to the integration between water and land use planning. These departments will also coordinate on code updates and associated implementation strategies, including the review and revision of the Town's landscape and irrigation standards.

The Town's current Municipal Code allows for a "demand analysis" to be completed when a development project has a dual water system with separate infrastructure that enables potable