



PLANNING MEMORANDUM

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To: Planning Commission
From: Trevor Cahoon, Community Services Director

Re: Landscape Ordinance Review

PURPOSE

Recommend a Landscape Ordinance to the City Council.

BACKGROUND

Due to current impacts of the prolonged drought across the state, it has become necessary to reduce water usage to preserve this resource for future generations. A particular concern for water usage is the impact that landscape maintenance has on the supply. Excessive watering for non-native and drought intolerant vegetation brings a need for change.

Weber Basin as well as other water districts throughout the state are implementing incentive programs to help users convert current vegetation to a more water-wise solution, and are encouraging municipalities to update ordinances to promote, encourage, or require water-wise landscaping on new construction. Weber Basin has provided a draft ordinance for cities to consider. Cities must adopt a water-wise landscape ordinance in order to qualify for incentive programs.

At the October Planning Commission, the commission heard a presentation from Weber Basin Water Conservancy District about the programs that are available and discussed what changes they would implement in a draft ordinance. City Staff has reviewed the ordinance and made some revisions. The Planning Commission will discuss those revisions and finalize an ordinance for recommendation to the City Council.

WATER EFFICIENT LANDSCAPE ORDINANCE

ORDINANCE NUMBER <CITY ORDINANCE NUMBER>

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Section 1. Preamble

- A. Whereas, water is an increasingly scarce resource, of limited supply, and are subject to ever increasing demands;
- B. Whereas, it is the policy of <CITY NAME> to promote the conservation and efficient use of water and to prevent waste of this valuable resource;
- C. Whereas, <CITY NAME> recognizes that landscapes provide areas for active and passive recreation;
- D. Whereas; landscape design, installation, maintenance and management can and should be water efficient;
- E. Whereas, <CITY NAME> desires to promote the design, installation and maintenance of landscapes that are both attractive and water efficient;
- F. Whereas, <CITY NAME> can accomplish these goals by adopting this ordinance; and,
- G. Whereas, <CITY NAME> has the authority to adopt this ordinance pursuant to Utah Code Annotated (2010) § 10-3-702, and hereby exercises its legislative powers in doing so.

Section 2. Ordaining Clause

Be it ordained by the <CITY NAME>, that the Water Efficient Landscape Ordinance, Number <CITY ORDINANCE NUMBER>.

Section 3. Title, Water Efficient Landscape Requirements

- A. An ordinance amending the Zoning Code of the City of <CITY NAME> so as to add a Water Efficient Landscape Ordinance of minimum landscape requirements. This ordinance shall be referred to as "<CITY NAME> City Water Efficient Landscape Ordinance".

Section 4. Purpose

The City Council has found that it is in the public interest to conserve the public's water resources and to promote water efficient landscaping. The purpose of this ordinance is to protect and enhance the community's environmental, economic, recreational, and aesthetic resources by promoting efficient use of water in the community's landscapes, reduce water waste and establish a structure for designing, installing and maintaining water efficient landscapes throughout the City.

Section 5. Definitions

The following definitions shall apply to this ordinance:

Applied Water: The portion of water supplied by the irrigation system to the landscape.

Bubbler: An irrigation head that delivers water to the root zone by "flooding" the planted area, usually measured in gallons per minute. Bubblers exhibit a trickle, umbrella or short stream pattern.

Check Valve: A device used in sprinkler heads or pipe to prevent water from draining out of the pipe through gravity flow. Used to prevent pollution or contamination or the water supply due to the reverse flow of water from the secondary irrigation system.

Drip Emitter: Drip irrigation fittings that deliver water slowly at the root zone of the plant, usually measured in gallons per hour.

Effective Precipitation: The portion of total precipitation which becomes available for plant

growth.

Established Landscape: The point at which plants in the landscape have developed significant root growth into the soil.

Establishment Period: the first year after installing the plant in the landscape.

Evapotranspiration (ET): The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time, expressed in inches per day, month or year.

Grading Plan: The Grading Plan shows all finish grades, spot elevations as necessary and existing and new contours with the developed landscape area.

Ground Cover: Material planted in such a way as to form a continuous cover over the ground that can be maintained at a height not more than twelve (12) inches.

Hardscape: Patios, decks and paths. Does not include driveways and sidewalks.

Irrigation System Audit: an in-depth evaluation of the performance of an irrigation system that includes, but is not limited to, inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule.

Irrigation Landscaped Area: All portions of a development site to be improved with plantings and irrigation. Natural open space areas shall not be included in the irrigated landscape area.

Irrigation Efficiency: the measurement of the amount of water beneficially applied, divided by the total amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system hardware characteristics and management practices.

Irrigation Plan: The irrigation plan shows the components of the irrigation system with water meter size, backflow prevention (when outdoor irrigation is supplied with culinary water), precipitation rates, flow rate and operating pressure for each irrigation circuit, and identification of all irrigation equipment.

Landscape Architect: A person who holds a certificate to practice landscape architecture in the state of Utah. Only a Landscape Architect can legally create commercial landscape plans.

Landscape Designer: A person who may or may not hold professional certificates for landscape design/architecture and cannot legally create commercial landscape plans. Landscape Designers generally focus on residential design and horticultural needs of home landscapes.

Landscape Education Package: A package that is intended to inform and educate water users in the City about water efficient landscapes. This package should include a listing of water conserving plants, certified landscape designers, landscape architects, certified irrigation designers, and certified irrigation contractors. Information regarding the City's water rates, billing format for water use and commitment to water conservation may also be included.

Landscape Plan Documentation Package: The preparation of a graphic and written criteria, specifications, and detailed plans to arrange and modify the effects of natural features such as plantings, ground and water forms, circulation, walks and other features to comply with the provisions of this ordinance. The Landscape Plan Documentation Package shall include a project data sheet, a Planting Plan, an Irrigation Plan, and a Grading Plan.

Landscape Zone: A portion of the landscaped area having plants with similar water needs, areas with similar microclimate (i.e., slope, exposure, wind, etc.) and soil conditions, and areas that will be similarly irrigated. A landscape zone can be served by one irrigation valve, or a set of valves with the same

schedule.

Landscaping: Any combination of living plants, such as trees, shrubs, vines, ground covers, flowers, or grass; natural features such as rock, stone, or bark chips; and structural features, including but not limited to, fountains, reflecting pools, outdoor art work, screen walls, fences or benches.

Localscapes®: A locally adaptable and environmentally sustainable urban landscape style that requires less irrigation than traditional Utah landscapes (see www.localscapes.com).

Maximum Applied Water Allowance (MAWA): the upper limit of annual applied water for the established landscaped area as specified in Section 8. It is based upon the area's reference evapotranspiration, a plant adjustment factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the MAWA.

Microclimate: The climate of a very small restricted area that is different from the surrounding area. These areas include shade areas, sun areas, and areas protected by surrounding structures.

Mulch: Any material such as rock, bark, wood chips or other materials left loose and applied to the soil.

Park Strip: A typically narrow landscaped area located between the back-of-curb and sidewalk.

Plant Adjustment Factor: A reference evapotranspiration factor, also referred to as a crop coefficient which is a value to indicate water needs of various plant types for optimum growth or yield. It is a factor to provide acceptable appearance and function of the plant.

Planting Plan: A Planting Plan shall clearly and accurately identify and locate new and existing trees, shrubs, ground covers, turf areas, driveways, sidewalks, hardscape features, and fences.

Pop-up Spray Head: A sprinkler head that sprays water through a nozzle in a fixed pattern with no rotation.

Precipitation Rate: The depth of water applied to a given area, usually measured in inches per hour.

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Pressure Compensating: A drip irrigation system that compensates for fluctuating water pressure by only allowing a fixed volume of water through drip emitters.

Rehabilitated Landscaping: Altering, repairing, or adding to a landscape to make possible a compatible use, increase curb appeal, decrease maintenance, etc.

Rotor Spray Head: A sprinkler head that distributes water through a nozzle by the rotation of a gear or mechanical rotor.

Runoff: Irrigation water that is not absorbed by the soil or landscape area to which it is applied, and which flows onto other areas.

Smart Automatic Irrigation Controller: An automatic timing device used to remotely control valves in the operation of an irrigation system using the internet to connect to a real time weather source or soil moisture sensor. Smart Automatic Irrigation Controllers schedule irrigation events using either evapotranspiration or soil moisture data to control when and how long sprinklers or drip systems operate and will vary based on time of year and weather/soil moisture conditions.

Special Landscape Area: (SLA) means an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Spray Sprinkler: An irrigation head that sprays water through a nozzle.

Stream Sprinkler: An irrigation head that projects water through a gear rotor in single or multiple streams.

Turf: A surface layer of earth containing grass species with full root structures that are maintained as mowed grass.

Waste of Water: shall include, but not necessarily limited to:

1. The use of water for any purpose, including outdoor irrigation, that consumes, or for which is applied substantial excess water beyond the reasonable amount required by the use, whether such excess water is lost due to evaporation, percolation, discharges into the sewer system, or is allowed to run into the gutter or street.
2. Washing sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate health or safety hazards.

Water-Conserving Plant: A plant that can generally survive with available rainfall once established although supplemental irrigation may be needed or desirable during spring and summer months.

Section 6. Applicability of Water Efficient Landscape Ordinance

The provisions of this ordinance shall apply to all new and rehabilitated landscaping for public agency projects, private commercial and industrial development projects, developer-installed landscaping in multi-family and single-family residential projects, ~~and homeowner provided landscape improvements within the front, side, and rear yards of single and two family dwellings.~~

Section 7. Landscape Design Standards

A. Plant Selection.

1. Plants shall be well-suited to the microclimate and soil conditions at the project site. Both native and locally-adapted plants are acceptable. Plants with similar water needs shall be grouped together as much as possible.

2. Areas with slopes greater than 25% shall be landscaped with deep-rooting, water-conserving plants for erosion control and soil stabilization.
3. Park strips and other landscaped areas less than eight (8) feet wide shall be landscaped with water-conserving plants, that do not a mass planting of any type of plant material requiring uniform overhead spray irrigation.

Note: Please see Exhibit A for a list of recommended plants for various landscape situations and conditions (not a comprehensive list).

- B. Mulch. After completion of all planting, all irrigated non-turf areas shall be covered with a minimum three (3) inch layer of mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous material shall not be placed under the mulch.
- C. Soil Preparation. Soil preparation will be suitable to provide healthy growing conditions for the plants and to encourage water infiltration and penetration. Soil preparation shall include scarifying the soil to a minimum depth of six (6) inches and amending the soil with organic material as per specific recommendations of the Landscape Designer/Landscape Architect based on the soil conditions.
- D. Tree Selection. Tree species shall be selected based on growth characteristics and site conditions, including available space, overhead clearance, soil conditions, exposure, and desired color and appearance. Trees shall be selected as follows:
 1. Broad canopy trees shall be selected where shade or screening of tall objects is desired;
 2. Low-growing trees shall be selected for spaces under utility wires;
 3. Select trees from which lower branches can be trimmed to maintain a healthy growth habit where vision clearance and natural surveillance is a concern;
 4. Narrow or columnar trees shall be selected where awnings or other building features limit growth, or where greater visibility is desired between buildings and the street for natural surveillance;
 5. Street trees shall be planted within existing and proposed park strips, and in sidewalk tree wells on streets without park strips. Tree placement shall provide canopy cover (shade) and avoid conflicts with existing trees, retaining walls, utilities, lighting, and other obstacles; and
 6. Trees less than a two-inch caliper shall be double-staked until the trees mature to a two-inch caliper.

Section 8. Irrigation Design Standards

- A. Smart Automatic Irrigation Controller. Landscaped areas shall be provided with a WaterSense labeled smart irrigation controller which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions. All controllers shall be equipped with automatic rain delay or rain shut-off capabilities and shall be setup to operate in "smart" mode.
- B. Each valve shall irrigate a landscape with similar site, slope and soil conditions and plant

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materials with similar watering needs. Turf and non-turf areas shall be irrigated on separate valves. Drip emitters and sprinklers shall be placed on separate valves.

- C. Drip emitters or a bubbler shall be provided for each tree. Bubblers shall not exceed 1.5 gallons per minute per device. Bubblers for trees shall be placed on a separate valve unless specifically exempted by the City due to the limited number of trees on the project site.
- D. Drip irrigation or bubblers shall be used to irrigate plants in non-turf areas. Pop-up spray heads shall be at a minimum of four (4) inches in height to avoid blockage from lawn foliage.
- E. Sprinklers shall have matched precipitation rates with each control valve circuit.
- F. Sprinkler heads shall be attached to rigid lateral lines with flexible material (swing joints) to reduce potential for breakage.
- G. Check valves shall be required where elevation differences cause low-head drainage. Pressure compensating valves and sprinklers shall be required where a significant variation in water pressure occurs within the irrigation system due to elevation differences.
- H. Filters shall be required on all secondary water service connections. Filters shall have as a minimum a 30 mesh screen and shall be cleaned and maintained by the property owner on a regular basis.
- I. Drip irrigation lines require additional filtration at or after the zone valve at a minimum of 200 mesh and end flush valves are required as necessary for drip irrigation lines.
- J. Valves with spray or stream sprinklers shall be scheduled to operate in accordance with local water supplier restrictions to reduce water loss from wind, evaporation or other environmental conditions not suitable for irrigation.
- K. Program valves for multiple repeat cycles where necessary to reduce runoff, particularly on slopes and soils with slow infiltration rates.
- L. **Meter Installation:** Meters shall be specified by the <CITY NAME> for the particular installation and shall report instantaneous flow in gallons per minute (gpm) and totalized flow in gallons via encoded register output. <DEFINE INSTALLATION REQUIREMENTS INCLUDING METER MANUFACTURER AND ENCLOSURE DEPTHS ETC>
- M. **AMR Transmitters:** Each meter shall be fitted with an AMR transmitter with integral connector. <DEFINE AMR TRANSMITTER AND INSTALLATION REQUIREMENTS>

Each new development or rehabilitated landscape that uses primary potable water for landscape irrigation must provide a water budget calculation to demonstrate a Maximum Applied Water Allowance (MAWA) for the new landscape or development. For parcels using secondary water, the MAWA is determined by the secondary water provider based on parcel size and is referred to as an allocation.

The Maximum Applied Water Allowance shall be calculated using the following equation:

$$\text{MAWA} = [\text{ETo}] (0.62)(1.15)[(0.8 \times \text{LA}) + (0.3 \times \text{SLA})]$$

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration (inches per year) as calculated from weather data at the closest available weather station.

0.62 = Conversion Factor (to gallons)

1.15= Delivery Inefficiency Factor (sprinkler system uniformity etc.)

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0.8 = ET Adjustment Factor (ETAF), plant factor or crop coefficient (.8 standard for cool season turf)
LA = Landscape Area including SLA (square feet)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)

ETo values can be obtained directly from the USU Climate Center where a data base of weather data from local stations is collected, analyzed, and stored. If you cannot find the ET data you need, please contact the City.

Additional details and examples of calculations are found in Appendix A

Section 9. Landscapes in New Single-family Residential Developments

- A. Homebuilders and/or developers subdividing lots and/or constructing new single-family residential homes shall provide water-efficient landscaping to prospective home buyers, such as the Localscapes design style when the landscape is installed by the homebuilder/developer. The water-efficient landscaping option shall meet the Landscape Design Standards and Irrigation Design Standards of this ordinance, and any central open shape area consisting of plant material in mass requiring overhead spray irrigation shall not exceed 35% of the total landscaped area.
- B. Homebuilders and/or developers who construct model homes for a designated subdivision shall install water-efficient landscaping, such as the Localscapes design style. The water-efficient landscaping option shall meet the Landscape Design Standards and Irrigation Design Standards of this ordinance, and any central open shape area consisting of plant material in mass requiring overhead spray irrigation shall not exceed 35% of the total landscaped area.
- C. New Construction homes shall have landscaping and irrigation plans approved by the City Planning Department prior to issuance of building permits, for which no variance may be granted, and which meet the aforementioned requirements.
- D. Model homes shall include an informational brochure on water-efficient landscaping or Localscapes. Localscapes brochures can be obtained from the City Planning Department.
- E. When buyers or owners are installing their own landscaping on new home construction, a time frame for landscaping to be completed shall be 18 months from the time of occupancy to complete the front yard and no more than three years to complete the total landscape.

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Section 10. Prohibition on Restrictive Covenants Requiring Uniform Plant Material Irrigated with Spray Irrigation

- A. Any Homeowners Association governing documents, such as bylaws, operating rules, covenants, conditions, and restrictions that govern the operation of a common interest development, are void and unenforceable if they:
 1. Require the use of any uniform plant material requiring overhead spray irrigation in landscape areas less than 8 feet wide or require any uniform plant material requiring overhead spray irrigation in other areas that exceed 40% of the landscaped area; or
 2. Prohibit, or include conditions that have the effect of prohibiting, the use of water-conserving plants as a group; or

3. Have the effect of prohibiting or restricting compliance with this ordinance or other water conservation measures.

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Section 11. Landscapes in Commercial, Industrial, and Institutional Developments

- A. Commercial, industrial and institutional landscapes shall meet the Landscape Design Standards and Irrigation Design Standards of this ordinance, and the turf area shall not exceed 15% of the total landscaped area, outside of active recreation areas.

Section 12. Documentation for Commercial, Industrial, and Institutional Projects

Landscape Plan Documentation Package. A copy of a Landscape Plan Documentation Package shall be submitted to and approved by the City prior to the issue of any permit. A copy of the approved Landscape Plan Documentation Package shall be provided to the property owner or site manager and to the local retail water purveyor. The Landscape Plan Documentation Package shall be prepared by a registered landscape architect and shall consist of the following items:

- A. Project Data Sheet. The Project Data Sheet shall contain the following:
 1. Project name and address;
 2. Applicant or applicant agent's name, address, phone number, and email address;
 3. Landscape architect's name, address, phone number, and email address; and
 4. Landscape contractor's name, address, phone number and email address, if available at this time.
- B. Planting Plan. A detailed planting plan shall be drawn at a scale that clearly identifies the following:
 1. Location of all plant materials, a legend with botanical and common names, and size of plant materials;
 2. Property lines and street names;
 3. Existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements;
 4. Existing trees and plant materials to be removed or retained;
 5. Scale: graphic and written;
 6. Date of Design;
 7. Designation of a landscape zone, and
 8. Details and specifications for tree staking, soil preparation, and other planting work.
- C. Irrigation Plan. A detailed irrigation plan shall be drawn at the same scale as the planting plan and shall contain the following information:
 1. Layout of the irrigation system and a legend summarizing the type and size of all components of the system, including manufacturer name and model numbers;
 2. Static water pressure in pounds per square inch (psi) at the point of connection to the

- public water supply;
3. Flow rate in gallons per minute and design operating pressure in psi for each valve and precipitation rate in inches per hour for each valve with sprinklers, and
 4. Installation details for irrigation components.
- D. Grading Plan. A Grading Plan shall be drawn at the same scale as the Planting Plan and shall contain the following information:
1. Property lines and street names, existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements, and
 2. Existing and finished contour lines and spot elevations as necessary for the proposed site improvements.

Section 13. Plan Review, Construction Inspection, and Post-Construction Monitoring for Commercial, Industrial, and Institutional Projects

- A. As part of the Building Permit approval process, a copy of the Landscape Plan Documentation Package shall be submitted to the City for review and approval before construction begins.
- B. All installers and designers shall meet state and local license, insurance, and bonding requirements, and be able to show proof of such.
- C. During construction, site inspection of the landscaping may be performed by the City Building Inspection Department.
- D. Following construction and prior to issuing the approval for occupancy, an inspection shall be scheduled with the Building Inspection Department to verify compliance with the approved landscape plans. The Certificate of Substantial Completion shall be completed by the property owner, contractor or landscape architect and submitted to the City.
- E. The City reserves the right to perform site inspections at any time before, during or after the irrigation system and landscape installation, and to require corrective measures if requirements of this ordinance are not satisfied.

Section 14. Exceptional Design Criteria

When landscape requirements of a specific zoning district allow for a reduction in landscape acreage based upon exceptional design and materials, the Planning Commission may use the following criteria in the review:

- A. <Planning Commission to list criteria.>

Section 4415. Prohibited Watering Practices

Regardless of the age of a development (commercial, industrial, office, or residential), water shall be properly used. Waste of water is prohibited.

Section 4516. Enforcement, Penalty for Violations

The Public Works Director, Planning Services Director, Utilities Director and other employees of the Public Utilities Works Department are authorized to enforce all provisions of this Ordinance.

Section 17. Redaction of the following Sections

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10-15-3: LANDSCAPE PLAN:

A. Landscape Plan: A landscape plan shall be required in high density residential, commercial, planned unit development, professional office, industrial and natural resource excavation zones as specified in the various provisions of this code. Such plans shall be drawn in conformance with the requirements specified in this chapter and shall be included with the preliminary and final plat plans, conditional use permit applications and site plan approval applications.

B. Content Of Landscape Plan: All landscape plans shall contain the following information:

1. The location and dimensions of all existing and proposed structures, property lines, easements, parking lots and drives, roadways and rights of way, sidewalks, bicycle paths, ground signs, refuse disposal and recycling areas, fences, freestanding electrical equipment, tot lots and other recreational facilities;

2. The location, quantity, size and name, both botanical and common names, of all proposed plants;

3. The location, size and common names of all existing plants including trees and indicating plants to be retained and removed;

4. Existing and proposed grading of the site indicating contours at two foot (2') intervals. Proposed berthing shall be indicated using one foot (1') contour intervals;

5. Elevations of all fences and retaining walls proposed for location on the site;

6. Elevations, cross sections and other details as determined necessary by the sketch plan committee and planning commission;

7. Irrigation system including head types and locations: pipe sizes, types and locations; control valve types, sizes and locations; main shutoff valve, drain valves and isolation valves; automatic controller type and location;

8. Summary data indicating the area of the site in the following classifications:

a. Total area and percentage of the site in landscape area,

b. Total area and percentage of the site in domestic turf grasses. (Ord. 2001-6, 2-27-2001; amd. Ord. 07-02, 2-13-2007)

10-15-4: SELECTION, INSTALLATION AND MAINTENANCE OF PLANT MATERIALS:

A. Selection: Plants used in conformance with the provisions of this chapter shall be of good quality. Size and density of plants both at the time of planting and at maturity shall be considered by the planning commission and city council when approving the landscaping plan.

B. Installation: All landscaping shall be installed consistent with prudent and recognized construction management practices. The installation of all plants required by this chapter may be delayed until the next optimal planting season, as determined by the zoning administrator.

C. Maintenance:

1. Responsibility: The owner, owners, tenants, lessees or occupants of the property or development shall be responsible for the maintenance, repair and replacement of all landscaping materials and barriers.

2. Landscaping Materials: All landscaping materials shall be maintained in good condition so as to present a healthy, neat and orderly appearance, and plants not in this condition shall be replaced when necessary and shall be kept free of refuse and debris.

3. Fences, Walls And Hedges: Fences, walls and hedges shall be maintained in good repair.

4. Irrigation Systems: Irrigation systems shall be maintained in good operating condition to promote the conservation of water. (Ord. 2001-6, 2-27-2001; amd. Ord. 07-02, 2-13-2007)

10-15-5: DESIGN STANDARDS AND GUIDELINES:

Landscape plans shall be prepared based on the following design standards and guidelines. Design standards are numerically measurable design requirements that can be definitively evaluated for compliance. Design guidelines are not precisely measurable, but compliance can be determined through the evaluation process of landscape plan review. The evaluation and approval of landscape plans shall be based on compliance with both the design standards and guidelines.

A. Design Standards At Time Of Planting:

1. Deciduous Trees: All deciduous trees shall have a minimum trunk size of two inches (2") in caliper, unless otherwise specified.

2. Evergreen Trees: All evergreen trees shall have a minimum trunk size of five feet (5') in height, unless otherwise specified.

3. Ornamental Trees: All ornamental trees shall have a minimum trunk size of one and one-half inches ($1\frac{1}{2}$ "') in caliper, unless otherwise specified.

4. Shrubs: All shrubs shall have a minimum height or spread of eighteen inches (18") depending on the plant's natural growth habit, unless otherwise specified. Plants in five (5) gallon containers will generally comply with this standard.

5. Existing Street Trees: The removal of trees within the street right of way is prohibited without the approval of the zoning administrator.

B. Design Guidelines:

1. Scale And Nature Of Landscaping Material: The scale and nature of landscaping materials shall be appropriate to the size of the structures. Large scaled buildings, for example, should generally be complemented by larger scaled plants.

2. Selection Of Plants: Plants shall be selected for form, texture, color, pattern of growth and adaptability to local conditions.

3. Evergreens: Evergreens should be incorporated into the landscape treatment of a site, particularly in those areas where screening and buffer is required.

4. Softening Of Walls And Fences: Plants shall be placed intermittently against long expanses of building walls, fences, and other barriers to create a softening effect.

5. Planting Beds: Planting beds may be mulched with bark chips, decorative stone, or similar materials. Mulch shall not be used as a substitute for plants.

6. Detention/Retention Basins And Ponds: Detention/retention basins and ponds shall be landscaped. Such landscaping may include shade and ornamental trees, evergreens, shrubbery, hedges, turf, ground cover and/or other plant materials.

7. Preservation Of Existing Plants: Existing plants should be incorporated into the landscape treatment of a site as required herein or as required by the site plan review process. Trees in the public right of way shall not be removed without the approval of the zoning administrator.

8. Calculation Of Landscaped Area: Park strip landscaping shall not be used when calculating the total landscaping area.

9. Buffer Yards: Buffer yard landscaping shall not be used when calculating the total landscaping area except as determined by the planning commission and city council. For use of exceptional design and materials, as determined by the planning commission, fifty percent (50%) of the buffer yard may be used when calculating the total landscaping area. (Ord. 2001-6, 2-27-2001; amd. Ord. 07-02, 2-13-2007)

10-15-6: PARK STRIP LANDSCAPING:

A. Intent: The intent of these requirements is to maintain the appearance of park strips, protect the users of park strips by prohibiting the use of materials that may cause harm or injury to pedestrians or vehicles, provide for safe and convenient access across park strips to and from vehicles that may park at the curb, expand landscape design flexibility while not unreasonably inhibiting access for repair and maintenance of public utilities.

B. Applicability: The requirements of this section shall apply to all nonresidential and nonagricultural "park strips", defined as the ground area within the street right of way situated between the back of curb and the sidewalk or, if there is no sidewalk, the back of curb and the right of way line.

1. Properties With Curbs And Gutters: These standards apply to all nonresidential and nonagricultural properties in the city, including vacant lots, that have street curb and/or gutter. Owners of property on streets that do not have curb and gutter are not required to maintain formal landscaping within the public right of way.

2. Discretionary Authority: The zoning administrator may modify the standards of this section to better achieve its intent and address site specific conditions such as, among other things, steep grades between the curb and sidewalk or the presence of canals or drainage channels.

C. General Landscape Requirements:

1. Property Owner Responsibility: All park strips shall be landscaped by the abutting property owner, in conformance with the provisions of this section. For permits involving new construction of a principal building, the contractor shall be responsible for landscaping the park strips as part of the building permit. In general, this landscaping will involve improving the ground surface of the park strip with plant material, or hard surface treatments where permitted. Park strip trees shall also be provided as required herein.

2. Maintenance: All park strip landscaping shall be maintained in a safe and well kept condition by the abutting property owner. Trash, other debris, and noxious weeds shall not be allowed to collect or grow in these areas.

3. Watering: An irrigation plan designed to maintain all landscaped areas in a healthy condition.

D. Park Strip Trees:

1. Spacing And Size: Park strip trees, when required, shall be provided at the equivalent of at least one tree for each thirty feet (30') of street frontage and may be clustered or spaced linearly as deemed appropriate by the zoning administrator. Tree size shall be a minimum of two inch (2") caliper (measured at a point of 6 inches above the soil line) at time of planting.

2. Tree Types: In park strips that are ten feet (10') wide or greater, canopy trees shall be planted. In park strips that are less than ten feet (10') wide, understory trees shall be planted. The Zoning Administrator shall keep a list of recommended trees. This list is not meant to be comprehensive, but to serve as a guide.

3. Tree Grates: If new trees are proposed in a park strip in which the area surrounding the tree will have an impervious surface, tree wells with gates shall be provided which have dimensions adequate to accommodate the recommended tree species.

4. Paving Materials Near Existing Street Trees: Poured concrete shall not be placed in any park strip with existing street trees. Other paving materials shall be kept a minimum of eighteen inches (18") away from existing street trees. (Ord. 2001-6, 2-27-2001; amd. Ord. 07-02, 2-13-2007)

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Any consumer who violates any provisions of this Ordinance shall be issued a written notice of violation. This notice shall be affixed to the property where the violation occurred. The notice will describe the violation and order that it be corrected, cured or abated immediately or within times specified by the City. Failure to receive a notice shall not invalidate further actions by the City. If the order is not complied with, the City may terminate water service to the customer and/or issue a citation.

Section 16. Effective Date

This ordinance shall be effective as of <EFFECTIVE DATE>.

Dated: _____	<CITY NAME>
By: _____	
Its: _____	Mayor
[Municipal Recorder Attestation and Seal]	

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Appendix A

The Maximum Applied Water Allowance shall be calculated using the equation:

$$\text{MAWA} = (\text{ETo}) (0.62) (1.15) [(0.8 \times \text{LA}) + (0.3 \times \text{SLA})]$$

The example calculations below are hypothetical to demonstrate proper use of the equations and do not represent an existing and/or planned landscape project. The ETo values used in these calculations are examples only but are real ETo values from Weber Basin's weather station and should be substituted for actual ETo values for your specific city. For actual irrigation scheduling, automatic smart irrigation controllers are required and shall use current reference evapotranspiration data (most of which is part of each controller company's supporting weather network) or soil moisture sensor data.

(1) Example MAWA calculation: a hypothetical landscape project in Layton Utah with an irrigated landscape area of 20,000 square feet without any Special Landscape Area (SLA= 0, no edible plants, or recreational areas). To calculate MAWA, the annual reference evapotranspiration value for Layton is 32.8 inches as documented from the Weber Basin weather station data.

$$\text{MAWA} = (\text{ETo}) (0.62) (1.15) [(0.8 \times \text{LA}) + (0.3 \times \text{SLA})]$$

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration (inches per year)

0.62 = Conversion Factor (to gallons)

1.15= Delivery Inefficiency Factor (sprinkler system uniformity etc.)

0.8 = ET Adjustment Factor (ETAF) typical for cool season turf

LA = Landscape Area including SLA (square feet)

0.3 = Additional Water Allowance for SLA

SLA = Special Landscape Area (square feet)

$$\text{MAWA} = (32.8 \text{ inches}) (0.62) (1.15) [(0.8 \times 20,000 \text{ square feet}) + (0.3 \times 0)] = \mathbf{374,182 \text{ gallons per year}} \text{ (or } 1.15 \text{ AF/yr)}$$

(2) In this next hypothetical example, the landscape project in Ogden Utah has the same ETo value of 32.8 inches and a total landscape area of 15,000 square feet. Within the 15,000 square foot project, there is now a 2,000 square foot area planted with edible plants. This 2,000 square foot area is considered to be a Special Landscape Area.

$$\text{MAWA} = (\text{ETo}) (0.62) (1.15) [(0.8 \times \text{LA}) + (0.3 \times \text{SLA})]$$

$$\begin{aligned} \text{MAWA} &= (32.8 \text{ inches}) (0.62) (1.15) [(0.8 \times 15,000 \text{ square feet}) + (0.3 \times 2,000 \text{ square feet})] \\ &= 20.34 \times [12,000 + 600] \text{ gallons per year} = \mathbf{280,696.8 \text{ gallons per year}} \text{ (or } .86 \text{ AF/year)} \end{aligned}$$