

ORDINANCE NO. 3672  
(ZOA-2020004808 – Development Code Update – Turf Ordinance)

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF HENDERSON, NEVADA, TO AMEND TITLE 19 OF THE HENDERSON MUNICIPAL CODE - HENDERSON DEVELOPMENT CODE BY AMENDING SECTIONS 19.4, 19.5, 19.7, AND 19.12 TO MAKE VARIOUS UPDATES AS NECESSARY TO LIMIT THE AMOUNT OF NON-FUNCTIONAL TURF.

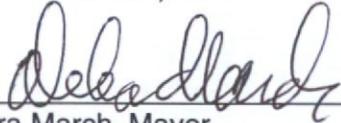
- WHEREAS, it is the intent of the City of Henderson to maintain a zoning ordinance for the safe and orderly development of property; and
- WHEREAS, the City of Henderson adopted a new zoning ordinance on January 19, 2010; and
- WHEREAS, a zoning ordinance is considered a “living document” and will invariably need amending to make minor corrections, revisions, and updates as necessary; and
- WHEREAS, the City Council of the City of Henderson adopted its updated Comprehensive Plan on July 11, 2017, which included Land Use and Community Design goals and strategies, such as Goal H 13, “Encourage water-wise landscape practices” and Strategy H 12.2 “Partner with the Southern Nevada Water Authority to establish regional goals for water use”; and
- WHEREAS, the Southern Nevada Water Authority (SNWA) adopted a resolution on July 18, 2019, in support of the adoption by all local jurisdictions of certain provisions meant to prevent the installation of non-functional turf in Southern Nevada; and
- WHEREAS, in order to adequately implement the goals of the Henderson Strong Comprehensive Plan, the City Council desires to revise the development code to tailor turf requirements that protect, conserve, and enhance the City’s water resources; and

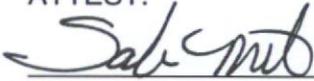
NOW, THEREFORE, the City Council of the City of Henderson, Nevada, does ordain:

- SECTION 1. Henderson Development Code, Sections 19.4, 19.5, 19.7, and 19.12, are hereby amended as depicted in Exhibit A, attached hereto, consisting of 18 pages.
- SECTION 2. If any section, subsection, sentence, clause, phrase, provision or portion of this Ordinance, or the application thereof to any person or circumstances, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions or provisions of this Ordinance or their applicability to distinguishable situations or circumstances.



PASSED, ADOPTED, AND APPROVED THIS 3<sup>RD</sup> DAY OF MARCH, 2020.

  
\_\_\_\_\_  
Debra March, Mayor

ATTEST:  
  
\_\_\_\_\_  
Sabrina Mercadante, MMC, City Clerk

The above and foregoing Ordinance was first proposed and read in title to the City Council on February 18, 2020, which was a Regular Meeting, and referred to a Committee of the following Councilmen:

“COUNCIL AS A WHOLE”

Thereafter on March 3, 2020, said Committee reported favorably on the Ordinance and forwarded it to the Regular Meeting with a do-pass recommendation. At the Regular Meeting of the Henderson City Council held March 3, 2020, the Ordinance was read in title and adopted by the following roll call vote:

Those voting aye:

Debra March, Mayor  
Councilmembers:  
John F. Marz  
Michelle Romero  
Dan K. Shaw  
Dan H. Stewart

Those voting nay:       None  
Those abstaining:       None  
Those absent:           None

  
\_\_\_\_\_  
Debra March, Mayor

ATTEST:  
  
\_\_\_\_\_  
Sabrina Mercadante, MMC, City Clerk

## CHAPTER 19.4: OVERLAYS

### 19.4.8. HILLSIDE OVERLAY (H)

#### F. DEVELOPMENT REGULATIONS

The following standards shall apply within the H overlay:

##### 18. Landscaping

These requirements shall apply to those areas outside of the designated revegetated areas in accordance with the hillside development plan. For land subdivided by a tentative map/planned unit development, as well as multifamily, commercial, industrial, public and semipublic uses, development within sensitive ridgeline setbacks, and zoning approvals granted in accordance with the MP or PUD overlay, landscaping within the hillside development area shall be as follows:

- (a) Plant materials shall be those per the Arizona Nursery Association and the SNRPC Regional Plant List or as specified by the Community Development and Services Director.
- (b) Any installation of new natural turf is prohibited. Existing natural turf shall comply with HMC Title 14, and in no case shall existing natural turf areas violate applicable water conservation standards in effect at the time of development approval; additionally, turf areas shall be located within an enclosed area and not be visible from a lower elevation. Public or private parks and golf courses shall be exempt from this requirement.
- (c) Golf courses shall be subject to the following landscaping criteria:
  - (1) A maximum of five acres of natural turf area per hole, to include a driving range, shall be permitted.
  - (2) Site disturbance shall be calculated based upon Table 19.4.8-1.
  - (3) Site disturbance may be transferred to areas of greater slope provided site disturbance in the higher slope area shall not exceed 50 percent.
  - (4) Cuts and fills shall be regulated per this Code.
  - (5) The intent of this requirement is that existing single-family lots and single-family lots created by parcel maps, a tentative map (not planned unit development), and a final map that are not located within sensitive ridgeline setbacks be exempt from landscaping requirements.

# CHAPTER 19.5: USE REGULATIONS

## 19.5.5. COMMERCIAL USES

### D. ANIMALS AND RELATED SERVICES

#### 8. Veterinary Clinic/Hospital

RESIDENTIAL											PUBLIC	
RS-1	RS-2	RS-4	RS-6	RS-8	RM-10	RM-16	RH-24	RH-36	RMH	DH	PS	DP
COMMERCIAL				INDUSTRIAL				MIXED-USE				
CN	CO	CC	CH	CT	CA	IL	IG	IP	MC	MN	MR	
C		S	S						C	C	C	

(a) Definition

Establishments where animals receive dental, medical, and surgical treatment as well as shelter and care during the time of such treatments. This use may include incidental grooming and boarding services.

(b) Standards

(1) All Districts

- i. All animals shall be confined within an enclosed area or on a leash at all times.
- ii. Uses shall be entirely enclosed, properly ventilated, and provide sound barriers (when attached to other tenants) and odor protection to adjacent properties and users within the same development.
- iii. The property owner/operator shall maintain a 100-square-foot or greater landscape area with [~~turf~~-~~or~~] artificial turf[)], shrubs, and at least one tree for animal use within 20 feet of the entrance. Installation of new natural turf is prohibited.
- iv. Rooms containing cages or pens are not permitted to have operable windows, doors, or other penetrations on exterior walls adjacent to existing residences.
- v. Incidental grooming and boarding of animals for up to 30 days may be permitted.
- vi. All boarding shall take place within the interior of the structure, and outdoor boarding is prohibited.
- vii. Outdoor daytime activity areas (e.g. walking areas, pens, dog runs) shall be allowed when a minimum of 50 feet away from any residential land use.

# CHAPTER 19.7: DEVELOPMENT AND DESIGN STANDARDS

## 19.7.2. COMMON OPEN SPACE

### C. STANDARDS

#### 1. Amount of Common Open Space [Area] Required

Development subject to this section shall set aside at least the minimum amounts of common open space listed in Table 19.7.2-1, *Common Open Space Required*:

DISTRICT TYPE	MINIMUM COMMON OPEN SPACE REQUIRED
RS-8, RM-10, RMH Districts	700 sq ft per dwelling unit
RM-16, RH-24, RH-36 Districts	500 sq ft per dwelling unit
Nonresidential Development (excluding the DCC and DHC districts)	For buildings exceeding 5,000 sq ft, 250 sq ft per 1,000 sq ft
Mixed-use Districts	1,000 sq ft per 25,000 sq ft of lot area or 65 sq ft per dwelling unit, whichever is greater.

#### 2. Areas Counted as Common Open Space

The features and areas identified in Figure 19.7.2-A, *Common Open Space Configuration*, shall be credited towards the common open space requirements of this section:

**FIGURE 19.7.2-A: COMMON OPEN SPACE CONFIGURATION**

AREA COUNTED AS COMMON OPEN SPACE	DESCRIPTION	DESIGN REQUIREMENTS
<p><b>NATURAL FEATURES</b></p> 	<p>Includes any of the following:</p> <ol style="list-style-type: none"> <li>1. Undisturbed desert habitat;</li> <li>2. Flood hazard and conveyance areas (either maintained in, or restored to, natural state);</li> <li>3. <del>Water features, including wetlands,</del> Drainage channels, lakes, dry stream beds, washes, and arroyos;</li> <li>4. Hillsides and exposed slopes of 15% or more; and</li> <li>5. Wildlife habitat areas for threatened and endangered species.</li> </ol>	<p>Where natural features exist, the subdivider, developer, or owner shall give priority to their preservation as common open space. Placement of a conservation easement over the protected natural feature areas is encouraged. In reviewing the proposed location of common open spaces, the Community Development and Services Director shall use all applicable plans, maps, and reports to determine whether significant resources exist on a proposed site that should be protected.</p> <p>Maintenance is limited to a minimum removal and avoidance of hazards, nuisances, or unhealthy conditions.</p>
<p><b>ACTIVE RECREATIONAL AREAS</b></p> 	<p>Land occupied by active recreational uses such as pools, ball fields, playgrounds, tennis courts, and jogging trails.</p>	<p>Active recreation areas may occupy up to 100 percent of the common open space area in the downtown and mixed-use districts.</p> <p>Land shall be compact and contiguous unless the land is used to link or continue an existing or planned open space resource. Landscaping shall be planned along all rights-of-way to provide a buffer to surrounding areas.</p>
<p><b>FORMAL PLANTINGS, PUBLIC ART, AND GARDENS</b></p> 	<p>Formally planned and regularly maintained open areas that provide passive recreation opportunities including arranged plantings, gardens, gazebos or similar structures, sculpture, and other forms of public art.</p>	<p>Roof gardens are also acceptable.</p>
<p><b>SQUARES, FORECOURTS, PLAZAS, AND PARKS</b></p> 	<p>Squares, forecourts, plazas, and parks provide active and passive recreational opportunities as to emphasize important places, intersections, or centers. These spaces are intended to serve an entire neighborhood or group of neighborhoods or commercial development.</p>	<p>Where provided, such features shall have a minimum size of 200 square feet and a maximum size of one acre.</p> <p>Surrounding buildings shall be oriented toward the square, forecourt, or park when possible and a connection shall be made to surrounding development.</p>
<p><b>REQUIRED LANDSCAPE AREAS</b></p> 	<p>Required landscape areas serve as a buffer to surrounding areas. Except for landscaped areas within parking lots and areas occupied by street trees within sidewalks, and except within mixed-use zoning districts, all areas occupied by required landscaping may count as common open space, including landscaped areas located within a ROW allowed per Table 19.7.5-2.</p>	<p>See general landscape standards in Section 19.7.5.</p>

**FIGURE 19.7.2-A: COMMON OPEN SPACE CONFIGURATION**

AREA COUNTED AS COMMON OPEN SPACE	DESCRIPTION	DESIGN REQUIREMENTS
<p><b>PUBLIC ACCESS EASEMENTS</b></p> 	<p>Public access easements, which often combine utility easements with paths or trails, are available for recreational activities such as walking, running, and biking.</p>	<p>Must include at least one improved access from a public sidewalk, street, trail, or easement that includes signage designating the access point.                      A trail or other amenity/amenities must be provided in the full length of an easement to qualify under this category.                      A public access easement shall be recorded for pedestrian accesses.</p>

**3. Areas Not Credited**

Lands within the following areas shall not be counted towards required common open space:

- (a) Private yards not subject to a permanent open space or conservation easement acceptable to the City;
- (b) Travel lane and sidewalk improvements within public or private rights-of-way;
- (c) Open parking areas and driveways for dwellings or commercial uses;
- (d) Land covered by structures not intended solely for recreational uses;
- (e) Designated outdoor storage areas; and
- (f) Balconies.

**4. Design Standards for Common Open Space**

Land set aside for required common open space shall meet the following standards:

- (a) Location
 

Where relevant and appropriate, open space shall be located ~~[see-]~~ to be readily accessible and useable by residents and users of the development. To the maximum practical extent, a portion of the open space should provide focal points for the development.
- (b) Access
 

Common open space areas shall abut at least one direct road access, public or private, or shall have pedestrian access if road access is not feasible.
- (c) Configuration
  - (1) Common ~~o[pen]~~ ~~s[pace]~~ may be configured ~~[i]~~ to be contiguous or dispersed throughout the site as long as each space has a minimum width and depth of 20 feet and a minimum area of 1,000 square feet ~~[is-20-20-feet-and-1,000-sq-ft-in-total-area]~~, with the exception of the Required Landscape Areas and Public Access Easements categories.

- (2) Where open areas, trails, parks, or other open space resources are planned or exist adjacent to development, the common open space shall, to the maximum extent practical, be located to adjoin, extend, and enlarge the presently existing trail, park, or other open area land.

(d) Provision in Multi-Phase Developments

- (1) Development proposed in phases shall be considered as a single development for the purposes of applying the common open space standards.
- (2) Development shall not be phased to avoid the minimum common open space required in this subsection.
- (3) Common open space must be proportionate to phasing of development and approved through a common open space phasing plan.

(e) Landscaping

The City shall approve all common open space landscaping plans. Natural turf is not an allowable plant material within medians, streetscapes, parking lots, entryways, and perimeter landscaping. Natural turf may be allowed within usable common open space per 19.7.2.C.4(f)(2). All future development will be negotiated in a way to ensure compliance with present-day turf codes and drought ordinances to ensure landscaping is sustainable for the future.

(f) Use of Common Open Space Areas

- (1) The following minimum percentages of the total required common open space shall be useable. For purposes of this requirement, useable common open space includes areas classified as active recreational areas; formal plantings, public art, and gardens; squares, forecourts, plazas, and parks; or public access easements:
  - i. RS-8, RM-10, and RMH Districts: 40 percent
  - ii. RM-16, RH-24, and RH-36 Districts: 70 percent
- (2) Useable common open space areas in all residential developments must include an active recreation component; the size and design must be approved by the Community Development and Services Director (or final decision-making body as outlined by this Code).
  - i. Useable common open space that includes natural turf must comply with the following standards:
    1. The natural turf area must have a minimum width and depth of 30 feet and a minimum area of 1,500 square feet.
    2. Natural Turf shall not be installed closer than ten (10) feet to any street (back of curb) and three (3) feet to any sidewalk.
    3. Natural turf cannot be installed at entryways to residential neighborhoods or subdivisions where other recreational amenities do not exist.
- (3) In mixed-use districts, the following open space standards apply:

- i. Complying open space areas must have a minimum width and depth of 20 feet and a minimum area of 1,000 square feet.
- ii. The following open space features may be used to satisfy the requirement:
  1. Patio or plaza with seating, landscaping[, ~~water features~~]and other unique features;
  2. Landscaped mini-parks;
  3. Rooftop or community garden;
  4. Similar features as approved by the Community Development and Services Director or designee.

## 19.7.5. LANDSCAPING AND SCREENING

### E. PLANT UNITS

#### 1. Perimeter Landscape Buffers and Non-Buffer Areas

Unless otherwise expressly stated, a minimum of one shrub shall be provided per 80 square feet of landscape buffer, and a minimum of one tree shall be provided per 20 linear feet of landscape buffer. Trees are not required to be planted every 20 feet on center. The Community Development and Services Director may allow plant and tree clustering subject to approval. Natural turf is not allowed within perimeter landscape buffers.

#### 2. Parking Lot Landscaping

No natural turf shall be allowed within interior parking lot landscape areas. All plant units must comply with the Arizona Nursery Association and the SNRPC Regional Plant List.

- (a) Terminal Islands – A minimum of two large shade trees installed at 24-inch-box size and four five-gallon shrubs.
- (b) Divider Medians and Pedestrian Walkways – A minimum one large shade tree installed at 24-inch-box size every 20 linear feet and one shrub every 80 square feet.
- (c) Landscape Diamonds – A minimum one large shade tree installed at 24-inch-box size.
- (d) Landscape Fingers – A minimum one large shade tree installed at 24-inch-box size and three five-gallon shrubs.
- (e) Staggered Landscape Islands – A minimum one large shade tree installed at 24-inch-box size.

**3. Residential**

- (a) A minimum of two trees (small, medium, or large) installed at 24-inch-box size, seven five-gallon shrubs and seven one-gallon groundcovers shall be provided for each residential front yard. Custom homes in designated rural neighborhoods and custom home lots with no design standards shall be exempt from this standard.
- (b) Alternatives to the two-tree requirement may be approved by the Community Development and Services Director. Decisions will be based on the available open soil area in a front yard.
- (c) The installation of new natural turf in residential front yards is prohibited. See HMC Section 14.14.050.

**4. Other Areas**

All landscape planting areas that are not dedicated to trees or shrubs shall be landscaped with groundcover or other appropriate landscape treatment including, but not limited to, decorative rock or decomposed granite. Up to ten percent of the required landscape area that is not dedicated to trees or shrubs may be occupied by hardscape materials, provided such areas are shaded by trees, canopies, or other shade devices. The underlying slope of all areas covered with rock mulch shall not exceed 3:1. If the slope exceeds 3:1, rip-rap must be used, which is rock with a diameter of six to nine inches. Alternatives to this may be approved by the Community Development and Services Director.

**5. Administrative Adjustments**

The Community Development and Services Director may approve administrative adjustments of up to 20 percent of the plant unit standards in this section pursuant to Section 19.6.9.B, *Administrative Adjustment*, based upon provision of usable open spaces, shaded walkways, courtyards, and other similar features.

**6. Landscape Restrictions Within Municipal Utility Easements**

Landscape planting areas in designated municipal utility easements may not be required to provide the minimum number of trees to satisfy the applicable standards of Section 19.7.5.E of the Code. Large shrubs as identified within the SNRPC Regional Plant List shall be required to be substituted at a ratio of one-to-one to offset the reduction in trees within the landscape planting area, in addition to the shrubs planted to satisfy the standard of the applicable section. Alternatives to this may be approved by the Directors of the Community Development and Services and Utility Services departments.

**7. Landscape within Right-of-Way**

New natural turf shall not be installed in a median or landscape element within a public or private right-of-way. Landscaping provided within a public or private right-of-way must not conflict with the safe use of the right-of-way, and no plant materials within required sight visibility zones shall exceed 24 inches in height at mature growth.

**F. LANDSCAPE MATERIAL STANDARDS**

**6. Plant Sizes and Specifications**

- (e) Natural Turf

The natural turf limitations contained in this section are intended to increase the use of water-efficient vegetation. Landscaping shall be designed and landscaping

material shall be chosen and installed so as to ensure that within three years of normal growth, at least 50 percent of the area covered by non-turf landscaping will consist of water-efficient vegetation. Natural turf is not an allowable plant material within public or private common open space, unless it meets the definition of usable per 19.7.2.C.4(f)(2). This includes medians, streetcapes, parking lots, entryways, and perimeter landscaping.

(1) Downtown, Nonresidential, [~~Multifamily;~~] and Mixed-Use Zoning Districts

- i. The installation of new natural turf in nonresidential, [~~multifamily;~~] and mixed-use developments, including common areas of residential neighborhoods that do not meet the definition of usable per 19.7.2.C.4(f)(2), is prohibited. This provision shall not apply to golf courses, or public or private schools or parks [~~or required common open space in any new development, provided the total turf area does not exceed 30 percent of the landscaped area of the development and no turf area dimension is less than ten feet~~]. Natural turf areas in public or private schools or parks shall be limited to active or programmed recreation areas such as sports fields.
- ii. Natural turf areas shall not be located within ten (10) feet of any street (back of curb) or within three feet of a sidewalk, curb, or building wall.
- iii. The maximum slope of a turf area shall not exceed [~~33~~]25 percent. Regardless of slope, turf areas are to be graded to prevent run-off onto sidewalks and driveways.
- iv. Natural turf in recreation areas such as parks should utilize water efficient species such as Bermuda.

(2) Single-Family Residential

- i. The use of drought-tolerant landscaping materials is encouraged in residential front, side, and rear yards.
- ii. The installation of new natural turf in residential front yards is prohibited. See HMC Section 14.14.050.

(3) Golf Courses

Golf courses shall be limited to a maximum of 90 acres of natural turf for 18 holes and ten acres of natural turf for a driving range. This natural turf limitation of golf courses may be exceeded if the applicant demonstrates to the satisfaction of the Department of Utility Services that irrigation of natural turf, in excess of the amount specified, will have no significant impact on water resources or peak demand delivery capacity, because water for the additional natural turf will be provided by one or more of the following methods:

- i. Water provided from applicants' own well, appurtenant, or transferred water rights that can be legally used to irrigate the property on which the golf course is developed.

- ii. Water provided by the City of Henderson. However, the applicant must contribute to an exterior water efficiency retrofit program approved by the Department of Utility Services to offset the impacts on water resources and system delivery capacity in an amount equivalent to two times the amount of water used by the natural turf [~~grass~~]. Golf courses shall be subject to water budgeting per HMC Section 14.14.040.
- iii. Groundwater provided from the shallow groundwater aquifer. Applicant may develop and provide the groundwater at his sole cost or may compensate the City of Henderson Department of Utility Services to develop groundwater pursuant to an agreement with the City of Henderson Department of Utility Services. Both parties must have executed the agreement at the time of application.
- iv. Nonpotable water is provided at the discretion of the City of Henderson. The applicant must demonstrate water-efficient planning and practices to qualify for nonpotable water from the City.

The restrictions for natural turf area shall not apply to any golf course property that is the subject of a development agreement between the City of Henderson and the owner or former owner of the property provided the development agreement is in effect as of July 3, 2001 [~~the effective date of this ordinance~~] and the development agreement has not been canceled at the time of commencement of construction of the golf course.

## 19.7.6. SUSTAINABILITY

### C. MENU OF SITE AND BUILDING DESIGN OPTIONS FOR SUSTAINABILITY

TABLE 19.7.11-1: MENU OF SITE AND BUILDING DESIGN OPTIONS FOR SUSTAINABILITY				
SITE OR BUILDING DESIGN FEATURE	POINTS	DISTRICTS IN WHICH OPTION IS AVAILABLE		
		NONRES/ MIXED USE	MULTI- FAMILY RESIDTL	OTHER RESIDTL
<b>1. ENERGY</b>				
Intent: Encourage on-site renewable energy production; promote the design and construction of energy efficient buildings; reduce air, water, and land pollution from energy consumption; and, reduce the heat island effect				
<b>1.1 Renewable Energy Sources</b> Design and incorporate on-site renewable energy generation technologies such as solar, wind, geothermal, or biomass. Two points granted for each 1% of the project's annual electrical energy demand generated up to a maximum of 30 points.	2-30	*	*	*
<b>1.2 District Heating and Cooling</b> Design and incorporate into the project a district heating and/or cooling system for space conditioning and/or water heating of new buildings in the project (at least two buildings total must be connected).	4	*	*	

**TABLE 19.7.11-1: MENU OF SITE AND BUILDING DESIGN OPTIONS FOR SUSTAINABILITY**

SITE OR BUILDING DESIGN FEATURE	POINTS	DISTRICTS IN WHICH OPTION IS AVAILABLE		
		NONRES/ MIXED USE	MULTI- FAMILY RESIDTL	OTHER RESIDTL
<p><b>1.3 Solar Orientation</b> Design and orient the project such that 50% or more of the blocks have one axis within plus or minus 15 degrees of geographical east/west, and the east/west length of those blocks are at least as long, or longer, as the north/south length of the block.</p> <p>OR</p> <p>Design and orient the project such that 50% or more of the project total building square footage (excluding existing buildings) such that the longer axis is within 15 degrees of geographical east/west axis.</p>	3	*	*	*
<p><b>1.4 Shade Structures</b> Where appropriate, provide shade structures over windows/doors to minimize glare and unwanted solar heat gain. Such structures shall provide shading to at least 50% of the south- and west-facing glazing on June 21 at noon with one additional point granted for each additional 25% of the glazing shaded. Structures may include awnings, screens, louvers, architectural features, or similar devices.</p>	2-4	*	*	*
<p><b>1.5 Heat Island Reduction</b> Use any combination of the following strategies for 50% of the non-roof impervious site landscape (including roads, sidewalks, courtyards, parking lots, and driveways).</p> <ul style="list-style-type: none"> <li>• Provide shade from open structures such as those supporting solar panels, canopied walkways, pergolas, all with a Solar Reflectance Index (SRI) of at least 29. (SRI is a measure of the roof's ability to reject solar heat; a higher SRI yields a cooler roofing choice.) (2 points)</li> <li>• Use paving materials with a Solar Reflectance Index (SRI) of at least 29. (1 point)</li> <li>• Use an open grid pavement system (at least 50% pervious). (2 points)</li> </ul>	1-5	*	*	*
<p><b>1.6 Cool Roofs</b> Use roofing materials that have a SRI equal to or greater than 78 for low-sloped roofs (&lt;2:12) or 29 for steep-sloped roofs (&gt;2:12) for a minimum of 75% of the roof surface of all new buildings within the project.</p> <p>OR</p> <p>Install a vegetated roof on a minimum of 50% of the total project roof area (exclusive of existing buildings). Any combination of SRI compliant and vegetated roof may be used, provided they collectively cover 75% of the total project roof area.</p>	2	*	*	*
<p><b>1.7 Covered Parking</b> Locate at least 20 percent of all off-street parking spaces under cover with one additional point granted for each additional 20% of covered parking up to a maximum of 100%.</p> <p>Note: Cover may be provided by a combination of tree canopy, a building, a deck, or a shade structure, or parking may be underground. Tree canopy coverage to be determined by mature shade trees selected from the SNRPC Regional Plant List.</p> <p>Any cover, roof, or shade used for this requirement must have a minimum Solar Reflectance Index of 78 for low-sloped roofs (&lt;2:12) or 29 for steep-sloped roofs (&gt;2:12).</p>	1-5	*	*	*

**TABLE 19.7.11-1: MENU OF SITE AND BUILDING DESIGN OPTIONS FOR SUSTAINABILITY**

SITE OR BUILDING DESIGN FEATURE	POINTS	DISTRICTS IN WHICH OPTION IS AVAILABLE		
		NONRES/ MIXED USE	MULTI- FAMILY RESIDTL	OTHER RESIDTL
<p><b>1.8 Shaded Walkways</b> Provide shaded walkways along a minimum of 60% of all building facades adjacent to or facing streets, drive aisles, outdoor gathering spaces, or parking areas. One additional point granted for each additional 10% provided up to a total of 100%.</p> <p>Note: See base code requirements (50% shaded walkways) for commercial, mixed-use, and industrial buildings in Section 19.7.6.D.3.(h), <i>Response to the Climate</i>. Note: See definition of "shaded walkway" in Chapter 19.12, <i>Measurement and Definitions</i>.</p>	1-5	*		
<p><b>1.9 Solar-Ready Design</b></p> <ul style="list-style-type: none"> <li>For stand-alone buildings, design and build the project so that it will readily accommodate the installation of solar photovoltaic panels or solar thermal hot water heating devices, including all necessary conduit, chases, roof penetrations, roof pitch, and orientation. (2 points)</li> <li>For projects with multiple buildings, design and build at least 20% of the buildings to be solar-ready as described above. Two additional points granted for each additional 20% provided up to a total of 100% solar-ready buildings. (2-10 points)</li> <li>For residential development, offer solar photovoltaic panels or solar thermal hot water heating as a design option. (2 points)</li> </ul>	2-10	*	*	*
<p><b>1.10 Energy Efficiency</b></p> <ul style="list-style-type: none"> <li>Provide energy-efficient lighting such as compact fluorescent or LED lighting throughout a minimum of 75% of the project. (1 point)</li> <li>Reduce solar heat gain through the use of glazing/fenestration with a U-factor less than .50 and a solar heat gain coefficient (SHGC) less than .30. (2 points)</li> <li>Provide increased insulation to achieve a minimum R-19 in walls and R-38 in ceilings. (2 points)</li> <li>Locate HVAC ductwork within conditioned space. (1 point)</li> <li>Select high-efficiency HVAC equipment for the project. (2 points)</li> </ul>	1-8	*	*	*
<p><b>1.11 Green Power</b> Provide at least 10% of the project's total energy consumption through renewable energy sources by engaging in a contract to purchase green power for at least two years. One additional point granted for each additional 10% of the project's total energy provided through green power up to a maximum of 50%. The renewable energy sources must be certified per the Center for Resource Solution's Green-e requirements.</p>	1-5	*	*	*
<p><b>2. RECYCLING AND WASTE REDUCTION</b> Intent: Encourage recycling of household and commercial projects; reduce the amount of waste hauled to and disposed of in landfills; and, promote the reuse of materials.</p>				
<p><b>2.1 Waste Reduction - Construction</b> Make provisions to recycle/salvage at least 50% of non-hazardous construction and demolition debris.</p>	3	*	*	*
<p><b>2.2 Waste Reduction - Composting</b> Provide on-site composting station or location for all occupants.</p>	2	*	*	*

**TABLE 19.7.11-1: MENU OF SITE AND BUILDING DESIGN OPTIONS FOR SUSTAINABILITY**

SITE OR BUILDING DESIGN FEATURE	POINTS	DISTRICTS IN WHICH OPTION IS AVAILABLE		
		NONRES/ MIXED USE	MULTI- FAMILY RESIDTL	OTHER RESIDTL
<p><b>2.3 Recycling Stations/Dumpsters</b> As part of the project, include at least one station per building dedicated to the collection, separation, and storage of materials for recycling including, at a minimum, paper, corrugated cardboard, glass, plastics, and metals. Establish a City-approved schedule and plan with the local trash hauler for retrieving the recyclable materials on a weekly basis.</p>	3	*	*	*
<p><b>2.4 Recycle Containers</b> In mixed-use and nonresidential developments, include recycle containers adjacent with other waste-collection receptacles in areas accessible to pedestrians including streets, walkways, and common areas.</p>	2	*		
<p><b>2.5 Recycled Content in Infrastructure</b> For new roadways, parking lots, sidewalks, and curbs (above-ground structured parking and underground parking are exempt from this option), any aggregate base and aggregate sub-base shall be at least 50% by volume recycled aggregate materials such as crushed Portland cement concrete and asphalt concrete.</p>	2	*	*	*
<p><b>3. URBAN DESIGN</b> Intent: Encourage balanced land uses, new development near existing communities or public transportation infrastructure; support alternative transportation choices; and, improve the mental and physical health of the community by reducing work commute time and increasing time devoted to leisure, community activities, and family.</p>				
<p><b>3.1 Proximity to Existing Infrastructure</b> Site new development so that at least 25% of the perimeter is contiguous with existing development that is already served by public infrastructure, including water, wastewater, roads, and electric. Replacement of or other on-location improvements to existing infrastructure may be considered existing for the purpose of this option.</p>	3	*	*	*
<p><b>3.2 Floodplain Protection</b> For sites with portions located within a 100-year floodplain as defined and mapped by FEMA or the CCRFCD, develop only on portions of the site that are not in a 100-year flood zone or on portions that have been previously developed. Previously developed portions must be developed according to National Flood Insurance Program (NFIP) requirements.</p>	1	*	*	*
<p><b>3.3 Use Mix</b> Include a minimum of three of the following use types: residential, office, commercial (besides office), or public/institutional.</p> <ul style="list-style-type: none"> <li>No use type shall amount to less than 10% or more than 80% of the total development gross floor area.</li> <li>Individual phases of multiphase projects may have a lesser mix of uses if the applicant provides assurances acceptable to the City that later phases will produce the required mix of uses overall.</li> </ul>	3	*		
<p><b>3.4 Compact Development/Walkability</b> Locate at least 20% of dwelling units within ½ mile of a mixed-use development, commercial development, religious assembly use, park or school. One additional point granted for each additional 20% of dwelling units within a ½ half-mile distance up to a total of 100%.</p>	1-5		*	*
<p><b>3.5 Reduced Parking Footprint</b> Devote less than 25 percent of the impervious surface area, up to a maximum of five acres, to surface parking.</p>	2	*	*	

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<p><b>3.6 Workforce Housing</b> For developments with a residential component, include a proportionate amount of dwelling units priced for households earning between 80% and 120% of area medium income (AMI). 1 point for 5% of units, 2 points for 10% of units, 3 points for 15% of units.</p>	1-3	*	*	*
<p><b>4. URBAN NATURE</b> Intent: Provide a variety of appealing and comfortable open spaces close to work and home; encourage physical activity and time spent outdoors; support natural resource and habitat conservation; and, promote social networking, civic engagement, personal recreation, and other activities.</p>				
<p><b>4.1 Minimum Open Space</b> Provide common open space that exceeds the base requirements of Section 19.7.2 by 10%. One additional point granted for each additional 10% up to a total of 40% above code.</p>	1-4	*	*	*
<p><b>4.2 Access to Parks and Open Space</b> Locate or design the project so that a park, publicly-accessible open space, multi-use path, trail or plaza lies within ½ mile of 20% of planned and existing dwelling units and business entrances. One additional point granted for each additional 20% of dwelling units within a ½ half-mile distance up to a total of 100%.</p>	1-5	*	*	*
<p><b>4.3 Access to Active Recreation</b> Locate or design the project so that active public facilities (e.g., playfields, soccer, baseball, basketball, or other sports fields) totaling at least one acre, or a public indoor recreational facility, lies within ½ mile of 20% of dwelling units and/or business entrances. One additional point granted for each additional 20% of dwelling units within a ½ half-mile distance up to a total of 100%.</p>	1-5	*	*	*
<p><b>4.4 Habitat Conservation - Avoidance</b> Locate the project on a site that does not have significant habitat. For the purposes of this and the following item, "significant habitat" includes:</p> <ul style="list-style-type: none"> <li>• Habitat for species that are listed or are candidates for listing under state or federal endangered species acts;</li> <li>• Locally or regionally significant habitat, or patches of natural vegetation at least 150 acres in size; and</li> <li>• Habitat flagged for conservation under the Multiple Species Habitat Conservation Plan.</li> </ul>	3	*	*	*
<p><b>4.5 Habitat Conservation - Setback</b> For projects on a site that has significant habitat, design the site such that all development is a minimum of 100 feet away from such habitat. For the purposes of this item, "significant habitat" is defined in item 4.4 above.</p>	2	*	*	*
<p><b>4.6 Habitat Restoration</b> Using only native plants, restore pre-development native habitat on the project site in an area equal to or greater than 10% of the development footprint. Work with a qualified ecologist to ensure that restored areas will have habitat, including native species assemblages and hydrology that likely occurred in pre-development conditions.</p>	3	*	*	*
<p><b>4.7 Community Gardens</b> For residential or mixed-use projects, dedicate permanent and viable growing space and related facilities (such as greenhouses) within the project at a minimum of ten sq. ft. per dwelling unit for 20% of the project. Provide fencing, watering systems, soil, and/or garden bed enhancements (such as raised beds), secure storage space for garden tools, solar access, and pedestrian access for these spaces. One additional point granted for community garden space provided for each additional 20% of the project up to 100%.</p>	1-5	*	*	*

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<p><b>4.8 Tree Canopy</b> Provide trees in an amount that exceeds the base requirements of Section 19.7.5, <i>Landscaping and Screening</i>, by 10%. One additional point granted for each additional 10% up to 50% above Code.</p>	1-5	*	*	*
<p><b>5. TRANSPORTATION</b> Intent: Promote public health by encouraging daily physical activity associated with alternative modes of transportation such as walking and bicycling; encourage the use of public transit; promote safe and efficient transportation; and, design parking facilities to minimize adverse environmental impacts to pedestrians.</p>				
<p><b>5.1 Proximity to Transit</b> Locate the project near existing or planned transit service so that at least 20% of dwelling units and business entrances within the project area are within ½ mile of transit stops. One additional point granted for each additional 20% of dwelling units and business entrances within a ½ half-mile distance up to a total of 100%</p>	1-5	*	*	*
<p><b>5.2 Carpool, Shared-Use and Low-emitting Vehicle Parking</b> For new nonresidential and mixed-use buildings, provide preferred parking spaces for carpool, shared-use, or low-emitting vehicles. Signage indicating carpool, shared-use, or low-emitting vehicle parking spaces must be provided, and the parking spaces must be located closest to the building entrance (exclusive of accessible parking spaces.)</p> <ul style="list-style-type: none"> <li>• Provide parking spaces for carpool and/or shared-use vehicles equal to 5% of the total parking capacity for each nonresidential and mixed-use building on the site. One additional point granted for 10% of the total parking capacity. (1-2 points)</li> <li>• Provide parking spaces for low-emitting vehicles (zero-emission vehicles, partial-zero emission vehicles, ultra-low emission vehicles, etc.) equal to 5% of the total parking capacity for each nonresidential and mixed-use building on the site. One additional point granted for 10% of the total parking capacity. (1-2 points)</li> </ul>	1-4	*		
<p><b>5.3 Pedestrian System</b> Design and build a project such that no block length exceeds 600 feet.</p> <ul style="list-style-type: none"> <li>• If longer blocks are necessary, mid-block crossings shall be provided every 600 feet.</li> <li>• Exceptions are permitted to avoid incursion into or damage to sensitive natural areas or to accommodate major institutional buildings or uses, such as hospitals, parks, or schools, or for infill developments where the street pattern is already established.</li> </ul>	5	*	*	*
<p><b>5.4 Interconnected Street Network</b> The development achieves a connectivity index score of 0.1 above the applicable base requirements of this Code. Two points granted for a score of 0.15 above the base requirements, and three points granted for a score of 0.2 above the base requirements.</p>	1-3	*	*	*
<p><b>5.5 Bicycle Circulation Systems</b> Build a network of on-site bicycle pathways that provide safe, continuous bicycle access to all uses within the development site and to land uses on adjacent properties.</p>	2	*	*	*
<p><b>5.6 Pedestrian/Bicycle Networks (master planned communities only)</b> Provide safe pedestrian and bicycle routes between major residential centers in a development and schools, churches, and other major community facilities and gathering places.</p> <ul style="list-style-type: none"> <li>• Safety features shall include raised/marked pedestrian crossings, narrow streets, or streets with pedestrian medians, and similar features (1 point).</li> <li>• Avoid erecting obstructions such as signage and utility poles in sidewalks (1 point).</li> <li>• Provide separated grade crossings (1 point).</li> </ul>	1-3	*	*	*

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<p><b>5.7 Facilities for Bicycle Commuters</b> In addition to the bicycle parking requirements in Section 19.7.4.K.13, provide the following:</p> <ul style="list-style-type: none"> <li>Indoor or self-contained bicycle storage lockers equal to a minimum of 5% of the vehicle parking spaces provided. (2 points)</li> <li>Shower and dressing areas for employees</li> </ul>	2-4	*	*	*
<p><b>5.8 Developer-sponsored Transit</b> For a minimum of three years, provide year-round, developer-sponsored transit service (vans, shuttles, or buses) from at least one central point in the project to major transit facilities and/or other major destinations such as a retail or employment center.</p>	5	*	*	*
<p><b>5.9 Parking</b> Locate all new off-street surface parking lots at the side or rear of buildings, leaving building frontages and streetscapes free of surface parking lots. Building entrances must be easily accessible from the public way. (2 points) OR Provide structured parking to meet 20% of the total parking requirement for nonresidential and multifamily residential projects.  Two additional points will be granted for each additional 20% up to a total of 100%. In addition, as applicable, locate all new off-street surface parking lots at the side or rear of buildings, leaving building frontages and streetscapes free of surface parking lots. (2-10 points)</p>	2-10	*	*	
<p><b>6. ENVIRONMENTAL HEALTH</b> Intent: Encourage the use of green building practices in the design, construction, or retrofit of buildings; promote the reuse of land by developing sites where development is complicated by environmental contamination; prevent pollution and erosion from stormwater runoff; and, improve nighttime visibility and reduce glare.</p>				
<p><b>6.1 Green Building</b></p> <ul style="list-style-type: none"> <li>Use green building materials (recycled materials, locally-produced materials, sustainably-harvested wood, etc.) in the construction of the project. (2 points)</li> <li>Use furniture made from recycled materials, locally-produced materials, sustainably-harvested wood, etc. in the project. (1 point)</li> <li>Use flooring made from recycled or rapidly renewable materials such as PET carpeting, bamboo, cork flooring, etc. in the project. (1 point)</li> </ul>	1-4	*	*	*
<p><b>6.2 Daylighting</b> Incorporate daylighting strategies into the design of the project to minimize the use of artificial lighting.</p>	2			
<p><b>6.3 Light Pollution Reduction</b> Reduce light pollution by using full cutoff exterior lighting and using downlighting only.</p>	2			
<p><b>7. WATER</b> Intent: Minimize water use in buildings to reduce impacts to natural water resources; and, minimize outdoor water use for landscape irrigation.</p>				
<p><b>7.1 Water-Efficient Landscape</b> Limit <u>natural</u> turf <u>(grass)</u> beyond base code requirements.</p> <ul style="list-style-type: none"> <li>Single-family residential: <u>Natural turf</u> limited to 25% of landscaped area</li> <li>Base code turf requirements are in Section 19.7.5.F.6(e).</li> </ul>	2			*
<p><b>7.2 Water-Efficient Plants</b> All landscaping plants, including those on green roofs, shall be selected from a list of water-efficient vegetation maintained by the City of Henderson. The use of native plants is strongly encouraged.</p>	2	*	*	*

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<p><b>7.3 Landscape Irrigation System</b> Drip or subsurface irrigation systems shall be utilized for all landscape irrigation systems when irrigation is necessary. Drip irrigation systems must be equipped with pressure regulators, filters, and emitters. Each drip emitter must be rated at less than 20 gallons per hour (gph). (1 pt for drip, 2 pts for subsurface)</p>	1-2	*	*	*
<p><b>7.4 Surface Treatments</b> Non-turf landscaped areas must be completely covered by a two-inch-minimum layer of air- and water-permeable mulch to reduce evaporation. Living groundcovers qualify as mulch provided the individual plants are installed at sufficient density to assure 100 percent ground coverage at maturity. If a weed barrier is used beneath the mulch, it must be manufactured to be air- and water-permeable to reduce evaporation and run-off.</p>	1	*	*	*
<p><b>7.5 Water-Efficient Buildings</b> Minimize indoor water use in new buildings and buildings undergoing major renovations as part of the project through any combination of the following:</p> <ul style="list-style-type: none"> <li>• Use low-flow plumbing fixtures such as toilets, urinals, faucets, and showerheads. (2 points)</li> <li>• Use of hot water recirculation system. (Cannot be used in conjunction with tankless water heater.) (2 points)</li> <li>• Use of a tankless water heater. (2 points)</li> <li>• Use of a solar water heater. (2 points)</li> </ul>	2-8	*	*	*
<p><b>8. ADDITIONAL STRATEGIES FOR SUSTAINABILITY</b> Intent: Implement strategies of existing above-code programs or explore and implement new, unique or innovative ways to increase the sustainability of the project and community.</p>				
<p><b>8.1 Above-Code Programs</b> Design and build the project to meet the standards of an above-code program such as LEED, Green Globes, Energy Star, Green Building Partnership, etc.</p>	10			
<p><b>8.2 Innovative Products or Strategies</b> Provide documentation of an innovative product or strategy that increases the sustainability of the project or community but is not provided in this Section.. Up to five Innovative Products or Strategies may be submitted for review. Points awarded at the discretion of the Director of Community Development based on the capacity of the proposed product or strategy to increase the sustainability of the project in any of the above categories. (1-5 points for each Innovative Strategy)</p>	1-25			

## CHAPTER 19.12: MEASUREMENT AND DEFINITIONS

### 19.12.4. DEFINED TERMS

#### OPEN SPACE, USABLE

An outdoor or unenclosed area on the ground or on a roof, balcony, deck, porch, or terrace, designed and easily accessible for outdoor living, passive or active recreation, pedestrian activities [~~access~~], or landscaped amenities [~~landscaping~~], but excluding parking facilities, medians, driveways, utility or service areas, or any required front or corner side yard, or required landscape buffer, and excluding any space with a dimension of less than six feet in any direction or an area of less than 36 square feet. The area must be surfaced with walkable landscape materials such as decomposed granite, artificial turf, [~~lawn;~~] pavers, decking, or sport-court-type that allows the area to be used for recreational purposes. User amenities, such as tables, benches, trees, planter boxes, garden plots, drinking fountains, spas, or pools may be placed in the outdoor area. It may be covered, such as a covered patio, but it may not be fully enclosed.