Indian Wells, California Municipal Code

Title 21 ZONING CODE

Chapter 21.70 WATER EFFICIENT LANDSCAPING

21.70.040 Provisions for new or rehabilitated landscapes.

A. Submittal and Approval of a Landscape Documentation Package.

1. Prior to construction, the project applicant shall:

a. Submit two (2) copies of the Landscape Documentation Package to the City.

b. Submit two (2) copies of the Landscape Documentation Package to the District, pursuant to District Ordinance No. 1302.2.

2. Upon review and approval of the Landscape Documentation Package by the District, the project applicant shall:

a. Submit a copy of the District-approved Landscape Documentation Package and Water Efficient Landscape Worksheet to the City.

b. Provide the property owner or site manager a copy of the District-approved Landscape Documentation Package, in addition to the record drawings and any other information normally forwarded to the property owner or site manager.

3. Upon review and approval of the Landscape Documentation Package by the City, the project applicant shall:

a. Record the date of the permit on the Certificate of Completion.

b. File the Certificate of Completion with the City and the District, and provide a copy to the property owner or designee.

c. Provide the property owner or designee a copy of the City approved Landscape Documentation Package, in addition to the record drawings, and any other information normally forwarded to the property owner or designee.

4. Each Landscape Documentation Package shall include the following elements:

a. A completed Landscape Documentation Package Checklist (Appendix A), which includes the date, project applicant, and project address information. This checklist serves to verify that the elements of the Landscape Documentation Package have been completed;

b. Total landscaped area (square feet);

c. Project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed, etc.);

d. Water Efficient Landscape Worksheet (Appendix B), which may be imbedded in the plan sheets of the Landscape Documentation Package, and include the following:

i. Hydrozone Information Table (reference Appendix C);

e. Water Budget Calculations (reference Appendix D) that adhere to the following requirements:

i. The plant factor used shall be from WUCOLS. The plant factors range from 0 to 0.3 for the low use plants, from 0.4 to 0.6 for the moderate use plants, from 0.7 to 1.0 for the high use plants and 1.1 to 1.2 for water features,

ii. All water features shall be included in the 1.1 to 1.2 hydrozone and temporary irrigated areas shall be included in the low water use hydrozone. For the calculation of the maximum applied water allowance (MAWA) and estimated total water use, a project applicant shall use ETo values from the Reference Evapotranspiration Table, Appendix C. For geographic areas not covered in Appendix C, use data from other cities located nearby in the same reference evapotranspiration zone;

f. Landscape Design Plan;

g. Irrigation Design Plan;

h. Grading Design Plan (as required by the City depending upon site conditions);

i. Soil Management Report (as required by the City depending upon site conditions); and

j. All plans must contain a signature block for both the City and the District.

B. Landscape Design Plan. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package. For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project.

1. Any plant may be selected for the landscape, providing the estimated total water use in the landscape area does not exceed the MAWA, and providing the plan is consistent with the requirements of Chapter 21.60 of the Municipal Code. To encourage the efficient use of water the following is highly recommended:

a. Protection and preservation of native species and natural vegetation;

b. Selection of water-conserving plant and turf species;

c. Selection of trees based on applicable local tree ordinances or tree shading guidelines; and

d. Selection of plants from local and regional landscape program plant lists.

2. Specifications for Landscape Design Plan. The landscape design plan shall be drawn on thirty-six-inch (36″) by twenty-four-inch (24″) project base sheets at a scale that accurately and clearly identifies the following:

a. Tract name, tract number or parcel map number on cover sheet;

b. Proposed planting areas;

c. Plant material location and size;

d. Plant botanical and common names;

e. Plant spacing, where applicable;

f. Natural features including, but not limited to, rock outcroppings, and existing trees and shrubs that will remain incorporated into the new landscape;

g. Vicinity map showing site location on top sheet or on cover sheet;

h. Title block on each sheet with the name and address of the project, and the name and address of the professional design company with its signed professional stamp, if applicable;

i. Reserve two (2) six-inch (6″) by three-inch (3″) spaces for: (i) the City signature block, and (ii) a District signature block in lower right corner of the cover sheet and on all of the landscape, irrigation design/detail/specification sheets;

j. Show plan scale and north arrow on design sheets;

k. Show graphic scale on all design sheets;

l. Show all property lines and street names;

m. Show all paved areas, such as driveways, walkways and streets;

n. Show all pools, ponds, lakes, fountains, water features, fences and retaining walls;

o. Show locations of all overhead and underground utilities within project area;

p. Provide an index map, as necessary, showing the overall project, including all 1/4 and 1/16 section lines and section numbers;

q. Contain a statement that the landscape design plan complies with any and all District requirements regarding District easements;

r. Show MAWA for the proposed project (see formula in Appendix C and Sample MAWA, Appendix D);

s. Show total landscaped area in square feet. Separate area square footages by hydrozone. Show the total percentage area of each hydrozone. Include total area of all water features as separate hydrozones of still or moving water. Show estimated total water use, for each major plant group hydrozone and water feature hydrozone expressed in either seasonal (turf grass) or annual (trees, shrubs, groundcovers and water features) billing units;

t. Show total estimated total water use for each major plant group hydrozone and water feature hydrozone expressed in either seasonal (turf grass) or annual (trees, shrubs, groundcovers and water features) billing units;

u. Show total estimated water use for the entire project. (Formula in Appendix C and on Sample Calculation Estimated Water Use, Appendix D.) The total estimated use shall not exceed the MAWA;

v. Designate recreational areas and recreational turf areas; and

w. When model homes are included, show the MAWA and estimated total water use (by hydrozone with totals) for each model unit.

3. Landscape Design Criteria.

a. The landscape design must be carefully planned and take into account the intended function of the project.

b. Plants' appropriateness shall be selected based upon their adaptability to the climatic, geologic and topographical conditions of the site.

c. Selection of water-efficient and low-maintenance plant material is suggested.

d. All planted areas must be a minimum of one inch (1″) below adjacent hardscapes to eliminate runoff and overflow.

e. Long, narrow or irregularly shaped turf areas shall not be designed because of the difficulty in irrigating uniformly without overspray onto hardscaped areas, streets and sidewalks. Areas less than ten feet (10′) in width shall not be designed with turf. Turf will be allowed in these areas only if irrigation design reflects the use of subsurface irrigation or a surface flow/wick irrigation system.

f. Turf areas irrigated with spray/rotor systems must be set back at least twenty-four inches (24″) from curbs, driveways, sidewalks or any other area that may result in runoff of water onto streets. An undulating landscape buffer area created by the setback shall be designed with rocks, cobble or decomposed granite and/or can be landscaped with drip irrigated shrubs/accents or covered with a suitable groundcover.

g. Plants having similar water use shall be grouped together in distinct hydrozones.

h. The use of a soil covering mulch or a mineral groundcover of a minimum three-inch (3″) depth to reduce soil surface evaporation is required around trees, shrubs and on nonirrigated areas. The use of boulders and cobble shall be considered to reduce the total vegetation area.

i. Annual color plantings shall be used only in areas of high visual impact and must be irrigated with drip, microirrigation or other systems with efficiencies of ninety (90) percent or greater, except for during plant introduction period. Otherwise, drip irrigated, perennial plantings should be the primary source of color.

j. Native desert plants shall be specified to be planted in a shallow, wide, rough hole two (2) times the root ball width. The root ball will be set on either undisturbed native soil or a firmed native soil. The root ball top will be set even with the finished surface grade or above grade if the soil is poorly drained. The hole must be backfilled with native soil. Extra soil may be used to mound up around plants where the soil is poorly drained.

k. Landscaping must not obstruct or interfere with street signs, lights or road/walkway visibility. Screening may be provided by walls, berms or plantings.

l. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians, unless irrigated with drip or microirrigation systems.

m. Use plant materials that are consistent with climate, geologic and topographical conditions of the site.

n. Planter islands in parking lots with canopy trees shall be sized to meet City requirements.

o. A landscape plan in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant material and highly flammable mulches.

p. The use of invasive and/or noxious plant species is prohibited.

q. The architectural guidelines of a common interest development, which includes community apartment projects, condominiums, planned developments and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group (California Civil Code Section 1353.8).

D. Grading Design Plan (as required by the City depending upon site conditions).

1. For efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package. A comprehensive grading plan prepared by a civil engineer for other City permits satisfies this requirement.

2. The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:

a. Height of graded slopes;

b. Drainage patterns;

c. Pad elevations;

d. Finish grade; and

e. Stormwater retention improvements, if applicable.

3. To prevent excessive erosion and runoff, it is highly recommended, and per City requirements, that project applicants:

a. Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;

b. Avoid disruption of natural drainage patterns and undisturbed soil; and

c. Avoid soil compaction in landscape areas.

4. The grading design plan shall contain the following statement: “I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading plan.”

5. Turf is not allowed on slopes greater than twenty-five (25) percent where the toe of the slope is adjacent to an impermeable hardscape and where twenty-five (25) percent means one foot (1′) of vertical elevation change for every four feet (4′) of horizontal length (rise divided by run x 100 = slope percent).

6. Slopes greater than twenty-five (25) percent shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff must be confirmed during an irrigation audit.

7. All grading must retain normal stormwater runoff and provide for an area of containment. All irrigation water must be retained within property lines and not allowed to flow into public streets or public rights-of-way. Where appropriate, a simulated dry creek bed may be used to convey storm drainage into retention areas. A drywell shall be installed if the retention basin is to be used as a recreational area.

8. Mounded or sloped planting areas that contribute to runoff onto hardscape are prohibited. Sloped planting areas above a hardscaped area shall be avoided unless there is a drainage swale at toe of slope to direct runoff away from hardscape.

9. Median islands must be graded to prevent stormwater and excess irrigation runoff.

E. Irrigation Design Plan. For the efficient use of water, an irrigation system shall meet all the requirements listed in this Section and the manufacturer’s recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following criteria shall be submitted as part of the Landscape Documentation Package.

Separate landscape water meters shall be installed for all projects except single-family homes with a landscape area less than five thousand (5,000) square feet. Landscape meters for single-family homes with a landscape area over five thousand (5,000) square feet may be served by a permanent service connection provided by the District or be a privately owned submeter installed at the irrigation point of connection on the customer service line. When irrigation water is from a well, the well shall be metered. The irrigation design plan shall be drawn on project base sheets. It should be separate from, but use the same format as, the landscape design plan. The irrigation system specifications shall accurately and clearly identify the following:

1. Specifications for Irrigation Design.

a. Control valves, manufacturer's model number, size and location.

b. Irrigation head manufacturer's model number, radius, operating pressure, gallons per minute/gallons per hour (gpm/gph) and location.

c. Piping type, size and location.

d. Point of connection or source of water and static water pressure.

e. Meter location and size (where applicable).

f. Pump station location and pumping capacity (where applicable).

g. Power supply/electrical access and location.

h. Plan scale and north arrow on all sheets.

i. Graphic scaling on all irrigation design sheets.

j. Irrigation installation details and notes/specifications.

k. The irrigation system shall be automatic, constructed to discourage vandalism and simple to maintain.

l. All equipment shall be of proven design with local service available.

m. Show location, station number, size, and design gpm of each valve on plan. Control valves shall be rated at two hundred (200) psi.

n. Visible sprinklers near hardscape shall be of pop up design.

o. All heads should have a minimum number of wearing pieces with an extended life cycle.

p. Sprinklers, drippers, valves, etc., must be operated within manufacturer's specifications.

q. Manual shut-off valves shall be fully ported ball valves or butterfly valves. Manual shut-off valves are required upstream of automatic valve manifolds.

r. Master valves shall be metal, located as close to the point of connection as possible, and be metal piped between the master valve and the water meter.

s. High flow sensors that detect and report high flow conditions created by system damage or malfunction shall be specified for all projects where a dedicated landscape irrigation meter is required.

t. The following statement "I have complied with the criteria of the ordinance and have applied them accordingly for the efficient use of water in the irrigation design plan."

u. The signature of a licensed landscape architect, certified irrigation designer, irrigation consultant, landscape contractor or any other person authorized to design an irrigation system.

2. Specifications for Irrigation Efficiency. The minimum irrigation efficiency shall be 0.75 (seventy-five (75) percent). Greater irrigation efficiencies are expected from well-designed and maintained systems. The following are required:

a. Design spray head and rotor head stations with consideration for worst wind conditions. Close spacing and low-angle nozzles are required in high and frequent wind areas (ETo Zone No. 5);

b. Spacing of sprinkler heads shall not exceed manufacturer's maximum recommendations for proper coverage. The plan design shall show a minimum of 0.75 (seventy-five (75) percent) distribution uniformity;

c. Only irrigation heads with matched precipitation rates shall be circuited on the same valve;

d. Valve circuiting shall be designed to be consistent with hydrozones;

e. Individual hydrozones that mix plants that are moderate and low water use may be allowed if:

i. Plant factor calculation is based on the proportions of the respective plant water uses and their plant factor, or

ii. The plant factor of the higher water using plant is used for the calculations;

f. Individual hydrozones that mix high and low water use plants shall not be permitted; and

g. On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the hydrozone information table. This table can assist with pre-inspection and final inspection of the irrigation system, and programming the controller.

3. Irrigation System Criteria.

a. Reduced pressure backflow prevention devices shall be installed behind meter at curb by the District.

b. Show location, station number, size and design gpm of each valve on plan.

c. Smart controllers shall be specified for all projects. This includes climate based or sensor based controllers, which can automatically adjust for local weather and/or site conditions.

d. High flow check valves shall be installed in or under all heads adjacent to street curbing, parking lots and where damage could occur to property due to flooding, unless controllers with flow sensor capabilities are specified that can automatically shut off individual control valves when excess flow is detected.

e. Pressure compensating screens/devices shall be specified on all spray heads to reduce radius as needed to prevent overthrow onto hardscape and/or to control high pressure misting.

f. All irrigation systems shall be designed to avoid runoff onto hardscape from low head drainage, overspray and other similar conditions where water flows onto adjacent property, nonirrigated areas, walks, roadways or structures.

g. Rotor type heads shall be set back a minimum of two feet (2′) from hardscape.

h. The use of drip, microirrigation or pressure compensating bubblers or other systems with efficiencies of ninety (90) percent or greater is required for all shrubs and trees. Small, narrow (less than eight feet (8′)), irregularly shaped or sloping areas shall be irrigated with drip, microspray or PC (pressure compensating) bubbler heads.

i. Trees in turf areas shall be on a separate station to provide proper deep watering.

j. Street Median Irrigation.

i. No overhead sprinkler irrigation system shall be installed in median strips or in islands, except overhead sprinkler irrigation systems that are intended for use only during annual plant introduction periods.

ii. Median islands or strips shall be designed with either a drip emitter to each plant or subsurface irrigation. Bubblers used for trees must be fixed-flow pressure compensating type. Adjustable bubblers are prohibited.

k. Meter sizing for landscape purposes shall be thirty-three (33) gpm per planted acre. Maximum design meter flow rates are: 3/4″ = 23 gpm, 1″ = 37 gpm, 1 1/2″ = 80 gpm, 2″ = 120 gpm.

l. Large projects, as determined by the District, may have specific recycled water requirements pursuant to District Ordinance No. 1302.2 Section 0.00.030E(3)(l).

4. Drip Irrigation System Criteria.

a. The drip system must be sized for mature-size plants.

b. The irrigation system should complete all irrigation cycles during peak use in about twelve (12) hours. Normally, each irrigation controller should not have more than four drip stations that operate simultaneously.

c. Field installed below ground pipe connections shall be threaded PVC or glued PVC. Polyethylene tubing is allowed only in subsurface installations. Drip emitter installation shall be directly into polyethylene tubing on a one-fourth-inch (1/4″) thick-walled riser. Multi-port outlet devices and multi-port distribution is prohibited.

d. Proportion gallons per day per plant according to plant size. The following sizing chart is for peak water use. The low to high end of the range is according to the relative water requirements of the plants. The low end is for desert natives and the high end is for medium water use type plants.

Size of Plant	Gallons Per Day
Large trees (over 30-foot diameter)	58+ to 97+
Medium trees (about 18-foot diameter)	21 to 35
Small trees/large shrubs (9-foot diameter)	6 to 10
Medium shrubs (3.5-foot diameter)	0.8 to 1.3
Small shrubs/groundcover	0.5 or less

e. Plants with widely differing water requirements shall be valved separately. As an example, separate trees from small shrubs and cactus from other shrubs. Multiple emitter point sources of water for large shrubs and trees must provide continuous bands of moisture from the root ball out to the mature drip line plus twenty (20) percent of the plant diameter. See Appendix C for more information on emitter spacing and wetted area.

f. Most plants require fifty (50) percent or more of the soil volume within the drip line to be wetted by the irrigation system. See Appendix C for more information. For additional information on plant watering and plant relative water needs, see the plant list section of the “Lush and Efficient, Landscape Gardening in the Coachella Valley” or a list provided by the City. See also the City requirements in Chapter 21.60.

5. Recycled Water Specifications.

a. When a site has recycled water available or is in an area that will have recycled water available as irrigation water, the irrigation system shall be installed using the industry standard purple colored or marked “Recycled Water Do Not Drink” on pipes, valves and sprinkler heads.

b. The backup groundwater supply (well water or domestic water) shall be metered. Backup supply water is only for emergencies when recycled water is not available.

c. Recycled water users must comply with all county, state and federal health regulations. Cross connection control shall require a six-inch (6″) air gap system or a reduced pressure backflow device. All retrofitted systems shall be dye tested before being put into service.

d. Where available, recycled water shall be used as a source for decorative water features.

e. Sites using recycled water are not exempted from the MAWA, prescribed water audits or the provisions of these criteria.

f. A Recycled Water Checklist (Appendix F) shall be submitted to the District upon submittal of the first plan check of the landscape design plan and the irrigation design plan.

6. Irrigation Water (Nonpotable) Specifications.

a. When a site is using nonpotable irrigation water that is not recycled water (from an on-site well or canal water) all hose bibs shall be loose key type and quick coupler valves shall be of locking type with nonpotable markings to prevent possible accidental drinking of this water.

b. Sites using nonpotable irrigation water are not exempted from the MAWA, prescribed water audits or the provisions of these criteria.

7. Groundwater Water Specifications. Sites using groundwater irrigation water from wells are not exempted from the MAWA, prescribed water audits, or the provisions of these criteria.

8. Golf Course Criteria.

a. All new golf courses and additions or renovations to existing golf courses must comply with the requirements in District Ordinance No. 1302.2.

b. All non-turf areas such as ponds, lakes, artificial water courses, bunkers and irrigated landscapes within the golf course project area must not exceed the MAWA calculations set forth within these criteria. (Ord. 695 § 2, 2016; Ord. 636 § 2, 2010)

Contact:

City Clerk: 760-346-2489