

Irrigation Pipe Sizing Chart *	
Pipe Size in diameter	Maximum Allowable Flow
1/2"	5 Gallons Per Minute
3/4"	10 Gallons Per Minute
1"	16 Gallons Per Minute
1-1/4"	26 Gallons Per Minute
1-1/2"	40 Gallons Per Minute
2"	60 Gallons Per Minute

* Refer to plant list/emitter schedule for emitter model # and GPH for each plant species.

Irrigation Pipe Notes

- Mainline, laterals and valves are shown outside planting areas for graphic clarity only. They shall be installed in shrub areas.
- Schedule 40 PVC pipe sleeve under major non removable hardscape (including sidewalks, drives, parking surfaces, curbs, etc.) Sleeve minimum 2 times larger than irrigation pipe.
- Before installation, owner is to approve irrigation controller location and provide electrical source for controller.
- Contractor to replace and/or repair all landscape and irrigation damage during construction on site.

Irrigation Legend/Schedule							
Symbol	Manufacturer	Model #	Description	Nozzle	Radius	GPM Flow	PSI
■	Rainbird	1404 Series	Bubbler	1404	-	1	25
○	Rainbird	XB-Series	Drip Emitter	XB-10	-	1	30
* Symbol indicates bubblers in multiple groups. See Details							
A	Rainbird	ESP-16LX	16 Station Outdoor "Smart" Irrigation Valve Controller				
⊙	Rainbird	XACZ-LF-0.75	Outdoor Control Valve Kit for Drip Areas as indicated on Irrigation plans.				
⊕	Rainbird	"DV" Series	Outdoor Control Valve Kit for Turf Areas, Tree, Palms, and Shrub Bubblers. Size per plan.				
⊗	KBI	#MIP-1000-T	Ball Valve (Line Size). See Irrigation Plan Details.				
○	Rainbird	3RC	3/4" Quick Coupler. See Irrigation Plan Details.				
2" Diameter constant pressure mainline schedule 40 PVC irrigation pipe							
Non constant pressure lateral line PVC schedule 200 (schedule 40 may be substituted)							
Irrigation Point Of Connection - 2" diameter PVC schedule 40 from existing meter source							
Backflow Prevention device							
Schedule 40 PVC pipe sleeve under major non removable hardscape (including sidewalks, drives, parking surfaces, curbs, etc.) Sleeve minimum 2 times larger than irrigation pipe.							
Controller Number							
Flow in Gallons Per Minute							
Zone Type							
Electric Controlled Valve Size							

Mission Springs Water District
Water Efficient Landscaping Checklist

Project Site: Tenant Improvement for Sun Grow Collective Case Number: APN 857-220-19 & 22
Project Location: 14-080 Palm Drive, Desert Hot Springs, California, 92240
Landscape Architect/Irrigation Designer/Contractor: Gabriel King

Included in this project submittal are:
(Check to indicate completion)

☒ 1.

Maximum Annual Applied Allowance:
Conventional Landscape: 1,204.13 100 cubic feet/year
Recreational Turfgrass Landscape: 0 100 cubic feet/year
Total Maximum Annual Applied Water Allowance: 1,204.13 100 cubic feet/year

☒ 2.

Estimated Annual Applied Water use by Hydrozone:
Turfgrass: 0 100 cubic feet/year
Recreational Turfgrass: 0 100 cubic feet/year
Annuals/Perennials: 0 100 cubic feet/year
Exotic Trees/Shrubs: 0 100 cubic feet/year
Desert Plants: 0 100 cubic feet/year
Water Features: 0 100 cubic feet/year
Exotic Trees/Shrubs: 0 100 cubic feet/year
Other: 0 100 cubic feet/year

☒ 3.

Estimated Annual Total Water use:
686.85 100 cubic feet/year

☒ 4.

Landscape Design Plan

☒ 5.

Irrigation Design Plan

☒ 6.

Grading Design Plan

☒ 7.

Soil Chemical Analysis (optional)

Description of Project:
(Briefly describe the planning and design actions that are intended to achieve conservation and efficiency in water use)
NO LAWN HAS BEEN USED ON THIS PROJECT. ALL REMAINING LANDSCAPING IS DROUGHT-TOLERANT PER MSWD AND CITY OF DESERT HOT SPRINGS VORTEX PLANT LIST. ALL PLANTS HAVE BEEN DRIP IRRIGATED WITH TREE BUBBLERS ON SEPARATE VALVES.

Date: November 19, 2014 Prepared by: Gabriel King

Water Calculations - Water Use Classification Of
Landscape Species (W.U.C.O.L.S.) Zone #6

M.A.A.W.A. = 93.9 x .5 x 25,785 x 0.62 / 748 / .9 = 1,204.13

Low Water Using Plants - E.A.A.W.A. = 93.9 x .2 x 17,276 x 0.62 / 748 / .9 = 268.92

Moderate Water Using Plants - E.A.A.W.A. = 93.9 x .5 x 8,509 x 0.62 / 748 / .9 = 367.93

Total Estimated Water Use = 636.85

Mission Springs Water District Irrigation Requirements

District requires that:

1.

All irrigation systems for this property be designed and installed in a way that avoids runoff, low-head drainage, overspray, or other situations where water flows onto adjacent property, non irrigated areas, walks, roadways, or structures.

2.

Lawn and shrub spray-heads shall be setback from hard-scape a minimum of 18". This setback is 4' for rotor-type heads.

3.

The irrigation system must be adjusted, maintained, and closely monitored by you or your irrigation contractor to avoid water waste and/or over-saturation of on-site soils.

4.

The irrigation system should not be operated during windy times or during the warmest parts of the day when water loss due to evaporation is highest.

5.

Landscaping irrigation is not allowed between the hours of 9:00am and 5:00pm except through the use of a handheld bucket or hose equipped with a positive shutoff valve or device, or for short periods of time for the express purpose of adjustment or repairs to the irrigation system. Overhead irrigation shall be limited to the hours of 8:00pm to 9:00am to minimize water caused by irrigation during times of high wind, high temperature, etc.

6.

Item 7 on the checklist - The Soil Management Plan - shall include results of a soil probe test to determine sufficient soil depth to support to support intended plants, representative samples(s) of the site shall be taken and submitted to an approved laboratory that will provide a soils report that includes evaluation and results detailing the following: soil type and texture, infiltration rate, Ph, total soluble salts, and sodium. Along with a soils report shall be a summary.

7.

In order to prevent low head drainage on all sloped areas, PVC lateral supply lines shall run perpendicular to slope direction.

8.

All controllers to be Automatic Smart Control Systems (solar or electric, solid state timer, capable of operating valve stations to set days and length of time of a water application automatically in response to changing weather conditions and/or soil moisture levels) shall be required for all irrigation systems and accommodate all aspects of the irrigation/landscape design. Mechanical controllers are prohibited.

9.

Anti-drain (check) valves shall be installed in strategic points to prevent low-head drainage.

General Irrigation Notes

1.

All sprinkler heads shall be set perpendicular to finish grade of the area to be irrigated unless otherwise designated on plans.

2.

The sprinkler system design is based on the minimum operating pressure and the maximum flow demand shown in the irrigation drawings at the meter or point of connection. The irrigation contractor shall verify the water pressure prior to construction. Report any differences between the water pressure indicated on the drawings and the actual water pressure reading at the irrigation point of connection to the owners authorized representative. In the event pressure differences are not reported prior to start of construction, the irrigation contractor shall assume full responsibility for any revisions necessary.

3.

120 Volt electrical power outlet at automatic controller location shall be provided by others. It shall be the responsibility of the irrigation contractor to make the final hook up from the electrical outlet to the automatic controller.

4.

This design is diagrammatic. All piping, valves, etc. shown within paved areas is for design clarification only and shall be installed in planting areas. Avoid any conflicts between the sprinkler system, planting and architectural features.

5.

The irrigation contractor shall flush and adjust all sprinkler heads for optimum performance and to allow for no overspray onto walks, roadways and/or buildings. This shall include selecting the best degree of arc to fit the existing site conditions and to throttle the flow control at each valve to obtain operating pressure for each system.

6.

Do not willfully install the sprinkler system as shown on the drawings when it is obvious in the field that obstructions, grade differences or grade differences in the area dimensions exist that might not have been considered in the calculations. Said discrepancies shall be brought to the owners representative's attention. In the event said notification is not performed, the irrigation contractor shall assume full responsibility for any revisions required.

7.

In addition to installation of wire sleeves as shown on drawings, irrigation contractor shall install wire sleeves of sufficient size under all other paved areas.

8.

Contractor shall contact city or water district representative for pressure test of main line prior to backfilling trenches.

Landscape Irrigation Plan

Scale: 1" = 20'

sheet a2.1 or L1