

- ### IRRIGATION NOTES
1. THIS SYSTEM IS DIAGRAMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
  2. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST AND SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR REVISIONS NECESSARY.
  3. SYSTEM DESIGN IS BASED ON MINIMUM OPERATING PRESSURE SHOWN AT EACH POINT OF CONNECTION WITH MAXIMUM GPM DEMAND SPECIFIED. IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE PRIOR TO CONSTRUCTION TO OWNER'S CONSTRUCTION REPRESENTATIVE.
  4. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, CURBS, ETC. HE SHALL COORDINATE ALL HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CRONTACTORS FOR LOCATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADS, PAVING AND STRUCTURES.
  5. MAINLINE FEEDER BETWEEN POINT OF CONNECTION, METER, AND BACKFLOW PREVENTER TO BE OF MATERIAL REQUIRED BY CURRENT WATER DISTRICT.
  6. FINAL LOCATION OF THE AUTOMATIC CONTROLLER ENCLOSURE AND THE BACKFLOW PREVENTION DEVICE SHALL BE APPROVED BY THE CITY'S AND OWNER'S REPRESENTATIVE, AND/OR LANDSCAPE ARCHITECT, WHERE APPLICABLE.
  7. IN ADDITION TO THE SLEEVES SHOWN ON THE PLAN, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SLEEVES OF SUFFICIENT SIZE UNDER ALL PAVED AREAS PRIOR TO PAVING UPON APPROVAL OF THE OWNER'S REPRESENTATIVE, IF REQUIRED TO OPERATE SYSTEMS.
  8. IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, STREETS, AND BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST NOZZLE RADIUS TO FIT UNUSUAL SITE CONDITIONS FOR APPROVAL PURPOSES AT NO EXTRA CHARGE. CALL LANDSCAPE ARCHITECT 48 HOURS IN ADVANCE FOR ANY COVERAGE TESTS.
  9. QUALITY CONTROL OBSERVATION SEQUENCES ARE FOUND IN THE SPECIFICATIONS.
  10. CLEAN-UP ON A DAILY BASIS PER OWNER'S REPRESENTATIVE'S APPROVAL.

### IRRIGATION LEGEND

| SYMBOL | MANUFACTURER | MODEL NUMBER                  | DESCRIPTION       | RADIUS | G.P.M. | P.S.I. |
|--------|--------------|-------------------------------|-------------------|--------|--------|--------|
| X      | RAINBIRD     | RD-04-S-P45-F-R-VAN14-90      | POP-UP-SPRAY HEAD | 14'    | 0.32   | 45     |
| ▽      | RAINBIRD     | RD-04-S-P45-F-R-VAN14-180     | POP-UP-SPRAY HEAD | 14'    | 0.63   | 45     |
| ▽      | RAINBIRD     | RD-04-S-P45-F-R-VAN14-210     | POP-UP-SPRAY HEAD | 14'    | 0.73   | 45     |
| X      | RAINBIRD     | RD-04-S-P45-F-NP-R-VAN14-360  | POP-UP-SPRAY HEAD | 14'    | 1.27   | 45     |
| ▽      | RAINBIRD     | RD-04-S-P45-F-R-VAN18-90      | POP-UP-SPRAY HEAD | 17'    | 0.5    | 45     |
| ⊙      | RAINBIRD     | RD-04-S-P45-F-R-VAN18-180     | POP-UP-SPRAY HEAD | 17'    | 1.01   | 45     |
| ⊙      | RAINBIRD     | RD-04-S-P45-F-R-VAN18-210     | POP-UP-SPRAY HEAD | 17'    | 1.17   | 45     |
| ⊙      | RAINBIRD     | RD-04-S-P45-F-R-VAN18-360     | POP-UP-SPRAY HEAD | 17'    | 1.85   | 45     |
| ⊙      | RAINBIRD     | 5004                          | ROTOR             | 25'    | 1.00   | 45     |
| ⊙      | RAINBIRD     | 5004-PC-SAM-R-SS-MPR-25-Q     | ROTOR             | 25'    | 1.98   | 45     |
| ⊙      | RAINBIRD     | 5004-FC-SAM-R-SS-MPR-25-F     | ROTOR             | 25'    | 3.82   | 45     |
| ⊙      | RAINBIRD     | 5004-S-PC-SAM-1.0             | ROTOR             | 25'    | 1.98   | 45     |
| ⊙      | RAINBIRD     | 5012-S-PC-SAM-R-5000-MPR-25-H | ROTOR             | 25'    | 1.98   | 45     |
| ⊙      | RAINBIRD     | 5012-S-PC-SAM-R-5000-MPR-25-Q | ROTOR             | 25'    | 1.00   | 45     |
| ⊙      | RAINBIRD     | 3500-S-PC-SAM-0.75            | ROTOR             | 17'    | 0.77   | 45     |

### EQUIPMENT

| SYMBOL | MODEL                    | DESCRIPTION   |
|--------|--------------------------|---|
| M      |                          | 1-1/2" WATER METER - EXISTING   |
| ■      | FEBCO 825Y               | 2" REDUCED PRESSURE BACKFLOW DEVICE w/ WYE STRAINER 60-MESH AND STAINLESS STEEL STRONGBOX ENCLOSURE |
| ■      | FEBCO 825YA              | 3/4" REDUCED PRESSURE BACKFLOW DEVICE w/ STAINLESS STEEL STRONGBOX ENCLOSURE                        |
| ■      | WILKENS 500 SERIES       | 2" PRESSURE REGULATOR   |
| ⊙      | CALSENSE FM-1.0B         | 1" FLOW SENSOR  |
| ⊙      | RAINBIRD 200-EFB-CP      | 2" MASTER VALVE, NORMALLY CLOSED  |
| ⊙      | NIBCO T-585              | LINE-SIZE FULL PORT BRONZE BALL VALVE   |
| ⊙      | RAINBIRD EFB-CP-PRS-D    | REMOTE CONTROL GLOBE VALVE, SIZE AS SHOWN. ADD PRESSURE REGULATOR AS NEEDED.                        |
| ⊙      | RAINBIRD XCZ-PRB-100-COM | 1" DRIP ZONE VALVE KIT IN-LINE w/ 200MESH FILTER AND 40 PSI REGULATOR                               |
| ⊙      | RAINBIRD 44-DLRC         | 1" QUICK COUPLER POTABLE w/ 2 KEYS 44s-DK   |
| ⊙      | NETAFIM TISOV            | MANUAL FLUSH VALVE FOR DRIP SYSTEM  |
| A      | CALSENSE ET3000          | CALSENSE 24 STATION STAINLESS STEEL PEDESTAL MOUNTED CONTROLLER ASSEMBLY #ET2000a-48-LR-M-RRb-SSSDR |

### PRESSURE LOSS CALCULATION

| VALVE NUMBER                                  | A30  | GPM           | 14.9  | 114.0 |
|---|------|---------------|-------|-------|
| STATIC PRESSURE @ WATER METER                 |      |               |       |       |
| SIZE DESCRIPTION                              |      | GPM           | LOSS  |       |
| 2.00 SERVICE LINE                             | 40   | 0.31          | 14.9  | 0.12  |
| 1.50 WATER METER Length                       |      |               | 14.9  | 0.30  |
| 2.00 BACKFLOW PREVENTER                       |      |               | 14.9  | 10.00 |
| 2.00 MASTER VALVE                             |      |               | 14.9  | 0.40  |
| 1.00 FLOW SENSOR                              |      |               | 14.9  | 0.16  |
| 2.00 PRESSURE REGULATOR                       |      |               | 14.9  | 0.50  |
| 1.00 GATE / BALL VALVE                        |      |               | 14.9  | 0.06  |
| 1.00 REMOTE CONTROL VALVE                     |      |               | 14.9  | 1.20  |
| 2.00 MAINLINE                                 | 154  | 0.22          | 14.9  | 0.34  |
| Length  |      | PSI loss/100' | GPM   |       |
| 0.75 LATERAL LINE                             | 20   | 0.12          | 1.0   | 0.02  |
| Length  |      | PSI loss/100' | GPM   | Loss  |
| 0.75 LATERAL LINE                             | 20   | 0.94          | 3.0   | 0.19  |
| Length  |      | PSI loss/100' | GPM   | Loss  |
| 0.75 LATERAL LINE                             | 20   | 2.42          | 5.0   | 0.48  |
| Length  |      | PSI loss/100' | GPM   | Loss  |
| 0.75 LATERAL LINE                             | 20   | 4.52          | 6.9   | 0.90  |
| Length  |      | PSI loss/100' | GPM   | Loss  |
| 1.00 LATERAL LINE                             | 2    | 2.17          | 8.9   | 0.04  |
| Length  |      | PSI loss/100' | GPM   | Loss  |
| 1.25 LATERAL LINE                             | 58   | 1.62          | 14.9  | 0.94  |
| Length  |      | PSI loss/100' | GPM   | Loss  |
| TOTAL PVC LATERAL LINE LOSS                   |      |               |       | 2.58  |
| PVC LATERAL LINE FITTING LOSS (10%)           |      |               |       | 0.26  |
| TOTAL FRICTION LOSS                           |      |               |       | 15.9  |
| ELEVATION CHANGE =                            | 33.0 | x             | 0.433 | 14.29 |
| PSI REQUIRED AT HEAD                          |      |               |       | 45.0  |
| TOTAL PSI REQUIRED                            |      |               |       | 75.2  |
| REGULATED PRESSURE @ POC                      |      |               |       | 87.0  |
| SET PRESSURE REGULATOR TO BRING PRESSURE DOWN |      |               |       |       |
| RESIDUAL PRESSURE (MUST BE POSITIVE)          |      |               |       | 11.8  |

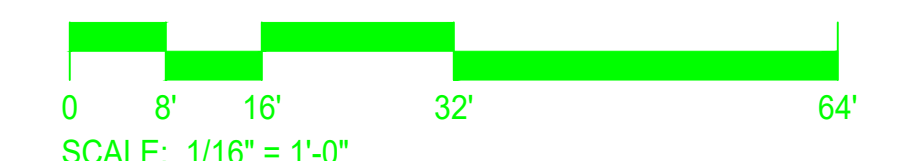
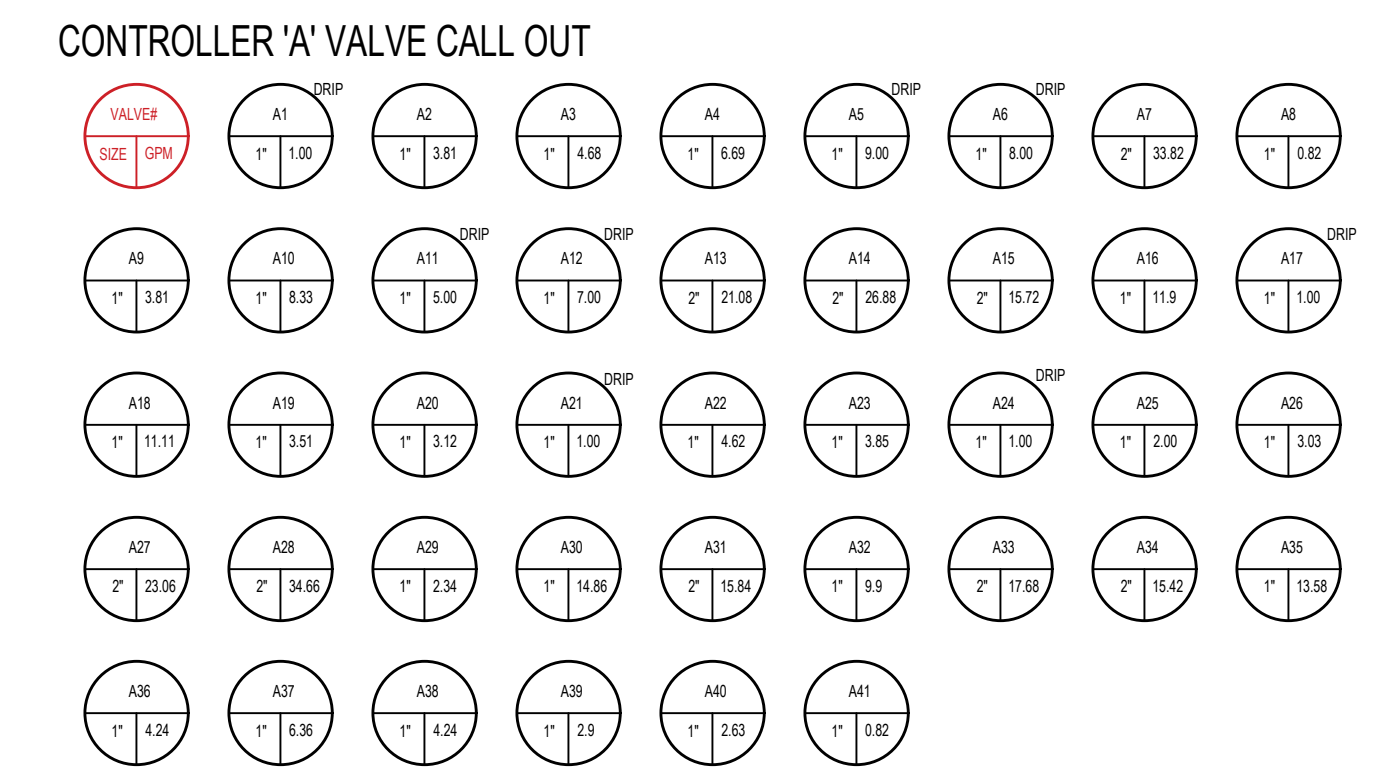
### WATER EFFICIENT LANDSCAPE WORKSHEET

#### Non-Residential Landscape Projects

Reference ETo for the area ETo = 54.6

**Estimated Total Water Use (ETWU):**  
ETWU is calculated using the following formula: (Eto) (.62) (ETAF) (LA)

| Hydrozone # / Planting Description  | Plant Factor (PF) | Irrigation Method | Irrigation Efficiency (IE) | ETAF (PF/IE) | Landscape Area (sq. ft.) | ETAF x Landscape Area | Estimated Total Water Use (ETWU) gallons/yr |
|---|-------------------|-------------------|----------------------------|--------------|--------------------------|-----------------------|---|
| <b>Regular Landscape Areas</b>  |                   |                   |                            |              |                          |                       |   |
| H21 - Low Shrub   | 0.2               | Dripline          | 0.81                       | 0.25         | 5,895                    | 1456                  | 49273                                       |
| H22 - Mod Shrub   | 0.4               | Rotors            | 0.75                       | 0.53         | 12,123                   | 6466                  | 218873                                      |
| H23 - High Turf   | 0.7               | Rotator           | 0.75                       | 0.93         | 0                        | 0                     | 0   |
| H24 - High Turf   | 0.7               | Dripline          | 0.81                       | 0.86         | 0                        | 0                     | 0   |
| H25 - Mod Tree  | 0.5               | Bubbler           | 0.81                       | 0.62         | 226                      | 140                   | 4723  |
| H26 - Water Features  | 0.8               | -                 | 1.00                       | 0.80         | 0                        | 0                     | 0   |
|   |                   |                   |                            |              | <b>Totals</b> 18,244     | <b>8061</b>           |   |
| <b>Special Landscape Areas</b>  |                   |                   |                            |              |                          |                       |   |
| H27 - Edible  |                   |                   |                            | 1            | 0                        | 0                     | 0   |
| H28 - Recreation Areas  |                   |                   |                            | 1            | 19,993                   | 19993                 | 676803                                      |
|   |                   |                   |                            |              | <b>Totals</b> 19,993     | <b>19993</b>          |   |
| Estimated Total Water Use in gallons per year, ETWU Total                                 |                   |                   |                            |              |                          |                       | 949673                                      |
| Maximum Annual Water Allowance in gallons per year, MAWA Total                            |                   |                   |                            |              |                          |                       | 954721                                      |
| MAWA calculation: (Eto) (.62) ((ETAFxLA) + ((1-ETAF) x SLA)) MAWA - ETWU =                |                   |                   |                            |              |                          |                       | <b>5049</b>                                 |
| <b>ETAF Calculations</b>  |                   |                   |                            |              |                          |                       |   |
| <b>Regular Landscape Areas</b>  |                   |                   |                            |              |                          |                       |   |
| Total ETAF x Area   |                   |                   |                            |              |                          |                       | 8061  |
| Total Area  |                   |                   |                            |              |                          |                       | 18,244                                      |
| Average ETAF  |                   |                   |                            |              |                          |                       | <b>0.44</b>                                 |
| Average ETAF for Regular Landscape Areas must be 0.45 or below for non-residential areas. |                   |                   |                            |              |                          |                       |   |
| <b>All Landscape Areas</b>  |                   |                   |                            |              |                          |                       |   |
| Total ETAF x Area   |                   |                   |                            |              |                          |                       | 28054                                       |
| Total Landscape Area (LA)   |                   |                   |                            |              |                          |                       | 38,237                                      |
| Sitewide ETAF   |                   |                   |                            |              |                          |                       | 0.73  |



UCLA  
EXTENSION  
LANDSCAPE  
ARCHITECTURE  
THEO  
VUDURIS  
L.A. SEAL

PROJECT/CLIENT  
IRRIGATION / WATER  
CONSERVATION  
COURSE  
TERM PROJECT

SHEET TITLE  
IRRIGATION PLAN  
STARDUST PARK

REVISIONS

DRAWN BY  
THEO VUDURIS

CHECKED BY  
JEFF CHAMLEE

DATE  
09-02-2020

SCALE  
1/16" = 1'-0"

JOB NUMBER  
1

SHEET NUMBER  
L-1  
1 OF 1 SHTS.