

FRICTION LOSS CALCULATION	
WATER METER REF. NO.:	PLAN 1
VALVE STATION NO.:	2
HEAD / BUBBLER / EMITTER	25.00
LATERAL LINE & FITTINGS	0.10
PRESSURE REGULATOR	
FILTER	
PRESSURE MAIN LINE	0.02
CONTROL VALVE	3.74
PRESSURE REDUCER	
BACKFLOW PREVENTER	
STRAINER / FILTER	
WATER METER	0.10
SERVICE LINE	0.17
ELEVATION DIFFERENCE	0.43
CONTINGENCY	1.48
MINIMUM PSI. REQ'D.	31.04
(EXISTING PSI.)	-67.00
RESIDUAL PSI.	35.96

WATER SERVICE INFORMATION	WATER METER REF. NO.:	TYP.
TYPE OF SOURCE:		POTABLE
SERVICE LINE SIZE **:		1"
WATER METER SIZE **:		1"
(** PER STREET and/or WATER IMPROVEMENT PLANS)		
EXISTING WATER PRESSURE:		67 - 69 PSI.
MINIMUM OPERATING PRESSURE:		31 PSI.
PEAK IRRIGATION DEMAND:		2 GPM.

LOW FLOW BUBBLER SCHEDULE

NUMBER OF TUBES (OUTLETS) TO EACH PLANT:	
TREES:	(ALL) 4
SHRUBS:	ALH ALYOGYNE HUEGELII BLUE HIBISCUS 2 (ALL OTHER SHRUBS) 1
VINES:	(ALL) 1

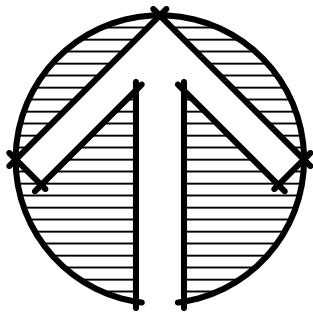
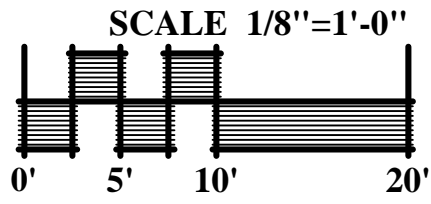
IRRIGATION NOTES (Residential Systems)

1. INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND/OR AS STATED IN THE WRITTEN SPECIFICATIONS PREPARED BY THE LANDSCAPE ARCHITECT AND THE MANUFACTURERS.
2. THIS DESIGN IS DIAGRAMMATIC. ANY EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY, AND IS TO BE INSTALLED WITHIN PLANTED AREAS WHEREVER POSSIBLE.
3. THE IRRIGATION CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT WERE NOT KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE, OR THE LANDSCAPE ARCHITECT. OTHERWISE THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
4. THE SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN AT EACH POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE PRIOR TO COMMENCING WITH THE INSTALLATION OF THE IRRIGATION SYSTEM.
5. FINAL LOCATION OF AUTOMATIC CONTROLLERS IS TO BE DETERMINED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
6. 117-VOLT 60HZ SINGLE PHASE ELECTRICAL POWER OUTLETS FOR IRRIGATION CONTROLLERS ARE TO BE PROVIDED BY THE OWNER/DEVELOPER. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE HOOK-UP FROM THE POWER OUTLETS TO THE CONTROLLERS.
7. ALL WIRE FROM THE CONTROLLER TO THE ELECTRIC CONTROL VALVES SHALL BE MINIMUM #18-AWG SOLID CORE COPPER WIRE, UL-LISTED, AND RATED 'UF' FOR DIRECT BURIAL. WIRE MEETING THIS SPECIFICATION AND BUNDLED INTO MULTI-CONDUCTOR CABLES WITH POLYETHYLENE JACKETING IS ACCEPTABLE. CONTROL, COMMON, AND SPARE WIRES SHALL EACH BE UNIQUELY COLOR-CODED. CONTRACTOR SHALL INSTALL (2) SPARE WIRES FROM THE CONTROLLER TO EACH VALVE GROUP FOR FUTURE USE. INSTALL WIRES IN COMMON TRENCH WITH MAIN LINE PIPING WHEREVER POSSIBLE. FASTEN WIRES TO UNDERSIDE OF MAIN LINE WITH NYLON WIRE TIES AT 10 FT. INTERVALS. PROVIDE A MINIMUM OF 18" OF COVER.
8. ALL WIRE CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTORS. WIRE SPLICES WILL NOT BE PERMITTED UNLESS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE, OR THE LANDSCAPE ARCHITECT. WIRE SPLICES SHALL BE LOCATED ON RECORD DRAWINGS AS PER THE SPECIFICATIONS.
9. PROVIDE A MINIMUM OF 24" OF COVER OVER ALL PRESSURE MAIN LINE PIPING 3" AND LARGER, 18" OF COVER OVER ALL OTHER PRESSURE MAIN LINE PIPING, AND 12" OVER ALL NON-PRESSURE LATERAL LINE PIPING. PROVIDE A MINIMUM OF 36" COVER OVER ALL SLEEVES UNDER STREETS AND VEHICULAR TRAFFIC AREAS. ALL SLEEVES SHALL BE INSTALLED UNDER PAVED AREAS PRIOR TO PAVING.
10. THE IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO ALL WALKS, WALLS, FENCES, DRIVES, AND BUILDINGS AS MUCH AS POSSIBLE. THIS WORK SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT ANY EXISTING SITE CONDITIONS.
11. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ADDITIONAL ANTI-DRAIN VALVES, TO PREVENT DAMAGE AND EROSION DUE TO EXCESSIVE LOW HEAD RUNOFF, CAUSED BY ELEVATION DIFFERENCES IN THE FIELD CONDITIONS.
12. UPON COMPLETION OF THE JOB, THE CONTRACTOR IS TO PROVIDE THE OWNER WITH A RECORD DRAWING OF THE IRRIGATION PLANS.
13. THE SYSTEM SHALL BE FULLY GUARANTEED FOR A PERIOD OF ONE YEAR. ANY DEFECTIVE MATERIAL OR POOR WORKMANSHIP SHALL BE REPLACED OR CORRECTED BY THE IRRIGATION CONTRACTOR AT NO COST TO THE OWNER(S).

DRIPLINE INSTALLATION NOTES

1. ALL DRIPLINE, FITTINGS, FILTERS, PRESSURE REGULATORS, AIR VACUUM RELIEF VALVES, AND FLUSH VALVES SHALL BE FURNISHED BY THE MANUFACTURER LISTED IN THE LEGEND, AND SHALL BE INSTALLED AS PER THE LEGEND, THE DETAILS, AND THE MANUFACTURERS' RECOMMENDATIONS. NO SUBSTITUTIONS WILL BE ACCEPTED.
2. DRIPLINE SHALL GENERALLY BE LAID OUT AS FOLLOWS:
 - A. DRIPLINE IS INSTALLED AROUND THE ENTIRE EDGE OF THE AREA TO BE IRRIGATED.
 - (1) DISTANCES FROM THE EDGE OF THE IRRIGATED AREA ARE:
 - (a) 2-4" NEXT TO ASPHALT, CONCRETE PAVING, OR "HARDSCAPE".
 - (b) 2-4" OUTSIDE OF UNCONTAINED LANDSCAPES.
 - (2) AT CORNERS, THE DRIPLINE MAY BE CURVED, DOWN TO A MINIMUM RADIUS OF 15 INCHES. FOR CORNERS SHARPER THAN THIS, ELBOWS (OR TEES, AS APPLICABLE) SHALL BE USED.
 - B. DRIPLINE IS INSTALLED THROUGHOUT THE ENTIRE AREA TO BE IRRIGATED, AND IS CONNECTED WITH TEES TO THE DRIPLINE LAID AROUND THE EDGE.
 - (1) ON FLAT GROUND (LESS THAN 3%):
 - (a) DRIPLINE SHALL GENERALLY RUN PARALLEL TO THE LONGEST SIDE OF THE AREA TO BE IRRIGATED.
 - (b) DRIPLINES SHALL BE EVENLY SPACED AT A DISTANCE NOT TO EXCEED THE ON-CENTER (O.C.) SPACING INDICATED IN THE LEGEND.
 - (2) ON SLOPES (3% OR STEEPER):
 - (a) DRIPLINE SHALL GENERALLY RUN PARALLEL TO CONTOUR LINES, NOT UP AND DOWN THE SLOPE.
 - (b) DRIPLINES SHALL BE SPACED AT 125% OF ON-CENTER SPACING ON THE LOWER ONE-THIRD OF THE SLOPE.
 - C. THE RESULTING GRID OF DRIPLINE SHALL BE A "CLOSED LOOP" SYSTEM, EXCEPT IN NARROW AREAS WHICH ARE ONLY WIDE ENOUGH FOR ONE DRIPLINE.
3. ON LOOPED DRIPLINE SYSTEMS WITH A SINGLE POINT OF SUPPLY, THE SUPPLY CONNECTION SHALL BE MADE ON THE PERIMETER OF THE LOOP, AND THE CONNECTION SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE LOOP FROM THE FLUSH VALVE.
4. THE IRRIGATION CONTRACTOR SHALL THOROUGHLY FLUSH ALL LATERALS AND DRIPLINES PRIOR TO INSTALLATION OF FLUSH VALVES AND AIR VACUUM RELIEF VALVES.
5. LOCATION OF FLUSH VALVES ON THE PLANS IS DIAGRAMMATIC ONLY. FLUSH VALVES SHALL BE LOCATED AT THE LOWEST POINT IN ELEVATION OPPOSITE THE POINT OF SUPPLY ON LOOPED DRIPLINE SYSTEMS, AND AT THE END OF THE LINE ON SINGULAR RUNS OF DRIPLINE.
6. LOCATION OF AIR VACUUM RELIEF VALVES ON THE PLANS IS DIAGRAMMATIC ONLY. AIR VACUUM RELIEF VALVES SHALL BE LOCATED AT THE HIGHEST POINT IN ELEVATION ON LOOPED OR SINGULAR DRIPLINES.

INSTALL A TYPICAL FRONT YARD IRRIGATION SYSTEM ON ALL LOTS AS SHOWN ON SHEET 8, INCLUDING ANY OTHER MINOR MODIFICATIONS AND ADDITIONS NECESSARY TO ADAPT THE TYPICAL IRRIGATION SYSTEMS TO THE ACTUAL FIELD CONDITIONS AND DIMENSIONS.



THESE PLANS HAVE BEEN EXAMINED AND IS APPROVED ONLY AS TO COMPATIBILITY WITH ADJOINING EXISTING OR FUTURE IMPROVEMENTS AND CONFORMANCE WITH CITY OF ANAHEIM STANDARD DETAILS AND THE REQUIREMENTS FOR THE FOLLOWING APPLICABLE FACTORS: RIGHT-OF-WAY, ROADWAY MATERIALS, ALIGNMENTS AND GRADES, HYDROLOGY AND HYDRAULIC DESIGN OF STORMDRAIN OR SANITARY SEWER SYSTEMS AND UNDER GROUND CONDUIT OR OPEN CHANNEL CHANNEL ALIGNMENTS, GRADES, SIZES AND MATERIALS.

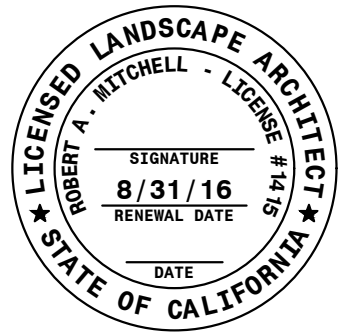
ENGINEER'S NOTE TO CONTRACTOR: THE EXISTENCE LOCATION OF ANY UNDERGROUND UTILITIES, PIPES, AND/OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL AS CERTAIN THE TRUE VERTICAL AND HORIZONTAL LOCATION AND SIZE OF THOSE TO BE USED OF ANY UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR DAMAGE TO ANY PUBLIC OR PRIVATE UTILITIES AS SHOWN HEREON.

FOR APPROVAL SEE PLAN

FOR LEGEND, SEE SHT. 6

PREPARED UNDER THE SUPERVISION OF:

Robert A. Mitchell
DATE : 7/31/15



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PRIVATE STREET IMPROVEMENT PLANS

CITY OF ANAHEIM

SHEET 8 OF 20

PLAN NO.

(RMA JOB NO. 1169P)

IRRIGATION PLANS - BLDG. TYPICAL FRONT YARDS

FOR CITY USE ONLY