

IRRIGATION NOTES

- THESE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. ALL PIPING, VALVES, AND OTHER IRRIGATION COMPONENTS MAY BE SHOWN WITHIN PAVED AREAS FOR GRAPHIC CLARITY ONLY AND ARE TO BE INSTALLED WITHIN PLANTING AREAS. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, CONDUIT, AND OTHER ITEMS WHICH MAY BE REQUIRED. INVESTIGATE THE STRUCTURAL AND FINISHED CONDITION AFFECTING THE CONTRACT WORK INCLUDING OBSTRUCTIONS, GRADE DIFFERENCES OR AREA DIMENSIONAL DIFFERENCES. IN THE EVENT OF FIELD DISCREPANCY WITH CONTRACT DOCUMENTS, PLAN THE INSTALLATION WORK ACCORDINGLY BY NOTIFICATION AND APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE AND ACCORDING TO THE CONTRACT SPECIFICATIONS. NOTIFY AND COORDINATE IRRIGATION CONTRACT WORK WITH APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT OR SLEEVES THROUGH OR UNDER WALLS, ROADWAYS, PAVING AND STRUCTURES BEFORE CONSTRUCTION. IN THE EVENT THESE NOTIFICATIONS ARE NOT PERFORMED, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR REQUIRED REVISIONS.
- THE INTENT OF THIS IRRIGATION SYSTEM IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.
- IT IS THE RESPONSIBILITY OF THE LANDSCAPE MAINTENANCE CONTRACTOR AND/OR OWNER TO PROGRAM THE IRRIGATION CONTROLLER(S) TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. THIS INCLUDES MAKING ADJUSTMENTS TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL, WATER REQUIREMENTS, MOUNDS AND SLOPES, SUN, SHADE AND WIND EXPOSURES.
- IT IS THE RESPONSIBILITY OF A LICENSED ELECTRICAL CONTRACTOR TO PROVIDE 120 VOLT A.C. (2.5 AMP DEMAND PER CONTROLLER) ELECTRICAL SERVICE TO THE IRRIGATION CONTROLLER LOCATION(S). IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO COORDINATE THE ELECTRICAL SERVICE INSTALLATION AND TO MAKE FINAL CONNECTION FROM ELECTRICAL SERVICE STUB-OUT TO CONTROLLER(S). PROVIDE PROPER GROUNDING PER CONTROLLER MANUFACTURER'S INSTRUCTIONS AND IN ACCORDANCE WITH LOCAL CODES.
- PROVIDE EACH CONTROLLER WITH ITS OWN GROUND ROD. SEPARATE THE GROUND RODS BY A MINIMUM OF EIGHT FEET. THE GROUND ROD SHALL BE AN EIGHT FOOT LONG BY 5/8" DIAMETER U.L. APPROVED COPPER CLAD ROD. INSTALL NO MORE THAN 6" OF THE GROUND ROD ABOVE FINISH GRADE. CONNECT #6 GAUGE WIRE WITH A U.L. APPROVED GROUND ROD CLAMP TO ROD AND BACK TO GROUND SCREW AT BASE OF CONTROLLER WITH APPROPRIATE CONNECTOR. MAKE THIS WIRE AS SHORT AS POSSIBLE, AVOIDING KINKS OR BENDING.
- PROVIDE EACH IRRIGATION CONTROLLER WITH ITS OWN INDEPENDENT LOW VOLTAGE COMMON GROUND WIRE.
- INSTALL NEW BATTERIES IN IRRIGATION CONTROLLER(S) TO RETAIN PROGRAM IN MEMORY DURING TEMPORARY POWER FAILURES. USE QUANTITY, TYPE AND SIZE REQUIRED AS PER CONTROLLER MANUFACTURER'S INSTRUCTIONS.
- SCHEDULE A MEETING WHICH INCLUDES REPRESENTATIVES OF THE IRRIGATION CONTROLLER MANUFACTURER, THE MAINTENANCE CONTRACTOR, THE OWNER AND THE IRRIGATION CONTRACTOR AT THE SITE FOR INSTRUCTION ON THE PROPER PROGRAMMING AND OPERATION OF THE IRRIGATION CONTROLLER.
- IRRIGATION CONTROL WIRES: SOLID COPPER WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND. COMMON GROUND WIRE: SIZE #12-1 WIRE WITH A WHITE INSULATING JACKET. CONTROL WIRE SERVICING REMOTE CONTROL VALVES: SIZE #14-1 WIRE WITH INSULATING JACKET OF COLOR OTHER THAN WHITE. SPLICES SHALL BE MADE WITH 3M-DBY SEAL PACKS OR APPROVED EQUAL.
- INSTALL A MINIMUM OF TWO SPARE CONTROL WIRE ALONG THE ENTIRE WIRE ROUTING FOR EACH CONTROLLER. LOOP 36" EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES.
- SPLICING OF LOW VOLTAGE WIRES IS PERMITTED IN VALVE BOXES ONLY. LEAVE A 36" LONG, 1" DIAMETER COIL OF EXCESS WIRE AT EACH SPLICE AND A 36" LONG EXPANSION LOOP EVERY 100 FEET ALONG WIRE RUN. TAPE WIRES TOGETHER EVERY TEN FEET. DO NOT TAPE WIRES TOGETHER WHERE CONTAINED WITHIN SLEEVING OR CONDUIT.
- INSTALL GREEN PLASTIC VALVE BOXES WITH BOLT DOWN, NON HINGED COVER MARKED "IRRIGATION". BOX BODY SHALL HAVE KNOCK OUTS. ACCEPTABLE VALVE BOX MANUFACTURER'S INCLUDE NDS, CARSON OR APPROVED EQUAL.
- INSTALL REMOTE CONTROL VALVE BOXES 12" FROM WALK, CURB, BUILDING OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, INSTALL EACH BOX AN EQUAL DISTANCE FROM THE WALK, CURB, BUILDING OR LANDSCAPE FEATURE AND PROVIDE 12" BETWEEN BOX TOPS. ALIGN THE SHORT SIDE OF RECTANGULAR VALVE BOXES PARALLEL TO WALK, CURB, BUILDING OR LANDSCAPE FEATURE.
- VALVE LOCATIONS SHOWN ARE DIAGRAMMATIC. INSTALL IN GROUND COVER/SHRUB AREAS (NOT IN LAWN AREA).
- THE REMOTE CONTROL VALVE SPECIFIED ON THE DRAWINGS IS A PRESSURE REDUCING TYPE. SET THE DISCHARGE PRESSURE AS FOLLOWS:
 - SPRAY HEADS=40 PSI
 - ROTARY HEADS=60 PSI
 - BUBBLERS=40 PSI
- INSTALL A GATE VALVE TO ISOLATE EACH REMOTE CONTROL VALVE OR GROUP OF RCV'S LOCATED TOGETHER. GATE VALVE SIZE SHALL BE SAME AS THE LARGEST REMOTE CONTROL VALVE IN MANIFOLD.
- FLUSH AND ADJUST IRRIGATION OUTLETS AND NOZZLES FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER SPRAY ONTO WALKS, ROADWAYS, AND/OR BUILDINGS. SELECT THE BEST DEGREE OF ARC AND RADIUS TO FIT THE EXISTING SITE CONDITIONS AND THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH CONTROL ZONE.
- SET SPRINKLER HEADS PERPENDICULAR TO FINISH GRADE.
- LOCATE BUBBLERS ON UPHILL SIDE OF PLANT OR TREE.
- AT LOCATIONS WHERE LOW SPRINKLER HEAD DRAINAGE WILL CAUSE EROSION AND/OR EXCESS WATER, INSTALL A HUNTER HCV SERIES, KBI CV-SERIES, OR APPROVED EQUAL SPRING OR SWING LOADED CHECK VALVE ON BUBBLERS WHERE REQUIRED.
- WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, USE CAUTION TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATE BY HAND IN AREAS WHERE TWO (2) INCH AND LARGER ROOTS OCCUR. PAINT ROOTS ONE (1) INCH AND LARGER IN DIAMETER WITH TWO COATS OF TREE SEAL OR EQUAL BACK FILL TRENCHES ADJACENT TO TREE WITHIN TWENTY-FOUR (24) HOURS. WHERE THIS IS NOT POSSIBLE, SHADE THE SIDE OF THE TRENCH ADJACENT TO THE TREE WITH WET BURLAP OR CANVAS. SEE TREE PROTECTION PROCEDURE IN SPECIFICATIONS.
- NOTIFY LOCAL JURISDICTIONS FOR INSPECTION AND TESTING OF INSTALLED BACKFLOW PREVENTION DEVICE.
- THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE.
- IRRIGATION DEMAND: REFER TO PLANS.

- PIPE SIZING SHOWN ON THE DRAWINGS IS TYPICAL. AS CHANGES IN LAYOUT OCCUR DURING STAKING AND CONSTRUCTION THE SIZE MAY NEED TO BE ADJUSTED ACCORDINGLY.
- PIPE THREAD SEALANT COMPOUND SHALL BE RECTOR SEAL T+2.
- EXACT LOCATION FOR CONTROLLERS AND BACKFLOW PREVENTERS SHALL BE FIELD STAKED BY LANDSCAPE ARCHITECT. DO NOT INSTALL CONTROLLERS OR BACKFLOW PREVENTERS UNTIL LOCATION ARE PROVIDED.
- THE CONTRACTOR IS REQUIRED TO HAVE THE IRRIGATION CENTRAL CONTROL SYSTEM FULLY OPERATIONAL PRIOR TO THE BEGINNING OF THE MAINTENANCE PERIOD. INCLUDING TRAINING OF THE CAMPUS ON-SITE MAINTENANCE STAFF, CONNECTIONS TO EXISTING COMPATIBLE CONTROLLERS AND COMPLETE PROGRAMMING OF CENTRAL CONTROL SYSTEM.

IRRIGATION LEGEND

SYMBOL	NUMBER	DESCRIPTION
	100/OMR-100 SERIES	IRRITROL REMOTE CONTROL VALVE WITH PRESSURE REGULATOR
	44 DRC	RAIN BIRD QUICK COUPLING VALVE
	T113-K	NIBCO GATE VALVE (LINE SIZE)
	825YA-2"	FEBCO REDUCED PRESSURE BACKFLOW ASSEMBLY
	IR220P-2"	DATA INDUSTRIAL FLOW SENSOR
	2160-2"	GRISWOLD PRESSURE REDUCING MASTER VALVE (NORMALLY OPEN)
	ESB96-U2-SSD18/PD-S1-VRA	TWO SENTINEL CONTROLLERS WITHIN A DOUBLE SIDED STAINLESS STEEL ENCLOSURE WITH RADIO COMMUNICATION BACK TO THE CENTRAL COMPUTER.
	SHHR	SENTINEL HAND HELD RADIO REMOTE
	_____	EXISTING IRRITROL CONTROLLER TO BE RELOCATED AS SHOWN ON PLANS.
	_____	CONTROLLER AND STATION NUMBER
	_____	FLOW (GPM)
	_____	REMOTE CONTROL VALVE SIZE (IN INCHES)
	_____	MAIN LINE: 3" AND SMALLER: 1120-CLASS 315 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTINGS. 18" COVER.
	_____	LATERAL LINE: 3/4" AND LARGER: 1120-SCHEDULE 40 PVC PLASTIC PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTINGS. 12" COVER.
	_____	SLEEVING: 1120-CL. 200 PVC PLASTIC PIPE. COVER TO BE AS INDICATED IN SPECIFICATIONS OR AS INDICATED ABOVE FOR PIPE DEPTH OF COVER.

IRRIGATION LEGEND

SYMBOL	NUMBER	DESCRIPTION	NOZZLE GPM	OPERATING PSI	OPERATING RADIUS (FEET)
	TR70XTP-16	TORO POP-UP GEAR DRIVEN ROTOR (LAWN)	16.0	60	40-50
	TR70XTP-16	TORO POP-UP GEAR DRIVEN ROTOR (LAWN)	16.0	60	40-50
	TR70XTP-12	TORO POP-UP GEAR DRIVEN ROTOR (LAWN)	11.4	50	38-48
	TR50XTP-9.0 (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	8.0	50	35-42
	TR50XTP-9.0 (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	8.0	50	35-42
	TR50XTP-4.5 (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	4.6	50	34-41
	TR50XTP-2.0 (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	2.2	50	21-35
	TR50XTP-2.0 (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	2.2	50	21-35
	TR50XTP-1.5 (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	1.6	50	21-33
	570Z-6P-XF-COM/PRN-20FC (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	3.8	40	16-24
	570Z-6P-XF-COM/PRN-20ADJ (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	1.9	40	16-24
	570Z-6P-XF-COM/PRN-20ADJ (USE 12" POP-UP IN SHRUBS)	TORO POP-UP GEAR DRIVEN ROTOR (LAWN/SHRUBS)	.95	40	16-24
	570Z-PRX-6P-COM/O-T-15-F,H,Q	TORO POP-UP SPRAY SPRINKLER (LAWN)	2.31,1.16, 0.58	30	12-15
	570Z-PRX-6P-COM/O-T-12-F,H,Q	TORO POP-UP SPRAY SPRINKLER (LAWN)	1.48,0.74, 0.37	30	10-12
	570Z-PRX-6P-COM/O-T-10-F,H,Q	TORO POP-UP SPRAY SPRINKLER (LAWN)	1.03,0.51, 0.23	30	8-10
	570Z-PRX-6P-COM/O-T-8-F,H,Q	TORO POP-UP SPRAY SPRINKLER (LAWN)	0.66,0.33, 0.17	30	6-8
	570Z-PRX-6P-COM/O-T-5-H,Q	TORO POP-UP SPRAY SPRINKLER (LAWN)	0.13,0.07	30	4-5
	570Z-PRX-6P-COM/O-T-4X15-LCS/RCS	TORO POP-UP SPRAY SPRINKLER (LAWN)	0.33	30	4 X 15
	570Z-PRX-6P-COM/O-T-4X30-SST	TORO POP-UP SPRAY SPRINKLER (LAWN)	0.66	30	4 X 30
	570Z-PRX-12P-COM/O-T-15-F,H,Q	TORO POP-UP SPRAY SPRINKLER (SHRUB)	2.31,1.16, 0.58	30	12-15
	570Z-PRX-12P-COM/O-T-12-F,H,Q	TORO POP-UP SPRAY SPRINKLER (SHRUB)	1.48,0.74, 0.37	30	10-12
	570Z-PRX-12P-COM/O-T-10-F,H,Q	TORO POP-UP SPRAY SPRINKLER (SHRUB)	1.03,0.51, 0.23	30	8-10
	570Z-PRX-12P-COM/O-T-8-F,H,Q	TORO POP-UP SPRAY SPRINKLER (SHRUB)	0.66,0.33, 0.17	30	6-8
	570Z-PRX-12P-COM/O-T-5-H,Q	TORO POP-UP SPRAY SPRINKLER (SHRUB)	0.13,0.07	30	4-5
	570Z-PRX-12P-COM/O-T-4X15-LCS/RCS	TORO POP-UP SPRAY SPRINKLER (SHRUB)	0.33	30	4 X 15
	570Z-PRX-12P-COM/O-T-4X30-SST	TORO POP-UP SPRAY SPRINKLER (SHRUB)	0.66	30	4 X 30
	RWS-B-C-1402	RAIN BIRD ROOT WATERING TUBE W/BUBBLER (TREE) 2 PER TREE	0.5	30	TRICKLE

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PROJECT RECORD DOCUMENT

SHEET TITLE
IRRIGATION NOTES AND LEGEND

REVISIONS		
NO.	DATE	DESCRIPTION

DATE FEBRUARY 24, 2012

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