IRRIGATION NOTES

1. ALL WORK, INCLUDING MAINTENANCE WORK, SHALL CONFORM TO CITY OF LAFAYETTE'S APPLICABLE CODES, ORDINANCES AND LAWS. CONTRACTOR SHALL OBTAIN & PAY FOR ALL REQUIRED PERMITS & FEES RELATING TO THIS WORK.
2. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO VERIFY ALL RELEVANT SITE CONDITIONS INCLUDING THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO THE EXCAVATION OF TRENCHES. CONTRACTOR IS TO REPAIR ANY DAMAGE CAUSED BY THEIR WORK AT NO ADDITIONAL COST TO THE OWNER.
3. DO NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN DESIGN OF THE SYSTEM. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
4. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. PIPING AND IRRIGATION EQUIPMENT MAY BE SHOWN WITHIN HARDSCAPE FOR GRAPHIC CLARITY ONLY. INSTALL ALL IRRIGATION EQUIPMENT WITHIN PLANTING AREAS OR AS CLOSE TO MEDIAN CURBING AS POSSIBLE. IRRIGATION PIPE AND WIRE CROSSING BENEATH HARDSCAPE SURFACES SHALL BE CONTAINED WITHIN SLEEVING (SCHEDULE 40 PVC CONDUIT). SLEEVING SIZE SHALL BE A MINIMUM OF TWO TIMES THE TOTAL SUM DIAMETER OF ALL PIPES CONTAINED WITHIN SLEEVE. PROVIDE VERTICAL SWEEP FOR ALL ELECTRICAL CONDUIT ON EACH SIDE OF HARDSCAPE AND TERMINATE ENDS AT 12" MINIMUM DEPTH AND 12" FROM/PAST HARDSCAPE SURFACE. ALL WORK TO BE INSTALLED IN SUCH MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEM AND PLANTING OR OTHER CONSTRUCTED ELEMENTS.
5. DUE TO THE SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING HIS WORK AND PLAN ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
6. ELECTRICAL CONTRACTOR SHALL SUPPLY 120 VOLT A.C. (2.5 AMP) SERVICE TO THE CONTROLLER LOCATION, (FOR NON-SOLAR OPPERATED CONTROLLERS). IRRIGATION CONTRACTOR SHALL MAKE FINAL CONNECTIONS FROM ELECTRICAL STUB-OUT TO THE CONTROLLER. CONTROLLER SHALL HAVE ITS OWN INDEPENDENT GROUND WIRE.
7. SPLICING OF 24 VOLT WIRES WILL NOT BE PERMITTED EXCEPT IN VALVE BOXES. INSTALL A SPARE CONTROL WIRE OF A DIFFERENT COLOR ALONG THE ENTIRE MAIN LINE. LEAVE A 36" COIL OF EXCESS WIRE IN EACH VALVE BOX AND AT 100 FEET ON CENTER ALONG ANY WIRE RUN.
8. INSTALL VALVE BOXES 12" FROM AND PERPENDICULAR TO WALKWAYS, CURBS, HEADERS, BUILDINGS OR OTHER CONSTRUCTION ELEMENT. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, HEADER, BUILDING, ETC. AND EACH BOX SHALL BE 6" APART. THE SHORT SIDE OF THE BOX SHALL BE PARALLEL TO THE PATH, HEADER, BUILDING ETC.
9. THE IRRIGATION CONTRACTOR SHALL FLUSH & ADJUST ALL BUBBLERS FOR OPTIMUM PERFORMANCE AND COVERAGE.
10. INSTALL A CHECK VALVE ON ALL HEADS WHERE LOW HEAD DRAINAGE WILL CAUSE EROSION AND EXCESS WATER.
11. CONTRACTOR IS TO PROVIDE AN ADDITIONAL PILOT WIRE FROM CONTROLLER ALONG ENTIRETY OF MAIN LINE TO THE LAST RCV ON EACH AND EVERY LEG OF MAIN LINE. LABEL SPARE WIRES AT BOTH ENDS.
12. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE INDICATED BELOW. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
13. IT IS THE RESPONSIBILITY OF THE LANDSCAPE MAINTENANCE CONTRACTOR TO COORDINATE WITH THE OWNER TO PROGRAM THE IRRIGATION CONTROLLERS TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. THIS INCLUDES ADJUSTMENT TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL, WATER REQUIREMENT, MOUNDS AND SLOPES, SUN, SHADE, AND WIND EXPOSURES.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE LANDSCAPE IRRIGATION SYSTEM FOR THE DURATION OF THE MAINTENANCE PERIOD. THIS INCLUDES PROGRAMMING THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. DUTIES SHALL ALSO INCLUDE CHECKING AND REPAIRING IRRIGATION SYSTEM TO MAINTAIN PEAK PERFORMANCE. AT THE COMPLICATION OF THE CONTRACTOR'S MAINTENANCE PERIOD, THE CITY OF LAFAYETTE WILL ASSUME RESPONSIBILITY FOR IRRIGATION SYSTEM MAINTENANCE AND MANAGEMENT.
15. CONTROLLER SHALL HAVE ITS OWN GROUND ROD. THE GROUND ROD SHALL BE AN EIGHT FOOT LONG BY 5/8" DIAMETER U.L. APPROVED COPPER CLAD ROD. NO MORE THAN 6" OF THE GROUND ROD TO BE ABOVE 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. THIS WIRE SHOULD BE AS SHORT AS POSSIBLE. AVOIDING ANY KINKS OR BENDING.
16. IRRIGATION CONTROL WIRES SHALL BE COPPER WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND, SIZE #14-1. COMMON GROUND WIRE SHALL HAVE WHITE INSULATING JACKET. CONTROL WIRE SHALL HAVE INSULATING JACKET OF COLOR OTHER THAN WHITE. SPLICE SHALL BE MADE WITH 3M-DBY SEAL PACKS.
17. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEAD/BUBBLER HEADS FOR OPTIMUM PERFORMANCE AND FLOW. THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
18. WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE TWO (2) INCH AND LARGER ROOTS OCCUR SHALL BE DONE BY HAND. TRENCHES ADJACENT TO TREE SHOULD BE CLOSED WITHIN TWENTY-FOUR (24) HOURS; AND WHERE THIS IS NOT POSSIBLE; THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS. ALSO REFER TO SPEC FOR EXISTING TREES.
19. PIPE THREAD SEALANT COMPOUND SHALL BE RECTOR SEM. T+2, CHRISTY'S ULTRA SEAL, OR APPROVED EQUAL.
20. INSTALL QUICK COUPLING VALVES ON SCHEDULE 80 PVC TRIPE SWING ASSEMBLIES. PROVIDE THREE KEYS AND THREE SWIVEL HOSE ELLS FOR QUICK COUPLING VALVES.
21. CONTRACTOR SHALL KEEP DETAILED REDLINE PLAN RECORDING INSTALLATION OF IRRIGATION SYSTEM AS IT PROGRESSES. RECORD PLAN SHALL BE DRAFTED INTO AS-BUILT DRAWINGS SHOWING LOCATIONS OF PIPING, VALVES, HEADS, WIRING, ETC. FOR APPROVAL BY CITY ENGINEER. FOLLOWING APPROVAL, AS-BUILTS SHALL BE REDUCED TO 11X17 SIZE, COLOR CODED BY STATION, AND LAMINATED IN 6 MIL. PLASTIC. 3 REQUIRED FOR EACH CONTROLLER.
22. THREE LAMINATED DETAILED IRRIGATION SCHEDULE SHOWING STATION PROGRAMING AND RUN TIMES SHALL BE PROVIDED FOR EACH CONTROLLER AND APPROVED LANDSCAPE ARCHITECT: ONE WARM SEASON, ONE COOL SEASON, AND ONE ESTABLISHMENT PERIOD EACH SCHEDULE SHALL BE ACCOMPANIED BY REDUCED "AS-BUILT" PLAN PERMANENTLY MOUNTED IN OR NEAR CONTROLLER. THESE SHALL BE SUBMITTED PRIOR TO ACCEPTANCE TO WORK AND AS A CONDITION OF COMMENCEMENT OF MAINTENANCE PERIOD.

WATER PRESSURE & SYSTEM DESIGN INFORMATION:

THE DESIGN OF THIS SYSTEM IS BASED ON A STATIC WATER PRESSURE READING OF 115~120 PSI AS REPORTED BY EBMUD AT POINT OF CONNECTION.

WORKING WATER PRESSURE WAS CALCULATED AT 30-35 PSI AFTER CONSERVATIVE ESTIMATE OF WORKING PRESSURE LOSS. WITH A WORKING WATER SUPPLY OF A MAXIMUM 50 GPM PER VALVE AND HEAD OPERATING PRESSURE OF 30 PSI. CONTRACTOR TO CONFIRM PRESSURE AT POINT OF CONNECTION PRIOR TO INSTALLING NEW SYSTEM AND BRING ANY DISCREPANCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.

IRRIGATION LEGEND

SYMBOL	MANUF.	DESCRIPTION	QUANTITY
C	RAIN MASTER	(E) 18 STATION RAIN MASTER EVOLUTION DX2, FEATURING WEATHER STATION. CONTRACTOR TO CONFIRM THE LOCATION OF WEATHER STATION IN FIELD.	–
WM	WATER METER	(E) 1-1/2" WATER METER,	–
MV	SUPERIOR	MASTER VALVE, MODEL 3100 BRASS GLOBE VALVE, NORMALLY OPEN, LINE SIZE.	1
FS	IRRITROL	FLOW SENSOR: MODEL FS-B150, SIZE 1½".	1
	WILKINS	(E) 2" WILKINS 975XL REDUCED PRESSURE BACKFLOW ASSEMBLY, INSTALL (N) BACKFLOW PREVENTER ENCLOSURE	–
PRV	WILKINS	PRESSURE REDUCING VALVE, MODEL WILKINS 600 SERIES, SIZE 1-1/2". INSTALL PRESSURE REDUCING VALVE BETWEEN BALL VALVE AND BACKFLOW PREVENTER AS SHOWN IN PLAN.	1
	RAINBIRD	GB SERIES 100-GB-PRS-D AUTOMATIC CONTROL VALVE WITH PRESSURE REGULATING MODULE. INSTALL IN BOX PER SPECIFICATIONS.	13
	HAMOND	HAMMOND #8201 BALL VALVE LINE SIZE. INSTALL AS ISOLATION VALVE AT EACH RCV & SIZE, SAME AS VALVE RCV CLUSTER OR APPROVED EQUAL	14
	RAINBIRD	MODEL 44-LRC, 1" QUICK COUPLER WITH KEY – SEE PLAN FOR LOCATIONS	4
NO SYMBOL	AS APPROVED	IRRIGATION CONTROL WIRE #14UF AWG IN CONDUIT (U.L. APPROVED)	–
NO SYMBOL	3M	DBY DIRECT BURIAL WATER-PROOF WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS	
— — —		2" MAIN LINE, PVC CLASS 315. SOLVENT WELD FITTINGS, 18" MIN. COVER	
———		LATERAL LINE: PVC SCH 40, SCH 40 SOLVENT WELD FITTINGS, 12" MIN. COVER, 1" MIN. SIZE	
- - - - - - - - - - - - - - - - - -		SLEEVING SHALL BE HDPE SCH 40, 24" MIN. COVER UNDER HARDSCAPE, SIZE SHALL BE A MINIMUM OF 4" AND AT LEAST TWO TIMES THE TOTAL SUM DIAMETER OF ALL PIPES CONTAINED WITHIN SLEEVE. FOR GRAPHIC CLARITY/SCALE OF DRAWING NOT ALL SLEEVING IS SHOWN ON PLANS	

DEEP WAWTERING SYSTEMS AND BUBBLERS TO BE HUNTER, RAINBIRD (RWS-B-C-1402) OR APPROVED EQUAL

	HUNTER	RZWS-36-50 CV – 2 PER TREE	0.50 GPM BUBBLER WITH CHECK VALVE
	HUNTER	HUNTER BUBBLER, PCB-25	0.25 GPM, SEE DETAIL FOR NUMBER PER PLANTS

1 — IRRIGATION CONTROLLER SEQUENCE NUMBER
1" — REMOTE CONTROL VALVE SIZE
5 — APPROXIMATE GALLONS PER MINUTE

NOTES:
ALL LATERAL LINES SHALL BE 1" PIPING OR LARGER, SEE SIZING BELOW.

SIZING OF LATERAL PIPE SHALL BE AS FOLLOWS:

1"	7 – 12 GPM	2"	>26 – 45 GPM
1 1/2"	>12 – 26 GPM	2 1/2"	>45 – 65 GPM

NO.	DATE	BY	REVISIONS

SCALE 1" = 20'
DATE September 3, 2013
DRAWN BY HK
CHECKED BY LG

GOLDEN associates
OAKLAND CALIFORNIA #2431
LANDSCAPE ARCHITECTURE
URBAN DESIGN & PLANNING

LICENSED LANDSCAPE ARCHITECT LESLIE B GOLDEN No. 2431 12/31/13 9/3/13 STATE OF CALIFORNIA

IRRIGATION NOTES AND LEGEND

CITY OF LAFAYETTE
PROJECT No. 014-9696
MOUNT DIABLO BLVD / FIRST STREET TO BROWN AVENUE
EAST END PED/BIKE AND STREETSCAPE IMPROVEMENTS PROJECT
LAFAYETTE CALIFORNIA

REVIEWED BY:
CITY OF LAFAYETTE
LAFAYETTE
TONY COE DATE
ENGINEERING SERVICES MANAGER

SHEET LI05
PROJ. NO. 014-9696