

# **CITY OF RIALTO**

## **ADDENDUM NO. 1**

**DATE:**        **July 14, 2010**

**RE:**            Fergusson Park, City Project No. 103003-00  
Rialto, CA

**FROM:**        Doug Grove, RLA  
RHA Landscape Architects – Planners, Inc.  
6216 Brockton Avenue, Suite 212  
Riverside, CA 92506  
Phone: 951-781-1930 FAX 951-686-8091  
E-mail: [dougg@rhala.com](mailto:dougg@rhala.com)

**TO:**            BIDDING CONTRACTORS

**BID DATE:**    **Thursday, July 22, 2010 @ 2:00 p.m.**

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

1. Contractor must have a valid “**A – General Engineering Contractor**” or “**B – General Building Contractor**” license as described in the Contractors State License Board Business & Professions Code Division 3, Chapter 9. Contractors, Article 4. Classifications.
2. All hand hole covers on all light poles shall be spot welded after installation and inspection.
3. All electrical pull boxes located in planting areas shall be buried per the direction of the city inspector as follows:
  - a) Protect conduit and wiring with a plastic barrier
  - b) Fill boxes with 3” inches of soil
  - c) Place 2” of concrete over soil
  - d) Place 1/2” of soil over concrete
4. All PVC pipes within 50’ of the irrigation pump shall be changed to Schedule 80.
5. All requirements of “Greenbook” Section 2-3.2 shall be waived for this project.
6. Provide complete and operable public address system per attached specifications and bid set electrical plans.
7. Provide cost for subterranean irrigation system in turf areas per attached plan. Replace existing page P 8 of the specifications with the attached page.

**END OF ADDENDUM**

#	Description	Quantity	Unit	Unit Price (Figures)	Item Total (Figures)
5	Football Sign #2 Southeast of the new restroom building	1	LS		

**Note: Price is to include a 3' by 12' by 24" deep footing and rebar which is not shown on the plans. Price quoted above is complete and includes the Football Sign and all related work described on all of the project drawings and specifications.**

**ADDITIVE ALTERNATE BID SCHEDULE 5 TOTAL = \$ \_\_\_\_\_**

**ADDITIVE ALTERNATE BID SCHEDULE 5 TOTAL (IN WORDS)**

#	Description	Quantity	Unit	Unit Price (Figures)	Item Total (Figures)
6	<u>Material Cost</u> of KISSS irrigation system in turf areas	1	LS		

**ADDITIVE ALTERNATE BID SCHEDULE 6 TOTAL = \$ \_\_\_\_\_**

**ADDITIVE ALTERNATE BID SCHEDULE 6 TOTAL (IN WORDS)**

#	Description	Quantity	Unit	Unit Price (Figures)	Item Total (Figures)
7	<u>Installation</u> of KISSS irrigation system in turf areas	1	LS		

**ADDITIVE ALTERNATE BID SCHEDULE 7 TOTAL = \$ \_\_\_\_\_**

**ADDITIVE ALTERNATE BID SCHEDULE 7 TOTAL (IN WORDS)**

**Addendums**

**Bidder hereby proposes and agrees to furnish all tools, equipment, services, apparatus, facilities, transportation, labor and materials necessary to complete the above named project in strict conformity with the Plans and Specifications, including all work specified in addenda numbered and dated:**

**Addendum No.** \_\_\_\_\_ **Dated:** \_\_\_\_\_

**Addendum No.** \_\_\_\_\_ **Dated:** \_\_\_\_\_

**Addendum No.** \_\_\_\_\_ **Dated:** \_\_\_\_\_

**Addendum No.** \_\_\_\_\_ **Dated:** \_\_\_\_\_

**For the total sums as stated in figures and words above in the base bid and in each of the bid alternates.**

\_\_\_\_\_

\_\_\_\_\_

Bidder's name and Telephone

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**SECTION 16828**  
**STADIUM SOUND REINFORCEMENT SYSTEM**

**PART 1 – GENERAL**

- 1.0 The Contractor shall furnish and install all equipment including, but not limited to, outlet boxes, conduit (with pull strings), wiring, amplifiers, speakers, and microphones as shown on the plans, and all other equipment necessary to provide a complete and operating system for the Ferguson Park.
- 1.1 Equipment supplied by SimplexGrinnell LP shall be considered as meeting these specifications and as the base bid. Any alternate system must be approved by the specifying authority. Bidders supplying an alternate system must make the authority aware of their intentions and provide adequate information, including specification sheets, working, and shop drawings, and a demonstration of the proposed system at least 10 days prior to bid date. Any prior approval of an alternate system does not exempt the supplier from meeting the intent of these specifications. The electrical and structural engineered design for the speakers and rack assemblies for this project have been developed using the specified products, alternate products shall be structurally engineered and stamped by a CA State licensed structural engineer at the contractors expense prior to submission. Any and all costs associated with the use and installation of alternate products shall be at the expense of the installing contractor. If the alternate system fails to provide all the requirements specified in this document, the Contractor shall be responsible for all costs associated with the removal and replacement of said equipment to obtain support for this project please contact Jennifer VanBreda, Systems Sales Rep for SimplexGrinnell at 714-709-1183.

**SUBMITTALS**

- 1.2 Data sheets shall be provided on all equipment being provided.
- 1.3 Internal control cabinet drawings showing internal block diagram connections shall be provided.
- 1.4 Wiring diagrams showing typical field wiring connections shall be provided.
- 1.5 Equipment list, itemizing major system components:
- 1.5.1 Audio amplifying and control equipment, including mixer, equalizer, electronic crossovers and power amplifiers.
  - 1.5.2 Loudspeakers including drivers with horns and enclosures for low frequency woofer loudspeakers.
  - 1.5.3 Equipment cabinet
  - 1.5.4 Program sources such as cassette, compact disc players, and AM/FM tuners.
  - 1.5.5 Microphones and microphone accessories.
  - 1.5.6 Each item of equipment to be listed with:
    - a. Manufacturer & model number
    - b. Description
    - c. Quantity

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## MAINTENANCE SERVICE

- 1.6 The Contractor shall provide a (1) One-year guarantee of the installed system against defects in material and workmanship. All labor and materials shall be provided at no expense 10 the Owner guarantee period shall begin on the date of acceptance by the Owner or engineer.
- 1.7 A maintenance contract offering continued factory authorized service of this system shall be made available if requested by the Owner.

## QUALITY ASSURANCE

- 1.8 The Contractor shall currently maintain a locally run business for a minimum of five years and shall be an authorized distributor of the supplied equipment with full warranty privileges
- 1.9 The Contractor shall maintain at his facility the necessary spare parts in the proper proportion as recommended by the equipment manufacturer to maintain and service the equipment being supplied. This facility shall be available for inspection by the engineer.
- 1.10 The supplying Contractor shall have attended the manufacturer's installation and service school.
- 1.11 The Contractor shall furnish manufacture's manuals of the completed system including individual specification sheets, schematics, inter-panel and intra-panel wiring diagrams. In addition, all information necessary for the proper maintenance and operation of the system must be included. Any bidder using other than the specified equipment must provide this information prior to bidding.
- 1.12 As built drawings that include any changes to wiring, wiring designations, junction box labeling and any other pertinent information shall be supplied upon completion project.
- 1.13 All equipment shall conform to appropriate U.L. listings.
- 1.14 Demonstrate proof of "after hours service arrangements and provide the telephone number being used for such service. Contractor shall provide warranty service during normal business hours, but shall also demonstrate full capability of providing 24-hour local service for emergency calls, after hours. After hours emergency service shall be charged at the contractors standard published service rates.

## IN SERVICE TRAINING

- 1.15 The Contractor shall furnish, two separate, two-hour service training courses covering the operation of the system. These sessions shall facilitate the training of district maintenance and the school athletic department staff in the operating of the audio equipment. Operating manuals and users guides shall be provided at the time of the training sessions.

## WIRING PRACTICES

- 1.16 System wiring shall be in accordance with good engineering practices as established by the EIA and GER Wiring shall meet all established state and local electrical codes. All wiring shall test free from grounds and shorts.

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## PART 2 – PRODUCTS

### 2.0 Microphones

The microphone shall include a non-reflecting, low-gloss Teflon-based paint on a die-cast housing and a brazed metal screen. Each microphone shall include a *S/B*" 27 thread stand adapter. The low impedance (600 Ohms, nominal) dynamic microphone shall have a frequency response of 50Hz - 15kHz. Microphone shall have internal shock mounted diaphragm to insure handling does not cause significant noise. Each microphone shall be furnished with a wind screen, Shure model ASBWS and a 26A21 storage bag. Provide two, (2) hand held, hard wired microphones. Microphone shall be Shure SBA with on/off switch or approved equal.

A wireless hand held microphone / transmitter and receiver shall be furnished, installed and tested to provide reception throughout the entire football field and home bleachers. The antenna (s) shall be installed externally from the metal sound rack enclosure to insure reception range meets the intent of the specification. Microphone audio transmission shall be UHF frequency, field tested to insure the system is free of interference at the designated frequency. The installing contractor shall be responsible for selecting a clear frequency for the application of the specified product. The microphone shall match the performance specification of the hand held / hard wired microphones and will have an on off switch and battery level indicator LED. The wireless microphone shall have an internal, manual gain adjustment and operate on two "M" Duracell MNI500 batteries. The wireless microphone shall each be furnished with a windscreen, Shure model A5BWS and a 26A21 storage bag. Wireless microphone shall be Shure U2 Beta SBA with U4S receiver and rack mount assembly or approved equal.

### 2.1 Microphone Stands / General

The microphone stands shall consist of a wear proof clutch adjustment with positive locking control for microphone height adjustment. The stand shall be constructed of heavy duty, seamless, cold rolled steel tubing and have an ebony finish. All stands shall include a 51S"· 27 male thread termination to accommodate industry standard accessories. All microphones shall be furnished with the manufacturers microphone stand mounting brackets.

### 2.2 Microphone Desk and Floor Stands

The microphone desk stand shall be adjustable from 6" to 13" with a grip action clutch for adjustment. The stand shall be constructed of heavy duty, seamless, cold rolled steel tubing and have an ebony finish. It shall include 27 male thread termination to accommodate industry standard accessories. Floor stands shall match the specification and finish of the desk stand with the addition of having a oversized 12" base weighing 12.9 pounds and height adjustment capacity for a height of 37" to 66" inches. Furnish two, (2) desk stands and tWo (2) floor stands. Microphone desk stands shall be Whirlwind ADS-7E, floor stands shall be Whirlwind AMS-20E or approved equal.

### 2.3 Microphone / One level Wall Outlets

The microphone wall outlets shall consist of a double female XLR connectors mounted on a Single gang brushed stainless steel plate. Each microphone shall be identified with an engraved label imbedded in the stainless steel plate. Microphone labels shall read as follows: "Mic # 1 .. Mic # 2". Each microphone outlet will be installed and connected to a individual balance line input at the main sound rack and identically labeled on the mixer to insure ease of operation. Furnish and install as noted on plans. Microphone outlet shall utilize a locking XLR female receptacle that prevents the microphone cable from being disconnected. The lower home bleacher location shall be furnished with a single microphone female inlet and a single male inlet. Microphone outlets shall be Whirlwind WP1/2FP (for announces booth),

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WP1/1FP/1MP (for field vault) or approved equal by Atlas Sound.

The listed WP111FP/1MP has a male XLR input jack / receptacle allows the horn field to connect line level feeds from a remote mixer to the Stadium PA mixer. This outlet location shall be furnished with a weather resistant lexan cover and stainless steel plate and screws.

2.4 Utility Microphone Cables

Furnish (4) four microphone cables assembly, each shall be 25 feet in length with heavily jacketed, low noise 22AWG twisted / shielded balanced line audio cable. Cable ends shall be terminated at both ends with standard 3 pin XLR type connectors. One end male, one end female. XLR connections shall offer strain relief through a clutch assembly, set screw type strain relief will not be permitted. Microphone cable shall be Whirlwind MK4-25 or approved equal by Monster or Blue Co.

2.5 Tape Cassette Deck

The cassette deck shall be a dual well type. The cassette deck shall have Dolby Hx Pro, Dolby 8 and C noise reduction. The cassette deck shall have full-logic feather-touch transports and synchro start/stop editing. It shall have independent 2-speed DC servomotors and auto reverse with la-hour series playback. The cassette deck shall be rack mountable in the 19" audio rack. Teac model W-7aOR or approved by equal.

2.6 CD Player

The Compact Disc Player shall be a (5) CD multiple disc player with a rotary platter. It shall support continuous, repeat and random play modes. It shall have an easy to read disc location display. The CD player shall be rack mounted in 19" audio rack CD player shall be Teac model PDD2681 or approved equal.

2.7 Automatic Mixer/Preamplifier

The mixing console shall have a high headroom, low noise mic or line level pre-amps, each of a selectable input shall accommodate either balanced or unbalanced source inputs, 1 balanced / unbalanced main output, three band parametric equalizes and a line level auxiliary output. Each input channel shall have a manual level control, gain limit control, auxiliary level control, clipping level control and a 4 Dip-Switch selector for the following functions per channel: Automix / manual mix, Mute bus control, Low cut/ Flat Response and 48 V phantom power on / off. The Automixer shall also have master output noise reduction allowing for attenuation of the main output when no signals are present. Frequency response shall be 20Hz to 20kHz +0, -3dB mic input to any output. It shall contain a built-in high current-120VAC, 60 Hz power supply. The Automatic mic mixer shall be Peavey Automix2 or approved equal

2.8 Digital Signal Processor

Furnish a rack mounted Digital signal processor with 8 balanced line inputs and a balanced line outputs. The Digital processor will be field programmable from the face of the operator interface and through an RS232 port on the rear of the chassis. Signal processing shall include input to output signal matrixing, noise gate, compressor, thirty one band EO, delay and crossover frequency / level control for each input and output. The Signal processor shall have an CAT-5, RJ45 jack dedicated 10 remote digital 4 zone volume controls to be furnished and installed on the side wall of the announces booth. All software required for the owner / operator shall be furnished at no cost to the owner, any software license and fees will be paid by the furnishing sound system contractor. This product does NOT release the requirement or the specified two channel 31 band equalizer.

2.9 Feedback Filler

The sound system line output shall be processed for the control of feedback associated with the cycling of audio through open microphones. Feed back control shall be accomplished

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through the use of a digital dynamic anti-feedback filter, which performs dynamic control of 16, 1/12 octave filters. The processor shall have four programmable modes to allow for the storage of settings needed to sense feedback cycles between 20 Hz and 20KHz, when feedback is detected, the feedback will be frequency attenuated initially by -3 dB. If continued cycling occurs the processor shall continue attenuation at the sensed frequency in 1 dB increments till the feedback cycling ends. The processor controls shall be automatic and front panel controls shall consist of bypass, reset and panic mute switches. Processing shall be natural and transparent during all modes of operation. Feedback filter shall be Peavey Architectural Acoustics model Freq-out or approved equal by Sabine.

#### 2.10 Equalizers

The graphic equalizers shall be furnished with two channels. Furnish two (2) channels, one for home and one for the visitor side of the field. The equalizer unit shall have 31 frequency bands with mechanical slide controls. The graphic equalizer have a digital display of the adjustments / settings of the 31 EO bands on ISO 1/3-octave centers. The top and bottom (20 Hz and 20 kHz) bands shall be shelving filters. The remaining 29 bands shall be constant fillers. The adjustment of these bands shall be  $\pm 12$  dB in 1 dB steps, or  $\pm 6$  dB in 0.5 dB steps. The graphic equalizer shall also have a serial, digital control interface with in, out and thru jacks. The interface shall conform to MIDI standard. All cabling and operation shall utilize balanced line level input and output connections. The graphic equalizer shall have active electronically balanced inputs and outputs via both XLA and ATS 114 inch jacks. The maximum input level shall be + 23 dBV balanced or unbalanced and the maximum output level shall be + 23 dBV balanced or + 17 dBV unbalanced. The frequency response shall be  $\pm 1$  dB from 20 Hz to 20 kHz. The THD shall be less than 0.01 % (.005 typical). Hum and noise shall be less than -90 dBV. The dynamic range shall be greater than 107 dB. The unit shall be packaged in a rugged metal chassis 16.75" wide x 4.25' high (3 units) x 7.75" deep and be rack mountable in a standard 19" rack. The unit shall operate on 120 VAC, 60 Hz power. The Equalizer shall be Sabine model # GRO-3122 or approved equal by Peavey or DBX.

#### 2.11 Power Amplifiers

Furnish (2) Two, four channel amplifier. A dedicated amplifier outputs shall be provided for each speaker. Each amplifier channel shall be labeled as to the exact location of the speaker and lighting pole on the face of the amplifier. Each power amplifiers channel shall produce an output of more than 200 watts AMS into a 4 ohm load operating from 20 ~z to 20 kHz continuously at less than 1 % THD. Full output shall be achieved by an input signal of not more than 1.0 volts AMS (OdBV) per channel. Each amplifier shall be equipped with a compression circuitry that electronically senses the onset of clipping and engages a specially designed circuit, which virtually eliminates the possibility of driving the amplifier into clipping or distortion. An LED shall indicate when the patented SPS compression is activated. The amplifier shall have a +0, -1 dB frequency response from 10Hz to 40 kHz @ 1 watt into 4 ohms, and shall have a slew rate of at least 20 volts per microsecond. The total harmonic distortion shall be less than 0.15% at 200 watts AMS into 4 ohms from 20 Hz to 20 kHz, and the hum and noise shall be at least 100 dB below full rated output power measured 20 Hz to 20 kHz with a 600 ohm input termination per channel. The amplifier shall be stable into any load configuration with any combination of open or grounded input connections. It shall employ an instantaneous protective circuit that clamps the output upon the advent of amplifier failure, thereby protecting the speaker system from potential damaging offset voltages. It shall have a two-speed internal fan to provide positive-force air-cooling and a thermal shutdown system to protect the power transistors from over-temperature operation. This internal protection system shall be automatic and self-resetting. The amplifier shall have an input barrier strip, a single ~d phone input jack, a 5-way binding post output a single W phone output jack and an output barrier strip. The unit shall be packaged in a rugged metal chassis 19" wide x 5-1/4" high x 13-1/sn deep. The unit shall operate from standard 120 volts AC, 60

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Hz power.

The amplifier shall be Peavey Architectural Acoustics model IGS 4200 or approved equal by Crown. As equal, any altimeter amplifier shall have a dedicated channel of amplification rated for a minimum of 200Watts AMS @ 4 ohms / 70.7V per speaker. Each speaker shall be furnished with a dedicated 200 Watt AMS channel and level control.

#### 2.12 Loudspeakers

The loudspeaker system shall have an operating bandwidth of 90 Hz to 16 kHz. The nominal output level shall be 123dB (full range) continuous when measured at a distance of one meter with an input of one watt. Each full range speaker shall be rated for a minimum of 200 Watts RMS and 500 Watts RMS continuous program and have a weather-proof 70.7 Volt multi-tap transformers. The nominal radiation geometry shall be 90D in the horizontal plane and 90" in the vertical plane. The speaker enclosure dimensions shall be 16 inches wide and 16 inches high at the front high by 16 inches deep. Speakers shall have structurally designed and engineered with fly points designed to allow four 'A' X 20 bolts on the top and bottom of the enclosure for suspending the speakers on the lighting poles where indicated on the plans. All speakers shall have an enclosure made of polyethylene; have grey finish and a steel grill to protect all speaker components. The entire speaker assembly will be weather proof. Individual speaker enclosure weight shall not exceed 40 pounds each with the specified mounting bracket. The speaker shall have a 12 inch weatherproof low frequency driver and a 1 inch high frequency weatherproof high frequency horn. Furnish a total of (8) Eight of the specified speakers.

Speaker details: Furnish and install speakers as indicated on the plans. Install two (2) speakers for each of the (4) four lighting poles with the speakers directed to cover the bleachers and field. See the plans for mounting height, speaker locations, installation ~~-tails and conduit schedules. All speakers shall be installed and adjusted to provide maximum frequency response to all bleachers, outer track and football field areas. The home and visitor speakers' direct coverage shall not overlap. The bleachers and center field (goal post to goal post) will be walk tested to insure balanced direct coverage is achieved and that audio delay is correct with respect of time of arrival / system intelligibility. Speaker enclosures shall be mounted at an angle permitting direct, nonrelated sound from the speakers to all seating areas and on the field. Any and all speaker adjustments required to align or correct speaker adjustments will be at the expense of the installing contractor. Any alternate speaker provided shall include structural installation details and shall be submitted to the owner and consulting engineer with a Registered Professional Structural Engineers stamped and signature at the expense of the equipment provider / installing contractor prior to installation of any product. Any and all costs associated with the alternate speaker use, shall be at the expense of the installing contractor. All speakers wiring shall be 12 AWG twisted pair copper with a THHN/THWN 600V non-power limited rated jacketing throughout the entire conduit schedule. Each speaker specified shall be furnished with the manufacturers stainless steel universal mounting bracket. Secondary stainless steel safety cables shall be installed on each speaker and rigged to the building steel truss assembly to increase safety and security. Secondary safety cables shall be rated to support at least 5 times the load / weight of the speaker and mounting bracket: The speakers shall-be Community HSeries R5-99XT or approved equal

#### 2.13 Equipment Rack

The equipment rack shall be a sectional surface mounted door type. The equipment rack shall be constructed of 16 gauge CAS throughout. The hinges shall be bolted, not welded. All sections shall be of one-piece construction with M.L.G. Welding at all joints and seams. The equipment rack shall have a panel opening of 61 3/8", 35 units. The cabinet shall have a depth, with front doors closed of 18" a width of 20 1/2" and a height of 64 1/4". Rack shall have a front and back locking door and be finished in black. Rack shall be furnished with S



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- keys. Rack shall be Atlas Soundolier model 34O-series with steel front door or approved equal.
- 2.14 **Equipment Rack Panels**  
Blank equipment rack panels shall be provided as necessary to completely fill the remainder of the rack spaces not occupied by equipment or accessories. All rack blank panels shall be steel and finished in black enamel.
- 2.15 **Equipment Rack Drawer**  
The rack drawer shall be constructed of 16 gauge CRS throughout. The rack drawer shall be 19" wide x 5.25" in height x 14.406" in depth.
- 2.16 **Rack Mount Power Distribution Strip**  
The power distribution strip shall be 19n rack mountable and shall employ the latest in surge suppression technology to provide maximum protection for electronic equipment against AC transients, voltage spikes and surges plus RFI/EMI interference. It shall have 8 receptacles total. It shall be UL listed and be able to support a total full load of 15 amps. Furnish (2) Two rack mounted power strips, one will be wired for all pre-amp, source and signal processors and one will be dedicated to the audio power amplifiers. The Dedicated primary 120 VAC power required for the audio rack shall be rated at 30A. The installing electrical contractor shall furnish and install a dedicated 120VAC 30Amp circuit for the audio rack and provide a double duplex receptacle within the audio equipment rack.

### PART 3 – WIRING

- 4.0 The loudspeaker wiring shall be a minimum of 2 conductors #=12 AWG THHN / THWN stranded, and if not required to be in a dedicated system conduit, these conductors shall be shielded.
- 4.1 The microphone outlets, as shown on project drawings shall each be wired as "home-runs" to the amplifier cabinet and shall be a minimum of 2 conductor #=22 AWG shielded.
- 4.2 Specific Project requirements: as shown on the drawings, furnish wiring and electrical junction box provisions for future addition of microphones and loudspeakers.

### PART 4 –INSTALLATION

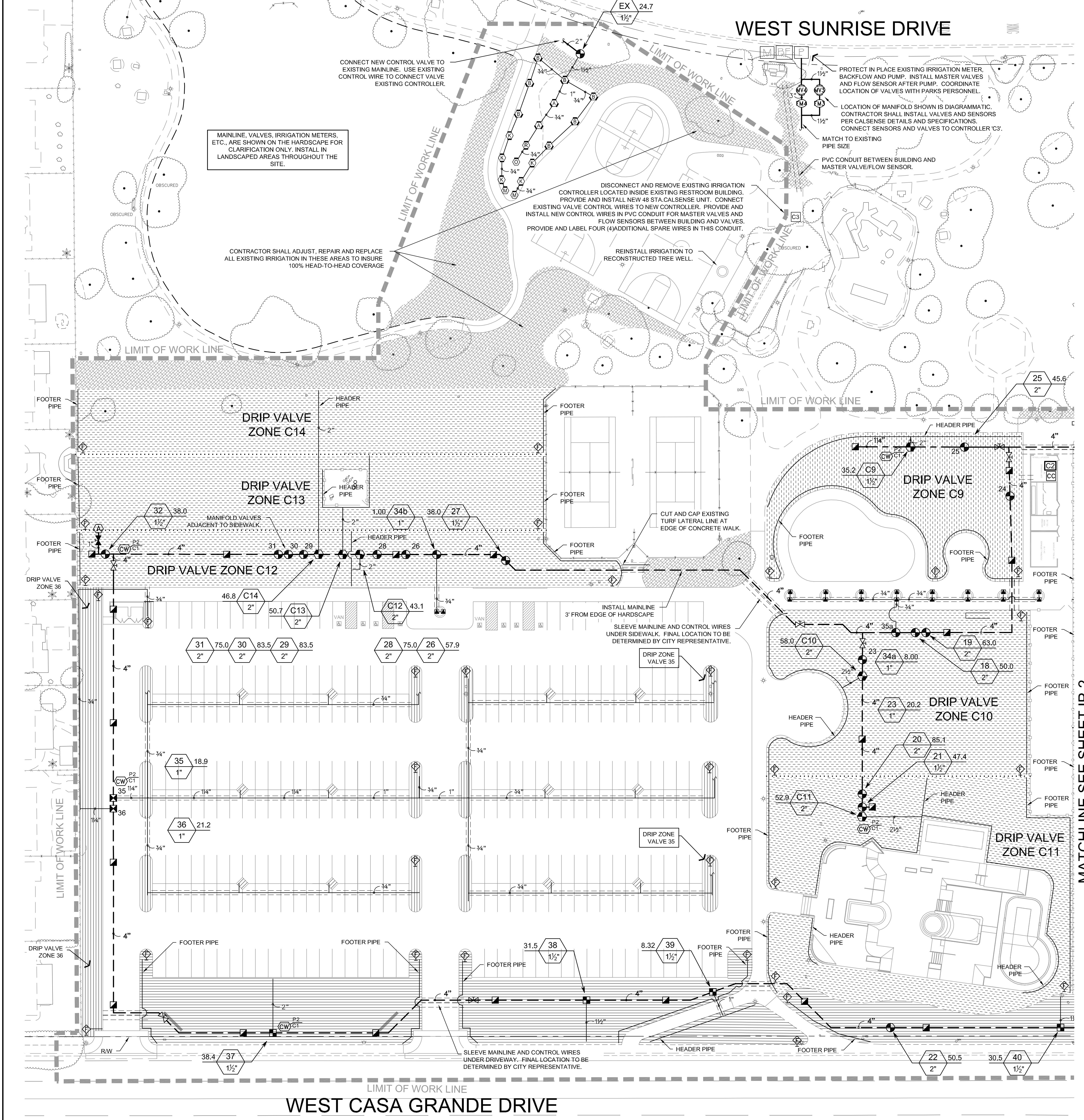
- 5.0 Provide all equipment, wiring, conduit and outlet boxes required for the installation of a complete and operating system in accordance with all applicable local, state and national codes, the manufacturers' recommendations, these plans and specifications. All circuits not in conduit must be wired with power limited or non-power limited cable as listed under CEC 725 Class II wiring. Color-coded wires shall be used throughout. Wiring shall conform to the practices in the California Electrical Code. All hardware, products and the installation of the sound systems rack and speakers shall conform to the practices of the California Building Code.
- 5.1 The contractor shall be responsible for reviewing the plans and specifications to ensure each room, where sound reinforcement equipment is to be installed, has sufficient space to accommodate the system cabinets, equipment and terminations while maintaining code mandated clearances about said equipment. The contractor shall identify problem areas prior to bid, include all costs required for corrective measures in his bid and submit alternate equipment and materials suitable for the installation to the Architect/Engineer for acceptance as part of the product submittal process.

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PART 5 - INSPECTION AND TEST UPON COMPLETION

- 6.0 The manufacturers' authorized representative shall provide supervision of final system connections, perform a complete functional test of the system and submit a written report to the Contractor attesting to satisfactory operation of the system. In addition on-site instruction shall be provided to the Owner's designated personnel.
- 6.1 All materials and installation shall be guaranteed to be free of defects in material and workmanship for one year after final acceptance of installation and test.
- 6.2 Upon completion of the installation, four (4) copies of complete operational instructions shall be furnished; complete with recorn drawings, part numbers and names, addresses, and telephone numbers of parts source. Final payment shall not be made until operational and maintenance manuals have been received.
- 6.3 Final acceptance will be granted after completion of successful acceptance testing. Presentation and submittal of instructions, and transmittal of Owner's & Service manuals.
- 6.4 Nothing herein contained shall be construed to relieve the Contractor from furnishing a complete and acceptable electrical wiring system in all its categories. The engineer will condemn and reject any materials or labor, which are or may become detrimental to the accomplishment of the intents of these specifications.

**END OF SECTION**



### WEST SUNRISE DRIVE

MAINLINE, VALVES, IRRIGATION METERS, ETC. ARE SHOWN ON THE Hardscape FOR CLARIFICATION ONLY. INSTALL IN LANDSCAPED AREAS THROUGHOUT THE SITE.

CONTRACTOR SHALL ADJUST, REPAIR AND REPLACE ALL EXISTING IRRIGATION IN THESE AREAS TO INSURE 100% HEAD-TO-HEAD COVERAGE

DISCONNECT AND REMOVE EXISTING IRRIGATION CONTROLLER LOCATED INSIDE EXISTING RESTROOM BUILDING. PROVIDE AND INSTALL NEW 48 STK. CALSENSE UNIT. CONNECT EXISTING VALVE CONTROL WIRES TO NEW CONTROLLER. PROVIDE AND INSTALL NEW CONTROL WIRES IN PVC CONDUIT FOR MASTER VALVES AND FLOW SENSORS BETWEEN BUILDING AND VALVES. PROVIDE AND LABEL FOUR (4) ADDITIONAL SPARE WIRES IN THIS CONDUIT.

PROTECT IN PLACE EXISTING IRRIGATION METER, BACKFLOW AND PUMP. INSTALL MASTER VALVES AND FLOW SENSOR AFTER PUMP. COORDINATE LOCATION OF VALVES WITH PARKS PERSONNEL.

LOCATION OF MANIFOLD SHOWN IS DIAGRAMMATIC. CONTRACTOR SHALL INSTALL VALVES AND SENSORS PER CALSENSE DETAILS AND SPECIFICATIONS. CONNECT SENSORS AND VALVES TO CONTROLLER 'C3'.

MATCH TO EXISTING PIPE SIZE

PVC CONDUIT BETWEEN BUILDING AND MASTER VALVE/FLOW SENSOR.

CUT AND CAP EXISTING TURF LATERAL LINE AT EDGE OF CONCRETE WALK.

INSTALL MAINLINE 3" FROM EDGE OF HARDSCAPE

SLEEVE MAINLINE AND CONTROL WIRES UNDER SIDEWALK. FINAL LOCATION TO BE DETERMINED BY CITY REPRESENTATIVE.

SLEEVE MAINLINE AND CONTROL WIRES UNDER DRIVEWAY. FINAL LOCATION TO BE DETERMINED BY CITY REPRESENTATIVE.

#### IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL	SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
■	RAIN BIRD XCZ-150-COM HIGH FLOW CONTROL ZONE KIT WITH 1-1/2" PESB VALVE, TWO 1" FILTERS AND TWO 40PSI PRESSURE REGULATORS.	AID-2	■	CALSENSE ET2000E-24-M-FL-RRE-TTP-LRDOMERRE-SSBP 24 STATION CONTROLLER MOUNTED ON INDOOR BACKBOARD. CONTACT BOB MOXLEY AT CALSENSE (809) 946-4782 FOR INSTALLATION SPECIFICATIONS AND DETAILS. FINAL LOCATION TO BE DETERMINED BY CITY PARK'S REPRESENTATIVE.	AID-2
■	RAIN BIRD XCZ-100-PRB-COM DRIP CONTROL KIT, 1" PESB VALVE, 1" BASKET FILTER, AND 40PSI PRESSURE REGULATOR, 1" BALL VALVE.	AID-2	■	CALSENSE ET2000E-48-LR-M-FL-RRE-TTP-LRDOMERRE-SSBP 48 STATION CONTROLLER MOUNTED ON INDOOR BACKBOARD. CONTACT BOB MOXLEY AT CALSENSE (809) 946-4782 FOR INSTALLATION SPECIFICATIONS AND DETAILS. FINAL LOCATION TO BE DETERMINED BY CITY PARK'S REPRESENTATIVE.	AID-2
◇	FLUSH VALVE 1-1/4" PVC BALL VALVE IN 10" VALVE BOX.	3.22ID-2	■	CALSENSE ET2000E-48-LR-M-FL-RRE-TTP-LRDOMERRE-SSBP 48 STATION CONTROLLER MOUNTED ON INDOOR BACKBOARD. CONTACT BOB MOXLEY AT CALSENSE (809) 946-4782 FOR INSTALLATION SPECIFICATIONS AND DETAILS. FINAL LOCATION TO BE DETERMINED BY CITY PARK'S REPRESENTATIVE.	AID-2
▨	AREA TO RECEIVE DRIPLINE KISS BELOW FLOW WRAP SUBSURFACE IRRIGATION BFF-WHITE - 0.617 GPM PER 100FT OF LINE. SPACE LINES 20" APART. INSTALLATION MUST BE COMPLETED BY A KISS CERTIFIED CONTRACTOR. LAYOUT OF EQUIPMENT INCLUDING HEADERS, AIR RELIEF AND FLUSH VALVES NEED TO BE APPROVED BY A KISS REP. PRIOR TO INSTALLATION.	1.02ID-2 2.13ID-2	■	CALSENSE ET2000E-48-LR-M-FL-RRE-TTP-LRDOMERRE-SSBP 48 STATION CONTROLLER MOUNTED ON INDOOR BACKBOARD. CONTACT BOB MOXLEY AT CALSENSE (809) 946-4782 FOR INSTALLATION SPECIFICATIONS AND DETAILS. FINAL LOCATION TO BE DETERMINED BY CITY PARK'S REPRESENTATIVE.	AID-2
▨	AREA TO RECEIVE DRIPLINE KISS BELOW FLOW FLAT SUBSURFACE IRRIGATION BFF-WHITE - 0.617 GPM PER 100FT OF LINE. SPACE LINES 18" APART. INSTALLATION MUST BE COMPLETED BY A KISS CERTIFIED CONTRACTOR. LAYOUT OF EQUIPMENT INCLUDING HEADERS, AIR RELIEF AND FLUSH VALVES NEED TO BE APPROVED BY A KISS REP. PRIOR TO INSTALLATION.	1.02ID-2 2.13ID-2			
○	RAIN BIRD EFB-CP-PRS-D BRASS ELECTRIC REMOTE CONTROL VALVE, WITH PRESSURE REGULATOR	OID-1			
○	TURF DRIP ZONE CONTROL VALVE HUNTER ICV-AS VALVE W/ACCU-SET PRESSURE REGULATOR. TWO AMIAD 1-1/2" COMPACT PLASTIC FILTERS W/120 MESH DISC FILTER.	OID-1			
■	RAIN BIRD 44LRC 1" QUICK COUPLER VALVE, TWO PIECE BODY, LOCKING COVER	NIID-1			
■	NIBCO T-113 CLASS 125 BRONZE GATE SHUT OFF VALVE WITH WHEEL HANDLE. SAME SIZE AS PIPE DIAMETER. USE FOR PIPES 2-1/2" AND SMALLER.	GIID-1			
■	NIBCO W82000 BUTTERFLY VALVE SAME SIZE AS PIPE DIAMETER. USE FOR PIPES 3" AND LARGER.	FID-1			
○	GRISWOLD 2160 1" NORMALLY OPEN MASTER VALVE	CID-1			
○	GRISWOLD 2160 1" NORMALLY OPEN MASTER VALVE	CID-1			
○	GRISWOLD 2250 3" NORMALLY CLOSED PRESSURE REDUCING, SURGE APPLICATION	CID-1			
○	GRISWOLD 2250 3" NORMALLY CLOSED PRESSURE REDUCING, SURGE APPLICATION	CID-1			
○	CRISPIN PL-10 1" AIR & VACUUM RELIEF VALVE INSTALL AT HIGHEST POINTS IN MAINLINE	HIID-1			
○	FEBCO 880 3" REDUCED PRESSURE BACKFLOW PREVENTER INSTALLED IN STRONGBOX SBBC-75ALHP ALUMINUM ENCLOSURE.	BID-1			
○	CALSENSE FM-1B 1" FLOW METER IN BRONZE 80 TEE.	DIID-1			
○	CALSENSE FM-1B 1" FLOW METER IN BRONZE 80 TEE.	DIID-1			
○	CALSENSE FM-3 3" FLOW METER IN PVC SCH. 80 TEE.	DIID-1			
○	CALSENSE FM-3 3" FLOW METER IN PVC SCH. 80 TEE.	DIID-1			
○	RAIN BIRD BOOSTER PUMP QUOTE #CVC060710702A. PUMP STATION MODEL #XC11000AB. 110HP VFD PUMP MOTOR, 480V-3P-60HZ. POWDER COATED STEEL ENCLOSURE WITH FAN, STEEL SUCTION AND DISCHARGE ZEE PIPE, DATA INDUSTRIAL FLOW SWITCH.	EID-2			
○	FEBCO WYE STRAINER 758A 3" STRAINER INSTALLED ON INLET SIDE OF BACKFLOW PREVENTER.	BID-1			
○	WIRE BUNDLE (AS INDICATED FOR FUTURE USE) SPARE CONTROL WIRE BUNDLE FOR FUTURE USE IN JUNCTION BOX. #P-PLOT WIRES, C-COMMON WIRES BUNDLED. COIL WIRES IN VALVE BOX, AND RUN CONTINUOUS WIRE BACK TO CONTROLLER. LABEL EACH WIRE WITH A PLASTIC I.D. TAG AT THE WIRE BUNDLE AND AT THE CONTROLLER.	MID-1			
○	WATER METER 3" INSTALLED BY WEST VALLEY WATER DISTRICT	LIID-1			
○	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	LIID-1			
○	IRRIGATION MAINLINE: PVC SCHEDULE 40 PIPE 1-1/2" AND SMALLER PVC CLASS 315 PIPE 2" AND LARGER. USE PVC SCH. 80 FITTINGS AND CONCRETE THRUST BLOCKS.	KIID-1 LIID-1			
○	IRRIGATION MAINLINE: PVC C900 CLASS 200 SDR 14 PIPE 4" AND LARGER SHALL BE BELL AND GASKET WITH LEEMCO DUCTILE IRON FITTINGS AND MECHAL JOINT RESTRAINTS PER MANUFACTURERS RECOMMENDATIONS.	EID-1 KIID-1 LIID-1			
○	PIPE SLEEVE: PVC SCHEDULE 40 TYPICAL PIPE SLEEVE FOR IRRIGATION PIPE. PIPE SLEEVE SIZE SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING MATERIAL. EXTEND SLEEVES 12 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.	JIID-1			
○	Valve Callout				
○	Valve Number				
○	Valve Flow				
○	Valve Size				

#### NOTES (TYPICAL):

- MAINLINE 4" AND LARGER USE RUBBER GASKETED PIPE WITH DUCTILE IRON FITTINGS AND MECHANICAL JOINT RESTRAINTS. USE TWO 45° FITTINGS IN LIEU OF 90° FITTING WHENEVER POSSIBLE.
- MAINLINE 3" AND SMALLER USE SOLVENT WELD PIPE WITH PVC SCHEDULE 80 FITTINGS AND CONCRETE THRUST BLOCKS.
- ALL MAIN LINES AND LATERAL LINES CROSSING UNDER HARDSCAPE SHALL BE ENCLOSED IN A SCH. 40 PVC SLEEVE. ALL ELECTRICAL CONTROL WIRES (ENTIRE SITE) SHALL BE ENCLOSED IN A SCH. 40 PVC CONDUIT WHEN NOT ADJACENT TO MAINLINE PIPE. PVC SLEEVES SHALL BE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE.
- THE CONTRACTOR SHALL USE VARIABLE ARC NOZZLES (VAN) TO OBTAIN BETTER COVERAGE WHERE NECESSARY. WHEN CERTAIN OBSTRUCTIONS (HYDRANTS, STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- MAINLINE, VALVES, IRRIGATION METERS, ETC. ARE SHOWN ON THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL IN PLANTER AREA THROUGHOUT THE SITE.
- ALL VALVE BOXES SHALL HAVE LOCKING LIDS.
- ADJUST ALL SPRINKLERS FOR 100% COVERAGE.
- AFTER ESTABLISHMENT OF ALL PLANT MATERIAL, CONTROLLERS SHALL BE PROGRAMMED TO IRRIGATE SOLELY DURING THE HOURS BETWEEN 8 P.M. AND 7 A.M.
- SITE DATA INFORMATION TO BE PROVIDED BY CONTRACTOR FOR DATA INPUT INTO CONTROLLER.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL ELECTRICAL CONNECTIONS FOR THE IRRIGATION CONTROLLER AND BOOSTER PUMP WITH THE SITE ELECTRICIANS.

#### WIRE NOTES:

- ALL VALVE CONTROL / COMMON WIRES NOT INSTALL ADJACENT TO MAINLINE PIPE SHALL BE INSTALLED IN SCH. 40 GRAY PVC CONDUIT PER DETAILS AND SPECIFICATIONS.
- ALL SPARE WIRES ALONG ENTIRE LENGTH OF CONTROL WIRE RUN SHALL LOOP INTO EACH VALVE BOX ALONG ITS RUN AND TERMINATE IN VALVE BOX. EACH SPARE WIRE SHALL BE A DIFFERENT COLOR.
- ALL COMMUNICATION WIRES BETWEEN CONTROLLER AND FLOW SENSOR SHALL BE INSTALLED IN 1" SCH 40 PVC ELECTRICAL CONDUIT. BURY A MINIMUM OF 18".
- EACH CONTROLLER SHALL HAVE ITS OWN SET OF COLORS.

#### CONTROLLER NOTES:

- CALSENSE CERTIFICATION REQUIRED PRIOR TO START OF THE 30-DAY PLANT ESTABLISHMENT PERIOD.
- PRIOR TO PURCHASE OF CALSENSE CONTROLLER EQUIPMENT, CONTRACTOR SHALL CONTACT CALSENSE TO COORDINATE A SITE FIELD RADIO SURVEY.
- CONNECT VALVES C1 THRU C14 TO CONTROLLER 'C2'.

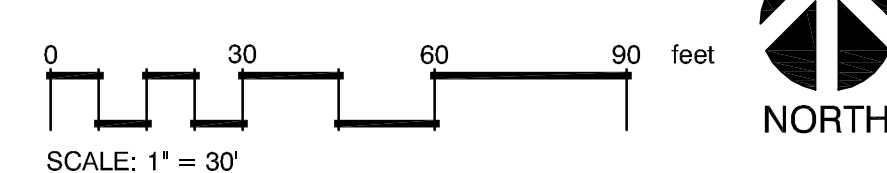
#### SCH 40 PVC SLEEVING CHART

SLEEVE SIZE	WIRE COUNT	PIPE SIZE
1 1/4" SLEEVE	1-4 WIRES	1/2" PIPE
1 1/2" SLEEVE	5-10 WIRES	3/4" PIPE
2" SLEEVE	11-20 WIRES	1" PIPE
2 1/2" SLEEVE	21-30 WIRES	1 1/4" PIPE
3" SLEEVE	31-40 WIRES	1 1/2" PIPE
4" SLEEVE	41-60 WIRES	2" PIPE
6" SLEEVE	61-99 WIRES	3" PIPE
8" SLEEVE	100+ WIRES	4" PIPE
10" SLEEVE	N/A	6" PIPE

#### MATCHLINE SEE SHEET IP-2

REFER TO SHEETS ID-1 AND ID-2 FOR IRRIGATION DETAILS.  
REFER TO SHEETS PP-1 AND PP-2 FOR PLANTING.  
REFER TO SHEETS CP-1 AND CP-2 FOR CONSTRUCTION.



<b>UNDERGROUND SERVICE ALERT</b> CALL-TOLL FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG	DESIGNED BY: DG	DRAWN BY: JE	CHECKED BY: MH/DG	<b>SEAL-DESIGN ENGINEER</b> 	PREPARED UNDER THE SUPERVISION OF: <b>DOUG GROVE, RLA 2789, EXP. 11/30/2011</b>	<b>RHA LANDSCAPE ARCHITECTS</b> 6216 BROCKTON AVENUE SUITE 212 RIVERSIDE, CA 92506 ELEVATION=1701.849 (NGVD 29) BENCH MARK: B.M. No. 075-88 DESCRIPTION: CITY OF RIALTO BRASS DISC SET IN 6" PCC POST SET IN S/W CORNER PCC CATCH BASIN 40 FEET WEST CENTERLINE ALDER 69 FEET NORTH CENTERLINE CASA GRANDE	<b>CITY OF RIALTO</b> FERGUSSON PARK IRRIGATION PLAN	<b>IP-1</b> OF 57 SHEETS PPD No. _____ FOR: CITY OF RIALTO PLAN No. _____
	MARK	REVISIONS	APPR. DATE		APPROVED BY: _____			
	APPROVED BY: _____							
	APPROVED BY: AHMAD R. ANSARI, PUBLIC WORKS DIRECTOR/CITY ENGINEER, RCE 51318, EXPIRES 6-30-10							

C:\Users\mohammed.ri\OneDrive\Documents\Projects\2010\IP-1\IP-1.dwg, Jul 13, 2010, 4:03pm

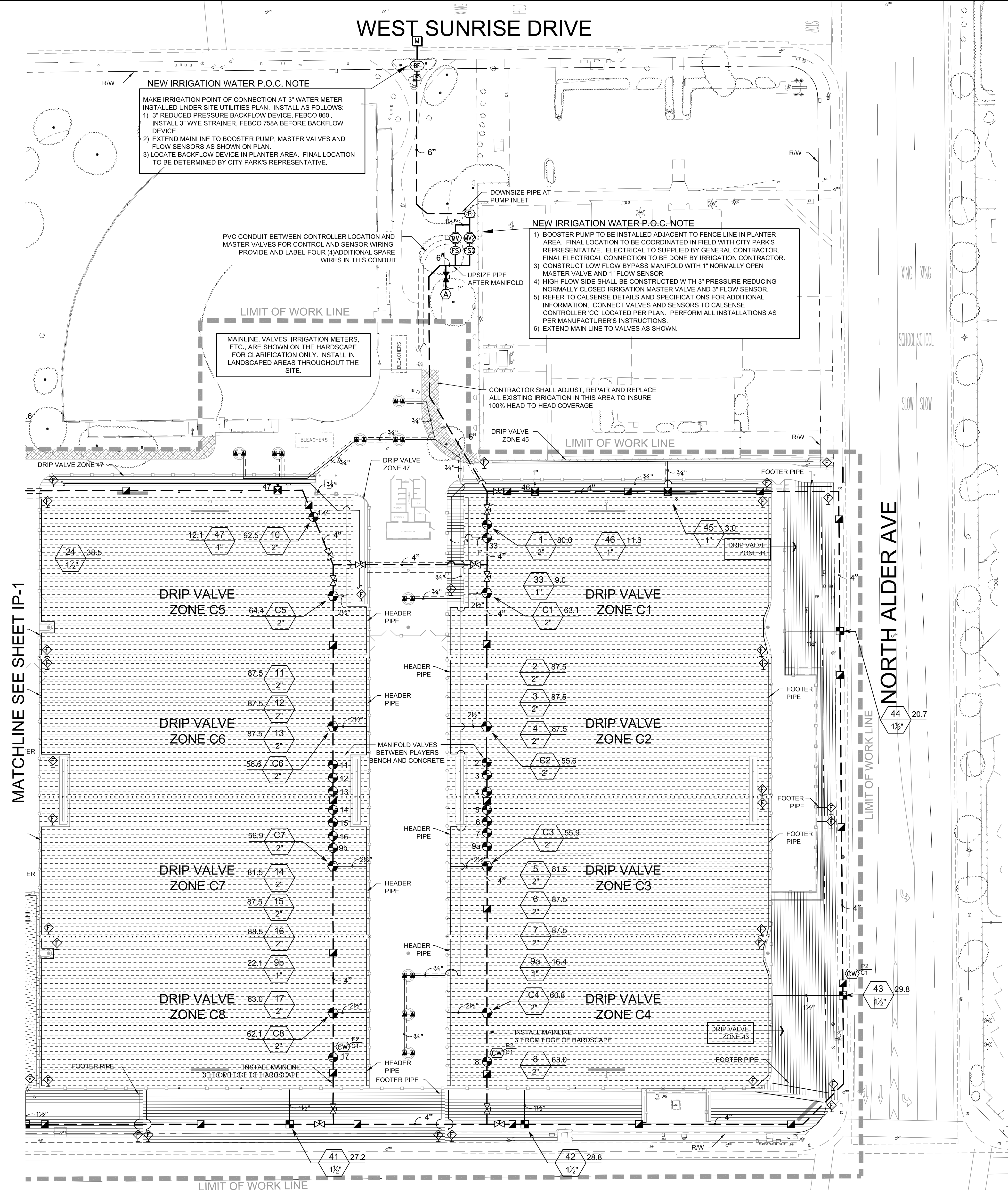
# WEST SUNRISE DRIVE

**NEW IRRIGATION WATER P.O.C. NOTE**  
 MAKE IRRIGATION POINT OF CONNECTION AT 3" WATER METER INSTALLED UNDER SITE UTILITIES PLAN. INSTALL AS FOLLOWS:  
 1) 2" REDUCED PRESSURE BACKFLOW DEVICE, FEBCO 880  
 2) EXTEND MAINLINE TO BOOSTER PUMP, MASTER VALVES AND FLOW SENSORS AS SHOWN ON PLAN.  
 3) LOCATE BACKFLOW DEVICE IN PLANTER AREA. FINAL LOCATION TO BE DETERMINED BY CITY PARKS REPRESENTATIVE.

PVC CONDUIT BETWEEN CONTROLLER LOCATION AND MASTER VALVES FOR CONTROL AND SENSOR WIRING. PROVIDE AND LABEL FOUR (4) ADDITIONAL SPARE WIRES IN THIS CONDUIT.

**NEW IRRIGATION WATER P.O.C. NOTE**  
 1) BOOSTER PUMP TO BE INSTALLED ADJACENT TO FENCE LINE IN PLANTER AREA. FINAL LOCATION TO BE COORDINATED IN FIELD WITH CITY PARKS REPRESENTATIVE. ELECTRICAL TO SUPPLIED BY GENERAL CONTRACTOR. FINAL ELECTRICAL CONNECTION TO BE DONE BY IRRIGATION CONTRACTOR.  
 2) CONSTRUCT LOW FLOW BYPASS MANIFOLD WITH 1" NORMALLY OPEN MASTER VALVE AND 1" FLOW SENSOR.  
 3) HIGH FLOW SIDE SHALL BE CONSTRUCTED WITH 3" PRESSURE REDUCING NORMALLY CLOSED IRRIGATION MASTER VALVE AND 3" FLOW SENSOR.  
 4) REFER TO CALSENSE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. CONNECT VALVES AND SENSORS TO CALSENSE CONTROLLER 'C' LOCATED PER PLAN. PERFORM ALL INSTALLATIONS AS PER MANUFACTURER'S INSTRUCTIONS.  
 5) EXTEND MAIN LINE TO VALVES AS SHOWN.

CONTRACTOR SHALL ADJUST, REPAIR AND REPLACE ALL EXISTING IRRIGATION IN THIS AREA TO INSURE 100% HEAD-TO-HEAD COVERAGE



# WEST CASA GRANDE DRIVE

NORTH ALDER AVE

## IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
[Symbol]	RAIN BIRD XCZ-150-COM HIGH FLOW CONTROL ZONE KIT WITH 1-1/2" PESB VALVE, TWO 1" FILTERS AND TWO 40PSI PRESSURE REGULATORS.	A/ID-2
[Symbol]	RAIN BIRD XCZ-100-PRB-COM DRIP CONTROL KIT, 1" PESB VALVE, 1" BASKET FILTER, AND 40PSI PRESSURE REGULATOR, 1" BALL VALVE.	A/ID-2
[Symbol]	FLUSH VALVE 1-1/4" PVC BALL VALVE IN 10" VALVE BOX.	3.22/ID-2
[Symbol]	AREA TO RECEIVE DRIPLINE KISS BELOW FLOW WRAP SUBSURFACE IRRIGATION BF-WHITE - 0.617 GPM PER 100FT OF LINE. SPACE LINES 20" APART. INSTALLATION MUST BE COMPLETED BY A KISS CERTIFIED CONTRACTOR. LAYOUT OF EQUIPMENT INCLUDING HEADERS, AIR RELIEF AND FLUSH VALVES NEED TO BE APPROVED BY A KISS REP. PRIOR TO INSTALLATION.	1.02/ID-2 2.13/ID-2
[Symbol]	AREA TO RECEIVE DRIPLINE KISS BELOW FLOW WRAP SUBSURFACE IRRIGATION BF-WHITE - 0.537 GPM PER 100FT OF LINE. SPACE LINES 18" APART. INSTALLATION MUST BE COMPLETED BY A KISS CERTIFIED CONTRACTOR. LAYOUT OF EQUIPMENT INCLUDING HEADERS, AIR RELIEF AND FLUSH VALVES NEED TO BE APPROVED BY A KISS REP. PRIOR TO INSTALLATION.	1.02/ID-2 2.13/ID-2

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
[Symbol]	RAIN BIRD EFB-CP-PRS-D BRASS ELECTRIC REMOTE CONTROL VALVE, WITH PRESSURE REGULATOR	O/ID-1
[Symbol]	TURF DRIP ZONE CONTROL VALVE HUNTER DOVAS VALVE W/VAUCL-SET PRESSURE-REGULATOR, TWO AMIAD 1-1/2" COMPACT PLASTIC FILTERS W/120 MESH DISC FILTER.	N/ID-1
[Symbol]	RAIN BIRD 44LRC 1" QUICK COUPLER VALVE, TWO PIECE BODY, LOCKING COVER	G/ID-1
[Symbol]	NIBCO T-113 CLASS 125 BRONZE GATE SHUT OFF VALVE WITH WHEEL HANDLE, SAME SIZE AS PIPE DIAMETER, USE FOR PIPES 2-1/2" AND SMALLER.	G/ID-1
[Symbol]	NIBCO WB2000 BUTTERFLY VALVE SAME SIZE AS PIPE DIAMETER. USE FOR PIPES 3" AND LARGER.	F/ID-1
[Symbol]	GRISWOLD 2160 1" NORMALLY OPEN MASTER VALVE	C/ID-1
[Symbol]	GRISWOLD 2160 1" NORMALLY OPEN MASTER VALVE	C/ID-1
[Symbol]	GRISWOLD 2250 3" NORMALLY CLOSED PRESSURE REDUCING, SURGE APPLICATION	C/ID-1
[Symbol]	GRISWOLD 2250 3" NORMALLY CLOSED PRESSURE REDUCING, SURGE APPLICATION	C/ID-1
[Symbol]	CRISPIN PL-10 1" AIR & VACUUM RELIEF VALVE INSTALL AT HIGHEST POINTS IN MAINLINE	H/ID-1
[Symbol]	FEBCO 880 3" REDUCED PRESSURE BACKFLOW PREVENTER INSTALLED IN STRONGBOX 586C-75ALHP ALUMINUM ENCLOSURE.	B/ID-1
[Symbol]	CALSENSE FM-1B 1" FLOW METER IN BRONZE 80 TEE.	D/ID-1
[Symbol]	CALSENSE FM-1B 1" FLOW METER IN BRONZE 80 TEE.	D/ID-1
[Symbol]	CALSENSE FM-3 3" FLOW METER IN PVC SCH. 80 TEE.	D/ID-1
[Symbol]	CALSENSE FM-3 3" FLOW METER IN PVC SCH. 80 TEE.	D/ID-1
[Symbol]	RAIN BIRD BOOSTER PUMP QUOTE #WCV060710702A. PUMP STATION MODEL #XC11000480. 10HP VFD PUMP MOTOR, 480V-3P-60HZ, POWDER COATED STEEL ENCLOSURE WITH FAN, STEEL SUCTON AND DISCHARGE ZEE PIPE, DATA INDUSTRIAL FLOW SWITCH.	E/ID-2
[Symbol]	FEBCO WYE STRAINER 755A 3" STRAINER INSTALLED ON INLET SIDE OF BACKFLOW PREVENTER.	B/ID-1
[Symbol]	WIRE BUNDLE (AS INDICATED FOR FUTURE USE) SPARE CONTROL WIRE BUNDLE FOR FUTURE USE IN JUNCTION BOX. P=PILOT WIRES, C=COMMON WIRES BUNDLED. COIL WIRES IN VALVE BOX, AND RUN CONTINUOUS WIRE BACK TO CONTROLLER. LABEL EACH WIRE WITH A PLASTIC I.D. TAG AT THE WIRE BUNDLE AND AT THE CONTROLLER.	M/ID-1
[Symbol]	WATER METER 3" INSTALLED BY WEST VALLEY WATER DISTRICT	L/ID-1

## TURF DRIP VALVE SCHEDULE

CONNECT VALVES C1 THRU C14 TO CONTROLLER 'C'	NUMBER	MODEL	SIZE	PSI	GPM	PRECIP
C1	TURF DRIP ZONE CONTROL VALVE	2"	32.28	63.07	0.29	in/h
C2	TURF DRIP ZONE CONTROL VALVE	2"	31.79	55.60	0.29	in/h
C3	TURF DRIP ZONE CONTROL VALVE	2"	31.69	55.88	0.29	in/h
C4	TURF DRIP ZONE CONTROL VALVE	2"	31.92	60.85	0.29	in/h
C5	TURF DRIP ZONE CONTROL VALVE	2"	32.26	64.38	0.29	in/h
C6	TURF DRIP ZONE CONTROL VALVE	2"	31.71	56.63	0.29	in/h
C7	TURF DRIP ZONE CONTROL VALVE	2"	31.73	56.94	0.29	in/h
C8	TURF DRIP ZONE CONTROL VALVE	2"	32.01	62.14	0.29	in/h
C9	TURF DRIP ZONE CONTROL VALVE	1-1/2"	31.07	35.21	0.29	in/h
C10	TURF DRIP ZONE CONTROL VALVE	2"	31.89	58.00	0.29	in/h
C11	TURF DRIP ZONE CONTROL VALVE	2"	31.59	52.89	0.29	in/h
C12	TURF DRIP ZONE CONTROL VALVE	2"	31.56	45.11	0.29	in/h
C13	TURF DRIP ZONE CONTROL VALVE	2"	32.43	50.69	0.29	in/h
C14	TURF DRIP ZONE CONTROL VALVE	2"	33.51	46.79	0.29	in/h

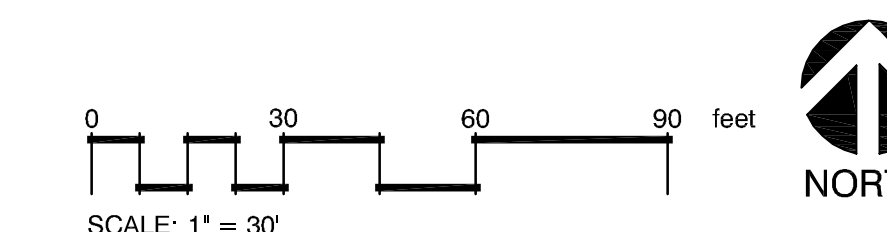
## VALVE SCHEDULE

CONNECT VALVES 1 THRU 47 TO CONTROLLER 'C'	NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	PRECIP
1	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.96	62.11	80.00	1.39	in/h
2	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	47.18	64.70	87.50	0.80	in/h
3	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	48.82	64.33	87.50	0.50	in/h
4	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.46	63.96	87.50	0.58	in/h
5	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.99	64.18	81.50	1.34	in/h
6	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	47.51	64.98	87.50	0.61	in/h
7	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	48.27	65.72	87.50	1.20	in/h
8	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.00	62.30	63.00	1.39	in/h
9a	RAIN BIRD EFB-CP-PRS-D	1"	TURF SPRAY	40.69	56.42	16.44	0.81	in/h
9b	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	42.53	57.42	22.14	0.80	in/h
10	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	48.02	67.10	82.50	1.46	in/h
11	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	47.22	63.60	87.50	0.59	in/h
12	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.84	63.24	87.50	0.59	in/h
13	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.48	62.91	63.00	1.42	in/h
14	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.98	63.17	81.50	1.31	in/h
15	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	47.56	64.07	87.50	0.57	in/h
16	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	48.80	65.38	88.50	1.68	in/h
17	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.23	62.12	63.00	1.42	in/h
18	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	43.87	63.54	60.00	0.54	in/h
19	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.48	66.34	63.00	1.29	in/h
20	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	47.35	68.79	85.10	1.33	in/h
21	RAIN BIRD EFB-CP-PRS-D	1-1/2"	TURF ROTARY	47.88	68.20	47.39	0.66	in/h
22	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTARY	49.10	65.94	50.50	0.73	in/h
23	RAIN BIRD EFB-CP-PRS-D	1-1/2"	TURF ROTARY	48.74	68.07	20.20	0.43	in/h
24	RAIN BIRD EFB-CP-PRS-D	1-1/2"	TURF ROTARY	48.63	67.50	38.49	0.55	in/h
25	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.12	65.05	45.58	0.53	in/h
26	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.47	66.21	57.90	1.50	in/h
27	RAIN BIRD EFB-CP-PRS-D	1-1/2"	TURF ROTOR	44.44	64.05	38.00	1.50	in/h
28	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	45.60	65.90	75.00	1.52	in/h
29	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.16	66.81	83.50	0.68	in/h
30	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.31	66.94	83.50	0.66	in/h
31	RAIN BIRD EFB-CP-PRS-D	2"	TURF ROTOR	46.13	66.39	75.00	1.16	in/h
32	RAIN BIRD EFB-CP-PRS-D	1-1/2"	TURF ROTOR	44.36	63.51	38.00	1.50	in/h
33	RAIN BIRD EFB-CP-PRS-D	1"	BUBBLER	37.01	50.86	9.00	15.32	in/h
34a	RAIN BIRD EFB-CP-PRS-D	1"	BUBBLER	35.26	54.41	8.00	15.32	in/h
34b	RAIN BIRD EFB-CP-PRS-D	1"	BUBBLER	32.75	52.02	1.00	15.32	in/h
35	RAIN BIRD XCZ-100-PRB-COM	1"	DRIP	51.03	69.63	16.94	0.39	in/h
36	RAIN BIRD XCZ-100-PRB-COM	1"	DRIP	45.73	64.31	21.34	0.39	in/h
37	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	43.06	61.13	38.38	0.39	in/h
38	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	41.31	58.51	31.46	0.39	in/h
39	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	35.86	52.54	8.32	0.39	in/h
40	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	40.59	56.66	30.52	0.39	in/h
41	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	39.27	54.72	27.19	0.39	in/h
42	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	39.62	55.32	28.80	0.39	in/h
43	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	40.88	57.42	29.83	0.39	in/h
44	RAIN BIRD XCZ-150-COM	1-1/2"	DRIP	37.53	54.18	20.72	0.39	in/h
45	RAIN BIRD XCZ-100-PRB-COM	1"	DRIP	34.16	50.29	2.98	0.39	in/h
46	RAIN BIRD XCZ-100-PRB-COM	1"	DRIP	45.83	61.83	11.26	0.39	in/h
47	RAIN BIRD XCZ-100-PRB-COM	1"	DRIP	45.83	63.08	12.09	0.39	in/h

## CRITICAL ANALYSIS

Water Source Information:	Installed by West Valley Water District
FLOW AVAILABLE	Water Meter Size: 3"
	Flow Available: 225.00 gpm
PRESSURE AVAILABLE	Static Pressure at POC: 80.00 psi
	Elevation Change: 5.00 ft
	Service Line Size: 6"
	Length of Service Line: 20.00 ft
	Booster Pump pressure provided: 40.00 psi
	Pressure Available: 118.00 psi
DESIGN ANALYSIS	Maximum Multi-valve Flow: 225.00 gpm
	Flow Available at POC: 225.00 gpm
	Residual Flow Available: 0.00 gpm
Critical Station:	35
Pressure Req. at Critical Station:	52.03 psi
Loss for Fittings:	0.76 psi
Loss for Main Line:	7.63 psi
Loss for POC to Valve Elevation:	0.00 psi
Loss for Backflow:	11.00 psi
Loss for Master Valve:	1.00 psi
Loss for Water Meter:	1.00 psi
Critical Station Pressure at POC:	72.42 psi
Pressure Available:	118.00 psi
Residual Pressure Available:	45.58 psi

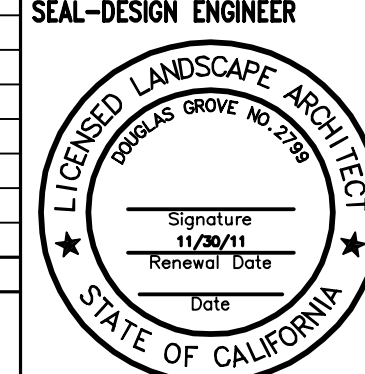
REFER TO SHEETS ID-1 AND ID-2 FOR IRRIGATION DETAILS.  
 REFER TO SHEETS PP-1 AND PP-2 FOR PLANTING.  
 REFER TO SHEETS CP-1 AND CP-2 FOR CONSTRUCTION.



**UNDERGROUND SERVICE ALERT**  
 CALL-TOLL FREE  
 1-800-227-2600  
 TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: DG DRAWN BY: JE CHECKED BY: MH/DG



PREPARED UNDER THE SUPERVISION OF:  
 DDUG GROVE, RLA 2789, EXP. 11/30/2011 DATE  
 APPROVED BY: DATE  
 PLANNING DEPARTMENT DATE  
 APPROVED BY: DATE  
 AHMAD R. ANSARI, PUBLIC WORKS DIRECTOR/CITY ENGINEER, RCE 51318, EXPIRES 6-30-10 DATE

**RHA LANDSCAPE ARCHITECTS**  
 6216 BROCKTON AVENUE SUITE 212 RIVERSIDE, CA 92506  
 BENCH MARK: B.M. No. 075-88 ELEVATION=1701.849 (NGVD 29)  
 DESCRIPTION: CITY OF RIALTO BRASS DISC SET IN 6" PCC POST SET IN S/W CORNER PCC CATCH BASIN 40 FEET WEST CENTERLINE ALDER 69 FEET NORTH CENTERLINE CASA GRANDE

**CITY OF RIALTO**  
 FERGUSSON PARK  
 IRRIGATION PLAN  
 PPD No. \_\_\_\_\_  
 FOR: CITY OF RIALTO  
**IP-2**  
 OF 57 SHEETS  
 PLAN No. \_\_\_\_\_