

**SPECIAL REQUIREMENTS FOR RECYCLED WATER IRRIGATION SYSTEMS (CON'T)  
WO 12457**

**8. Basket Strainers:**

a. Basket strainers shall be used on all recycled water irrigation systems. The strainer shall have a 30-mesh or finer screen. The strainer drain shall operate with a recessed key slot. The basket strainer shall be mounted above grade and located downstream of the water meter.

Type: Yardney T-Series Max-Clean Brass, Threaded or approved equal.

a. Basket strainers installed above grade shall be installed inside of an enclosure constructed of stainless steel tubing and wire utilizing a smooth surface to prevent handling injury. All enclosure hardware shall be stainless steel. Enclosure shall have a hinge on one end that allows for removal of the enclosure, without tools, for strainer service. The enclosure shall have a locking system that accepts a standard padlock.

Type: Irrigation systems up to 2". V.I.T. Strongbox SBBC-20SS, or approved equal.

a. All basket strainers installed above grade shall be protected from freezing by a removable insulation device. The freeze protection device shall be constructed of radiant barrier foil, closed cell foam and a water repellent cover. The exterior cover shall carry a five-year warranty against loss of color or strength due to exposure to the elements. The insulating cover shall have brass grommets at the base of the unit to allow the installation of padlocks for theft prevention. Freeze protection covers shall have the TCSO logo located on the exterior of the insulated cover.

Type: Parkside Products "Polar Bearler" insulated covers, size as required or approved equal.

**9. Shut Off Valves:**

**a. Ball Valves:**

Ball valves 2 inches and smaller shall have a one-piece body constructed of 600-pound WOG bronze material conforming to ASTM B 594 alloy 844. Ball valve shall have a vented ball with a blowout proof system. Ball valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards. Shut off valves shall be installed below grade in plastic valve boxes. Only one valve per box will be allowed. Install valves in planting areas and according to the construction details. Locate all valves within 12 inches of walks, curbs, header boards, or paved areas where applicable. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion.

Type: Nibco T-560 or approved equal.

**10. Quick Coupler Valves:**

a. Quick coupler valves used on potable water irrigation systems shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage. The coupler shall have a 1 inch female threaded opening at the base. Quick coupler valve shall have a lockable, hinged cover constructed of red brass permanently bonded with a yellow vinyl outer cover. Quick couplers used with potable water shall use a single lug style quick coupler key.

Type: TORO LVC, or Rainbird LRC with locking cap or approved equal.

b. Quick coupler valve shall be operated only with a special connecting device known as a quick coupler key, designed for that purpose. Quick coupler key is inserted into the valve and a positive, watertight connection shall be made between coupler key and valve. Potable water quick couplers are not allowed below ground within a recycled irrigation area. Recycled water quick couplers shall use a coupler key designed to only fit the specific coupler used on those systems. All quick coupler keys shall be equipped with a bronze swivel connection on one end and a locking purple cap.

Type: Recycled water: Nelson 7645 Acme Threads with purple locking cap or approved equal.

c. Quick coupler valve swing joint assembly shall be constructed of two brass street ells, one brass threaded ell and a 12 inch long threaded brass nipple. The swing joint assembly components shall be 1 inch size to match the inlet size of the quick coupler valve.

d. Quick coupler valves shall be staked in the ground using two 3/8 inch long #4 rebar stakes. The quick coupler shall be secured to the stakes using two stainless steel vandal proof clamps. Stakes and hose clamps shall be positioned as to not interfere with the operation of the quick coupler.

a. Quick coupler valves shall be installed below grade in a plastic valve box. Locate all quick coupler valves within 12 inches of walks, curbs, header boards, or paved areas where applicable. Locate quick coupler valves inside shrub and ground cover areas whenever possible. Quick coupler valves shall be installed such that valve top will be 3 inches below the lid of the valve box.

**11. Remote Control Valves:**

a. Remote control valves shall be normally closed, 24 VAC solenoid actuated, globe pattern, spring-loaded diaphragm type. The body and bonnet of the valve shall be constructed of glass filled nylon with captive solenoid plunger and bonnet bolts. The bonnet bolts shall thread into matching brass body inserts. The valve shall be pressure rated to 200 P.S.I. The valve shall be equipped with a pressure regulator capable of accurately adjusting and regulating pressure between 20 to 100 P.S.I. without the use of tools or pressure gauges. Remote control valves used on recycled water systems shall have a color coded recycled water identification handle installed.

Type: Hunter ICV-G-AS series or approved equal.  
Toro TPV Series or approved equal.  
Rainbird PESB-R series or approved equal.

b. All remote control valves shall be installed isolated from the irrigation mainline by a ball valve. Where shown on the drawings or whenever possible remote control valves shall be installed in a manifold isolated by a single ball valve. The ball valve and manifold piping shall be sized to match the size of the largest remote control valve in the manifold.

c. Remote control valves and manifold isolation valves shall be installed below grade in plastic valve boxes. Only one valve per box will be allowed. Install valves in planting areas and according to the construction details. Locate all valves within 12 inches of walks, curbs, header boards, or paved areas where applicable. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion.

d. When grouped together, allow a minimum of 12 inches between valves. The valves shall be installed in valve boxes that will have enough room on all sides of the valves to allow repair personnel to completely reconstruct the valves without removing the valve box.

**12. Master Control Valves:**

a. Master control valves shall be normally closed, 24 VAC solenoid actuated, globe pattern, spring-loaded diaphragm type. The body and bonnet of the valve shall be constructed of glass filled nylon with captive solenoid plunger and bonnet bolts. The bonnet bolts shall thread into matching brass body inserts. The valve shall be pressure rated to 200 P.S.I. Master control valves used on recycled water systems shall have a color coded recycled water identification handle installed.

Type: Hunter ICV-G or TORO P-220 series or approved equal.

b. Install valves in planting areas and according to the construction details. Align valve boxes at right angles to adjacent hardscape whenever possible.

c. When equipment is grouped together, allow a minimum of 12 inches between valve boxes. The valves shall be installed in valve boxes that will have enough room on all sides of the valves to allow repair personnel to completely reconstruct the valves without removing the valve box.

**13. Air Release Valves**

a. Air release valves shall be constructed of bronze body with threaded inlet and outlet. Air release valves shall be of the manufacturer, size and type specified on the Drawings. Air release valves shall be installed at the highest point of the mainline when specified on the Drawings.

c. Secure the air release valve assembly to the mainline using a concrete thrust block or pipe restraint as required by the size of the mainline and type of mainline pipe used.

d. Air release valves shall be installed below grade in a plastic valve box. Install valves in planting areas and according to the construction details. Locate all valves within 12 inches of walks, curbs, header boards, or paved areas where applicable. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion.

Type: Air release valves of any type must be submitted for approval by EMWD.

**14. Pressure Relief Valves**

a. Pressure relief valves if proposed shall be submitted for review and approval by EMWD. Pressure relief valves on pumps are not acceptable on recycled water irrigation systems as there is uncontrollable run-off associated with the valve.

b. If acceptable to EMWD, pressure relief valves shall be installed below grade in a plastic valve box. Install valves in planting areas and according to the construction details. Locate all valves within 12 inches of walks, curbs, header boards, or paved areas where applicable. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion.

Type: Pressure release valves must be submitted for approval by EMWD.

**15. Automatic Controllers**

a. The automatic controller shall be of the manufacturer's type approved by the EMWD for use within its jurisdiction. TORO, Rain Bird, Weathermatic or as approved, that supply ET based controllers. EMWD shall determine which controller type is acceptable for each project. The Drawings shall indicate the approved controllers to be used on the project.

b. ET based Controller and Related Equipment:

iii. The controller shall be pre-assembled by the manufacturer in a weatherproof, vandal resistant, lockable enclosure with a flush mounted handle as manufactured by the approved manufacturer. The assembly shall consist of the controller, the enclosure, a removable back board, terminal interface board with radio remote receptacle, key operated on / off switch, a ground fault interrupter duplex receptacle, ground rod, ground wire and ground wire clamp. All optional equipment as indicated on the drawings by model number shall also be included in the satellite assembly including AC line protection and transient protection. Satellites installed inside of buildings shall be installed inside of a front entry, wall mounted controller enclosure.

iv. Controller assemblies shall include a flow sensor with all required equipment to provide communication with the master valve, the flow sensor and the controller. Flow sensors used on systems with backflow devices or basket strainers sized 2 inches or smaller shall be installed per the details. Flow sensors used on systems with backflow devices or basket strainers sized 2 1/2 inches or larger shall be installed below grade in a valve box. All flow sensor installation shall maintain the manufacturer recommended upstream and downstream clear pipe distance to insure proper operation of the flow sensor. Where one or two additional sensors (for a total of three) are required the satellite controller shall have an interface board installed on the controller to read the additional sensors.

Type: TORO TFS low flow -flow sensor or approved equal.

v. The flow sensor communication cable shall be a two conductor of ICEA class B, 16 AWG 7 strand, conforming to ASTM B-3 and B-8, aluminum shield with drain wire and shall have a jacket of 0.50 sunlight and moisture resistant P.V.C. Where flow sensor communication cable is required to be installed underground, the cable shall be installed inside a Schedule 40 P.V.C. electrical conduit with a minimum size of 1 inch.

Type: Arizona Electric, Inc. 9516-2SP, Paige Electric or approved equal.

**a. Outdoor Enclosure:**

i. All controllers installed outside of a building shall be mounted within a vandal resistant, pedestal type controller enclosure.

ii. The controller enclosure shall be of appropriate size to adequately house the specified controller, made of weather resistant and collision resistant 304 grade stainless steel or approved equal. The entry lid shall be assisted by springs for easy access. The lid shall have a locking mechanism with provisions for the use of a padlock.

iii. The controller enclosure shall have one circuit with full time 120 VAC power to a GFCI type outlet and 120 VAC to the controller with an on/off switch.

iv. Control wires to be routed to control valves from controller through a 3 inch P.V.C. electrical conduit and sweep through the enclosure mounting pad. Additional wiring shall be routed into the enclosure using P.V.C. electrical conduit and sweeps as shown in the controller installation detail.

v. Controller shall be grounded per the uniform building codes and the controller installation detail.

Type: Manufacture supplied and specified enclosure, V.I.T. Strong Box SB-16SS, or approved equal.

**b. Enclosure Mounting Pad:**

i. All pedestal type controller enclosures shall be installed using an enclosure mounting pad assembly. The mounting pad assembly shall consist of a reinforced plastic support base, a 3/16 inch thick 5052 H32 marine grade aluminum mounting pad and 304 stainless steel fastening brackets.

ii. The support base shall be installed and compacted in soil, all conduits and sweeps routed through the base and the base filled with pea gravel. The mounting pad shall be installed on top of the support base using the provided hardware. The controller enclosure shall be installed on top of the mounting base.

Type: V.I.T. Strong Box QP-16, or concrete pad as per the specified detail or approved equal.

**16. Controller Accessories:**

a. The electrical power for the irrigation controller shall be provided by the Owner / Developer. The electrical meter for the irrigation system, when located outside of a building shall be installed inside a stainless steel enclosure. Landscape contractor is responsible for final hook-up of the controller.

Type: Meyers MEUG16XM100, as supplied from the building or approved equal.

b. When and where determined to be necessary and required by the EMWD a radio remote is to be provided. The Contractor shall provide the radio transmitter and the receiver to the EMWD with the final turn over equipment. All satellite controllers shall be wired at the terminal strip with a 30 inch long permanent wiring harness for the use of a radio remote with the controller.

c. When specified, the radio remote device shall allow for the operation of all controller stations from a distance of up to one mile from the controller. The radio remote device shall be furnished inside a plastic carrying case with battery charger.

Type: Radio Remote: Rainmaster PROMAX-UA or as specified in the legend or approved equal  
Or approved equal for all of above.

**17. Low Voltage Control Wiring:**

a. Connections between the controller and remote control valves shall be made with direct burial AWG-UF type wire, installed in accordance with valve manufacturer's wire chart and specifications. Sizing of wire shall be in accordance with irrigation drawings and manufacturer's recommendations; in no case shall the gauge of the wire be less than #14 size. Wire size shall be determined from the wire chart and submitted to EMWD for approval prior to order of the material.

Type: Paige Electric or approved equal.

b. Wiring shall be installed adjacent to the mainline whenever possible and shall never be installed above or below the pipe.

c. Where more than one wires are placed in a trench, the wiring shall be taped together using black electrical tape at intervals of 10 feet.

d. All wire splices shall be made using sealed waterproof connectors. Connectors shall consist of a wire nut and a polypropylene locking tube pre-filled with waterproof electrical gel. The wire connector shall accommodate up to three #14 control wires.

Type: Dri-Splice DS-100 / DS-300 or approved equal.

e. A 3/8 inch long expansion loop of wire shall be provided at each wire splice, valve wire connection, and at all directional changes of the wire path. Expansion curls shall be sufficient length at each wire splice that the wire connectors may be completely removed from the splice / pull box. Expansion curls shall be sufficient length at each electric control valve, so that in case of repair, the valve bonnet may be brought to the surface without disconnecting the control wires.

Control wires shall be laid loosely in the trench without stress or stretching of control wire conductors. A 3/8 inch long expansion loop shall be located every 100 feet on continuous wire runs and on both sides of any sleeve crossings.

f. Use continuous wire between controller and remote control valves. Under no circumstances shall splices exist without prior EMWD approval. Any splices allowed shall be installed in a splice / pull box.

g. All control wires shall be black in color. When more than one controller is installed use a unique color wire for each controller. The colors used by the contractor for control wires shall not conflict with the colors designated for spare control and common wires described in these specifications.

h. All common wires and only common wires shall be white in color. When more than one controller is installed, use white colored wire with a color stripe matching the color of the control wire used for the controller.

i. For each leg of the mainline there shall be one spare control wire routed for each five (5) remote control valves, or part thereof, on the mainline leg. A minimum of one spare control wire shall be routed for each mainline leg if less than five (5) valves are present. A single spare common wire shall be routed to the end of each mainline leg. All spare wires shall be looped up and into the remote control valve boxes and any splice pull boxes along the entire path of the mainline leg. Spare control wires shall be solid orange in color. Spare common wires shall be white in color with an orange stripe.

j. All wire sleeves shall have a pull rope remaining along with the wires carried. Mark each sleeve for future use with a score mark on the adjacent concrete curb. All wire sleeves shall extend at least 24 inch past the edge of the paving. All wire sleeve ends shall be sealed using aqua-seal wrap. All wire sleeves shall be Sch. 40 P.V.C. sized at twice the diameter of the wire bundle carried or 2 inch minimum. A 3/8 inch long expansion loop shall be located on both sides of the sleeve crossing.

k. Flow sensor communication cable between the flow sensor and the controller shall be installed inside a 1 inch Sch. 40 P.V.C. conduit.

l. Master valve control and common wires between the master valve and the controller shall be installed inside a 1 inch Sch. 40 P.V.C. conduit. Master valve wires shall be blue with a white stripe and white with a blue stripe. Master valve wires shall be consistent with the common and control wires described in these specifications.

**18. Valve Boxes:**

a. Round valve boxes shall be 10 inches in diameter x 10 1/4 inches high constructed of rigid polyolefin, chemically inert plastic, with 6 inch Class 160 P.V.C. extension sleeves where required. Valve boxes shall have bolt down plastic covers. Valve box covers shall be secured using stainless steel bolts, washers and nuts. Heat brand box lid with the appropriate identification letters.

Type: NDS, Applied Engineering or approved equal.

b. Rectangular valve boxes shall be 11 3/4 inches wide x 17 inches long x 12 inches high constructed of rigid polyolefin, chemically inert plastic, with valve box extensions where required. Valve boxes shall have bolt down plastic covers. Valve box covers shall be secured using stainless steel bolts, washers and nuts. Heat brand box lid with the appropriate identification letters and/or numbers. All boxes within recycled water irrigation areas shall have purple lids.

Type: NDS, Applied Engineering or approved equal.

c. Identification letters or numbers shall be 2 inch high and heat branded onto the box cover. Identification symbols shall be as shown in the installation details.

d. Heat branding shall be accomplished using branding irons specifically designed for this purpose. Heat branding shall not weaken or in any way puncture the valve box cover.

e. Valve box covers shall be green in color unless directed to be purple in color for use with recycled water. Reclaimed water valve boxes shall have appropriate reclaimed water warnings embossed onto the cover in English and Spanish, as well as the International "Do Not Drink" symbol.

f. Valve boxes used for irrigation equipment shall be as follows:

i. Round valve boxes shall be used for gate valves, butterfly valves, quick coupler valves, and any other equipment as shown in the installation details.

ii. Rectangular valve boxes shall be used for remote control valves, master control valves, drip control valves, pressure regulators, ball valves, pull boxes, and any other equipment as shown in the installation details.

**19. Drip Irrigation:**

**a. Drip Emitters:**

i. Drip emitters shall be constructed of heavy-duty plastic with a bug diffuser cap outlet. Drip emitters shall be pressure compensating units that deliver a uniform flow throughout a pressure range of 5 to 45 PSI. Drip emitter shall be a zero flush rate unit delivering a discharge rate in gallons per hour (GPH).

Type: Salco PCCTZ-2, Rainbird Xenibug, Toro NGE or approved equal.

ii. Drip emitters shall be installed on flexible adapter assemblies constructed of 1/2 inch diameter, black, heavy wall P.V.C. flex hose. Flexible adapter assemblies shall have a 1/2 inch, black, end ultraviolet resistant. Flexible adapter assemblies shall be sized with specific factory provided lengths as indicated on the installation detail drawings.

Type: Salco I.H. series, Rainbird PC Module, Toro or approved equal.

iii. Flexible adapter assemblies shall be staked to grade using 9 inch long, P.V.C. coated, galvanized, 9 gauge wire tubing stakes. Spacing of the tubing stakes shall be as indicated on the installation detail drawings.

Type: Salco DTS-140-900, Rainbird PC Module, Toro, or approved equal.

b. Wye Filters: Drip system wye filters shall be constructed of heavy-duty, heat resistant plastic. Wye filters shall have a removable plastic disk type filter. Drip system wye filters shall have an equivalent filtration level of 80 mesh. Wye filters shall have FIPT inlet and outlet. Wye filters shall not have a manual flush threaded hose connection when on a recycled irrigation system. Wye filters shall be sized equivalent to the drip control valve as indicated on the Drawings.

Type: Amiad #1-1201, Rainbird PRF-RBY, or approved equal.

c. Pressure Regulators: Drip system pressure regulators shall be constructed of heavy-duty, heat resistant plastic and stainless steel internal parts. Pressure regulators shall reduce inlet water pressure in the range 35-70 PSI to a preset 20 PSI. Pressure regulators shall have 3/4 inch FIPT inlet and outlet.

Type: Senninger, Wilkins, or approved equal.

d. Flush Valve: Drip system manual flush valves shall be as specified in the drawings and as approved by EMWD. Flush valves constructed of threaded fittings for connection by a hose are not acceptable to EMWD on a recycled irrigation system. Manual flush valves shall be located within inside a rectangular valve box and constructed of a ball valve, with a 90 elbow, and PVC pipe extension with rebar restraint into a gravel sump for distribution.

Type: Nibco plastic ball valve or approved equal.

**20. Check Valves:**

a. Provide check valves, in addition to any built-in sprinkler head check valves, as may be required by the EMWD Representative to prevent drainage of irrigation water from sprinkler system due to changes in elevation.

b. Swing Check Valve: Where water source is below the elevation of the sprinkler heads (i.e. at the bottom of a slope) swing check valves are to be used. Swing check valves shall be constructed of heavy-duty plastic and stainless steel internal parts. Swing check valve shall permit water to flow up slope not down. Install swing check valves in line as designated on the irrigation drawings. As all sizes may not be available from the manufacturer, use Schedule 40 P.V.C. reducing bushings to adapt check valve to the line size as long as P.V.C. swing check valve is larger than the line size.

Type: King Brothers, Inc. or approved equal.

c. Spring Check Valve (adjustable): Where water source is above the elevation of the sprinkler heads (i.e. at the top of a slope) adjustable spring check valves are to be used. Spring check valves shall be constructed of heavy-duty plastic and stainless steel internal parts. Spring check valve shall be adjustable between 5 - 15 lbs. Install swing check valves in line and/or on sprinkler heads designated on the irrigation drawings. As all sizes may not be available from the manufacturer, use Schedule 40 P.V.C. reducing bushings to adapt check valve to the line size as long as P.V.C. swing check valve is larger than the line size.

Type: Hunter, King brothers, Flow Controls or approved equal.

**21. Sensors:**

**a. Flow sensor:**

i. Flow sensor shall be a solid-state unit constructed of a brass body or tee fitting, an o-ring sealed epoxy fused sensor housing, and nylon impeller.

ii. Flow sensor shall be an insertion type with a nonmagnetic, spinning impeller (paddle wheel) as the only moving part. The sensor sleeve will be brass (or 316 stainless steel) with the impeller and sensor housing being glass-filled PPS. A penion bearing shall be inserted through the impeller and the shaft material shall be tungsten carbide. The sensor electronics will be potted in an epoxy compound designed for prolonged immersion. The sensor shall operate in line pressures up to 400 PSI and liquid temperatures up to 220° F, and operate in flow of 1 foot per second up to 30 feet per second. Flow sensor shall be matched to the central control system specified and as indicated on the Drawings. Flow sensors shall not be required with systems using light powered irrigation controllers.

Type: Rain Bird Systems: Data Industrial 220 series  
TORO: TFS Low flow series or approved equal

b. Rain Sensor shall be a catch container type constructed of heavy duty plastic with epoxy sealed electronics. Sensor shall be installed inside a 1/8 inch thick steel vandal resistant enclosure. Rain sensor shall be fixed directly to the irrigation controller. Install rain sensor on the side of the controller enclosure and route all wires through enclosure walls inside a 1/2" steel conduit. When controllers are installed inside buildings mount rain sensor on the building roof and route wires to controller inside 1/2" steel conduit painted to match exterior building color. Install rain sensor as recommended by the manufacturer. Rain sensors shall not be required with systems using light powered irrigation controllers.

Type: Sensor: Rainbird RSD-BEx rain sensor  
TORO TWRS series wireless rain sensor or approved equal.

**22. Miscellaneous Equipment:**

a. Landscape Fabric: Landscape fabric for valve box assemblies shall be 5 ounce weight woven polypropylene weed barrier. Landscape fabric shall have a burst strength of 225 PSI, a puncture strength of 60 lbs. and capable of water flow of 12 gallons per minute per square foot.

Type: DeWitt Pro 5 Weed Barrier or approved equal.

b. Thrust Blocks: Thrust blocking shall be used on all irrigation mainlines 2 1/2 inches in diameter with solvent welded fittings. Thrust blocks shall be minimum 1 cubic foot of 470-C-2000 concrete. All P.V.C. mainline fittings shall be wrapped with black plastic tape prior to the installation of concrete thrust blocks. The thrust block concrete must be poured in such a way that the concrete is directly in contact with the pipe fitting and the compacted soil adjacent to the thrust block. A pipe restraint system shall be used in lieu of thrust blocks for all bell and gasket mainline.

**c. Gravel:**

i. All gravel used in valve boxes shall be washed, crushed rock of approximately 3/4 inch average size. No pea gravel shall be used in valve boxes.

ii. Gravel used for the installation of enclosure mounting pads shall be washed pea gravel.

Type: Submit a sample of gravel for approval by EMWD.

d. Pipe Stabilizers: All pipe installed on grade shall be secured to the ground surface using a manufactured pipe stabilizer. Pipe stabilizers shall be manufactured from an 18 inch long #4 rebar stake to which two 5/16 inch hot rolled steel "J" hooks have been welded. The "J" hooks shall have a protective vinyl tubing cover factory installed. Pipe stabilizers are to be installed a minimum of 10 feet on center and as indicated on the installation detail drawings.

Type: V.I.T. Strongbox Model PS18, or approved equal.

e. Rebar Stakes: All assemblies requiring stabilization shall be equipped with #4 x 30 inch rebar stakes. Quantity and installation of the rebar stakes shall be as indicated on the installation detail drawings.

Type: Submit for approval by EMWD.

f. All assemblies requiring rebar stakes shall be equipped with stainless steel vandal-proof clamps installed with a tool specifically for this purpose. Clamps shall be one time only use type and not be removable with screwdrivers or wrenches. Quantity of clamps shall be as indicated on the installation detail drawings.

Type: Submit for approval by EMWD.

g. Identification tags with numbers are required on all valves. Remote control valve tags shall have a yellow background with black lettering for potable water and shall have a purple background with black lettering for reclaimed water. Reclaimed water ID tags shall also have reclaimed water warnings listed on one side of the tag.

Type: Christy's "Standard" Tags or approved equal.

**COLOR CODING NOTE:**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTERNALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA - NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS.

**OMISSION STATEMENT:**

THERE ARE NO DECORATIVE FOUNTAINS, COMFORT STATIONS, SWIMMING POOLS, PLAYGROUND EQUIPMENT, OR WELLS ON SITE. DRINKING WATER FOUNTAIN, DESIGNATED OUTDOOR EATING AREAS, PICNIC TABLES, BENCHES, ETC. SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST, OR RUN-OFF. THE POTABLE WATERLINE SUPPLYING THE DRINKING FOUNTAIN MUST HAVE A WARNING BLUE COLORED TAPE IDENTIFYING IT AS A POTABLE WATERLINE AND STATING "CAUTION: BURIED WATERLINE BELOW" INSTALLED OVER IT.

**POTABLE & RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATIC ALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATER LINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATER LINES AND MAINTAIN ONE (1) FOR OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATER LINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (1) FEET EACH SIDE OF THE POTABLE WATER LINE.



NDM-SCOEEMWD\_USACE\_PERRIS\_IJ/PDF/003d.dgn PLOT DATE: 2/19/2010 PLOT TIME: 11:14:34 AM

SUBMITTED BY: <b>CH2MHILL</b> ART. JUNG, P.E. CH2M DESIGN BRANCH	DESIGNED BY: DRAWN BY: CHECKED BY:	U.S. ARMY ENGINEER DISTRICT LOS ANGELES CORPS OF ENGINEERS	EASTERN MUNICIPAL WATER DISTRICT PERRIS DESALINATION FACILITY PERRIS, CALIFORNIA	DATE	APPROVAL
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L.A. DISTRICT FILE NO. XXX-XXXX	SPEC. NO. 1: NOT APPLICABLE	CADD FILE NAME: PDF003d.dgn			