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PART V
ON-SITE STANDARD SPECIFICATIONS

PREFACE

The District has adopted as its Standard Specifications for on-site recycled water facilities the "Standard Specifications for Public Works Construction," 2018 edition (Green Book), as modified herein. Each section in Part V, Standard Specifications, is presented in the same number sequence as that contained in the "Standard Specifications for Public Works Construction," 2018 Edition. Each sentence, paragraph or section is intended to delete, replace, amend or supplement the corresponding section in the Green Book.

PART V
ON-SITE STANDARD SPECIFICATIONS

PART 2

CONSTRUCTION MATERIALS

SECTION 209 - PRESSURE PIPE

209-7 PIPELINE IDENTIFICATION

209-7.2 Requirements. Add the following to Subsection 209-7.2:

Recycled Water: All new buried on-site recycled water lines (pressure/non-pressure) shall be extruded purple-color Schedule 40 (minimum) PVC pipe with continuous wording: **“Caution – Recycled Water – Do Not Drink”** printed on opposite sides of the pipe. The use of continuous lettering on 3-inch minimum width purple tape with 1-inch black or white contrasting letters bearing the continuous wording **“Caution – Recycled Water – Do Not Drink”** permanently affixed at 10-foot intervals atop all horizontal piping, laterals and mains is an acceptable alternative to the purple pipe. Identification tape must extend to all valve boxes and/or vaults and exposed piping.

Potable Water: All new buried on-site potable water lines must be identified by continuous lettering on 3-inch minimum width blue tape with 1-inch white or black lettering bearing the continuous wording **“Potable Water”** permanently affixed at 5-foot intervals atop all horizontal piping, laterals and mains. Identification tape must extend to all valve boxes and/or vaults and exposed piping.

Identification tape is not necessary for extruded blue-colored PVC with continuous wording **“Potable Water”** printed in contrasting lettering on opposite sides of the pipe.

Non-Potable: “Non-potable water” is water supplied from the potable water system through an appropriate backflow preventer. All new buried on-site non-potable irrigation/industrial water lines (pressure/non-pressure) must be identified by continuous lettering on 3-inch minimum width yellow tape with 1-inch contrasting letters bearing the continuous wording **“Non-Potable Water – Do Not Drink”** permanently affixed at 5-foot intervals atop all horizontal piping, laterals and mains. Identification tape must extend to all valve boxes and/or vaults and exposed piping, hydrants and quick couplers.

Existing Below-Grade Water Lines: On sites being retrofitted, existing below-grade piping, whether recycled, potable or non-potable, need not be marked unless the piping becomes exposed, such as during installation of new pipe or maintenance of existing pipe. The exposed section should be appropriately marked (as recycled, potable or non-potable) to the extent feasible.

Above-Grade Recycled Water Piping: All above-grade recycled water pipelines must be appropriately labeled and color-coded purple to differentiate recycled water pipelines from potable and non-potable water pipelines. If purple pipe is not used, the recycled water pipelines are to be wrapped “barber-pole” style with purple warning tape having the words **“Caution – Recycled Water – Do Not Drink”** visible in contrasting black letters. Flexible conduits or hoses must be clearly marked **“Caution – Recycled Water – Do Not Drink”** with each adapter or fitting painted purple.

Above-Grade Potable Water Piping: All above-grade potable water pipelines must be appropriately labeled and color-coded blue to differentiate potable water pipelines from recycled and non-potable water pipelines. Potable water pipelines may be wrapped “barber-pole” style with blue identification tape having the words **“Potable Water”** visible in contrasting white letters.

Above-Grade Non-Potable Water Piping: All above-grade non-potable water pipelines must be appropriately labeled and color-coded yellow to differentiate non-potable water pipelines from potable and recycled water pipelines. Non-potable water pipelines may be wrapped “barber-pole” style with yellow identification tape having the words **“Non-Potable Water – Do Not Drink”** visible in contrasting letters.

Valve Boxes: Exposed valve boxes, vaults, quick coupling valves, outlets, and related appurtenances must be color-coded, labeled or tagged, to differentiate recycled water (**“Caution – Recycled Water – Do Not Drink”** in black or white contrasting lettering on a purple background) from potable water (**“Potable Water”** in white lettering on a blue background) from non-potable water (**“Non-Potable Water – Do Not Drink”** in contrasting lettering on a yellow background).

Tags must be identified with the appropriate wording on both sides. Tags identifying recycled water must have both the appropriate wording and the “Do Not Drink” symbol.

Quick Coupling Valves: The covers on all new quick coupling valves must be permanently attached and made of purple rubber or vinyl with the words **“Recycled Water”** imprinted on the cover, and must be provided with a lock. To prevent unauthorized use, the valve should be operated only with a special coupler key with an acme thread for opening and closing the valve.

All new and existing quick coupling valves must be identified with an identification tag and installed in a valve box. This valve box does not necessarily have to be marked or made of purple PVC, so long as the quick-coupler cap is purple and the valve is appropriately tagged. Quick couplers may be used on the potable water system or the non-potable water system at dual source sites if they are of different size and/or thread than the recycled water quick couplers.

Gate Valves and Remote Control Valves: New gate valves should be installed in a marked valve box and with a notification tag on the valve operator. New and existing remote control valves should be installed in a marked valve box and an identification tag on the operator.

System Control Devices: All controllers must be marked with the words **“Recycled Water”** in black 1-inch high letters on a purple background.

Storage Tanks: Each tank must be conspicuously marked with signs with the words **“Recycled Water – Do Not Drink”** in black letters 2-inches high on a purple background. The “Do Not Drink” symbol should be present on all recycled water storage tanks.

Other Devices: All air valves, valves, pressure reducing valves, pumps, pump control valves, etc. must be tagged or labeled indicating whether it is on the recycled water, non-potable water or potable water system. Recycled water tags or labels must have a purple background with black lettering stating, **“Recycled Water – Do Not Drink”**. The “Do Not Drink” symbol must be present.

Potable water tags or labels must have a blue background with **“Potable Water”** in white lettering.

Non-potable water tags or labels must have a yellow background with **“Non-Potable”** in black lettering.

Vehicle Identification: Any vehicle used to transport recycled water must be clearly marked with labels or signs that contain the words **“Recycled Water – Do No Drink”** in black 2-inch high letters on a purple background and include the “Do No Drink” symbol. One label or sign should be placed on the tank closest to the driver’s door, with a second label or sign being placed on the rear surface of the tank at the outlet. All labels and signs must be placed where they can easily be seen by the personnel using the vehicle.

Approved Use Area: Posting the use of recycled water is required at all entrances to the User’s facility, and placed where they can be easily seen. The signs must indicate that **“Recycled Water”** is in use. In addition, all signs must include the “Do Not Drink” symbol and use the words “do not drink” in both English and Spanish (or other locally used language).

SECTION 800 - LANDSCAPING AND IRRIGATION MATERIALS

800-2 IRRIGATION SYSTEM MATERIALS

800-2.1 Pipe and Fittings

800-2.1.1 General. Add the following to the end of Subsection 800-2.1.1:

All irrigation piping on a Recycled Water Use site shall have the pipeline identification specified within Subsection 209-7.2 of these Standard Specifications.

800-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings.

Add the following to the end of the first paragraph of Subsection 800-2.1.3:

All recycled water lines (pressure/non-pressure) shall be extruded purple-color PVC pipe with the identification specified in Subsection 209-7.2.

800-2.2 Valves and Valve Boxes

800-2.2.6 Quick-Coupling Valves and Assemblies. Amend Subsection 800-2.2.6 with the following:

For the recycled water irrigation system, new quick-coupling valves shall be made specifically for recycled water use and shall be of ¾-inch or 1-inch nominal size and of brass construction with a normal working pressure of 150 psi. To prevent unauthorized use, the valve should be operated only with a special coupler key with an acme thread for opening and closing the valve. The covers on all quick-coupling valves must be permanently attached and made of purple rubber or vinyl and identified per Subsection 209-7.2.

Quick-couplers may be used on the potable water system at dual sites if they are of different size and/or thread than the recycled water quick-couplers. New potable water quick-coupling valves shall be slotted style with yellow covers and/or identified per Subsection 209-7.2.

800-2.2.7 Valve Boxes. Add the following to Subsection 800-2.2.7:

At Recycled Water Use Sites, all valve boxes shall be identified as specified within Subsection 209-7.2.

800-2.2.8 Strainers. Add the following Subsection 800-2.2.8:

800-2.2.8 Strainers. Strainers on the recycled water irrigation system shall be the same nominal size as the service meter and shall have a ball valve on the strainer leg for flushing. Two (2) inches and smaller wye pattern strainers shall be brass or bronze body, in-line type with stainless steel screens. Strainers shall have a ½ inch brass or bronze ball valve installed on the strainer's wye leg. Three (3) inches and larger wye pattern strainers shall be cast iron or ductile iron and have the same size ball valve recommended by the manufacturer installed on the strainer's wye leg.

800-2.2.9 Pressure Regulating Valves. Add the following Subsection 800-2.2.9:

800-2.2.9 Pressure Regulating Valves. Pressure regulating valves shall be in-line, spring-loaded, cast iron or ductile iron or cast copper silicon alloy suitable for recycled water supply pressures up to 250 psi. Pressure adjustment range shall be between 25 to 75 psi. Valve size shall be as shown on the Plans.

800-2.4 Sprinkler Equipment. Add the following to the end of the first paragraph of Subsection 800-2.4:

For recycled water irrigation systems, all new sprinkler heads must be of the size, type, pressure, radius of throw and discharge as indicated on the approved plans. All new sprinkler heads, either permanent or temporary, should be of the approved type for use with recycled water and create the minimum amount of mist. Drainage through sprinkler heads is prohibited, and an anti-drain valve must be installed in the sprinkler riser as needed.

800-3 ELECTRICAL MATERIALS

800-3.3 Controller Unit. Add the following to the end of Subsection 800-3.3:

For recycled water irrigation systems, new system controllers must be automatic with multiple start/stop times for any 24-hour period and installed according to the approved plans and local codes. Two, color-coded diagrams must be prepared for the station and system for each controller. Each diagram should be sealed in plastic with one copy placed in the controller box and the other given to West Basin. Controller shall be identified as specified in Subsection 209-7.2.

SECTION 801 - LANDSCAPING AND IRRIGATION INSTALLATION

801-1 GENERAL. Add the following to the end of Subsection 801-1:

All materials, piping, valves, controllers, sprinkler heads, pumps, etc. for new recycled water irrigation system must be approved for use in a pressurized recycled water system and installed according to approved plans and conform to the AWWA California-Nevada Section’s Guidelines for the On-Site Retrofit of Facilities Using Disinfected Tertiary Recycled Water. All Recycled Water User Sites shall have the identification specified in Subsection 209-7.2.

801-5 IRRIGATION SYSTEM INSTALLATION

801-5.3 Irrigation Pipeline Installation

801-5.3.1 General. Add the following to the end of Subsection 800-5.3.1:

At Recycled Water Use Sites, no excavation or open trench may be backfilled without first securing West Basin and LACDPH approval. Any areas backfilled without prior

approval will be required to be exposed and corrected as necessary. The irrigation contractor shall notify West Basin and LACDPH prior to backfilling any recycled water, potable water and non-potable water pressurized pipelines. LACDPH will verify the construction adheres to the recycled water rules and regulations. If LACDPH is not notified, the irrigation contractor is subject to re-excavate the pipeline if required by LACDPH or West Basin.

At Recycled Water Use Sites, all piping buried under pavement shall be sleeved with a sleeve being at least two (2) inches larger in diameter than the irrigation pipe.

When recycled water and potable water lines cross, the recycled water line must be located at least 1-foot below the potable water line. If this separation is not possible, then either the recycled or potable water line must be sleeved to eight (8) feet on either side of the crossover. Parallel recycled and potable water lines must be at least ten (10) feet apart, or at least four (4) feet, if the recycled line is enclosed in a sleeve.