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Specifications for Showerheads, Faucet Aerators, Replacement Toilet Flappers and Other Water-Using Equipment - New York City Department of Environmental Protection (“DEP”)

This document is prepared as a set of recommendations for owners of residential properties, and particularly those which have or will be applying for the water/sewer rate established under the Conservation Program for Multiple Dwellings, aka the Multifamily Conservation Program.

Showerheads

All of the major showerhead manufacturers produce models which can meet our specification. The “standard” models listed in the specification represent manufacturers whose products all meet our specification and who specialize in water conservation products for utilities.

There are several considerations in choosing a showerhead:

- The flow restrictor should not be easily removed
- Most people like the option of a massager setting
- People with mobility limitations benefit from hand-held showerheads, as will some people who might normally dislike water saving showerheads
- If water pressure is a problem in some apartments, meaning it is less than 30 psi at the showerhead, products which are “pressure compensating” should be used.

Toilets

Water closets should be high-scoring models (over 500 grams) using the “MaP” performance testing protocol. The Map Final Report and any updates can be found at the California Urban Water Conservation Coalition web site www.cuwcc.org in the “Product News” “Technical Information” section. The toilet refill device, should be Fluidmaster’s “Leak Sentry” product or “The Guard” from H2OGuard (www.h2oguard.us). Both of these devices will limit losses from toilet flapper leaks. Replacement toilet flappers should be specifically certified as chlorine-resistant with at least a five-year warranty. The City of Los Angeles maintains a list of such replacement flappers at www.cuwcc.org (“Product News”/“Technical Information”).

3.00 EQUIPMENT SPECIFICATIONS:

3.01 GENERAL: SHOWERHEADS

- 3.01.1 The supplier shall submit a list of previous large-scale (a minimum of 30,000 units total) installations of each of the showerheads and aerators, unless a higher standard is noted below. One or two installations shall not be acceptable for confirming proper field experience for a product. Only actual installations can serve as proof of successful field experience. Products submitted must have a successful history of use in large-scale programs.
- 3.01.2 Submittals required for equipment approval must include laboratory test results of all issues mentioned in the current version of the ANSI/ASME A112.18.1M standard. Test results from the manufacturer are not acceptable. The tests must have been conducted and recorded by a full-time ANSI-certified test laboratory/organization independent of the contractor and the manufacturer. "Independent" shall be defined as not owned by the contractor or manufacturer. All showerheads shall be guaranteed for a minimum of ten years by the manufacturer. Even if a product has been approved for a previous Residential Water Survey contract, test data and samples shall be submitted for the present contract as specified herein so DEP can confirm that the current product is equivalent to the one previously approved.
- 3.01.3 Low-flow showerheads shall be engineered to reduce the flow of water when operating and shall not accomplish this goal through the use of a removable or add-on restrictor. Showerheads shall not include a manual shutoff valve.
- 3.01.4 The showerhead shall be capable of automatically clearing debris, such as mineral deposits, rust, scale or other impurities from the water channels or pores located in the showerhead without the use of special tools.
- 3.01.5 The showerhead will be furnished with 1/2" IP thread to fit most standard shower arms. Adapters shall also be furnished, as required, to accommodate nonstandard shower arms.
- 3.01.6 The water cone spread shall be less than approximately 30 inches, and in no case shall be wider than 42 inches in a 6 1/2 foot vertical drop.
- 3.01.7 The showerhead shall withstand water pressure of 125 psi and a temperature of 160 degrees Fahrenheit.
- 3.01.8 All showerheads shall be capable of installation without the use of tools.

- 3.01.9 All showerheads shall be equipped with washers and teflon tape.
- 3.01.10 The supplier is responsible for confirming that all proposed manufacturers hold patent and other legal rights for their products. Submission of a product that must be withdrawn due to patent issues is at the risk of the supplier
- 3.01.12 Any manufacturers names, trade names or brand names used in the specifications are for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Submissions will be considered for any brand which meets or exceeds the quality of the standard listed for any item. If the specification lists a specific product or products as a standard, the owner will approve the use of an equal product if it is presented with and convinced by a side-by-side comparison of all features of the proposed "equal" product and the standard that the proposed "equal" product is in fact equal to the standard in quality and performance. The features shall include performance as noted in ANSI/ASME tests or this specification, materials and methods of construction as specified herein and the amount of field experience. The owner shall be the sole arbiter of "equality."

3.02. SHOWERHEAD "A"

- 3.02.1 . The flow rate shall be a minimum of 1.5 gallons per minute at an inlet water pressure of 20 psi and a maximum of 2.5 gallons per minute (gpm) at an inlet water pressure of 80 psi.
- 3.02.2 . The showerhead shall be constructed of polished, buffed chrome/nickel-plated brass.
- 3.02.3 . The showerhead body shall measure approximately 3" in length and 1⁷/₈" at its widest point and approximately 1-1/2" at the outlet. The showerhead shall not be round, but tapered from top to wide point near body middle and then tapered toward the outlet.
- 3.02.4 . This shall be an "aerating" showerhead, but the aeration effect shall be moderate. A fine spray mist is unacceptable.
- 3.02.5 Showerhead "A" shall be the AM Conservation AMSH001, the Niagara Conservation N2130 or approved equal, based on the materials of construction and dimensions specified herein, performance and field experience.

3.03 SHOWERHEAD "B"

- 3.03.1 . The flow rate shall be a minimum of 1.5 gpm at an inlet water pressure of 20 psi, approximately 2.0 gpm at 30 psi and a maximum of 2.5 gallons per minute (gpm) at an inlet water pressure of 80 psi. Showerheads with a maximum flow rate of

less than 2.5 gpm are not acceptable.

- 3.03.2 This "non-aerating" showerhead body shall be constructed of high-impact, corrosion-resistant ABS thermoplastic with a brass chrome-plated coupling. The roughly ovoid showerhead body shall measure approximately 2.5 x 3.75" and be "fingertip" adjustable between a fine needle-type shower and an approximately nine-port concentrated massager-type shower. The adjustment shall be accomplished through a movable ribbed ring portion of the body at the user end. Showerheads which require adjustment by twisting an adjustment device at the center of the spray or behind the head are unacceptable.
- 3.03.3 Showerhead "B" shall be the AM Conservation "Spoiler," Brasscraft Massager, the Niagara Conservation "Earth," or approved equal with performance, material characteristics and field installation experience equal to the standard models.

3.04 SHOWERHEAD "C"

- 3.04.1 The flow rate shall be a minimum of 1.5 gpm at 20 psi and no more than 2.5 gpm at 80 psi.
- 3.04.2. The flow metering device shall be of a single orifice design, machine-pressed into the spray nozzle and incapable of removal with a force of less than 100 pounds.
- 3.04.3 . The spray nozzle and coupling collar are constructed of hydrolysis-resistant plumbing resin plastic and contain a venturi vent system of about four air entrance ports. The ports allow air to be drawn into the water spray to increase velocity but without creating a misting effect. The showerhead shall deliver a large-droplet, high-pressure stream. The adapter arm and ball swivel shall be chrome-plated brass.
- 3.04.4 . The showerhead shall include a seating washer to seal around the metal ball swivel when compressed by the assembly.
- 3.04.5 . The showerhead shall be a SPA-2000S (no shutoff valve) by Energy Technologies Laboratory, or approved equal with performance, material characteristics and field installation experience equal to the standard.

3.05 SHOWERHEAD "D" (HAND-HELD SHOWERHEAD)

- 3.05.1 The hand-held showerhead assembly shall include a hose section and shall be at least 60" in total length.
- 3.05.2 . The hand-held device shall be capable of being hooked or attached near for hands-free operation as well as being capable of hand-held operation.

- 3.05.3 The device shall be fabricated from reinforced PVC or approved equal material and shall be provided in a selection of at least three colors. Metal-clad hoses are unacceptable and no part of the showerhead shall provide an opportunity for sharp metal edges. The showerhead shall be available in at least three colors.
- 3.05.4 The hand-held showerhead shall have standard and rapid-pulse massager flow settings. The fingertip adjustment ring to change from "standard" to "massager" setting shall be similar to that described for Showerhead "B." The product shall be similar to a hand-held version of Showerhead "B."
- 3.05.5 The flow rate shall be at least 1.5 gpm at 20 psi and no more than 2.5 gpm at 80 psi.
- 3.05.6 The showerhead and hose shall attach to each other, and the hose to the adapter/connector for the shower arm, without leakage. Products that exhibit noticeable leakage are unacceptable. Connection ends shall be solid, not flexible.

3.06 FAUCET AERATORS (GENERAL):

- 3.06.1 The supplier shall submit reference material to support a claim that any aerator submitted has been used successfully in large-scale (30,000 units minimum, total) installation programs.
- 3.06.2 Aerators will be furnished with either a 15/16" male thread, 55/64" female thread or 13/16" male thread to fit most standard faucets. Bathroom aerators shall be available in more than one color or finish. Aerators shall be resistant to clogging and shall be self-cleaning.
- 3.06.3 The flow rate shall be a minimum of approximately 1.0 gallons per minute at an inlet water pressure of 40 psi and no more than 2.5 per minute (gpm) at an inlet water pressure of 80 psi.
- 3.06.4 Maximum flow rate shall be the measured flow rate when the faucet is in the fully opened position.
- 3.06.5 Aerators shall withstand water pressure of 125 psi and a temperature of 160 degrees Fahrenheit.
- 3.06.6 All washers or gaskets shall be Buna-N rubber or equal and all screens shall be stainless steel.
- 3.06.7 All aerators shall be capable of easy installation without the use of tools, except for "vandal-resistant" bathroom aerators in multifamily buildings, as specified herein.

3.06.8 All materials shall be warranted for at least ten years.

3.07. KITCHEN AERATOR

3.07.1 The aerator shall be equipped with a dual ball-swivel action to allow 360-degree rotation at an approximate 45-degree angle from vertical. The device shall be adjustable from a steady stream to a spray pattern in one “up/down” motion.

3.07.2 The aerator shall be dual-threaded with interior and exterior screens.

3.08 BATHROOM SINK AERATORS

3.08.1 The aerator shall be constructed of chrome/nickel-plated brass.

3.08.2 The restrictor plate shall be of a multi-orifice design.

3.08.3 When installed in a multifamily building the aerator shall be installed using a "vandal-proof" key or incorporate some other design feature which makes it difficult to remove without special tools. Bathroom aerators installed in private homes, cooperative or condominium buildings shall not be of the “vandal-proof” design. As an alternative to the use of “vandal-proof” aerators, the option of using a standard bathroom aerator along with the application of “locktite”-type compound to resist the easy removal of the aerator.