

Water Specifications

Materials

MW-1 GENERAL

The Developer shall furnish all materials. All materials shall be new. Prior to approval for construction, a material submittal package shall be submitted in pdf format for review by the District and District's Engineer. Products submitted shall note where they are to be used.

Salvage of existing water materials and appurtenances shall at the discretion of the District. Materials that are wanted shall be delivered to the District. Materials not wanted shall be disposed of properly.

MW-2 DUCTILE-IRON PIPE AND FITTINGS

Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51, standard thickness, Class 52. Flanged pipe spools shall be class 53 ductile iron. The pipe shall be lined with cement mortar conforming to ANSI/AWWA C104/A21.4 and coated with an asphaltic coating. Each length shall be plainly marked with the manufacturer's identification, year cast, class of pipe, and weight. Type of joint shall be rubber gasket, push-on type (Tyton) or mechanical joint conforming to ANSI/AWWA C111/A21.11. Minimum length for pipe spools shall be 24".

McWane pipe from Provo, Utah (formerly Pacific States pipe) is conditionally approved for use on looped water systems provided the pipe has been treated for Seattle water and bears the factory "SEATTLE" stamp. McWane (Provo, Utah) pipe shall not be installed on closed/dead end water mains within the District. McWane pipe not manufactured at Provo, Utah must bear the "SEATTLE" stamp, and a certification letter provided from the manufacturer stating pipe origin and how to distinguish in the field.

All fittings shall be short-bodied, compact ductile iron with a minimum rating of 250 psi working pressure conforming to ANSI/AWWA C153/A21.53 except flanged fittings shall conform to ANSI/AWWA C110/A2 1.10. All fittings shall have a cement mortar lining conforming to ANSI/AWWA C104/A21.4. The fittings shall be furnished with flanged ends or mechanical joints as shown. Gaskets shall be full faced. All mechanical joint fittings shall be restrained with EBBA Iron - Meg-a-lugs or approved equal. Minimum spacing between Meg-a-lugs shall be 12", flanged fittings shall be used if the spacing requirements cannot be met.

Restrained joints shall be made up with push-on joint pipe and fittings. The push-on joint restraint device shall be ductile iron with a 350-psi working pressure and shall be U.S. Pipe TR FLEX, Griffin Pipe Products Company SNAP-LOK, Pacific States Lock Joint if Pacific States pipe is allowed, or MEGALUGS, Ford UniFlange or Field Lock gaskets as approved.

Alternatively, pipe joints may be restrained using shackle rods and pipe clamps. All shackle rods and associated materials shall be COR-TEN or corrosion resistant equal. Pipe clamps shall be "Star" or approved equal.

Solid sleeve pipe couplings shall be long pattern sleeves constructed of ductile iron with a minimum pressure rating of 250 psi working pressure.

Flexible transition couplings shall be Long Pattern Romac, Long Pattern Hymax or approved equal.

Pipe which will not be buried, or in a vault, shall be insulated. Insulation shall be 2- inch thickness of fiberglass pipe insulation, with 0.16 stucco embossed sheet aluminum weather cover with a self-seal lap and #8 x 1/2-inch stainless steel screws on 6-inch centers. Exposed flanges shall be insulated with a removable insulation pad fabricated with 2-inch thermal insulating wool (TIW) fiberglass insulation inside of silicone-impregnated cloth and secured with lacing hooks. Submittals are required for the material intended to be used.

MW-3 GATE VALVES

Through 12-Inch Diameter:

Gate valves shall conform to AWWA C509 or AWWA C515. The valves conforming to AWWA C509 or AWWA C515 shall be ductile iron-bodied, resilient- seated, non-rising stem with flanged ends or mechanical joint as shown. The operating stem shall be bronze with O-ring stem seals. The valve shall open to the left and be equipped with a standard square operating nut. The resilient wedge assembly shall be fully encapsulated by the approved resilient material. Resilient seated gate valves shall be U.S. Pipe Metroseal, Waterous, American-Darling, ITT Kennedy/M&H, Clow, Mueller, American Flow Control Series 2500 or East Jordan Iron works (EJIW) Flowmaster.

MW-4 BUTTERFLY VALVES

All valves larger than 12 inches shall be butterfly valves, unless otherwise approved by the District.

Butterfly valves must operate easily through the entire cycle from fully open to closed. Valves which do not match this requirement will not be acceptable. The District will be the sole judge on acceptability.

Butterfly valves shall conform to AWWA C504. The valves shall be short-body type, Class 1508, suitable for direct burial installation. The valves shall have no moving bearing or contact surfaces of iron in contact with iron. Contact surfaces shall be machined and finished in the best workmanlike manner, and all wearing surfaces shall be easily renewable.

The valve operators shall be manual, fully enclosed, and suitable for buried service. The valve shall open to the left and be equipped with a standard two-inch-square operating nut.

MW-5 TAPPING TEE AND TAPPING VALVE

The tapping tee shall be epoxy coated or stainless steel with a ductile iron or stainless steel flange. The tapping valve shall meet the specifications of the gate valves.

MW-6 VALVE BOXES

The valve boxes shall be adjustable two-piece cast-iron East Jordan Iron Works Product No.85552737. The top section shall be 16 inches' minimum length with a valve cover marked "WATER". Lids shall be 3.5" minimum in depth. Valve Boxes shall be centered over the valve nut and raised perpendicular to road or finish grade elevation. Valve box piping shall be in true alignment to this axis. Consideration must be given where road and water main alignments vary to create optimum valve and valve stem extension operation. Ethafoam cushions (min. 1" thickness) shall be placed over gate valve nut.

MW-7 VALVE STEM EXTENSIONS

The materials for the valve stem extension shall be 1-inch solid steel bar. Set Screws for attaching to the valve nut shall be removed and not used. Valve nut extensions shall operate freely and easily. See Water Standard Plan No. 6.

MW-8 VALVE MARKER POSTS

The marker posts shall be concrete with 4 inches' minimum square section, 42 inches long, and shall be reinforced with one 3/8-inch x 37-inch bar of reinforcing steel. Marker post bases shall be at 2 feet in depth. Posts shall be painted and labeled with die-cut adhesive letters, as described in Section MW-24, PAINT FOR FIRE HYDRANTS AND POSTS. See Water Standard Plan No. 23.

MW-9 FIRE HYDRANTS

Fire hydrants shall be a breakaway type and shall conform to AWWA C502. The fire hydrants shall be furnished with a 6-inch mechanical joint inlet connection, 1-1/4-inch pentagon operating nut opening to the left, positive acting drain valve, and shall include extensions, if necessary, to provide minimum operating clearances as shown in Water Standard Plan No. 9. Fire hydrant barrel extensions shall be installed with the "break-a-way" flange up. Barrel extensions shall operate freely and easily.

Fire hydrants shall be as manufactured by American Flow Control, East Jordan Iron Works Watermaster or Mueller.

Hydrants installed in King County shall have a minimum main valve opening of 5- 1/4 inches, two 2-1/2-inch NST OR NH hose nozzles and one 4-inch pumper nozzle with

threads in accordance with the Seattle Style standard threads. Provide Storz Adapters per Woodinville, Bothell, Redmond, and Kirkland Fire standard plans.

All nozzles (except where Storz adapters are installed) shall be fitted with cast iron threaded caps with operating nuts of the same design and proportions as the hydrant stem nuts. Caps shall be threaded to fit the corresponding nozzles and shall be fitted with suitable neoprene gaskets for positive water tightness under test pressures.

A pavement marker and glue cartridge shall be paid for and furnished by the Developer for each hydrant installed in Woodinville Water District. Pavement markers shall be blue, 2-way reflective markers, 4 inches by 4 inches by 0.75 inches, Stimsonite part No. 88AB or equivalent. Glue cartridge shall be a single-use epoxy cartridge, Dispensing Technology Corporation, part No. RPS-1001 Epoxy Cartridge.

Maximum depth for Fire Hydrants shall be 6 feet. Refer to Standard Plan No. 9B for deep installations. Hydrants shall have 5-foot radius clearance per Fire Department regulations.

MW-9a RELOCATED FIRE HYDRANTS

Relocated fire hydrants shall have the same requirements as new fire hydrants. Developer shall provide a new fire hydrant if the Main Valve Opening (MVO) is not 5¼", the existing fire hydrant is not a currently approved fire hydrant (see MW-9) or not operationally sound as determined by Woodinville Water District Operations.

The gate valve at the main shall be changed out if it is a double disk or not an approved gate valve per MW-3.

MW-10 FIRE HYDRANT GUARD POSTS

The guard posts shall be precast reinforced concrete, nine inches in diameter, six feet long. The District shall determine if they are required. In no case shall they be installed within 10' of a roadway edge or fog line.

MW-11 AIR RELEASE ASSEMBLY

The materials for the Air-Release assembly shall be as shown on the standard detail. See Water Standard Plan No. 11. Air Release boxes shall not be installed in streets or paved areas.

MW- 12 BLOW OFF ASSEMBLY

The materials for the blow-off assembly shall be as shown on the standard detail. See Water Standard Plan No. 12. Blow off boxes shall not be installed in streets or paved areas.

MW-13 CUSTOMER SERVICE CONNECTION

The materials for Single Family Residential and for Commercial installations shall be as shown on applicable standard details. All Brass components shall conform to the latest version of NSF 61 and ANSI/AWWA C800 for “No Lead”. All fittings shall be stamped or embossed indicating the product is manufactured from a non-lead alloy.

Multi-unit service installations and other areas where there may be confusion of which premise is being served shall be permanently identified with phenolic labeling in compliance with the following requirements.

- Engraved phenolic tags shall be used.
- Tags shall have block letters or numbers with a contrasting background.
- Block letters shall be ¼” in height unless specifically required to be larger by the Woodinville Water District.
- Tags shall clearly indicate the corresponding unit served by each meter.
- The tag shall be attached with a heavy-duty wire that cannot be disconnected.
- Tags shall be installed either the customer side angle stop or through a hole drilled into the inside ribbing of the meter box lid. Tag installation shall be coordinated with the District Inspector.

MW-14 LETTERING

Lettering shall be applied to all Fire Hydrants and Valve Marker Posts in accordance with the Standard Plans and as follows:

Appurtenances	Lettering	Size/Color	Notes/Requirements
Fire Hydrants and Valve Marker Post	2” notations for all numbers and letters	2” Die-Cut Adhesive/ Black	Local Manufacturer: Minuteman Press 13432 NE 177 th Place Woodinville, WA 98072 425-402-7900

MW-15 FOUNDATION GRAVEL

Foundation gravel, Class A shall be coarse graded gravel and shall comply with Section 9-03.17 of WSDOT Standard Specifications.

MW-16 PIPE BEDDING

1. Flexible Pipe.

-Pipe bedding materials shall comply with Section 9-03.16 of WSDOT Standard Specifications.

2. Rigid Pipe.

-Pipe bedding materials shall comply with Section 9-03.15 of WSDOT Standard Specifications.

MW-17 GRAVEL BACKFILL

The gravel backfill shall consist of naturally occurring or screened gravel. It shall be essentially free from wood, roots, bark, or other extraneous material. It shall have such characteristics of size and shape that it will compact readily to a firm, stable course. Gravel backfill materials shall comply with Section 9-03.10 of WSDOT Standard Specifications.

Gravel Backfill shall meet the following requirements:

Maximum Particle Size	3 inches
% Passing 2-1/2-inch Square Opening	75% Minimum
% Passing No. 4 Sieve	22% Minimum
% Passing No. 200 Sieve	10% Maximum

Dust Ratio: $\frac{\% \text{ Passing No. 200 Sieve}}{\% \text{ Passing No. 40 Sieve}}$	2/3 Maximum
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% Sand Equivalent	30 Minimum
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Gravel backfill material retained on a No. 4 sieve shall contain no more than 0.20 percent by weight of wood waste.

MW-18 CRUSHED SURFACING

Crushed surfacing materials shall comply with Section 9.03.9(3) of WSDOT Standard Specifications. Crushed surfacing shall be manufactured from ledge rock, talus, or gravel. The materials shall be uniform in quality and substantially free from wood, roots, bark, and other extraneous material and shall meet the following test requirements:

Los Angeles Wear, 500 Rev.	35% Maximum
Degradation Factor- Top Course	25 Minimum
Degradation Factor- Base Course	15 Minimum

Crushed surfacing of the various classes shall meet the following requirements for grading and quality:

	% Passing	% Passing
	Base Course	Top Course
1-1/4 inch Square	100	
1 inch Square	80-100	
3/4 inch Square		100
5/8 inch Square	50-80	
1/2 inch Square		80-100
U.S. No. 4	25-45	46-66
U.S. No. 40	3-18	8-24
U.S. No. 200	7.5 Max.	10.0 Max.
% Fracture	75 Min.	75 Min.
% Sand Equivalent	40 Min.	40 Min.

All percentages are by weight.

The fracture requirement shall be at least one mechanically fractured face and will apply to the combined aggregate retained on the No. 4 sieve in accordance with FOP for AASHTO PT 61.

The portion of crushed surfacing retained on a U.S. No. 4 sieve shall not contain more than 0.15 percent wood waste.

MW-19 ASPHALT CONCRETE

Asphalt concrete shall conform to the requirements of Hot Mix Asphalt (HMA) class ½" PG 64-22 in accordance with the latest addition of Standard Specifications for Road, Bridge, and Municipal Construction or as required by local jurisdictions.

Asphalt sealer for tacking joints shall be SS-1 emulsified asphalt.

Asphalt sealer for sealing joints shall be AR-4000. Joints shall be cleaned prior to sealing. Joint sealer shall not be applied during wet conditions. Joints shall be heated, if necessary, prior to application. Joint Sealer shall be applied in a neat, narrow (3" max width) wafer thin fashion. Sand shall be placed on the joint until cured to prevent tracking.

Temporary patches shall be Class ½" PG 64-22 in HMA. **Minimum depth shall be 2"**.

MW-20 CONTROL DENSITY FILL

Controlled Density Fill (CDF) shall conform to the requirements of the local road agency.

MW-21 PRESSURE REDUCING STATIONS

PRE-PACKAGED VAULT STATIONS

Pre-Packaged Vault Stations shall be provided by the Developer from Cimco- GC Systems Incorporated (www.cimco-gcsystems.com). The vault design shall follow the guidelines described in this section of the Water Materials Specification.

PRECAST CONCRETE UTILITY VAULT

The vault shall be constructed of reinforced concrete with a minimum strength of 4500 psi at 28 days. The vault including joints and pipe penetrations shall be totally watertight and shall show no evidence of seepage or damp spots. Interior walls and ceiling finish of the concrete shall be smooth, hard, and uniform texture. Tie holes and defects larger than 1/8-inch shall be neatly patched with mortar. Floor finish shall be hand steel trowel and lightly brushed to produce a nonslip texture. Floor shall be sloped to drain to the sump. All walls, floor, ceiling, hatch and joints shall be water-tight and not leak. Ceiling and walls shall be painted as described in FINISHES.

The vault shall be furnished with a stainless steel or aluminum ladder w/ 1" diameter nonskid rungs and Ladder Up, manufactured by LW products or approved equal. Submittal with shop drawing shall be required. All dissimilar metals shall be insulated from each other.

The vault shall be furnished with a continuous sump 12" deep. The drain from the sump shall be removable and installed to be one inch (1") higher than the floor of the sump to minimize silting of the drain line.

The precast vault shall be Utility Vault Co. No. 612-LA or approved equal.

PIPE AND FITTINGS

The pipe and fittings shall be as specified in Ductile Iron Pipe and Fittings, except flanged pipe shall be ductile iron ANSI/AWWA C151/A21.51, standard thickness, Class 53.

Adjustable flanges to adapt to plain end pipe shall be EBAA Iron series 2100 Megaflange, or approved equal. Adjustable flanges shall only be allowed inside of the station. Stainless steel bolts with brass nuts shall be used on all flanged fittings.

Pipe supports shall be adjustable saddle supports with cast iron saddle, locknut nipple and cast-iron reducer. The pipe hangers shall include an adjustable wrought iron ring and hanging rods. The pipe supports and pipe hanger assemblies shall be ITT Grinnell or approved equal.

PVC PIPE DRAIN

Polyvinyl chloride (PVC) drainpipe shall be in accordance with WSDOT Section 9-05.1(5) and only allowed with special permission from the District. Pipe shall be 4 inches in diameter. A metallic location "tracer" wire shall be wrapped around the drainpipe. Connect drain line to storm pipe or drainage ditch in a manner which is protected from damage, and which will not back up into the vault when the pipe/ditch is full. Install flapper-type check valve, if necessary.

SUMP PUMP

Sump pump motor and housing shall be of cast iron. Pump shall be equipped with an internal diaphragm pressure switch and sized to pump a minimum of 25 GPM. Pump shall be capable of passing at least 3/8" diameter spheres via 1-1/2" minimum discharge piping equipped with a check valve and coupling for disconnect. Sump pump shall be capable to pump down water level 2" below top of sump for acceptance.

VALVES

The gate valves shall be as specified in Gate Valves, with hand wheels and non-rising stems.

The pressure-reducing valves shall maintain constant downstream pressure regardless of varying inlet pressure. The valves shall be a hydraulically operated, diaphragm-actuated globe valve. The main body and cover shall be Epoxy coated Ductile iron with stainless steel seats, stainless steel trim and the pilot control system shall be cast bronze with stainless steel trim. The valves shall include position indicator, flow clean strainer, and shut-off cocks.

The pressure-reducing valves shall be manufactured by Cla-Val Co. or approved equal.

The pressure relief valve shall maintain constant upstream pressure by bypassing or relieving excess pressure and shall maintain close pressure limits without causing surges. The valve shall be a hydraulically operated, diaphragm-actuated angle globe valve. The main body and cover shall be Epoxy coated Ductile iron with stainless steel seats, stainless steel trim, and the pilot control system shall be cast bronze with stainless steel trim. Pilot control piping shall face away from the wall and be easily accessible for maintenance and repair. The valves shall be flanged and include position indicator, shut-off cocks and flow control. All bolts shall be stainless steel with brass nuts.

The pressure relief valve shall be manufactured by Cla-Val Co. or approved equal.

VALVE MARKER POSTS

Valve marker posts, as described in MW-8 and Water Standard Plan 23, shall be installed for all pressure-reducing valve stations, and labeled as "PRV" and the station number, using 2-inch die-cut adhesive letters.

AIR VENT

All stations shall be vented to the atmosphere by a protected pipe sufficient to allow air movement, and screened against birds, bugs and foreign objects.

ACCESS DOORS

Door leaf shall be aluminum diamond pattern to withstand H-20 wheel loadings. Channel frame shall be 1/4-inch aluminum with an anchor flanged around the perimeter. Doors shall be equipped with stainless steel hinges, pins, spring operators for easy operation and protection against slamming, and an automatic hold-open arm with release handle. A snap lock with removable handle shall be provided. A 1-1/2-inch drainage coupling shall be located in the front right corner of the channel frame. Drainage shall be directed to the inside of the structure through 1-1/2-inch pipe or as directed by the Engineer. Hardware shall be stainless steel and mill finish shall be bituminous coating applied to the exterior of the frame. Manufacturer shall guarantee against defects in material or workmanship for a period of five years. Access door shall be LW Products Hatch or approved equal.

ELECTRICAL (GENERAL)

All electrical work shall conform to the latest edition of the National Electrical Code. The contractor shall obtain an electrical permit from the Department of Labor and Industries.

All electrical outlets shall have ground fault interrupt protection.

DEHUMIDIFIER

The dehumidifier shall be a EBAC hot gas exchange dehumidifier (model CD30-S) or a District approved equal, appropriately sized and wall-mounted in the station a minimum of 6 feet from the sump. Power shall be from available electrical outlet, installed to serve the unit. A drain line shall be installed from the dehumidifier to the sump.

INDUSTRIAL UNIT HEATER

Chromalox LUH 2.6 KW with remote thermostat Chromalox type WR-80.

LIGHTS

Ceiling lights shall be a 4' LED Vapor Tight Fixture (Model ELYVT-42C or a District approved equal), suitable for wet and damp locations. Lights shall automatically come on when access door is opened and shall include a manual override to allow operation with door closed.

CONDUITS (ELECTRICAL/TELEPHONE)

All conduits shall be noncorrosive and shall be sealed water-tight and protected from moisture. A pull cord shall be installed of permanent material and sufficient strength to pull any cable through the conduit. Conduits shall be oversized to accommodate future wires, cables or condition.

GAUGES

The pressure gauges shall be as manufactured by 3D Instruments, Model #25502-XX-855, 2-1/2-inch diameter, with brass socket and oil filled. The pressure range shall be as shown on the Drawings. The pressure gauges shall be furnished with isolation cocks, to allow for replacement or removal, a pressure equalizing snubber, and stainless-steel piping. (Gauges are not to be installed prior to pressure testing.). The Gauges shall be installed on a saddle with 1/2" ball valve. Saddle shall be (Romac 101S or approved equal).

AIR RELEASE ASSEMBLY (AIR VAC)

Install an Air Vac per Water Standard Plan 11 per location shown on Water Standard Plan No 26.

BLOW OFF ASSEMBLY

Install blow-off per Water Standard Plan 12 per location shown on Water Standard Plan No. 26.

FINISHES

Refer to MW-24 for vault surface and pipe finish requirements. Alternatives may be allowed with prior approval.

MISCELLANEOUS

Woodinville Water District retains the right to require other safety or functional items as may be necessary to provide for the proper operation of the station.

START UP TESTING

The Contractor shall furnish a proposed testing and start-up schedule and procedure to the Engineer a minimum of three (3) weeks prior to such testing. All involved parties including but not limited to, factory representatives, system integrator, District Staff, shall be present to adjust and place PRV's in service. Sufficient tools and supplies shall be furnished to maintain isolation from the District system until approved for permanent connection and operation.

OPERATION AND MAINTENANCE MANUALS

The contractor shall furnish three bound copies of operation and maintenance data for the pressure relief and pressure reducing valves.

The data shall be bound in heavy, permanent type binders and shall be indexed so that information on any piece of equipment can be easily found.

These manuals shall include:

1. Assembly and disassembly instructions
2. Parts list with diagrams and cut-away sections.
3. Operating and maintenance instructions for equipment along with recommendations for preventative maintenance.
4. Equipment specifications and guaranteed performance data.
5. Name, address, telephone number of manufacturers, vendors and spare parts sources.
6. Manufacturers' warranties.
7. Step by step start-up and operating procedures.
8. Factory parts listed with listings of all component sources, original manufacturer's part number, and interchangeability listings.
9. Lubrication charts.
10. Wiring diagrams of all control circuits supplied.

PRESSURE REDUCING STATION STANDARD PLAN

Refer to Water Standard Plan No. 26.

MW-22 PIGGING MATERIALS

Pigs shall be deformable dense polyurethane foam cubes that are 2" larger than the inside diameter of the pipe being pigged, or foam pigs sized for the diameter of the pipe. The Contractor shall provide all equipment necessary to pig the mains including but not limited to temporary blow offs, air releases, pigging crosses etc. Pigs shall be purchased from Foam Rubber City; 1522 Central Avenue South, Kent, WA 98032; 253-852-3644 or other approved supplier. Glued foam cubes are not allowed.

MW-23 SAMPLE STAND

The materials for the Sample Stand shall be as shown on Water Standard Plan No. 28. Sample Stand to be installed in location directed by the District.

MW-24 PAINT FOR FIRE HYDRANTS, MARKER POSTS, VALVE LIDS, AIR RELEASE PIPING, AND PRESSURE REDUCING STATIONS

APPURTENANCE	PAINT	COLOR	NOTES/REQUIREMENTS
Fire Hydrants	Industrial Urethane Alkyd Sherwin Willams B54Y157 Benjamin Moore P22-15	Safety Yellow	See Note 1, 2, & 4
Fire Hydrant Bonnet Flange	Industrial Urethane Alkyd Sherwin Williams B54R158 Benjamin Moore P22-21	Safety Red	See Note 3 & 4
Fire Hydrant Bollards & Valve Markers	Industrial Urethane Alkyd Sherwin Willams B54Y157 Benjamin Moore P22-15	Safety Yellow	See Note 4
Air Vac/Air Release above-ground piping	Industrial Urethane Alkyd Sherwin Willams B54Y157 Benjamin Moore P22-15	Safety Yellow	See Note 4
Valve Box Lids	Industrial Urethane Alkyd Sherwin Willams B54T00154 SW4086	Safety Blue	See Note 4 & 5
PRV Piping- Exposed water main, fittings, and valves (excluding pilot controls on control valves)	Two coats TNEMEC Series 66 Hi-Build Epoxoline, 4 to 6 mils dry film thickness per coat.	Safety Blue	See Note 6 & 9
PRV Vault Interior Surfaces (Walls and Ceilings) Part One	One coat TNEMEC Series 66 Hi-Build Expoxoline, 4 to 6 mils dry film 00WH	White	See Note 7
PRV Vault Interior Surfaces (Walls and Ceilings) Part Two	One coat TNEMEC Series 73 Endura-Shield III, 3 to 5 mil dry film Thickness 00WH	White	See Note 8

PAINING AND FINISHES NOTES:

1. Apply two (2) coats in dry weather. Minimum ambient temperature to be 50° F and rising. Follow manufacturer's recommendations for application. Protect with caution tape until dry.
2. Paint relocated fire hydrants in the same manner as new. Existing fire hydrants shall be cleaned and prepared for painting.
3. Paint face of bonnet flange safety red, only if there is an "in-line" gate valve on the fire hydrant tee to shut down mainline.
4. Protect with caution tape until dry.
5. Valve box lids and valve markers to be cleaned and all asphalt paving adhering to lids to be removed prior to applying two (2) coats of safety blue paint.
6. Preparation for painting water mains and valves shall be equal to commercial blast cleaning (SP6)
7. Concrete shall be cured for 28 days, clean and dry with no contaminants prior to coating with TNEMEC Series 66 Hi-Build Epoxoline.
8. Surface shall be clean and dry prior to coating with TNEMEC Series 73 Endura-Shield III.
9. All painting shall be completed prior to filling piping with water.