

(Last revised 02/17)

INTRODUCTION

PURPOSE

This manual was created to establish standards for design and construction of municipal infrastructure.

1.1 GENERAL INFORMATION

Conflicting Provisions

Whenever any provision of this Public Facilities Manual (PFM) imposes a greater requirement or higher standard than is required in any State or Federal statute or City Ordinance or regulation, the provision of this PFM shall govern. Whenever any provision of any State or Federal statute or other City requirement imposes a greater requirement or a higher standard than is required by this PFM, the provision of such State or Federal statute or City ordinance or regulation shall govern.

VDOT Standards

It is intended to adopt Virginia Department of Transportation (VDOT) standards where possible to eliminate duplication and to facilitate construction methods for contractors doing both State and City improvements. Nomenclature and permitted construction methods shown on State Standards might differ from that allowed by the City. Under such circumstances, the City design criteria must be met.

In the event that specifications, standards or guidance are not provided in a given specification section, the design should conform to VDOT Road and Bridge Specifications.

Fairfax Water Standards

Fairfax Water is the water purveyor in the City of Fairfax and all Fairfax Water design standards and details shall govern in the design and construction of water utilities. Fairfax Water is the approving authority for all water design and specifications and must provide final approval for design.

Accessibility

In the event that a specific requirement of this PFM precludes the provision of an accessibility improvement, such improvement shall be allowed regardless of the specific requirement of this PFM. Accessibility improvements shall mean the provision of ramps and other facilities or equipment, accessible parking spaces, related access aisles and accessible routes for person with disabilities in accordance with the design specifications set forth in the Virginia USBC and the PFM whether such improvement is mandated by Federal or State law or is provided voluntarily.

Interpretations

For the purpose of this PFM, the words "shall" or "must" are mandatory, the word "may" is discretionary, unless otherwise indicated. Such discretion shall be given by the City Engineer.

The word “day” shall mean calendar day.

1.2 DEFINITIONS

The following definitions may be used in the interpretation of the PFM.

Adjacent and Abutting Water and Sewer

The policy for sewer projects ensures the orderly development of the system by requiring that each property benefiting from the sewer line must have at least a part of that line abutting or placed adjacent to the property. This policy prevents properties from simply installing long laterals across neighboring properties or connecting to neighboring property’s laterals to reach public sewer lines.

Approved Equal

Approved equal is the annotation given to a product or material that has been approved by the City of Fairfax as a substitute for the product or material specified in the specifications or standard details. *Approved Equal* products and materials must be approved by the City of Fairfax City Engineer.

City Engineer

The City of Fairfax City Engineer or his/her designee.

City Inspector

The City of Fairfax City Inspector or his/her designee.

Conditional Use Permit

This is a permit from a zoning authority (i.e. the City of Fairfax), which allows a plot of land to be used for a project provided specific conditions are met.

Contractor

The Contractor is hired by the owner/developer to install site, roadway, drainage, water and/or sewer lines, traffic signals, street lighting, etc. in accordance with approved plans.

Cross Connection

Any physical connection between a potable water supply system and any other piping system, sewer fixture, container, or device, whereby water or other liquids, mixtures, or substances may flow into or enter the potable water supply system;

Any potable water supply outlet which is submerged or is designed or intended to be submerged in non-potable water or in any source of contamination or;

An air gap, providing a space between the potable water pipe outlet and the flood level

rim of a receiving vessel of less than twice the diameter of the potable water pipe.

Developer

The person or company responsible for the design and construction of streets, drainage, water and sewer lines to serve their property.

Easement

An instrument that depicts/describes and conveys rights and privileges to the City of Fairfax for the placement, access to, and maintenance of a utility line and/or on the property of a second party. The owner forfeits certain uses of the property. Ownership of the land remains with the second party. Easements are acquired through the owner's signing of an easement agreement, negotiation and monetary settlement or, if negotiations fail, condemnation under eminent domain statutes.

Force Main

A force main is a pressure pipe joining the pump discharge at a wastewater pumping station with a point of gravity flow.

Gravity Flow System

This is a system of conduits in which no wastewater pumping is required. Sewage flows by gravity from service points to public sewer lines.

Grinder Pump

A grinder pump is a mechanical device that shreds solids and raises the fluid to a higher elevation through pressure sewers.

Interceptor or Trunk Sewer

An interceptor or trunk sewer is a sewer pipe, which transports wastewater from collection sewers to a treatment facility.

Lateral

A water lateral is the pipe, which connects a building to the water meter located on the customer's property. A sewer lateral is the pipe, which connects a building to the collector sewer located in the street. In the City of Fairfax system, both the water and sewer laterals are owned and maintained by the property owner.

Local Planning Unit

The local planning unit is the Planning Department and/or Planning Board of the City of Fairfax.

National Pollutant Discharge Elimination System (NPDES)

The federal government's system of controlling all discharge of pollutants from point sources into U.S. waterways. NPDES permits discharges into navigable waters from all point sources of pollution, including industries, municipal treatment plants, large agricultural feed lots, and return irrigation flows.

Lift Station

A lift station is a specific kind of pump station. It is a small sewer pump used when gravity can no longer carry wastewater through sewer. The lift station pumps wastewater from a lower elevation to a higher elevation so that gravity can again be used to carry the wastewater.

Main, Sub-main (Sewer)

A main or sub-main is a sewer pipe typically 8 inches in diameter into which the wastewater from two or more laterals (individual homeowner's pipe) is discharged and which subsequently discharges into a main, interceptor, trunk sewer or other collector.

Plat

A plat is a map or chart of a subdivision or piece of land that provides survey information on lot size and location and often includes the tax identification code.

Professional Engineer

An engineer certified and licensed by the Department of Professional and Occupational Regulation, Commonwealth of Virginia.

Project Engineer

The Project Engineer is the engineer hired by the owner/developer to prepare a set of plans and specifications for sitework, streets, drainage, water and sewer utilities, etc. that serve the project. The Project Engineer may also be responsible for construction administration of the project.

The Project Engineer will prepare plans in accordance with the City of Fairfax Public Facilities Manual, VDOT, Virginia Department of Environmental Quality (DEQ), and all other federal, state, and local regulations pertaining to the project.

The Project Engineer will submit plans for review to the City of Fairfax, make revisions as necessary to comply with the City of Fairfax guidelines, observe construction to ensure roadway, utilities and appurtenances are constructed in accordance with the City of Fairfax standards, and provide certification to the City of Fairfax and DEQ that utilities were installed in accordance with approved plans.

Public Roadway

Streets, Roadways, Collectors, Arterials, Thoroughfares constructed for the conveyance of public vehicular traffic and owned and maintained by the City of Fairfax or VDOT; includes associated drainage and appurtenances.

Public Sewer System

Sewer lines, manholes, pump stations, force mains owned and maintained by the City of Fairfax.

Pump Station

A pump station is a structure containing pumps, piping, valves, and other mechanical and electrical equipment for pumping water, wastewater, or other liquids. A pump station is used to pump wastewater from a sewer main of lower elevation to a sewer main of higher elevation. A lift station; often used synonymously with the term pump station, provides a vertical lift to sewage in order for it, in many instances, to again flow by gravity.

Punch List

The punch list identifies deficiencies of the construction found during the pre-final inspection. A punch list is generated by the City of Fairfax Inspector after a pre-final inspection.

Right-of-Way

Right-of-way is land or property that has been dedicated to a public entity for use by the public, the entity itself, or both and is maintained by that entity.

Sanitary Sewer

A sewer that carries liquid and waterborne wastes from residences, commercial buildings, industrial plants, and institutions, together with minor quantities of ground, storm, and surface waters that are not admitted intentionally. The spent or used water of a community or industry, which contains dissolved and suspended matter.

Service Area

This is an area that a utility or roadway system serves or is authorized to serve.

Special Use Permit

This is a permit from a zoning authority (i.e. the City of Fairfax), which allows a plot of land to be used for a purpose other than its normally permitted use.

Supplemental Fire Protection

Fire protection services include fire lines that feed sprinkler systems and fire hydrants that are not a part of the general hydrant service supplied by Fairfax Water to the public but at no charge.

Taps

The connection of a new main for extension or service line to public sewer lines that are in-service.

Third Party Project

This is a project that is being constructed by a developer or party other than the City of Fairfax. Third party projects are dedicated to the City of Fairfax upon completion and become part of the public street, drainage, traffic, water and/or sewer system.

Virginia Department of Environmental Quality

Department of Environmental Quality is responsible for air, groundwater, and wastewater, which includes plant operations, collection systems, treatment plant effluent discharge, and sludge disposal, including permitting for compliance with state and federal regulations. DEQ is also responsible for oversight of soil and water conservation, which includes erosion & sedimentation control, stormwater management, and watersheds, for compliance with state and federal regulations.

Virginia Pollution Discharge Elimination System

The State of Virginia's system of controlling all discharge of pollutants from point sources into U.S. waterways, based on the federal system (NPDES). VPDES permits discharges into navigable waters from all point sources of pollution, including industries, municipal treatment plants, large agricultural feed lots, and return irrigation flows.

1.3 ABBREVIATIONS

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|--------|--|
| AASHTO | American Association of State Highway Transportation Officials |
| AC | Acre(s) |
| AC-FT | Acre-Feet |
| ACI | American Concrete Institute |
| ACPA | American Concrete Pipe Association |
| ANSI | American National Standards Institute |
| AREA | American Railway Engineers Association |
| ASCE | American Society of Civil Engineers |
| ASTM | American Society for Testing Materials |
| AWWA | American Water Works Association |

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| BM | Base Mix |
| BMP | Best Management Practice |
| C&G | Curb and Gutter |
| CBPA | Chesapeake Bay Preservation Area |
| CI | Cast Iron Pipe |
| City | City of Fairfax, Virginia |
| Code | Code of the City of Fairfax, Virginia |
| D/W | Driveway |
| DIP | Ductile Iron Pipe |
| DEQ | Virginia Department of Environmental Quality |
| FHWA | Federal Highway Administration |
| FS | Federal Specifications |
| HDPE | High Density Polyethylene Pipe |
| HEC | Hydrologic Engineering Center |
| IBC | International Building Code |
| IDA | Intensely Developed Area |
| IM | Intermediate Mix |
| MSDS | Material Safety Data Sheets |
| NFPA | National Fire Protection Association |
| NOAA | United States National Oceanic and Atmospheric Administration |
| NPDES | National Pollutant Discharge Elimination System |
| NRCS | Natural Resources Conservation Service |
| OSHA | Occupational Safety and Health Administration |
| PFM | Public Facilities Manual |
| PPP | Pollution Prevention Plan |
| PVC | Polyvinyl Chloride Plastic Pipe |
| QA | Quality Assurance |
| QC | Quality Control |
| RCP | Reinforced Concrete Pipe |
| RMA | Resource Management Area |
| RPA | Resource Protection Area |
| S/W | Sidewalk |
| SM | Surface Mix |
| State | Commonwealth of Virginia |
| SWPPP | Stormwater Pollution Prevention Plan |
| TAPPI | Technical Association of the Pulp and Paper Industry |

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| TR-20 | Technical Release Number 20 |
| TR-55 | Technical Release Number 55 |
| USACE | United States Army Corps of Engineers |
| USDOT | United States Department of Transportation |
| VAC | Virginia Administrative Code |
| VCIA | Virginia Crop Improvement Association |
| VDOT | Virginia Department of Transportation |
| VSMP | Virginia Stormwater Management Program |
| VTM | Virginia Test Method |
| VPDES | Virginia Pollutant Discharge Elimination System |
| WEF | Water Environment Federation |
| WLA | Waste Load Allocation |
| WQIA | Water Quality Impact Assessment |

End of Section