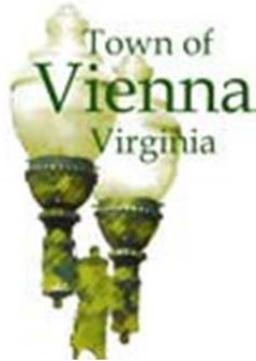


# ***TOWN OF VIENNA***



## **Public Infrastructure Manual**

October 1, 2015

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# Chapter 1

## INTRODUCTION

### 1.1 PURPOSE

- A. This Public Infrastructure Manual (PIM) was created to establish standards for design and construction of infrastructure and facilities in the Town of Vienna (Town).
- B. The PIM provides guidelines for the design of infrastructure, facilities and construction for new development and redevelopment within the Town. It is intended to serve as a technical manual in the effort to implement the requirements of the Subdivision and Zoning Ordinances and other applicable chapters of the Code of the Town of Vienna. The PIM does not supersede or eliminate any provision of the Town Code.

### 1.2 INTERPRETATION

- A. These standards and guidelines are designed to supplement the provisions of existing Federal, State and County regulations and Town codes and ordinances. All applicable Federal, State, County and Town permits must be obtained. Nothing herein shall be deemed to waive or modify other requirements of existing codes. Except as expressly provided otherwise in this document, the Director of Vienna Department of Public Works (Director) is the designated official charged with the administration of the standards and requirements contained in this manual and, in administering them, shall treat them as guidelines. The Director may allow for variations of standards where the effect of the variation is in keeping with established engineering practices and procedures and shall make the final decision on all questions regarding interpretation of this manual, after reviewing recommendations from the designated departments, authorities, boards, and committees.

### 1.3 ABBREVIATIONS

Town – Town of Vienna  
County – Fairfax County  
State – Commonwealth of Virginia  
VDOT – Virginia Department of Transportation  
FEMA – Federal Emergency Management Administration  
PIM – Town of Vienna Public Infrastructure Manual  
PFM – Fairfax County Public Facilities Manual  
VESCH – Virginia Erosion and Sediment Control Handbook  
ADA – Americans with Disabilities Act  
Director – Director of Vienna Department of Public Works  
CBR – California Bearing Ratio  
RPA – Resource Protection Area  
RMA – Resource Management Area

## **Chapter 2**

### **ENVIRONMENTAL AND WATER RESOURCE MANAGEMENT**

#### **2.1 STORM DRAIN SYSTEMS**

- A. Public and private storm systems being constructed in the Town shall be designed to comply with the standards of VDOT Drainage Manual, PFM, VESCH, and this chapter of the PIM.
- B. Flows from downspouts shall be conveyed away from onsite and offsite structures by open channel swales or closed pipe system. All private closed pipe systems must daylight ten feet (10') from property line unless approved by the Director. All runoff must sheet flow across property lines unless the runoff is conveyed through adequate outfall and easements.

#### **2.2 STORM WATER MANAGEMENT**

- A. Storm water management facilities for storm runoff quality and quantity being constructed in the Town shall be designed to comply with the standards of PFM, VESCH, Virginia Stormwater Management Handbook, Town Code and this chapter of the PIM.
- B. Increased volumes of sheet flow resulting from pervious or disconnected impervious areas or from physical spreading of concentrated flow through level spreaders, must be identified and evaluated for potential impacts on down-gradient properties or resources. Increased volumes of sheet flow that will cause or contribute to erosion, sedimentation, or flooding of down-gradient properties or resources shall be diverted to a stormwater management facility or a stormwater conveyance system that conveys the runoff without causing down-gradient erosion, sedimentation, or flooding.

#### **2.3 FLOODPLAIN**

- A. The floodplain boundary as shown on the appropriate adopted FEMA Flood Insurance Rate Map shall be shown and labeled on all plans and shall be used to meet the Town's Floodplain Code unless a floodplain study is conducted for the watershed.

#### **2.4 CHESAPEAKE BAY PRESERVATION AREAS**

- A. The Town has established Chesapeake Bay Preservation Areas to minimize the adverse effects of development on state waters and aquatic life. The Resource Protection Area RPA and Resource Management Area RMA boundaries per the Town's GIS mapping shall be shown and labeled on all plans and shall be used to meet the Town's Chesapeake Bay Preservation Areas Code.
- B. Site work that creates new impervious area within the RMA shall be mitigated through planting within the buffer downstream of the new impact. Mitigation of allowed impacts to the buffers shall consist of overstory trees, understory trees, shrubs and groundcovers. The density of overstory trees shall be a minimum of 100 trees per acre. The density of understory trees shall be a minimum of 200 trees per acre. The density of shrubs shall be a minimum of 1089 plants per acre. If seedlings are used instead of container plants, the density of trees shall be doubled. Large caliper trees shall not be planted on slopes steeper than 2:1. Plant materials shall be randomly placed to achieve a relatively even spacing throughout the buffer. Plants shall be native to the degree practical and adaptable to site conditions. Wetland plantings (including herbaceous plantings) and/or wetland seed mix shall be used where site conditions warrant. Plant materials and planting techniques shall be as specified in the County Public Facilities Manual and as reviewed and approved by the Town's Arborist.
- C. The applicant has the option of providing stormwater management per current State and Town Code in lieu of providing planting the buffer.

#### **2.5 EROSION AND SEDIMENT CONTROL**

- A. All projects having 2,500 square feet or more of land disturbance activity are required to obtain a land disturbance permit from the Town of Vienna.

## **Chapter 3**

### **TRANSPORTATION**

#### **3.1 GENERAL**

- A. The purpose of this chapter is to establish minimum standards for the planning, design, and construction roadways, certain associated facilities and pedestrian and bicycle accommodations within the Town. It is the intent of this chapter to serve as a technical manual in the effort to implement the requirements of the Subdivision and Zoning Ordinances and other applicable chapters of the Code of the Town of Vienna.
- B. It is the intent of the Town that all roads be dedicated for public use and maintained by the Vienna Department of Public Works.
- C. A street cut permit from the Town is required when any work is performed within the right of way.

#### **3.2 Requirements**

- A. Public roads being constructed in the Town shall be designed to comply with the standards of VDOT, PFM, and this chapter of the PIM. Private streets shall be designed to comply with the standards of the PFM.

#### **3.3 PLANNING**

- A. Right of Way widths for existing roads within the town are specified on the latest Town Map. All new road and existing road widening shall be dedicated and constructed to the latest Town Typical Street Section.

#### **3.4 Traffic Calming**

- A. Traffic Calming measures shall be implemented in accordance with the latest “The Citizen’s Guide to Traffic Calming in Vienna”.

#### **3.5 PAVEMENT DESIGN FOR STREETS**

- A. New Final Pavement Sections in the Town of Vienna shall be built in accordance with the latest VDOT Pavement Design Guide and the PFM using field run CBR values. Pavement sections for preliminary purposes only can be established using a CBR value of ten (10). Final pavement design using field run CBR values shall be submitted to Vienna Department of Public Works for review and approval.
- B. Pavement Design for existing road rebuilds shall be in accordance with the latest Vienna Pavement Design Guide.

#### **3.6 CURB**

- A. Curb and gutter for road improvements in the Town’s right of way will meet the latest VDOT standards and specifications for curbs, medians, and entrance gutters; the gutter will be modified to have a width of 18”.

#### **3.7 INTERSECTIONS**

- A. Intersection curb return in the Town will have a 25’ face of curb radius unless otherwise approved by the Director.

#### **3.8 SIDEWALKS**

- A. Sidewalks shall be a minimum of 5 feet in width unless approved by the Director and will meet VDOT standards and specifications. The location of sidewalk is determined by the Town’s Street Sections.

#### **3.9 CURB RAMPS**

- A. Curb ramps shall meet the latest VDOT standards and specifications for curbs, medians, and entrance gutters. Designs of these aprons need to provide elevations, slopes, and dimensions to show that the aprons meet the minimum requirements.

#### **3.10 TURNAROUND**

- A. Turnarounds being constructed in the Town shall be designed to comply with the standards of VDOT, PFM, and this chapter of the PIM. See the Town’s Cul-De-Sac detail for additional design standards.

- B. Grades for cul-de-sac turnarounds shall not be less than 2% and not exceed 6 percent measured along face of curb.

### **3.11 DRIVEWAY APRONS**

- A. All driveways must be design and installed perpendicular to the road unless approved by the Director.
- B. Residential driveway aprons shall meet the lasted VDOT CG-9B standards and specifications where there is appropriate area within the right of way to meet current ADA requirements.
- C. In the instance where there is insufficient room to build the residential apron to meet VDOT and ADA standards then the apron needs to be modified to adhere to ADA requirements as well as usability for vehicles. Vienna's Modified VDOT CG-9B Apron provides details for meeting ADA requirements for road with a utility strip. Vienna's Apron Without Utility Strip will be provided where roads have sidewalk abutting the back of curb. Designs of these aprons need to provide elevations, slopes, and dimensions to show that the aprons meet the minimum requirements.
- D. Commercial driveway aprons shall meet the lasted VDOT CG-13 standards and specifications where there is appropriate area within the right of way to meet current ADA requirements.
- E. In the instance where there is insufficient room to build the commercial apron to meet VDOT and ADA standards then the apron needs to be modified to adhere to ADA requirements as well as usability for vehicles. Vienna's Modified VDOT CG-13 Apron provides details for meeting ADA requirements for road with a utility strip. Vienna's Apron without Utility Strip will be provided where roads have sidewalk abutting the back of curb. Designs of these aprons need to provide elevations, slopes, and dimensions to show that the aprons meet the minimum requirements.

### **3.12 DRIVEWAYS**

- A. To mitigate the potential for vehicle drag, driveway slopes should not have grade breaks larger than 12% over at 10 feet interval and shall not exceed a slope of 20%. Driveway slopes are measured along the centerline of the driveway from the property line to the garage slab.
- B. Driveways widths must meet the apron width at the right of way.

### **3.13 STREET SIGNS**

- A. Street signs shall be installed at all street intersections in a location satisfactory to the Director based on the criteria set in the PFM and the MUTCD.

### **3.14 STREET LIGHTS**

- A. Street lights shall be installed with any new subdivision and non-residential developments based on the criteria set in the County PFM.
- B. The required street light improvements shall be installed by the power company serving the new development. However the developer may perform the civil portion of the installation with the prior approval of the utility company.
- C. The developer shall coordinate directly with the Power Company to schedule the installation of street lights. This coordination shall be for installation of the wiring for the street lights, concurrently with the electric service for the development and subsequent installation of the light poles, fixtures, and final connection when the site is read for such work.
- D. A Town of Vienna Street Cut permit is required for any work be performed within the right of way.
- E. Power supply for the new lights shall be provided by underground wiring.
- F. Street light styles, luminaire size, spacing, light levels and heights shall conform to the latest PFM.

### **3.15 STREET TREES**

- A. Street trees shall be installed in a location satisfactory to the Director Vienna Department of Parks and Recreation based on the criteria set in the Town's Tree Preservation and Planning Specification Manual. Street trees shall not be installed in a location that impacts intersection sight distance.
- B. The Town Arborist shall be notified prior to any work be perform near any Town Tree. Care shall be taken to protect any Town Tree from damage as specified by the Town Arborist.

### **3.16 PAVEMENT RESTORATION FOR STREET CUTS**

Asphalt pavement restoration for open cuts in the Town's right of way will meet the latest VDOT Asphalt Pavement Restoration for Open Cut Utility Installations.

## **Chapter 4**

### **WATER & SANITARY SEWER**

#### **4.1 General**

- A. It is intended of this chapter to serve as a technical manual in the effort to implement the requirements of the Code of the Town of Vienna. Nothing herein shall be deemed to waive or modify other requirements of existing codes or the Water and Sewer Regulations.
- B. All materials for public water and sewer shall be approved by the Town of Vienna prior to installation.

#### **4.2 WATER**

- A. Water systems being constructed in the Town shall be designed and built to the latest Fairfax Water Construction Practice Manual and this chapter of the PIM.
- B. All new homes are required to provide a one inch water meter to service the residence.
- C. All water valve covers shall be stamped “water”.
- D. All Fire Hydrants shall be Mueller Company product.
- E. All water meters shall be installed within the public right of way or recorded easement.

#### **4.3 SANITARY SEWER**

- A. Sanitary Sewer systems being constructed in the Town shall be designed and built to current standard set for in the latest PFM and this chapter of the PIM.