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**1-0100 INTRODUCTION**

1-0100.1 The Public Facilities Manual (PFM) sets forth the guidelines ~~which govern for~~ the design of all public facilities ~~which must be~~ constructed to serve new development. In adopting its [Subdivision Ordinance](#) in 1975, the [Board](#) incorporated specific reference to the requirements described in the PFM. Similarly, in 1978, the [Board](#) adopted a [Zoning Ordinance](#) which made specific reference to the requirements in this PFM.

~~1-0100.1~~

1-0100.2 It is the County's desire to encourage qualified professionals to seek new and better solutions to complicated technical problems. However, in the interest of orderly controlled development and expediting the processing of plans and construction, certain standard procedures and the use of design standards are necessary.

~~1-0100.2~~

1-0100.3 Experience has demonstrated that construction can be expedited and economies obtained through the use of standard structures and construction methods familiar to local contractors and field inspection personnel. ~~The State Registration Law also limits surveyors to the use of such standards in design.~~

~~1-0100.3~~

1-0100.4 There are certain specific requirements based on Federal Code, State Code, County Code, regulations, resolutions and policies, as well as specific standards of [the Virginia Department of Transportation \(VDOT\)](#), from which variances may not be granted by the Director or [VDOT](#) officials at the local level.

~~1-0100.4~~

1-0100.5 In addition, there are required standards of form, size of drawings, scale and presentation of plans and computations which have evolved over the years. Such information is included ~~herein~~ in the PFM and is intended to be used by both the professional designers and by County personnel reviewing the designs as guidelines and professional reminders.

~~1-0100.5~~

1-0100.6 As new basic information on design criteria becomes available and is accepted, and as Federal, State and County laws, regulations and standards are changed, these will be reflected in subsequent changes to this publication.

~~1-0100.6~~

1-0100.7 ~~(126-18-PFM)~~ The Director is the designated official to administer the standards and requirements contained in the PFM. The Director will make the final decision on questions regarding the PFM after having reviewed recommendations from designated departments, authorities, boards, and committees. Wherever the term "Director" is used in this PFM without further organizational reference, the reference must be interpreted as meaning the Director, Land Development Services. (See Definitions, [§ 1-1000.4](#) ~~13-0300.~~)

~~1-0100.7~~

1-0100.8 ~~(126-18-PFM)~~ The Director, in administering these standards, will treat them as guidelines rather than mandates. Except as expressly provided otherwise in this

document, the Director can approve a waiver or variation where strict application of the standard cannot be met for a particular site or where new or creative designs are proposed, ~~provided~~ if the proposed waiver or variations meets the intent of the PFM provisions; and a statement of justification for deviating from the PFM, including supporting data and information, accompanies ~~any~~ the submission ~~seeking waiver~~. The Director may allow for a variation of a given standard where the effect of ~~such~~ the variation is in keeping with established engineering practice and procedure.

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**1-0200 — ESTABLISHMENT OF THE PFM**

**1-0201 — Promulgation of the PFM.** The Board on December 11, 1963, adopted as County policy the following:

~~“Definition of Adequate Drainage”~~

~~“Policy on Off Site Drainage Improvements”~~

~~“Policy on What May Be Done In Flood Plains” and~~

~~“Policy on Proportionate Cost Off Site Drainage Improvements”~~

1-0201.1 — A booklet entitled “Policies and Guidelines for the Preparation of Subdivision Plans and Site Development Plans” was approved on December 11, 1963. That booklet incorporated the above policies and also contained guidelines for the use of qualified engineers and surveyors in the preparation of plans and by Department of Public Works and Environmental Services in the review of designs submitted.

1-0201.2 — On March 5, 1973, the Board adopted new drainage criteria in place of the drainage portions of the original Policies and Guidelines in the booklet above. The new criteria were placed in a new booklet entitled “The Public Facilities Manual.” Since 1973, the PFM has been amended, revised and published in different editions from time to time.

**1-0300**

**1-0200**

**ESTABLISHMENT OF THE ESRC**

**1-0301**

**1-0201**

**ESRC Charter.** On Dec. 11, 1963, the [Board](#) established a Continuing Review Committee to evaluate the original Policies and Guidelines for the Preparation of Subdivision and Site Plans. On March 5, 1973, the [Board](#) adopted a charter establishing the [Engineering Standards Review Committee \(ESRC\)](#). On Aug. 17, 1983, the charter was amended and adopted by the [Board](#).

1-0301.1

1-0201.1

~~(124-18-PFM)~~ This committee now consists of one representative from each of the following organizations:

Citizens-at-Large (Four)

[Northern Virginia Regional Council of the Virginia Society of Professional Engineers](#)

[Virginia Association of Surveyors \(Mount Vernon Chapter\)](#)

[Northern Virginia Building Industry Association](#)

[Fairfax County Federation of Citizens Associations](#)

[Fairfax County Bar Association](#)

[League of Women Voters of the Fairfax Area](#)

[Northern Virginia Chapter of Heavy Construction Contractors Association](#)

[VDOT, Fairfax District \(Advisory\)](#)

[Virginia Chapter of Associated Builders and Contractors](#)

[Northern Virginia Soil and Water Conservation District](#)

[WACEL](#) ~~Washington Area Council of Engineering Laboratories~~

[NAIOP](#) ~~National Association of Industrial and Office Parks (Northern Virginia Chapter)~~(Effective 2-13-89)

[Engineers & Surveyors Institute](#) ~~(Effective 12-13-93)~~

Members serve for three years and may be reappointed.

1-0301.2

1-0201.2

Nonvoting representatives from County staff are designated by the [Board](#) from the following departments: [Department of Public Works and Environmental Services \(DPWES\)](#)(two), [LDS](#), and [Department of Planning and Zoning \(DPZ\)](#).

1-0301.3

1-0201.3

The principal purposes of the committee are to study and review subjects which present technical problems, develop recommendations for action by the [Board](#), and provide advice to elements of the County governmental organization relative to the following:

1-0301.3A

A. County policy, expressed by the [Board](#), for the provision of public facilities whether financed by public or private funds.

1-0301.3B

B. County guidelines for the planning, design, construction, use and maintenance of public facilities.

~~1-0301.3C~~

C. Standards for services, physical characteristics, capabilities, effects, and limitations of facilities where limitations may be defined as physical or structural as well as economic, environmental, political, or simply bounded by public policy. The committee, however, shall be guided primarily by concern for physical or structural demands where technical evaluation is required. Where technical investigation reveals physical aspects, which have important economic, environmental, or other effects, it should examine and coordinate with other offices or entities (such as [DPWES](#), [DPZ](#) or [EQAC](#)) which have responsibilities in those areas.

~~1-0301.3D~~

D. Characteristics or facilities required to meet established or recommended standards.

~~1-0301.3E~~

E. Specifications governing the physical design, construction, quality control and maintenance of facilities to meet requirements for strength, usability, longevity, maintainability and other specific standards and characteristics as may from time to time be identified.

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**1-0400****1-0300****1-0401****1-0301****GRANDFATHER PROVISIONS AND DUE DILIGENCE STANDARDS**

**General Application.** The “Grandfather Provisions” and the “Due Diligence Standards” were repealed by an emergency ordinance adopted on Nov. 17, 1986, and by an ordinance adopted on Dec. 29, 1986. However, any amendments to the [Subdivision Ordinance](#), the [Zoning Ordinance](#), and the PFM which became effective during the time period in which the repealed “Grandfather Provisions” and “Due Diligence Standards” were in effect ~~shall~~ must be deemed to have the repealed “Grandfather Provisions” and “Due Diligence Standards” attached to each such amendment, unless the [Board](#) otherwise specified a different grandfather clause with respect to that amendment, in which case the amendment ~~shall~~ must be deemed to have the otherwise specified grandfather clause attached to such amendment.

**1-0500****1-0400****1-0501****1-0401****CONFLICTING PROVISIONS**

**General.** ~~(37-92 PFM)~~ Whenever any provision of this PFM imposes a greater requirement or a higher standard than is required in any State or Federal statute or County ordinance or regulation, the provision of this PFM ~~shall~~ governs. Whenever any provision of any State or Federal statute or other County requirement imposes a greater requirement or a higher standard than is required by this PFM, the provision of ~~such~~ the State or Federal statute or County ordinance or regulation ~~shall~~ governs.

**1-0502****1-0402**

**Accessibility.** ~~(37-92 PFM, 54-96 PFM, 61-98 PFM)~~ ~~In the event~~ If a specific requirement of this PFM precludes the provision of an accessibility improvement, ~~such~~ the improvement ~~shall~~ will be allowed regardless of the specific requirement of this PFM. Accessibility improvement ~~shall~~ means the provision of ramps and other facilities or equipment, accessible parking spaces, related access aisles and accessible routes for persons with disabilities in accordance with the design specifications set forth in the [Virginia Uniform Statewide Building Code \(USBC\)](#) and the PFM, whether ~~such~~ the improvement is mandated by Federal or State law or is provided voluntarily.

**1-0600****1-0500****1-0601****1-0501****PLATES**

**Purpose.** The standard details shown in “plates” are intended to govern all improvements within the County. The objective of this PFM is to provide a sound, workable guide for the standardization of all designs prepared for development within the County. The design engineer ~~shall be able to~~ may vary from these standards as ~~his~~ their own judgment and knowledge of a specific problem dictate.



Any modifications to these standard details and details for conditions not covered in this PFM must be approved by the Director.

~~1-0602~~

1-0502

~~VDOT Standards. It is intended to adopt VDOT standards~~ The VDOT standards should be adopted where possible to eliminate duplication and to facilitate construction methods for contractors doing both State and County improvements. State Standards have been reproduced directly from these primary documents: VDOT Road Design Manual, VDOT Road and Bridge Standards, VDOT Road and Bridge Specifications, VDOT Drainage Manual, and VDOT Location and Design Instructional and Informational Memoranda. ~~their “Road Designs and Standards.”~~ Nomenclature and permitted construction methods shown on the State Standards might differ from that allowed by the County. Under such circumstances, the County design criteria must be met where County standards exceed the VDOT standards. Listed below are some changes to be made on the State standards:

~~1-0602.1~~

1-0502.1

~~(47-95 PFM)~~ Show top, throat (if any), invert elevations, shaping and depth of structure where appropriate on plans for all drainage appurtenances.

~~1-0602.2~~

1-0502.2

Brick construction of drainage structures is not permitted, and concrete block construction is limited to a maximum depth of 8 feet.

~~1-0602.3~~

1-0502.3

The use of precast paved ditches PG-6A and PG-6B requires the approval of the Director.

~~1-0602.4~~

1-0502.4

Handrail installation outside of the VDOT right-of-way must conform to the current Virginia USBC.

~~1-0603~~

1-0503

**Variations from VDOT Standards.** The current specifications of the VDOT Road and Bridge Specifications shall govern all workmanship, materials, seasonal limitations, and construction procedures in conjunction with the specific standards and specifications adopted by the County in the PFM. In cases where there are no existing standards, and special design structures are required, detailed scale drawings and specifications shall must be submitted with the plans.

~~1-0700~~

~~COMMENTS AND RECOMMENDATIONS~~

~~Because design criteria is constantly being updated and new methods of construction developed, revisions to this manual will be required. Thus, comments and recommendations concerning any part of the data herewith presented are invited and will be appreciated by DPWES. (Please contact the Site Code Research and Development Branch at 703-324-1720.)~~

~~1-0800 ENGLISH REQUIREMENTS (69-00 PFM, 67-99 PFM, 53-96 PFM)~~

**1-0600 ENGLISH UNITS OF MEASUREMENT**

All plats, subdivision plans, site plans and studies submitted for review and approval ~~shall~~ should be prepared using English units of measurements unless otherwise approved by the Director. All construction plans proposing improvements within the VDOT right of way ~~shall~~ must be prepared in units acceptable to VDOT. Computed metric equivalent units of measurements may be submitted using the conversion factors specified in the Metric and English Units Conversion Tables in §§ ~~13-0400~~ 1-1100 and ~~13-0500~~ 1-1200. (See § 6-0103, ~~Metric Plan Preparation~~)

**1-0700 SUMMARY OF PFM CONTENTS**

**1-0701 Guidelines.** The PFM is a guidelines document, as opposed to an instruction manual intended to be read in a linear fashion, from cover to cover. Instead, it is organized so that readers may look up only the information they need at a given time. The list of sections in the Table of Contents of each chapter is, therefore, very important.

The chapters of the PFM are summarized below:

1-0701.1 **Chapter 1, General Information.** This chapter includes an introduction and the following information: Establishment of the ESRC; Grandfather Provisions; Conflicting Provisions; Plates; English Units; Applicability; PFM Structure; Interpretations; Symbols, Acronyms/Abbreviations, and Definitions; a Metric Units Conversion Table; and an English Units Conversion Table.

1-0701.2 **Chapter 2, General Subdivision and Site Plan Information.** This chapter includes the following information: Lot and Subdivision Design; Plat and Plan Preparation; Regulations for Preparation and Review of Sketch Plans; Utilities; General Improvements and Inspections; Bonds and Agreements; Conservation Agreement and Deposit; Permits; Violations Procedures; Fee Schedule; Public Parkland Development Conditions; Tysons Corner Urban Center; and As-Built Drawings. Chapters 2 and 6 include inspection criteria. Chapters 2 and 10 include as-built requirements.

1-0701.3 **Chapter 3, Condominium Conversion Regulations.** This chapter includes Submission Requirements and Review Procedures.

1-0701.4 **Chapter 4, Geotechnical Guidelines.** This chapter includes the following information: Procedures; Soils; Geotechnical Report; Construction Plans; Construction Techniques; Geotechnical Review Board; and Testing for Infiltration

## 1-0000 GENERAL INFORMATION

Facilities. Chapters 4 and 11 include County soils information and a numerical index. Chapters 4, 6, 11 and 12 include infill lot grading plan guidelines.

- 1-0701.5 **Chapter 5, Debris Landfill.** This chapter includes General Regulations and Plan Preparation and Permitted Materials.
- 1-0701.6 **Chapter 6, Storm Drainage.** This chapter includes the following information: General Information; Policy and Requirements for Adequate Drainage; Policy on Detention of Stormwaters; Stormwater Runoff Quality Control Criteria; Policy on Off-Site Drainage Improvements; Policy on Proportionate Cost of Off-Site Drainage Improvements; Policy on What May Be Done in Floodplains; Hydrologic Design; Closed Conduit System; Open Channels; Storm Sewer Appurtenances; Culverts; Retention, Detention, and Low Impact Development Facilities; Floodplain; On-Site Major Storm Drainage System; Design and Construction of Dams and Impoundments; and Policy on What May Be Done in Chesapeake Bay Preservation Areas. Chapters 2 and 6 include inspection criteria. Chapters 4, 6, 11 and 12 include infill lot grading plan guidelines.
- 1-0701.7 **Chapter 7, Streets, Streetlights, Parking & Driveways.** This chapter includes the following information: General Street Policies; Preliminary Street Planning; Street Functional Classifications; Street Plan and Profile Requirements; Pavement Design; [VDOT](#) Policy on the Acceptance of Subdivision Streets; Parking Geometrics and Standards; Common/Pipestem Driveways; Street Lights; and Utility Locations, Mail Box and Road Edge Delineator.
- 1-0701.8 **Chapter 8, Sidewalks, Trails, Bike Lanes & Recreation.** This chapter includes information regarding Sidewalks, Trails, Bike Lanes and Recreation.
- 1-0701.9 **Chapter 9, Water and Fire Regulations.** This chapter includes information on Public Water Supply and Fire Marshal Requirements.
- 1-0701.10 **Chapter 10, Sewage and Solid Waste Disposal.** This chapter includes the following information: Sanitary Sewer Design Criteria; Individual Sewage (Septic) Disposal Systems; and Solid Waste and Recycling System. Chapters 2 and 10 include as-built requirements.
- 1-0701.11 **Chapter 11, Erosion and Sediment Control.** This chapter includes the following information: Construction Plan Preparation; Minimizing Future Erosion and Other Drainage Related Problems on [FCPA](#) Lands; and Plan Review and Ordinance Enforcement. Chapters 4 and 11 include County soils information and a numerical index. Chapters 4, 6, 11 and 12 include infill lot grading plan guidelines.
- 1-0701.12 **Chapter 12, Tree Conservation.** This chapter includes the following information: Purpose and Intent; Background and Ordinance Applicability; Standards for

Preserving Trees and Forested Areas; Tree Conservation Plan Requirements; Tree Selection and Canopy Cover Guide; and Standards for Field Practice. Chapters 4, 6, 11 and 12 include infill lot grading plan guidelines.

**1-0800 PFM STRUCTURE**

**1-0801 Chapters.** The PFM is subdivided by major subject into 12 chapters.

**1-0802 Sections.** Each PFM chapter is subdivided into numbered sections. Each section may be subdivided by such numbers as .1, .2, .3, which may be further subdivided as A, B, C, (1), (2), (3), and (a), (b), (c), and may be cited as § 1-0102.1A(1)(a).

**1-0803 Page Numbers.** Chapter numbers precede page numbers on the footer of each page. For example, chapter 1 page 10 may be cited as Page 1-10.

**1-0804 Table Numbers.** Chapter numbers precede table numbers. For example, chapter 12 table 17 may be cited as Table 12.17.

**1-0805 Plate Numbers.** Plate numbers precede chapter numbers. For example, chapter 6 plate 4 may be cited as Plate 4-6.

**1-0900 INTERPRETATIONS**

For the purpose of the PFM, certain words and terms are to be interpreted as follows:

**1-0900.1** Words used in the present tense can include the future; words used in the masculine gender can include the feminine and neuter; words in the singular number can include the plural; and words in the plural can include the singular, unless the obvious construction of the wording indicates otherwise.

**1-0900.2** The phrase “adequate justification” is an assurance that information provided on the plan will justify an alternative to meet the intent of the original provision. Financial hardship alone may not be considered as “adequate justification.”

**1-0900.3** The words “shall” and “must” and “may not” denote mandatory minimum requirements; however, the Director may waive these mandatory minimum requirements (see Introduction, [§ 1-0100.8](#)).

**1-0900.4** The words “may not” denote a prohibition; however, the Director may waive such a prohibition (see Introduction, [§ 1-0100.8](#)).

1-0000 GENERAL INFORMATION

- 1-0900.5      The word “may” denotes an option.
- 1-0900.6      The word “will” denotes an expectation, not a mandate. The word “will” is primarily used to give an expectation related to a process and should not be used in relation to standards.
- 1-0900.7      The word “should” denotes a strong recommendation; however, an alternative design may be acceptable where adequate justification is provided on the plan.
- 1-0900.8      Unless otherwise specified, the term “day” means calendar day.
- 1-0900.9      The word “State” means the Commonwealth of Virginia. The word “County” means the County of Fairfax, Commonwealth of Virginia; and the term “County boundary” means any exterior boundary of the County or any boundary of unincorporated territory within the County.
- 1-0900.10     The terms “Board of Supervisors,” “County Executive,” “Director, Land Development Services,” “Zoning Administrator,” “Health Officer,” and other similar offices mean the respective boards, commissions, and officers of Fairfax County or their duly authorized agents. The use of the term “Board” means the [Board of Supervisors](#) and the use of the term “Director” must always mean the Director of [Land Development Services](#) or a duly authorized agent.

**1-1000 SYMBOLS, ACRONYMS/ABBREVIATIONS & DEFINITIONS**

1-1000.1 The following symbols, acronyms/abbreviations, and definitions may be used in the interpretation and administration of the PFM. The definitions of various terms as presented in the PFM do not necessarily represent the same definitions as may be found for the same terms in chapters of the Code. Abbreviations and acronyms in this section may appear in upper or lower case within the PFM. For the purpose of this publication, the following words and phrases should have the meanings which are respectively ascribed to them:

1-1000.2

<b>SYMBOLS</b>	
=	Equal, equal to
<	Less than
>	Greater than
'	Foot or feet
"	Inch(es)
%	Percent
#	Pound or number, as appropriate
§	Section

1-1000.3

**A**

<b>“A” ACRONYMS</b>	
A	Area of Drainage Basin
AASHTO	<a href="#">American Association of State Highway Transportation Officials</a>
AC	Acre(s)
AC	Asbestos Cement
ACEC/MW	<a href="#">American Council of Engineering Companies of Metropolitan Washington</a>
AC-FT	Acre-Feet
ACI	American Concrete Institute

1-0000 GENERAL INFORMATION

ADAAG	<a href="#">Americans with Disabilities Act Accessibility Guidelines</a>
ADT	Average Daily Traffic
ALY	Alley
ANSI	<a href="#">American National Standards Institute</a>
AOS	Apparent Opening Size (US Standard Sieve)
AP	Air Pollution
AS	Acer rubrum (red maple)
ASCA	<a href="#">American Society of Consulting Arborists</a>
ASCE	<a href="#">American Society of Civil Engineers</a>
ASPRS	American Society of Photogrammetry and Remote Sensing
ASTM	<a href="#">American Society for Testing Materials</a>
ATV	All-Terrain Vehicle
AVE	Avenue
AWPA	American Wood Preservers Association
AWWA	<a href="#">American Water Works Association</a>

**B**

<b>“B” ACRONYMS</b>	
B&B	Balled and Burlapped
BLVD	Boulevard
BMP	Best Management Practice
BOS	<a href="#">Board of Supervisors, Fairfax County, Virginia</a>
BZA	<a href="#">Board of Zoning Appeals</a>

**C**

<b>“C” ACRONYMS</b>	
C	Runoff Coefficient (ratio of runoff to rainfall)
C&G or CG	Curb & Gutter
CADD	Computer-Aided Design and Drafting
CATV	Community Antenna Television
CBPA	Chesapeake Bay Preservation Area
CBR	California Bearing Ratio
CC	Center to Center
CCA	Chromated copper arsenate (wood preservative)
CD	Compact Disc
CEC	Cation exchange capacity
CFS	Cubic Feet per Second
CH	Fat Clay
CIP	Cast Iron Pipe
CIR	Circle

1-0000 GENERAL INFORMATION

Cj	Contraction Joint
C/L	Centerline
CL	Cluster
CMP	Corrugated Metal Pipe
CMU	Concrete Masonry Unit
CN	Runoff Curve Number
Code	<a href="#">Code of the County of Fairfax, Virginia</a>
CONC	Concrete
CORR	Corridor
County	County of Fairfax, Virginia
CPT	Cone Penetrometer Test
CRZ	Critical Root Zone
CSPE	Chlorosulfonated polyethylene
CSWY	Causeway
CT	Court
CTR	Center
CY	Cubic Yard or Yd <sup>3</sup>

**D**

<b>“D” ACRONYMS</b>	
D	Drought Tolerance/conditions
D0	Abnormally Dry
DB	Deed Book
DEQ	<a href="#">Department of Environmental Quality (state—also VDEQ)</a>
DIA	Diameter
DIP	Ductile Iron Pipe
DMT	Flat Dilatometer
DMV	Department of Motor Vehicles
DP	Dry Detention Pond
DPWES	<a href="#">Department of Public Works and Environmental Services</a>
DPZ	<a href="#">Department of Planning and Zoning</a>
DR	Drive
DVD	Digital Video Disc
DWG	Drawing

**E**

<b>“E” ACRONYMS</b>	
E	East
E&S	Erosion and Sedimentation
EC	Erosion Control



1-0000 GENERAL INFORMATION

EC	Energy Conservation Credit
ED	Extended Detention
e.g.	Exempli Gratia, Latin for “for example”
EGL	Energy Grade Line
EI	Expansion Index
Ej	Expansion Joint
EP	Easement Plat
EPDM	Ethylene propylene diene monomer
EQAC	<a href="#">Environmental Quality Advisory Council</a>
ES	Engineer standard
ESI	<a href="#">Engineers &amp; Surveyors Institute</a>
ESRC	<a href="#">Engineering Standards Review Committee</a>
EW	Easement Width

**F**

<b>“F” ACRONYMS</b>	
F	Required Fire Flow in Gallons per Minute
FAILELEV	Elevation at which failure begins
FBH	Freeboard Hydrograph
FC	Face of Curb
FCDOT	Fairfax County Department of Transportation
FCPA	<a href="#">Fairfax County Park Authority</a>
FDC	Fire Department Connection
FGDCSTD005	<a href="#">Federal National Vegetation Classification System</a>
FHWA	<a href="#">Federal Highway Administration</a>
FPS	Feet per Second
FS	Factor of Safety
FT	Foot or Feet

**G**

<b>“G” ACRONYMS</b>	
G	General
GAL	Gallon(s)
GALV	Galvanized
GBA	<a href="#">Geoprofessional Business Association</a>
GIS	<a href="#">Geographic Information System</a>
GPD	Gallons per Day
GPM	Gallons per Minute
GR	Green

1-0000 GENERAL INFORMATION

GRB	<a href="#">Geotechnical Review Board</a>
GRV	Grove

**H**

<b>“H” ACRONYMS</b>	
H20	Highway Load for Trucks
HDPE	High Density Polyethylene Pipe
HEC	Hydrologic Engineering Center
HGL	Hydraulic Grade Line
HMR	Hydrometeorological Report
HOA	Homeowner Association
HPS	High Pressure Sodium
HR	Hour(s)
HT	Height
H:V	A numerical ratio given for a slope. The slope is composed of a horizontal component (H) and a vertical component (V).
HW	Headwater
HWY	Highway

**I**

<b>“I” ACRONYMS</b>	
I	Rainfall Intensity
I	Impact Factor
IBC	<a href="#">International Building Code</a>
ID	Identification
ID	Inside Diameter
IDA	<a href="#">International Dark-Sky Association</a>
i.e.	id est, Latin for “that is”
IESNA	<a href="#">Illuminating Engineering Society of North America</a>
IN	Inches
IO	Ilex opaca (American holly)
IS	De-icing Salts
ISA	<a href="#">International Society of Arboriculture</a>
IT	Interstate

**J**

<b>“J” ACRONYMS</b>	
JV	Juniperus virginiana (Eastern red cedar)

**K**

<b>“K” ACRONYMS</b>	
KP	Koelreuteria paniculata (goldenrain tree)

**L**

<b>“L” ACRONYMS</b>	
LA	Lane
LB	Pound(s)
LD	Large Deciduous Tree
LDS	<a href="#">Land Development Services</a>
LE	Large Evergreen Tree
LL	Liquid Limit
LND	Landing
LP	Loop
LPM	Liters Per Minute
LS	Land Surveyor licensed in the Commonwealth of Virginia

**M**

<b>“M” ACRONYMS</b>	
MAX	Maximum
ME	Medium Evergreen Tree
MEP	Mechanical, Electrical, Plumbing
Mgd	Million gallons per day
MH	Manhole(s)
MH	Elastic Silt
MI	Mile(s)
MIL	Equal to 1/1000 inch
MIN	Minimum
Min.	Minute
mm	millimeter
MOU	Memorandum of Understanding
MPH	Miles Per Hour
MSA	Methods of Soil Analysis, Part I Physical and Mineralogical Methods, American Society of Agronomy (1986)
MUTCD	<a href="#">Manual of Uniform Traffic Control Devices</a>

**N**

<b>“N” ACRONYMS</b>	
N	Native
N	North
N/A	Not Applicable
<a href="#">NAIOP</a>	Commercial Real Estate Development Association
NCPTC	<a href="#">National Concrete Pavement Technology Center</a>
NCQLP	<a href="#">National Council on Qualifications for the Lighting Professional</a>
NEH	<a href="#">National Engineering Handbook</a>
NGVD	<a href="#">National Geodetic Vertical Datum of 1929</a>
NK	Nook
No.	Number
NOA	Naturally occurring asbestos
NOAA	<a href="#">National Oceanic and Atmospheric Administration</a>
Non-RUP	Non-Residential Use Permit
NOVEC	<a href="#">Northern Virginia Electric Cooperative</a>
NRCS	<a href="#">Natural Resource Conservation Service</a> (federal)
NRCSP	Non-Reinforced Concrete Sewer Pipe
NRMCA	<a href="#">National Ready Mixed Concrete Association</a>
NRQ	Not Required
NVPDC	Northern Virginia Planning District Commission
NVRPA	<a href="#">Northern Virginia Regional Park Authority</a>
NVSWCD	<a href="#">Northern Virginia Soil and Water Conservation District</a>
NWS	<a href="#">National Weather Service</a>

**O**

<b>“O” ACRONYMS</b>	
O/O	Outside to Outside
OC	On Center(s)
OD	Outside Diameter
OSHA	<a href="#">Occupational Safety and Health Administration</a>

**P**

<b>“P” ACRONYMS</b>	
PC	Point of Curve
PCCP	Plain Concrete Culvert Pipe
PDC	Planned Development Commercial
PDF	Portable Document Format
PDH	Planned Development Housing

1-0000 GENERAL INFORMATION

PDSI	Palmer Drought Severity Index
PE	Professional Engineer licensed in the Commonwealth of Virginia
PFM	Public Facilities Manual
PG	Page Number
PI	Plasticity Index
PKWY	Parkway
PL	Parking Lot Planting Areas
PLV	Preliminary Plat Revision
PLZ	Plaza
PMP	Probable Maximum Precipitation
PRC	Planned Residential Community
PRECIP	Precipitation
PRM	Principal Recyclable Material
PRM	Planned Mixed Residential Mixed Use
PS	Partial Shade
PSI	Pounds per Square Inch
PT	Point of Tangency
PTC	Planned Tysons Corner Urban
PVI	Vertical Points of Intersection
PVC	Polyvinyl Chloride
PW	Pavement Width

**R**

<b>“R” ACRONYMS</b>	
R	Radius
RA	Planting in Restricted Areas
RC	Reinforced Concrete
R-C	Residential-Conservation
RCP	Reinforced Concrete Pipe
RD	Road
RDG	Ridge
RDWY	Roadway
R-E	Residential-Estate
REQ	Required
REV	Revised
RF	Roadway Fixture
RF-1	Cobrahead mounted to wood pole
RF-2	Cobrahead mounted to concrete pole
RF-3	Colonial
RIS	Redwood Inspection Services

1-0000 GENERAL INFORMATION

RMA	Resource Management Area
ROW	Right-of-way
RPA	Resource Protection Area
RSC	Regenerative stormwater conveyance system
RTAP	<a href="#">Fairfax County Residential Traffic Administration Program</a>
RUP	Residential Use Permit
RWHS	Rainwater Harvesting Systems
RZ	Restricted root zone

**S**

<b>“S” ACRONYMS</b>	
S	South
S4S	Surfaced on 4 Sides
SC	Poor soil conditions
SDF	Spillway Design Flood
SDID	Site Development and Inspections Division
SDR	Standard Dimension Ratio
SECT	Section(s)
SF	Square Feet
SH	Full Shade
SHWT	Seasonal High Water Table
SPEC	Specification(s)
SPIB	Southern Pine Inspection Bureau
SPT	Standard Penetration Test
SQ	Square
SSAR	Subdivision Street Acceptance Requirement
SSR	Subdivision Street Requirement
ST	Street
State	Virginia or Commonwealth of Virginia
STD	Standard(s)

**T**

<b>“T” ACRONYMS</b>	
tc	Time of Concentration
TC	Trace
TER	Terrace
TF	Failure Time
TP	Technical Paper
TPD	Trips per Day
TPKE	Turnpike

1-0000 GENERAL INFORMATION

TPO	Thermoplastic polyolephin
TR	Trail
TR	Technical Report
TR	Technical Release
TV	Television
Tv	Treatment Volume
Typ.	Typical

U

<b>“U” ACRONYMS</b>	
UD	Underdrain
UL	Utility Location
US	United States
USACE	<a href="#">United States Army Corps of Engineers</a>
USBC	<a href="#">Uniform Statewide Building Code</a>
USCS	<a href="#">Unified Soil Classification System</a>
USDA	United States Department of Agriculture
USGS	<a href="#">United States Geological Survey</a>
USNVCS	<a href="#">United States National Vegetation Classification System</a>

V

<b>“V” ACRONYMS</b>	
Va.	Virginia
VAC	Virginia Administrative Code
VCC	<a href="#">Virginia Construction Code</a>
VCPX	Vitrified Clay Pipe, Extra Strength
VCS	<a href="#">Virginia Coordinate System of 1983</a>
VD	Viburnum dentatum (arrowwood viburnum)
VDOT	<a href="#">Virginia Department of Transportation</a>
VF	Vertical Feet of Water Pressure
VOC	Volatile organic compound
VOSH	<a href="#">Virginia Occupational Safety and Health</a>
VPD	Vehicles Per Day
VPH	Vehicles Per Hour
VSMP	<a href="#">Virginia Stormwater Management Program</a>

W

<b>“W” ACRONYMS</b>	
W	Width

1-0000 GENERAL INFORMATION

W	West
W	Wet soil conditions
<a href="#">WACEL</a>	An association of Engineering Laboratories, Inspection Agencies and Building Officials
WL	Wildlife Value
WP	Wet Pond
WQIA	<a href="#">Water Quality Impact Assessment</a>
WS (WSPOD)	<a href="#">Water Supply Protection Overlay District</a>
WWCD	<a href="#">Wasterwater Collection Division</a>
WWF	Welded Wire Fabric

**Y**

<b>“Y” ACRONYMS</b>	
YR	Year(s)

1-1000.4      DEFINITIONS

**BRIDGE** - 1. A structure erected over a watercourse, depression or obstacle ([Webster’s Collegiate Dictionary](#)). 2. As distinguished from a culvert, it is a large structure spanning a watercourse, the bed of which is left comparatively undisturbed. 3. The opening width is generally large compared to length (in the direction of flow). The structure generally consists of a deck or superstructure supported on two or more abutments or piers.

**CLASS 15** – Strength of concrete at 15 Megapascals

**CLASS 20** – Strength of concrete at 20 Megapascals

**CLASS 30** – Strength of concrete at 30 Megapascals

**CLEARING** - Any intentional or negligent act to: 1. Cut down, or 2. Remove all or a substantial part of, or 3. Damage a tree or other vegetation which will cause the tree or other vegetation to decline and/or die. Such acts include but are not limited to damage inflicted upon the root system of the vegetation by the application of toxic substances, by the operation of equipment and vehicles, by storage of materials, or by the change of natural grade due to unapproved excavation or filling, or damage caused by the unapproved alteration of natural physical conditions.

**CROWN** - The above ground parts of a tree consisting of the branches, stems, buds, fruits and leaves. May also be referred to as “canopy”.

**DIRECTOR** – Director, [Department of Land Development Services](#).



**LIMITS OF CLEARING** - 1. The boundaries of that area of land to be cleared of trees and other vegetation in conjunction with the proposed development or land use, except that the area within these limits for the proposed development or use may not include the removal of any monarch trees unless approved by the Director; 2. Subject to the Director's approval, the limits of clearing as shown on the plan should include:

- A. Street construction and necessary slope construction. However, such clearing must meet the criteria of [VDOT](#);
- B. Public service or utility easements and rights-of way. This includes area for utility line installation with any construction easements necessary for the installation and easements for maintenance access. These easements may not be cleared before actual line installation;
- C. Building roof coverage area and ancillary structures such as patios and porches plus 15 feet on all sides for construction activity;
- D. Driveways, alleyways, walkways, parking lots, and other land area necessary to the installation of the proposed development or use. Other necessary land area may include area for gardens, tennis courts, swimming pools, and lawn areas and related structures or uses;
- E. Area for septic field as required by the County [Health Department](#). This does not include area necessary for reserve lines until the reserve lines must be installed;
- F. Sediment basins - Only the area necessary for construction of the dam, the area in which sediment will collect, and the area necessary for construction and maintenance of the basin may be cleared of vegetation. Configuration of the basin must use natural terrain as much as possible to minimize vegetation removal. Any vegetation which dies as a result of the deposition of sediment and/or debris must be removed by the permittee;
- G. Detention ponds - Only the area necessary for construction of the dam and the area necessary for construction and maintenance of the pond may be cleared of vegetation. Configuration of the pond must use natural terrain as much as possible to minimize vegetation removal. Any vegetation which dies as a result of the deposition of sediment and/or debris must be removed by the permittee.

**PROJECTED 10-YEAR TREE CANOPY** - The area projected to be directly beneath the crown and within the dripline of a given tree species after a 10-year growing period.

1-0000 GENERAL INFORMATION

**TABLE 1.1 – METRIC UNITS CONVERSION TABLE**

Quantity	From English Units	To Metric Units	Multiply by
<b>Length</b>	mile	km	<u>1.609344</u>
	yard	m	<u>0.9144</u>
	foot	m	<u>0.3048</u>
	foot	mm	<u>304.8</u>
	inch	mm	<u>25.4</u>
<b>Area</b>	square mile	km <sup>2</sup>	2.59
	acre	m <sup>2</sup>	4046.856
		ha (10000 m <sup>2</sup> )	0.4046856
	square yard	m <sup>2</sup>	<u>0.83612736</u>
	square foot	m <sup>2</sup>	<u>0.09290304</u>
square inch	mm <sup>2</sup>	<u>645.16</u>	
<b>Volume</b>	acre foot	m <sup>3</sup>	1233.49
	cubic yard	m <sup>3</sup>	0.764555
	cubic foot	m <sup>3</sup>	0.0283168
	cubic foot	L (1000 cm <sup>3</sup> )	28.31685
	100 board feet	m <sup>3</sup>	0.235974
	gallon	L (1000 cm <sup>3</sup> )	3.78541
	cubic inch	mm <sup>3</sup>	<u>16387.064</u>
<b>Mass</b>	pound	kg	0.453592
	ounce	g	28.3495
	short ton	metric ton	0.907184
	(2000 lbs.)	(1000 kg)	
<b>Velocity</b>	foot/sec	m/sec	<u>0.3048</u>
	mile/hr	km/hr	<u>1.609344</u>
<b>Pressure</b>	pounds/square foot	Pa	47.8803
	pounds/square inch	kPa	6.89476
<b>Moment/Torque</b>	foot-pounds	N.m	1.355818

NOTE: Underline denotes exact number.

1-0000 GENERAL INFORMATION

<b>TABLE 1.2 – ENGLISH UNITS CONVERSION TABLE</b>			
<b>Quantity</b>	<b>From Metric Units</b>	<b>To English Units</b>	<b>Divide by</b>
<b>Length</b>	km	mile	<u>1.609344</u>
	m	yard	<u>0.9144</u>
	m	foot	<u>0.3048</u>
	mm	foot	<u>304.8</u>
	mm	inch	<u>25.4</u>
<b>Area</b>	km <sup>2</sup>	square mile	2.59
	m <sup>2</sup>	acre	4046.856
	ha (10000 m <sup>2</sup> )		0.4046856
	m <sup>2</sup>	square yard	<u>0.83612736</u>
	m <sup>2</sup>	square foot	<u>0.09290304</u>
mm <sup>2</sup>	square inch	<u>645.16</u>	
<b>Volume</b>	m <sup>3</sup>	acre foot	1233.49
	m <sup>3</sup>	cubic yard	0.764555
	m <sup>3</sup>	cubic foot	0.0283168
	L (1000 cm <sup>3</sup> )	cubic foot	28.31685
	m <sup>3</sup>	100 board feet	0.235974
	L (1000 cm <sup>3</sup> )	gallon	3.78541
	mm <sup>3</sup>	cubic inch	<u>16387.064</u>
<b>Mass</b>	kg	pound	0.453592
	g	ounce	28.3495
	metric ton (1000 kg)	short ton (2000 lbs.)	0.907184
<b>Velocity</b>	m/sec	foot/sec	<u>0.3048</u>
	km/h	mile/hr	<u>1.609344</u>
<b>Pressure</b>	Pa	pounds/square foot	47.8803
	kPa	pounds/square inch	6.89476
<b>Moment/Torque</b>	N m	foot-pounds	1.355818

NOTE: Underline denotes exact number.