7.0 Glossary / Acronyms

B

Best Management Practice (BMP): A structural or nonstructural practice that is designed to minimize the impacts of changes in land use on surface and groundwater systems. Structural best management practices typically designed to trap or filter pollutants from stormwater runoff or reduce runoff velocities. Structural best management practices consist of bioretention filters, constructed stormwater wetlands, pervious pavement, etc. Nonstructural best management practices refer to land use or development practices that are determined to be effective in minimizing the impact on receiving stream systems such as street-sweeping, restoring stream buffers and improving outfalls.

Bioretention Basin: A BMP that retains, filters, and treats stormwater runoff using a shallow depression of conditioned soil topped with a layer of mulch or high carbon soil layer and vegetation tolerant of short-term flooding. Depending on the design, a basin can provide retention or detention of runoff water and will trap and remove suspended solids and filter or absorb pollutants to soils and plant material.

Bioswale: A vegetated swale that is a form of bioretention. It is used to partially treat water quality, attenuate flooding potential and convey stormwater.

Best Professional Judgment (BPJ): This indicates deviation from various standard methods used County-wide, to account for circumstances where strict application of the methods is not advisable.

Buffer: Area of land bordering a stream. Buffer restoration projects are implemented to replant the stream buffer area, providing protection from direct runoff from developed areas.

C

Channel: A natural or manmade waterway.

Channel Evolution Model (CEM): Describes the five stages of channel adjustment. In urban areas, the channel generally adjusts due to increased runoff from development.

Chesapeake Bay Preservation Areas: An area designated by a local government under Virginia's Chesapeake Bay Preservation Act to protect Chesapeake Bay (VDCR, 2008). In Fairfax County, these areas are Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) under the Chesapeake Bay Preservation Ordinance adopted by the County (Fairfax County, 2005).

Cistern: An underground basin of water or above-ground barrel or tank that stores rainwater. They are used to ensure that water is not contaminated nor suffers from evaporation.

Confluence: The joining point where two or more streams create a combined, larger stream.

D

Daylight: Exposing waterways currently conveyed in buried culverts or pipes.

Density: The number of dwelling units per acre.

Detention: The temporary impoundment or holding of stormwater runoff.

Directly Connected Impervious Area (DCIA): Paved or hard surfaces, such as streets and rooftops, for which runoff is collected through a drain and directly piped into the stormwater management system.

Dry Detention Basin: An extended detention basin is designed to completely empty out between runoff events, typically within 48 hours, and therefore have no permanent pool. A dry detention basin can limit downstream scour and loss of aquatic habitat by reducing the peak flow rate and energy of stormwater discharges.

E

Easement: A designated part of a property that allows someone other than the property owner to use the land for a specific purpose.

Energy Dissipation Device: Structure designed to reduce erosive water velocities at an outfall.

Extended Detention Basin: A stormwater management facility whose outlet is designed to detain the stormwater runoff from a water quality storm for some minimum duration, allowing sediment particles and associated pollutants to settle out to the bottom of the basin.

F

Floodplain: The flat area located adjacent to the main stream channel. When streambanks overflow during or after a storm, the floodplain provides natural storage for the excess water. The 100-year frequency storm, which is the rainfall intensity that has a 1-percent chance of occurring in a year, is used to determine the limits of the floodplain. Floodplains include all areas of the County which are designated as a floodplain by the Federal Insurance Administration, the United States Geological Survey or Fairfax County.

G

Geographic Information System (GIS): A system of organizing and viewing digital spatial data; text and numerical data can be attributed to the digital features, or this information can be linked to a database. This system was used to create many of the maps contained in this report.

Green Roof: A roof that is covered with vegetation, which reduces stormwater run-off and lowers cooling costs.

H

Head Cut: Deepening of the stream channel through erosion, which starts at one location and moves upstream.

Headwater: The uppermost reaches of a stream or watershed.

Hydrologic Engineering Center River Analysis System (HEC-RAS): Using flows determined from a hydrologic model, this model computes the water levels in the stream system.

Hydraulics: The modeling or computing of the water elevation in a stream or manmade feature.

Hydrology: The modeling or computing of the quantity or in some cases quantity and timing, of water flow.

I

Impervious Area or Impervious Cover: A surface composed of any material that significantly impedes or prevents natural infiltration of water into soil. Impervious surfaces include, but are not limited to, roofs, buildings, streets, parking areas, and any concrete, asphalt or compacted gravel surface.

Index of Biological Integrity (IBI): evaluates ecological health based on the community structure of bottom-dwelling aquatic invertebrates.

L

Low-Impact Development (LID): A stormwater approach with a basic principle of managing rainfall at the course using uniformly distributed decentralized controls. Instead of conveying and managing/treating stormwater in large, end of pipe facilities located at the bottom of drainage areas, LID addresses stormwater though small landscape features located at the lot level. The primary goal of LID methods is to mimic the predevelopment site hydrology by using techniques that infiltrate, filter, store, evaporate and detain runoff close to its source.

M

Municipal Separate Storm Sewer System (MS4) Permit: Requires the creation of watershed management plans to facilitate compliance with the Clean Water Act

N

National Pollutant Discharge Elimination System (NPDES): A program administered by the Environmental Protection Agency that regulates pollution sources from pipes or man-made ditches (US EPA, 2009).

P

Peak Flows: The highest flow modeled or measured during a storm event at a certain location.

Perennial Streams: A body of water that normally flows year-round in a defined channel or bed, and is capable, in the absence of pollution or other manmade stream disturbances, of supporting bottom-dwelling aquatic animals.

Pervious Cover: Any ground cover material that allows water to infiltrate to the soil below.

Pervious Pavement: Pavement that allows percolation or infiltration of stormwater through the surface into the soil below.

R

Rain Barrel: Low-cost, effective and easily maintainable retention and detention devices that are applicable to residential, commercial and industrial sites to manage rooftop runoff. Rain barrels can be used to store runoff for later use in lawn and garden watering.

Regional Pond: A pond designed to control water quality/quantity for a number of developments in a large area.

Resource Management Area (RMA): A Chesapeake Bay Preservation Area that includes all land that may cause harm to the water quality of the Resource Protection Areas (RPAs); includes all of Fairfax County except those areas designated as RPAs (Fairfax County, 2005).

Resource Protection Area (RPA): A Chesapeake Bay Preservation Area located along sensitive streams draining to the Potomac River (Fairfax County, 2005).

Retention: The permanent storage of stormwater indefinitely.

Retrofit: Converting an existing detention facility into a more functional treatment practice.

Return Period: The average length of time between events having the same volume and duration. If a storm has a 1-percent chance of occurring in any given year, then it has a return period of 100 years.

Riparian Buffer: Land adjacent to a stream where vegetation is strongly influenced by the presence of water. It often contains native grasses, flowers, shrubs and trees that line the stream banks. Riparian buffers are important for good water quality and help to prevent sediment, nitrogen, phosphorus, pesticides and other pollutants from reaching the stream.

Runoff: The portion of precipitation, snow melt or irrigation water that runs off the land into surface waters.

S

Sediment Forebay: An area designed to collect some sediment from stormwater runoff before the runoff enters the main portion of the facility.

Spreadsheet Tool for Estimating Pollutant Load (STEPL): This tool calculates pollutant loads from various land uses, and models the pollutant reduction capabilities of various best management practices (BMPs).

Source Indicators: These are metrics that quantify the presence of pollutant sources or potential stressors that may cause problems.

Stormwater Management Model (SWMM): Estimates the flows at various points in the watershed for a given storm event.

Stream Morphology: The study of the size, pattern and geometry at several points along the stream, including the network of tributaries within the drainage basin.

Stream Physical Assessment (SPA): A report documenting the results from a data collection effort that involved a County-wide assessment of stream conditions. The purpose of the assessment is to collect information on and document: habitat conditions, impacts on the stream

from specific infrastructure and problem areas, general stream characteristics and geomorphic classification of stream type.

Stream Protection Baseline Study (SPS): A 2001 study that documented the stream conditions throughout the County using physical, chemical and biological evaluations.

Stream Restoration: The re-establishment of the general structure, function and self-sustaining behavior of a stream.**Stormwater Management Model (SWMM)**: Developed by the EPA, this is a hydrologic model that computes flows in the stream network of the watershed using inputs such as rainfall, land use and other physical characteristics of the watershed.

T

Ten-Year Storm: The rainfall totals or intensity that have a 10-percent probability of occurring at that location in that year.

Total Nitrogen (TN): This is an indicator of water quality, and is a measure of all types of nitrogen in the water.

Total Phosphorus (TP): An indicator of water quality and a measure of all types of phosphorus in the water.

Tributary: A stream or a river that flows into a main stem or large river.

Total Suspended Sediment (TSS): An indicator of water quality, representing the amount of solid material that is being carried in the water.

Two-Year Storm: The rainfall totals or intensity that have a 50-percent probability of occurring at that location in that year.

U

Underground Chamber: An underground structure that detains stormwater for a period of time and discharges it through a hydraulic outlet structure to a downstream conveyance system.

Universal Soil Loss Equation (USLE): An equation for estimating average erosion from an area of land.

V

Virginia Pollutant Discharge Elimination System (VPDES): The Virginia administration of the National Pollutant Discharge Elimination System (NPDES). Administered by the Virginia Department of Environmental Quality (VDEQ), the U.S. Environmental Protection Agency still has authority over major point source discharges, as defined by the quantity and content of the source (VDEQ, 2010).

W

Watershed Advisory Group (WAG): Representatives of various stakeholder groups in the watershed who provide input at various stages of the Watershed Management Plan (WMP).

Watershed: An area of land for which rainwater collects and drains to a particular outlet point. Watersheds are commonly delineated from the mouth of a stream and include any land draining to the stream or its tributaries.

Watershed Management Area (WMA): A group of subwatersheds, used for breaking the watershed into subareas for management purposes.

Wet Pond: A detention basin with a permanent pool of water, which helps increase settling and pollutant uptake.

Watershed Management Plan (WMP): A plan for watershed restoration.