Valley Branch Watershed District

Revised Rules and Regulations

February 9, 2023

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Forward

Introduction

This forward summarizes the reasoning behind the proposed Valley Branch Watershed District (VBWD) Rules and Regulations (Rules). The forward discusses the following:

- The process for developing the Rules
- The authority allowing VBWD to develop and adopt the Rules
- The need for the Rules
- The justification for the Rules

The organization of the Rules is also described.

These Rules are an update and revision from the VBWD's 2013 Rules. On September 24, 2015, the VBWD Board of Managers adopted the 2015–2025 *VBWD Watershed Management Plan* (Plan). The Plan called for the revision of the VBWD Rules to incorporate volume control standards, revise the wetland regulations, and generally update the Rules.

On June 24, 2022, the VBWD Managers sent the proposed Rules to the Minnesota Board of Water and Soil Resources and all public transportation authorities that have jurisdiction within the VBWD, as required in Minnesota Statute 103D.341, Subd. 2. In addition, the proposed Rules were sent to various stakeholders, including all cities and townships that lie wholly or partially within the VBWD. The VBWD requested comments by August 15, 2022.

On September 28, 2022, VBWD responded to the comments received and offered those who previously provided comments another opportunity to comment. The VBWD requested comments by October 31, 2022.

As required in Minnesota Statute 103D.341, Subd. 2, the VBWD Managers published notice of a public hearing on the proposed rules. The public hearing was held on February 9, 2023, at 8:00 p.m. After the public hearing and later that evening, the VBWD Managers adopted these rules.

Notice of these adopted rules will be published in the VBWD's legal newspaper. The Managers will provide written notice of adopted or amended rules to public transportation authorities that have jurisdiction within the watershed district. The Managers will also file these adopted rules with the county recorder of each county affected by the watershed district and the Minnesota Board of Water and Soil Resources. In addition, the VBWD will mail a copy of the adopted rules to the governing body of each municipality affected by the watershed district.

Authority

State law (Minnesota Statutes 103B and 103D and Minnesota Rules 8410) requires watershed districts to prepare and adopt watershed management plans. These plans must be the basis for watershed district Rules. Minnesota Statutes (103D, 103B, and 103G) and Minnesota Rules (8410

and 8420) give watershed districts the authority to develop and implement rules and regulations. The VBWD's authority to adopt these Rules allows it to establish standards, requirements, and procedures for the review and approval or disapproval of activities within its mandated authority.

Need

The lakes, ponds, streams, wetlands, and groundwater in the VBWD are important assets. These resources supply recreational and aesthetic benefits, enhance property values, serve as groundwater recharge and drinking water sources, provide nutrient removal, and provide wildlife habitat and fisheries.

The high quality of the VBWD's natural resources makes it an attractive place for people to live. If water quality becomes degraded, a water resource will lose its value. If water quality is not maintained, the environment will suffer, the commercial and recreational value of our water resources will diminish, and public health may be compromised. Preserving the high quality of the VBWD's natural resources is critical to a high quality of life among the citizens residing in the watershed and the larger metropolitan region.

The water level and water quality of lakes, ponds, streams, shorelines, wetlands, and groundwater are closely linked to the resource's hydrology and physical conditions. Hydrology depends on the weather, the landscape's topography, the soils, the land cover, and other factors. Changes to any of these factors will influence the water levels and water quality of a water resource. While some factors are difficult to control, changes to land cover can be regulated and/or managed to minimize negative consequences.

Flood protection is a primary responsibility of the VBWD. Flooding has the potential to damage property and infrastructure and risks human health. Flood protection will remain a high priority as the watershed continues to urbanize, which increases the potential for flooding as well as the consequences of flooding. The VBWD has a responsibility to manage and mitigate flood problems to the degree possible. This means the VBWD needs to address existing flooding problems, prevent future flooding problems that can be avoided, and minimize the impact of future flooding problems that cannot be prevented.

The VBWD Managers also recognize that maintaining an adequate quantity of water in the watershed's water resources (flows, water levels) is important for human enjoyment of the water resources and maintaining ecological benefits (e.g., wildlife habitat and fishery resources). The VBWD seeks to manage the stormwater and water resources in the watershed to maintain adequate quantities of water in the water resources, allowing for natural fluctuations in the hydrologic cycle (e.g., drought).

To accomplish the VBWD goals of protecting water resources and preventing negative consequences, the VBWD will manage stormwater runoff, erosion and sedimentation, wetlands, and vegetative buffers by enforcing these Rules.

Justification

Stormwater runoff greatly influences the quality and quantity of water in a water body. Stormwater runoff carries pollutants that cause adverse environmental impacts to the VBWD's water resources.

As development in the VBWD increases, more and more land will be converted to impervious surfaces, such as buildings/rooftops, driveways, sidewalks, roads, and parking lots. These surfaces cannot absorb stormwater (cannot infiltrate), which means that as runoff flows over these surfaces, it picks up pollutants and gains speed and volume. These stormwater flows contain more pollutants, are at a higher temperature, move faster, and contain more volume than flows over pervious surfaces. The downstream impacts of such flows include water quality degradation, increased erosion and sedimentation, increased flooding, wetland habitat degradation, and negative groundwater effects.

Human activities (especially construction and vegetation removal) often accelerate the natural process of erosion and sedimentation. For example, when a construction site is cleared and graded, stormwater runoff rates and volumes increase because there is less infiltration, less interception, fewer natural depressions, and compacted soil. This results in increased erosion, sedimentation, and decreased infiltration. Increased soil erosion releases significant amounts of sediment that may enter receiving lakes, streams, ponds, and wetlands. Sediment deposition decreases water depth, degrades water quality, smothers fish and wildlife habitats, and degrades aesthetics. Sedimentation can also cause flooding when it blocks portions of the stormwater system. Suspended sediment clouds water resources and disturbs aquatic habitats.

Sediment is also a major source of phosphorus. Scientific studies show that phosphorus is usually the nutrient limiting algal growth in freshwaters. Therefore, to reduce algal abundance and improve water transparency, it is necessary to reduce phosphorus. Failure to reduce phosphorus concentrations will allow the water body to degrade at an unnatural, accelerated rate.

Human activities can affect the amount of water in water bodies. When too much water enters lakes, ponds, wetlands, and streams, they exceed their storage or conveyance capacity and flood. Flooding has the potential to cause severe damage and property loss. Past and potential future impacts of flooding in the watershed include the following:

- Damage to structures
- Damage to utilities and transportation facilities
- Flood-fighting costs
- Post-flood cleanup costs
- Business losses
- Increased expenses for normal operating and living during a flood
- Benefits paid to owners of flood insurance

Other losses that could be suffered during flooding include a loss of life, disruption of normal activities, potential health hazards from contaminated water supplies, dislodged fuel storage tanks, and flooding of wastewater collection and treatment facilities. Without controls, increased urbanization of a watershed will cause average annual flood damages to increase.

Conversely, a lack of water can have negative effects. Adequate water is important for human enjoyment of the water resources and for maintaining wildlife habitats and fisheries.

Wetlands come in many different shapes, sizes, and types and perform a variety of physical, chemical, and ecological functions. A healthy watershed is one in which wetlands are an integral part of the ecosystem. Human activities can negatively impact wetlands. Excavation, filling, and activities that change the hydrology and the quality of the stormwater flowing into the wetlands can destroy the wetland functions and values.

Groundwater quality and quantity are closely linked to the surface environment. Because most VBWD residents obtain their drinking water from groundwater, it is especially important to ensure that these aquifers are uncontaminated, protected from future contamination, and provide adequate supplies. Several VBWD water bodies are groundwater-dependent and need an adequate supply of clean groundwater to maintain water levels and sustain their natural habitats. Maintaining a clean, safe groundwater supply is critical to human and environmental health and the economic and social vitality of our communities. Many human activities can contaminate groundwater. When groundwater contamination occurs, water suppliers (public and private) experience added financial and social costs to manage the affected water supply.

Organization

These Rules and Regulations comprise 13 Rules. In general, they follow the suggested format of Washington County's 2003 report, "Comparative Review of Watershed District Rules and Recommendations for Standardization." However, some Rules were grouped because the VBWD policies and standards are too inter-related to separate. In other cases, VBWD does not have a specific policy or standard for a topic listed in the Washington County report; therefore, VBWD has no rule on that topic.

Purposes

Policies

1. To support the purposes for which the Valley Branch Watershed District (VBWD) was created.

2. To carry out the vision and mission contained in the VBWD *Watershed Management Plan* (Plan), which are

   VBWD Vision:
   Always be careful stewards of the water resources within our watershed boundaries through the coordinated efforts of the district, its communities, and residents.

   VBWD Mission:
   To manage and protect our water resources within the limits of VBWD jurisdiction: lakes, ponds, creeks, streams, wetlands, drainages, and groundwater by:

   A. Promoting open communication and collaboration with our residents, communities, and pertinent governmental units.

   B. Improving and protecting the quality of surface water groundwater resources.

   C. Managing the quantity of water and minimizing the negative impact on the VBWD from floods, high flows, and droughts.

   D. Understanding and responding to the effects of community growth and related activities on groundwater and surface water resources.

   E. Preserving and enhancing the quantity and quality of wetlands.

   F. Educating and inspiring our residents, communities, and government units to participate in the protection and improvement of water resources.

3. To carry out the policies contained in the VBWD Plan.

4. To coordinate the VBWD's activities with other governmental agencies.

5. To ensure that the water resources are considered, protected, and preserved within the VBWD.

6. To ensure that future regional water management needs are considered in the development of individual subdivisions and other developments and local water management plans.

7. To protect public health, safety, and welfare.

Purpose of Standards

1. To aid the Managers in their review process.

2. To provide the Managers' staff with the criteria for their reviews and recommendations.

3. To inform permit applicants of the criteria against which their proposed developments will be reviewed.

4. To provide the communities with guidelines for the development of local water management plans.

Application

1. General activities that require a VBWD permit:

    A. Land alterations, such as grading or filling (including redevelopment projects), which disturb, remove, or cover surface vegetation or other surfaces of 1 acre or more

    B. All projects which create a new and/or fully reconstructed impervious surface area of 6,000 square feet or more

        Notes:

        i. Pavement, utility, and other projects that alter 6,000 square feet or more of the underlying soils (e.g., soils under a road's sand or gravel base, soils under a building's foundation, etc.) require a VBWD permit and conformance to Rule 2.

        ii. Pavement milling and overlay projects and pavement rehabilitation projects not altering the underlying soils (i.e., soils under the pavement's sand or gravel base) do not require a VBWD permit unless the project involves another activity requiring a VBWD permit.

        iii. Bridges that create 6,000 square feet or more of impervious surface require a permit. Bridge re-decking projects where no other ground is disturbed and the project does not involve another activity requiring a VBWD permit are exempt from needing a VBWD permit. Bridges and bridge replacements creating less than 6,000 square feet of impervious surface require a permit if the project involves another activity requiring a VBWD permit.

    C. All work within the waters and floodplain of the VBWD

    D. All projects which result in a discharge of municipal or industrial water or wastewater to a surface water drainage system

        Note:

        Open-loop geothermal systems are prohibited.

E. All subdivisions, plats, developments, and lot-line modifications

F. All projects which result in lake, stream, wetland, or pond augmentation

G. All projects which impact a wetland

Note:

VBWD is the Local Governmental Unit (LGU) responsible for administering the Wetland Conservation Act (WCA) within the VBWD; the LGU responsible for administering the WCA on state land is the agency with responsibility for the land.

2. A project requiring a VBWD permit must conform to all applicable VBWD Rules and Regulations.

General Policies

1. To implement the purposes of these Rules and Regulations, the Managers intend to do the following:

   A. Assist municipal officials in preparing local watershed management plans and land development guides.

   B. Review permit applications and required supporting documents for activities listed within these Rules and for permit applications filed with the Minnesota Department of Natural Resources under Minnesota Statutes Chapter 103G. The Managers desire to become informed of improvements and land development proposals during the early planning stages. The Managers intend that the communities be the primary vehicles for directing developers to submit proposed improvement plans to the VBWD. The VBWD will review proposed improvements when the appropriate community is aware of the improvement proposal.

   C. Exercise control over proposed developments only to the extent necessary to protect the waters of the VBWD from unreasonable impacts inconsistent with the policies contained in the Plan and these Rules.

   D. Submit the VBWD comments, recommendations, requirements, and all VBWD actions regarding proposed improvements to the communities. All VBWD requirements shall be included in the community permits.

   E. Coordinate the VBWD review with the communities and, when appropriate, with counties, the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and other appropriate local, state, and federal agencies.

2. All permits issued by the VBWD shall remain valid unless: (1) the work is not initiated within 1 year of permit issuance, (2) work is idle for 12-consecutive months, or (3) work is not completed within 3 years of the permit issuance date.

Key Definitions and Acronyms

For the purposes of these Rules, the following words have the meanings set forth below. References in these Rules to specific sections of the Minnesota Statutes include any amendments, revisions, or recodification of those sections.

Agricultural activity – the use of land to produce agronomic, horticultural, or silvicultural crops, including nursery stock, sod, fruits, vegetables, flowers, forages, cover crops, grains, and Christmas trees. Agricultural activity also includes grazing.

Bank application form – a wetland bank application form available from the Minnesota Board of Water and Soil Resources (BWSR).

Best management practices (BMPs) – measures taken to minimize the negative effects on the environment. BMP guidance is documented in "Protecting Water Quality in Urban Areas" (MPCA, 2000), "Metropolitan Council Urban Small Sites Best Management Practices Guidebook" (Metropolitan Council and Barr Engineering Company, 2001), and "Minnesota Stormwater Manual" (MPCA, 2005).

Blow counts – the number of blows per foot of a standard penetration resistance test, as described in American Society for Testing of Materials (ASTM) D1586.

Board of Managers or Managers – the Board of Managers of the VBWD.

Bridge – the portion of a road, highway, railroad, trail, utility, or associated structure that crosses the bed or bank of waters.

BWSR – Minnesota Board of Water and Soil Resources.

Closed-loop geothermal systems – a system that circulates a fluid for heat transfer through pipes or coils buried beneath the land surface and does not discharge the fluid after circulating it through the pipes or coils.

Complete permit application – a complete and signed VBWD permit application form; the VBWD permit fee; a Runoff Water Management Plan showing the features and information required by the Watershed Management Plan and these Rules; computations, agreements, and documentation required by these Rules; a wetland delineation report or documentation prepared by a wetland scientist indicating there is no wetland on the site; all necessary wetland forms and information; and an erosion control plan.

CWPA – Combined Wetland Permit Application

Criteria – specific details, methods, and specifications that apply to all permits and reviews and guide implementation of the VBWD's goals and policies.

Day or days – working days when used in a period of 15 days or less and calendar days when used in a period greater than 15 days. The day of the event shall not be used in counting any time period.

Development – any proposal to subdivide land, land-disturbing activity, redevelopment affecting land, or creation of impervious surface including, but not limited to, road construction or

reconstruction or improvement and construction or reconstruction of stormwater conveyance systems.

Developed site – see ultimate development.

Drainage system – those features of the watershed such as lakes, ponds, streams, and waterways that contain and convey waters of the VBWD.

Drainageway or waterway – any natural or artificial channel providing a course for water flowing continuously or intermittently.

DNR – Minnesota Department of Natural Resources.

Excavation – the displacement or removal of soil or other material.

Existing conditions – current conditions of the site.

Floodplain – the area adjoining a watercourse or natural or constructed water basin, including the area around lakes, wetlands, stormwater ponds, lowlands, and intermittent and perennial streams that are inundated by the 100-year 24-hour rainfall event, the 10-day 100-year snowmelt event, or as calculated using the VBWD's simplified method for landlocked basins. See Rule 5.

Flowage easement – an easement held in public ownership to reserve areas along waterways and around storage sites, and around or along other parts of the drainage systems for the passage or retention of waters, construction of drainage improvements, and maintenance.

Fully reconstructed impervious surface – areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects, and pavement rehabilitation projects that do not alter underlying soil material beneath the structure, pavement, or activity are not considered fully reconstructed impervious surfaces. In addition, other maintenance activities such as catch-basin and pipe replacements shall not be considered fully reconstructed impervious surfaces. Reusing an existing building foundation and re-roofing an existing building are not considered fully reconstructed.

Hydrologic soil group – a term used in soil surveys that refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of bare soil to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors used in predicting runoff. Soils are assigned to four groups (Groups A, B, C, and D). Group A soils have a high infiltration rate when thoroughly wet and low runoff potential. They are mainly deep, well-drained, and sandy or gravelly. At the other extreme, Group D soils have a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained. See the Soil Survey of Washington and Ramsey Counties.

Impervious surface – a surface that has been compacted or covered with a layer of non-porous material (including buildings/structures, lined wet ponds, etc.) or is likely to become compacted from expected use so that it is highly resistant to infiltration by water. Compacted aggregate roads and road shoulders are impervious surfaces.

Infeasible – not technologically possible or not economically practicable and achievable in light of the best industry practices in the VBWD's determination.

Kelle's Coulee watershed – all land that ultimately drains to Kelle's Coulee (sometimes called Kelle's Creek), including areas that are typically landlocked but would overflow to Kelle's Coulee.

Lake Edith watershed – all land that ultimately drains to Lake Edith, including areas that are typically landlocked but would overflow to Lake Edith.

Linear project – a project in a linear corridor, such as a roadway, sidewalk, trail, rail line, or utility, which is not a component of a larger development or redevelopment project.

LGU – local government unit.

Local Watershed Management Plan – a comprehensive local water management plan pursuant to Minnesota Statutes, sections 103B.235.

Lot – a parcel of land designated by plat, metes and bounds, registered land survey, auditor's plot, or other accepted means and separated from other parcels or portions by the description for the purpose of sale, lease, or separation.

Lot line – property line bounding a lot, except that where any portion of a lot extends into a public right-of-way or a proposed public right-of-way, the line of the public right-of-way shall be the lot line.

Minimum building elevation – the elevation of the lowest floor of the building.

MNRAM 3.0 – Minnesota Routine Assessment Method for Evaluating Wetland Functions, Version 3.0 (MNRAM 3.0) or updated versions.

MPCA – Minnesota Pollution Control Agency.

Municipality – any city or township wholly or partly within the VBWD.

Normal water elevation – the long-term average water level.

Notice of Decision – Notice of Wetland Conservation Act decision, a completed form provided by BWSR or similar.

NPDES – National Pollutant Discharge Elimination System, a federal stormwater regulation program administered by the MPCA.

NPDES Construction Stormwater Permit – a permit program administered by the MPCA (incorporates by reference Minnesota Rules 7090.0060), which is officially called General Permit Authorization to Discharge Storm Water Associated with Construction Activity Under the National Pollutant Discharge Elimination System/State Disposal System Permit Program.

Open-loop geothermal system – a system that circulates a fluid for heat transfer through pipes or coils buried beneath the land surface and discharges the fluid, often over land or to a lake, wetland, ditch, or stream, after circulating the fluid through the pipes or coils.

Ordinary high water level (OHW or OHWL) – an elevation associated with a water body determined by the DNR and used to determine DNR jurisdiction. In general, it is the elevation delineating the highest water level that has been maintained for a sufficient time to leave evidence upon the landscape. The ordinary high water level is commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses, the OHW is typically the elevation of the top of the channel's bank. The OHW does not correlate to a 100-year, 50-year, 10-year, or any other flood level.

Parcel – any land area capable of being described with such definiteness that its location and boundaries may be established.

Person – an individual, firm, partnership, association, corporation, limited-liability company, municipal corporation, city, village, county, town, school district, state agency, or other political subdivision of Minnesota.

Plan – VBWD's 2015–2025 *Watershed Management Plan* (Plan) or as amended, revised, updated, replaced, or superseded.

Plats – maps of a subdivision showing the location and boundaries of individual parcels of land subdivided into lots, with streets, easements, etc., drawn to a scale.

Proposed conditions – see ultimate conditions.

Public health, safety, and welfare – extends to and includes any act or thing intending to improve or benefit or in any way affect the general public either as a whole or as to a particular community or part thereof. This definition is to be construed liberally to give meaning and effect to the goals and purposes of the VBWD and statutes and ordinances relating to floodplain management and shoreland use.

Rate of runoff – the amount of runoff per unit of time for a given storm event, often expressed as cubic feet per second (cfs).

Reconstruction – the rebuilding, repair, or alteration of a structure, surface, or facility.

Rules – the Rules and Regulations of the VBWD.

Runoff – the amount of excess precipitation or snowmelt that is not permanently stored in depressional areas or infiltrated into the soil.

SCS – Soil Conservation Service, now called the Natural Resource Conservation Service.

SDS – State Disposal System.

Sequencing – the process of demonstrating that a proposed wetland activity will comply with the principles of the Wetland Conservation Act. The process is called sequencing because there is a specific order of priorities in the Wetland Conservation Act. See Minnesota Rules 8420.0520.

Standards – a preferred or desired level of quantity, quality, or value.

Storage site – an area that is reserved for holding water.

Stream – perennial (streams that flow throughout the year, such as portions of Valley Creek) and intermittent streams (streams that flow during/after a snowmelt or rain event). Longer intermittent streams are identified in Section 4.4 of the 20015–2025 VBWD *Watershed Management Plan*.

Structure – anything constructed or placed on the ground and intended to remain for longer than a brief, temporary period of time.

Subdivision, subdivide – the separation of an area, parcel, or tract of land under single ownership into two or more parcels, tracts, or lots.

Surface water drainage system – those natural or artificial features of the watershed such as lakes, ponds, wetlands, streams, waterways, and storage sites that contain and convey and/or manage waters of the VBWD.

Swede Hill Creek watershed – all land that ultimately drains to the St. Croix River, including typically landlocked areas, within the City of Afton and VBWD and not within the Valley Creek, Lake Edith, or Kelle's Coulee watersheds.

TEP – Technical Evaluation Panel.

Ultimate development – the level of development as proposed in a permit application and/or the future development as proposed in a city, township, or county comprehensive land-use plan.

Valley Creek watershed – all land that ultimately drains to Valley Creek, including areas that are typically landlocked but would overflow to Valley Creek.

VBWD – Valley Branch Watershed District

Vegetative buffers - zones of undisturbed vegetation, preferably native vegetation, adjacent to lakes, streams, and wetlands.

Volume of runoff – the amount of stormwater runoff in cubic units, often noted as acre-feet.

Watercourse – a channel that has definable beds and banks capable of conducting confined runoff from adjacent land.

Waters – a watercourse or a natural or constructed water basin, including the area around lakes, wetlands, stormwater ponds, lowlands, and intermittent and perennial streams

Watershed – an area bounded peripherally by a drainage divide, which collects precipitation and contributes runoff to a particular drainage system.

Watershed Management Plan (Plan) – the VBWD's 2005–2015 *Watershed Management Plan* or as amended, revised, updated, replaced, or superseded.

WCA – Wetland Conservation Act.

WCA Rules – Minnesota Board of Water and Soil Resources (BWSR) Minnesota Rules Chapter 8420, as amended.

Wetland – any area identified as a wetland under Minnesota Statutes section 103G.005, subdivision 19.

Wetland Conservation Act – The Minnesota Wetland Conservation Act of 1991 (Minnesota Laws 1991, chapter 354, and subsequent amendments).

Wetland functions – a process or series of processes within a wetland. These include the storage of water, transformation of nutrients, growth of living matter, and wetland plant diversification. These functions have value for the wetland itself, for surrounding ecosystems, and for people. Functions are typically grouped broadly as habitat, hydrologic, or water quality.

Wetland impact – a measurable or predictable change to the wetland's size, quality, or biological diversity.

Wetland Replacement Plan – A plan (conforming to Minnesota Rules 8420) for replacing wetland values where avoidance of activity is not feasible and prudent.

Wetland values – the benefits wetland functions provide to people.

Required Submittals and Exhibits

The VBWD requires submittals for all projects within the VBWD that require a VBWD permit. The submittals must accompany the permit application and show how the project conforms to the requirements in these Rules and Regulations and the VBWD Watershed Management Plan. **Electronic submittal of all documents and models is strongly encouraged.**

The following submittals and exhibits must be submitted for all projects within the VBWD that require a VBWD permit:

1. **A completed and signed permit application form**
2. **Evidence of ownership for the project site**
3. **The required permit application fee (see Rule 11)**
4. **Grading plan/mapping exhibits**

   Electronic copies of the plans must be submitted. The plans shall be prepared by a registered professional engineer and shall include the following:

   A. Property lines and delineation of lands under ownership of the applicant.

   B. Delineation of the subwatersheds contributing runoff from off-site, proposed, and existing on-site subwatersheds and flow directions/patterns.

   C. Location, alignment, and elevation of proposed and existing stormwater facilities

   D. Delineation of existing on-site wetlands, shoreland, and/or floodplain areas (including any buffers).

   E. Existing and proposed normal water elevations and the critical (the highest) water level produced from the 100-year 24-hour storms, the 100-year 10-day snowmelt event, or the VBWD simplified method for landlocked basins or an approved alternative for all on-site wetlands, ponds, depressions, lakes, streams, and creeks (see Rule 5).

   F. Ordinary high water (OHW) elevations and datum, as determined by the DNR (if applicable).

   G. Existing and proposed site contour elevations related to NAVD 1988 datum (preferred) or NGVD 1929. Datum must be noted on exhibits.

   H. Soil management and restoration plan, including but not limited to the specifications for the amount of compost and/or topsoil to be imported, plans showing areas where each soil treatment/decompaction option will be applied, and plans of any stockpiling or staging areas. Note: A greater volume-control amount is

required on certain sites if an appropriate soil management and restoration plan is not submitted to and approved by VBWD.

I. Locations of soil borings.

J. The assumed impervious surface for each parcel.

K. Drainage easements covering land adjacent to ponding areas, wetlands, and waterways up to their 100-year flood levels and covering all ditches and storm sewers. Access easements to these drainage easements and to other stormwater management facilities shall also be shown. Drainage easements are not required for land in public right-of-way or outlots that will be owned by a Municipal Separate Storm Sewer System operator.

L. Minimum building elevation for each lot.

M. Identification of downstream water body or waterbodies.

5. **Hydrologic/hydraulic design exhibits**

A. Electronic files of the following shall be submitted. The calculations shall be prepared by a registered professional engineer.

B. All hydrologic and hydraulic computations completed to design the proposed stormwater management facilities shall be submitted. Model summaries must be submitted. The summaries shall include a map that corresponds to the drainage areas in the model and all other information used to develop the model. Soil boring logs shall be submitted.

C. A table (or tables) must be submitted showing the following:

i. A listing of all points where runoff leaves the site and the existing and proposed stormwater runoff rates and volumes.

ii. A listing of the normal water levels under existing and proposed conditions and the water levels produced from the storm and runoff events listed above for all on-site wetlands, ponds, depressions, lakes, streams, and creeks.

6. **Erosion control and sedimentation prevention exhibits (see Rule 3)**

A. Electronic copies shall be submitted. Plans shall show how waterborne sediment will be prevented from leaving the site during and after construction to prevent sedimentation of downstream water bodies. The plans shall include a construction sequencing schedule.

B. A copy of the Stormwater Pollution Prevention Plan (SWPPP), prepared by a qualified individual, which conforms to the MPCA's NPDES Construction Stormwater Permit requirements. The NPDES permit requirements cover both temporary and permanent erosion-prevention and sediment-control measures and apply to all construction projects that disturb 1 or more acres of land. When applicable, the

SWPPP must conform to the special requirements for "Special Waters" (Valley Creek and the St. Croix River). The SWPPP shall also show how erosion will be prevented during construction on individual building sites. Any applicable local standards shall be incorporated into the plan.

7. **Construction plans for all proposed stormwater management facilities.** Construction specifications must be provided upon request.

8. **A maintenance agreement in the format of Appendix A,** as revised and updated by the VBWD Attorney.

9. **A chloride management plan, if applicable (see Rule 2).** Note that Municipal Separate Storm Sewer System operators who have Winter Road Materials (salt) Management Plans are exempt from this requirement.

10. **An electronic copy of the Wetland Delineation Report**, which also must include a summary of the MnRAM evaluation (Minnesota Routine Assessment Method for Evaluating Wetland Functions, Version 3.0 or updated versions) or updated functional assessment methodology evaluation, and classification determination according to VBWD's wetland management classification system (see Rule 4).

11. **An electronic copy of Part 1 of the Combined Wetland Permit Application (CWPA)** for all projects proposing to alter wetlands, which may not require wetland replacement (see Rule 4).

12. **Electronic copy of the Wetland Replacement Plan, including Parts 1 and 2 of the CWPA**, for all projects requiring wetland replacement (see Rule 4).

13. **Draft Declaration of Covenants** that lists the VBWD-required minimum floor elevations.

14. **Other exhibits required by or to show conformance to these Rules and Regulations.**

Permit Application Process

1. The VBWD Engineer must receive from the applicant a complete permit application, all necessary supporting documents, and the permit application fee 14 calendar days before a meeting at which the application is to be considered. Supporting documentation must include the deed of ownership for the project site. If the permit applicant does not yet own the property, a preliminary VBWD permit can be issued but will not be effective until the VBWD receives the proof that the permit applicant owns the property. For projects involving wetland impacts, the complete permit application, all necessary supporting documents, and the permit application fee must be received at least 60 days before a meeting at which the application is to be considered.

2. The VBWD Engineer will review each permit request with respect to VBWD policies and criteria.

3. The VBWD Engineer will notify the applicant concerning the following:

    A. Applicable VBWD criteria and policies

    B. Additional required information where necessary with copies to the appropriate community and other concerned agencies

4. The VBWD Engineer will place the development proposal on the VBWD Managers' meeting agenda when all the required information is received and all VBWD policies are met or when a variance is requested and supporting written documentation is submitted. The Engineer will then submit a written report to the Managers at least 2 days prior to the Managers' meeting.

5. The issuance or denial of a permit shall be based on the policies contained in the 2015–2025 VBWD *Watershed Management Plan* and these Rules and Regulations.

6. The Managers will act on a complete permit application within 60 days of receipt or as required by the Rules of the Wetland Conservation Act.

7. The granting of a VBWD permit in no way purports to permit acts that may be prohibited by other governmental agencies.

8. The required surety (see Rule 14) must be submitted before the commencement of any permitted activities.

Enforcement and Severability

1. The VBWD may exercise all powers conferred upon it by Minnesota Statutes, Chapter 103, in enforcing these Rules and Regulations.

2. If, for any reason, a section or subdivision of these Rules and Regulations should be held invalid, such a decision shall not affect the validity of the remaining Rules and Regulations.

3. These Rules and Regulations shall conform to Minnesota law. If inconsistent therewith, the latter shall govern, and these Rules and Regulations will be amended accordingly.

Appellate Procedure and Review

1. Any person aggrieved by enforcement of these Rules and Regulations or by any Order of the VBWD may appeal following the appellate procedure and review as provided in Minnesota Statutes Chapter 103D.

Amendment Procedure

1. Any person may petition the Managers for the purpose of amending or changing these Rules and Regulations.

2. The Managers may initiate changes or amendments to these Rules and Regulations.

3. All changes and amendments to these Rules and Regulations, whether initiated by the Managers or by any other person, will require a majority vote of the Managers.

Permit Closeout

1. The Managers will certify completion of a permitted project or element of the project and authorize the release of any required security upon inspection and electronic submittal of information verifying completion of that project or an element of that project under the approved plans and conditions of the permit. For consideration of permit closeout or a reduction in the security amount, the permit holder must (1) provide proof that all required documents have been recorded (including but not limited to easements) and (2) provide record drawings in electronic format at least 14 calendar days before a meeting at which completion is to be considered. For consideration of completion of an element of a project (partial completion), the permit holder must provide documented proof that all components of the completed project are built according to the approved plan, which may include recording of documents (including but not limited to easements) and record drawings.

   The record drawings must include the following:

   A. The surveyed bottom elevations, water levels, and general topography of all basins

   B. The size, type, and surveyed invert elevations of all pond outlets

   C. The surveyed elevations of all pond, street, and other emergency overflows

   D. Other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety

   E. The surveyed minimum floor elevations and low building opening elevations of constructed structures

   F. The required minimum floor elevations for all lots and unbuilt structures

   G. The locations and elevations of any constructed septic systems

2. All surveys must be certified by a Minnesota registered land surveyor.

3. The permit holder must provide documentation that constructed infiltration facilities perform as designed. Methods to document infiltration performance must be approved by the VBWD Engineer before documentation. Available options for documentation include the following:

   A. Time- and date-stamped photographs showing that the infiltration basin drains dry within 48 hours (or 24 hours, if required) after a natural precipitation event, approximately equivalent to the design storm

   B. Double-ring infiltrometer tests or other field tests approved by the VBWD Engineer before the testing

4. Once submission of the chloride-management plan according to Rule 2, Standard 15, if applicable, is received by the VBWD, the VBWD will return the corresponding surety.

5. The Managers will not release the permit holder's remaining fee and performance bond or other surety until all information is submitted, all temporary erosion prevention and sediment controls (such as silt fence) are removed, and stormwater ponds and pipes are free of sediment. No activity will be certified as complete if there are any unpaid fees or other outstanding permit violations.

Rule 2: Stormwater Management

Policies

1. To carry out the responsibility of managing the VBWD's water resources and to implement the goals and policies of the VBWD Plan, the Managers must be informed of all water and wastewater discharges within the VBWD. This includes stormwater runoff, municipal and industrial wastewater discharges, lake augmentation, and any discharge that requires a National Pollutant Discharge Elimination Program (NPDES) permit.

2. All discharges and related improvements must conform to the applicable requirements of state and federal agencies including, but not limited to, Minnesota Rules Chapter 8410, MPCA stormwater permit requirements, and DNR permit requirements.

3. All stormwater discharges must be in general conformance with the VBWD Plan and local watershed management plans.

4. All discharges and related improvements, including those from municipal or industrial water or wastewater or utilities or soil or groundwater remedial actions, shall not unreasonably raise water levels or degrade the water quality of the waters of the VBWD.

5. Discharges from open-loop and closed-loop geothermal systems to the land or surface waters of VBWD are prohibited. Therefore, open-loop geothermal systems are prohibited.

6. **Rate control:** Stormwater and snowmelt runoff rates will be managed, so that future peak rates of runoff crossing community boundaries and/or leaving a development are below or equal to existing rates.

7. **Volume control:** Stormwater volume will be controlled to protect surface water and groundwater quantity and quality.

8. **Water quality**

    A. All stormwater runoff will be treated at the time of development.

    B. Developers are encouraged to try new and innovative stormwater management techniques.

    C. The VBWD will work with local government units to adopt/revise ordinances to allow for runoff pollution prevention methods (e.g., narrower streets and smaller parking lots).

    D. Projects and development plans will be reviewed to evaluate compliance with VBWD standards.

    E. Other public agencies will be required to conform to VBWD stormwater quality requirements.

F. Local watershed management plans will be reviewed for compliance with the VBWD Plan.

9. To ensure long-term maintenance and future protection of water resources, VBWD requires that land used for stormwater management facilities needed to conform to these rules be preserved by dedication and/or perpetual easement to the VBWD or to a Municipal Separate Storm Sewer System operator.

10. Submittals for VBWD-permitted projects must show how the project will meet VBWD requirements for stormwater quality treatment, stormwater rate and volume management, and erosion control.

Standards

1. Any permitted activity shall meet the management policies, standards, and criteria set forth in the VBWD Plan.

2. The permit applicant must comply with the requirements of the NPDES Construction Stormwater Permit. For trout streams (projects within the Lake Edith and Valley Creek watersheds), these requirements include temperature-control measures ranging from minimizing impervious surfaces (most preferred) to special pond designs.

3. The permit applicant shall complete analyses of stormwater runoff volumes and rates and flood levels for existing and proposed conditions. Analyses must include the 2-year, 10-year, and 100-year 24-hour storms with VBWD-approved time distribution; the 100-year 10-day snowmelt event; and the VBWD simplified method for landlocked basins (or an approved alternative). Section 4.5 of the VBWD Plan and Rule 5 provide more information about the VBWD simplified method and floodplain management requirements for permit review in general.

4. The following computer programs and calculators will be accepted: HydroCAD, XP-SWMM, MIDS Calculator, and Valley Branch Watershed District Reuse Calculator. Other programs and calculators may be accepted, but the permit applicant must inquire before submitting the computations. Reservoir routing procedures and critical duration runoff events shall be used for the design of detention basins and outlets.

5. The peak rate of stormwater runoff from the developed site shall not exceed the existing peak rate of runoff for all critical duration events, up to and including the 100-year-return-frequency storm event for all points where discharges leave a site during all phases of development. Design criteria shall be the 2-, 10-, and 100-year 24-hour storms with respective 2.8, 4.2, and 7.3-inch rainfall depths with VBWD-approved time distribution and the 7.2-inch 100-year 10-day snowmelt event. The runoff curve number for existing agriculture areas shall be less than or equal to the developed condition curve number. If storm sewer systems are designed for an event less than a 100-year event, the plans and computer modeling analyses must include secondary overflows for events exceeding the storm sewer system's level of service up through the critical 100-year event.

6. The stormwater runoff volume must be controlled at all points where discharges leave a site. The VBWD design standards for controlling stormwater runoff volumes are the following:

    A. **New, nonlinear developments and reconstruction/redevelopment projects:** For new, nonlinear developments and reconstruction/redevelopment projects that create a total of 6,000 square feet or more of new and fully reconstructed impervious surface area on sites without restrictions, stormwater runoff volumes must be controlled. The post-construction runoff volume shall be retained onsite for 1.1 inches of runoff from the total of the new and fully reconstructed impervious surface areas. In other words, the volume retained shall be 1.1 inches times the total of the new and fully reconstructed impervious surface area without any abstractions/losses.

    New, nonlinear developments and reconstruction/redevelopment projects without restrictions that (1) disturb 10 acres or more and (2) create 1 acre or more of impervious surface must be designed for an additional 0.2 inches times the impervious surface area (i.e., 1.3 inches times the impervious surface area)—unless the plan specifies a VBWD-approved method to restore soil structure over at least 50% of the remaining pervious areas disturbed by the project.

Table 1

Summary of Volume Control Requirement for New, Nonlinear Developments and Reconstruction/Redevelopment Projects without Restrictions

Scenario	Volume Control Requirement
Total new and fully reconstructed impervious surface area will be 6,000 square feet or more	The volume retained shall be 1.1 inches times the total of the new and fully reconstructed impervious surface area without any abstractions/losses. Retention Volume = (New + Fully Reconstructed Impervious Surface Area) * 1.1 inches
Impervious surface area will increase by 1 acre or more and 10 acres or more of land will be disturbed and Soil structure of at least 50% of project's disturbed, remaining pervious area will not be restored	The volume retained shall be 1.1 inches times the total of the new and fully reconstructed impervious surface area without any abstractions/losses plus 0.2 inches times the net increase in impervious surface area. Retention Volume = ((New + Fully Reconstructed Impervious Surface Area) * 1.1 inches) + ((Net Impervious Surface Area Increase) * 0.2 inches)

B. **Linear projects:** Linear projects (roadways, sidewalks, and trails) without restrictions and not part of another development that create a total of 6,000 square feet or more of new and fully reconstructed impervious surfaces shall capture and retain the larger of the following:

- 0.55 inches of runoff from the new and fully reconstructed impervious surfaces
- 1.1 inches of runoff from the net increase in impervious area

i. Linear projects creating more than 6,000 square feet and less than 1 acre total of new and fully reconstructed impervious surfaces:

Costs specific to satisfying the volume reduction and water quality standards need not exceed a cost cap which will be set by resolution of the Board. The cap shall apply to costs directly associated with the testing, land acquisition, and construction of the stormwater runoff volume control and stormwater runoff quality treatment facilities only. Unit costs for construction shall be used to determine the cost of the volume control and water treatment facilities and must be reviewed and approved by the VBWD. The VBWD may contribute an amount above the cap in order to meet the volume control and water treatment standards or it may allow the applicant to partially comply with the standards when the cap is met. If volume control is partially achieved due to the cost cap, rate control requirements must still be met at any given time of the project.

ii. Linear projects located in a VBWD subwatershed of a water that is not impaired from excessive nutrients nor turbidity:

Projects that fully reconstruct less than 1 acre of impervious surfaces are exempt from VBWD stormwater runoff volume and rate control requirements. Projects creating 6,000 square feet or more of new impervious surfaces must comply with all rules or meet other exemptions.

C. **Sites with restrictions:** In compliance with the MPCA, infiltration systems are prohibited for sites creating 1 acre or more of impervious surface in areas:

i. That receive discharges from vehicle fueling and maintenance areas, regardless of the amount of new and fully reconstructed impervious surface.

ii. Where the infiltrating stormwater may mobilize high levels of contaminants in soil or groundwater. To make this determination, the VBWD permit applicant must complete the MPCA's sites screening assessment checklist, available in the "Minnesota Stormwater Manual," or conduct their own assessment. The assessment must be retained with the site plans.

iii. Where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour.

iv. With less than 3 feet of separation from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.

v. With predominately Hydrologic Soil Group D (clay) soils.

vi. That are Emergency Response Areas (ERAs) within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, Subp. 13, classified as "high" or "very high" vulnerability as defined by the Minnesota Department of Health.

vii. That are in an ERA within a DWSMA classified as "moderate" vulnerability unless the VBWD permit applicant performs and the VBWD approves a higher level of engineering review sufficient to provide a functioning treatment system and prevent adverse impacts to groundwater. (See reference to "higher level of engineering review" in the "Minnesota Stormwater Manual" for more information.)

viii. Outside of an ERA within a DWSMA classified as "high" or "very high" vulnerability unless the VBWD permit applicant performs and VBWD and the well owner approve a higher level of engineering review sufficient to provide a functioning treatment system and prevent adverse impacts to groundwater.

ix. Within 1,000 feet upgradient or 100 feet downgradient of active karst features.

x. That receive runoff from industrial facilities listed in the NPDES Construction Stormwater Permit (e.g., automobile savage yards; scrap recycling and waste recycling facilities; hazardous waste treatment, storage, or disposal facilities; or air transportation facilities that conduct deicing activities).

D. If a site has restrictions listed above where infiltration is infeasible or not advised, as established by the applicant and agreed upon or determined by the VBWD, the applicant must follow these flexible treatment options, as summarized in the design sequence flow chart in Appendix B. The VBWD must agree to any flexible treatment option.

i. The project must provide the required volume control onsite through a different mechanism than infiltration.

ii. If the total required amount of onsite volume control is infeasible as determined by the applicant and confirmed by the VBWD, the project must provide a total equivalent volume control through onsite and offsite facilities that protects the same receiving water as if the total

required volume control was provided onsite. Offsite treatment projects should be completed before new impervious surfaces are created and no later than 24 months after the start of the original construction activity. Offsite treatment projects must involve the creation of new structural stormwater treatment practices or the retrofit of existing structural stormwater treatment practices.

iii. In all cases, the increased runoff volume from the site must not increase the 100-year flood level of a downstream stream by 0.5 foot and lakes, ponds, storage sites, and lowlands by 0.1 foot. For landlocked basins, the impact will be determined using the VBWD simplified method (Rule 5, Standard 1.D.) or another method agreed to by the VBWD.

iv. If the total volume control required is infeasible onsite and offsite in a location that protects the receiving water as determined by the applicant and confirmed by the VBWD:

    1. The permit applicant must first attempt to design the site to achieve retention of at least 0.55 inches of runoff from the total of the new and fully reconstructed impervious surfaces and remove 75% of the annual total phosphorus load leaving all points on the site. Options considered and presented shall examine the merits of relocating project elements to address varying soil conditions and other constraints across the site.

    2. If the project cannot achieve the standards listed in Standard 6.D.iv.1 above, the project shall achieve volume reduction to the maximum extent practicable and remove 75% of the annual total phosphorus load from the total of the new and fully reconstructed impervious surfaces leaving all points on the site. Options considered and presented shall examine the merits of relocating project elements to address varying soil conditions and other constraints across the site.

    3. If the project cannot achieve the standards listed in Standard 6.D.iv.2 above, the project shall achieve volume reduction to the maximum extent practicable and remove 60% of the annual total phosphorus load from the total of the new and fully reconstructed impervious surfaces leaving all points on the site. Options considered and presented shall examine the merits of relocating project elements to address varying soil conditions and other constraints across the site.

v. Offsite mitigation (including banking or cash or treatment on another project) will be considered by the VBWD on a case-by-case basis. In all cases, the receiving water shall be protected. Offsite treatment projects should be completed before new impervious surfaces are created and no later than 24 months after the start of the original construction activity.

vi. See hydrologic guidelines in Rule 4, Standard 5 for additional volume control requirements for sites draining to wetlands.

E. **Additional stormwater volume requirements and design standards**

i. Sites within the Valley Creek and Lake Edith watersheds ultimately drain to a trout stream and must comply with the MPCA NPDES Construction Stormwater Permit standards.

ii. Infiltration facilities must drain down within 48 hours, as required by the MPCA NPDES Construction Stormwater Permit. For sites within the Valley Creek, Lake Edith, Kelle's Coulee, and Swede Hill Creek watersheds, infiltration facilities must drain down within 24 hours, as required by the MPCA Construction Stormwater Permit. For stormwater-volume-control management facilities aboveground with vegetation (e.g., bioretention basins), the period of inundation shall be calculated using the depth between the surface discharge elevation and the bottom of the facility and the soil infiltration rate. The maximum water depth for stormwater-volume-control management facilities aboveground with vegetation (e.g., bioretention basins) is 1.5 feet.

iii. Infiltration facilities should be located in permeable soils. Per the MPCA NPDES Construction Stormwater Permit, a minimum 3-foot distance is required from the bottom of the practice to the seasonally high water table, bedrock, or other impeding layer.

iv. Infiltration facilities must conform to the minimum setbacks required by the Minnesota Department of Health, as summarized below:

Table 2

Minimum Setbacks for Infiltration Facilities[1]

Setback from	Minimum Distance (feet)	Recommended or Required
Building/Structure/Property Line	10 (with slopes directed away from building)	Recommended
Public Supply Well	300 if treating an average of 10,000 gallons per day 100 for sensitive wells 50 for others	Required
Septic System Tank/Septic System Soil Treatment Area	35	Recommended
Toe of slope >= 20%	200	Recommended

v. Infiltration facilities shall be designed for their entire contributing drainage areas. If the contributing drainage area includes more impervious surface area than the proposed project, a diversion structure or flow splitter may be needed. In all cases, the period of inundation of an infiltration facility must not exceed the required time, as calculated in Standard E, above. Proof that the infiltration facility drains dry within the required time is required before VBWD closes the permit.

vi. Overflows from infiltration facilities shall be directed away from septic systems and overflow elevations shall be lower than the operation elevation of the septic system components (e.g., tanks, soil treatment areas).

vii. For an infiltration facility with a tributary area of 2 or fewer acres and less than 0.7 acres of impervious surfaces, at least 50% of the in-flow volume from impervious surfaces must be pretreated before entering the feature. Pretreatment can include vegetative swales, filter strips, sediment forebays/traps, grit chambers, or other measures.

[1] Minnesota Stormwater Manual Summary of horizontal and vertical setback distances - Minnesota Stormwater Manual (state.mn.us) "Leachfield" changed to Washington County terminology.

Pretreatment practices shall be designed according to the "Minnesota Stormwater Manual."

viii. For an infiltration facility with a tributary area greater than 2 acres or 0.7 acres or more of impervious surfaces, 100% of the in-flow volume from impervious surfaces must be pre-treated before entering the feature. Pretreatment for these facilities must be designed to remove at least 25% of the inflow sediment loads. Pretreatment practices shall be designed according to the "Minnesota Stormwater Manual."

ix. For proposed infiltration facilities with drainage areas of 2 acres or more or 0.7 acres or more of impervious surfaces, at least one soil boring with blow counts will be required. The number of borings shall be as listed in the following table or as amended in the "Minnesota Stormwater Manual."

Table 3

Required Soil Borings

Surface Area of Infiltration Facility (ft^2)	Number of Borings
<1,000	1
1,000 to 5,000	2
5,000 to 10,000	3
10,000 to 12,500	4
>12,500	For infiltration facilities with surface areas greater than 12,500 ft^2, an additional soil boring shall be completed for each additional 2,500 ft^2.

Soil borings must go to a depth of at least 5 feet below the proposed bottom of the infiltration facility. If fractured bedrock is suspected, the soil boring should go to a depth of at least 10 feet below the proposed bottom of the infiltration facility. The soils will be classified using the Unified Soil Classification system. The least permeable soil horizon will dictate the infiltration rate. Additional borings, deeper borings, and geotechnical reports or investigations may be required at VBWD's discretion, particularly in areas of suspected karst or where initial borings indicated concern for bedrock, groundwater, or other environmental factors. Further investigation may include borings at least 50 feet below the proposed bottom of the infiltration facility.

x. The permit applicants are encouraged to make detailed analyses and accurately determine the infiltration rates of the proposed infiltration facility. However, in the absence of a detailed analysis, the VBWD Engineer's recommendations and requirements shall be based upon the following rates for aboveground infiltration facilities:

Table 4

VBWD Soil Infiltration Rates

Proposed Infiltration Facility with Drainage Area Less than 2 Acres and Less than 0.7 Acres of Impervious Surfaces	
Hydrologic Soil Group Based on Soil Survey	**Infiltration Rate (inches/hour)**
A	0.8
B	0.3
C	0.2
D	Infiltration is infeasible or unlikely to be successful without soil corrections. See Standard 6D, Sites with Restrictions.
Proposed Infiltration Facility with Drainage Area 2 Acres or More or 0.7 Acres or More of Impervious Surfaces	
Unified Soil Classification	**Infiltration Rate (inches/hour)**
GW[1], GP[1], SW, GM[2]	1.63
SP	0.8
SM[2]	0.45
All Others	Infiltration is infeasible or unlikely to be successful without soil corrections. See Standard 6D, Sites with Restrictions.

[1] Field measurements shall be performed to verify the infiltration rate is not faster than 8.3 inches/hour when soil borings indicate GW and GP soils.

[2]The VBWD highly recommends that GM and SM soils be collected and analyzed by a laboratory to determine the appropriate infiltration rate.

7. The design infiltration rate for underground infiltration facilities shall not exceed half of the above rates because these systems cannot be easily monitored and maintained.

8. An infiltration facility must be designed to safely convey volumes in excess of the design volume into the downstream stormwater system.

9. The proposed infiltration facility must be staked off and marked during construction to prevent heavy equipment and traffic from traveling over it and subsequent soil compaction.

If infiltration facilities are in place during construction activities, sediment and runoff must be kept from the facility, using practices such as diversion berms and vegetation around the facility's perimeter. Infiltration facilities must not be excavated to final grade until the contributing drainage area has been constructed and fully stabilized. The final excavation phase should remove all accumulated sediment and be done by light tracked equipment to avoid compaction of the basin floor. The soils of the basin floor should be loosened to a depth of at least 3 feet before planting to provide a well-aerated, highly porous surface. For sites where blow counts exceed 10 per foot, the soil of the basin floor should be loosened to a depth of at least 5 feet before planting. The upper 10 inches of soil should also be tilled before planting. When the separation distance between the bottom of the infiltration practice to the top of bedrock or high water table is a controlling factor, alleviating compaction shall be as recommended in the "Minnesota Stormwater Manual."

10. When stormwater runoff is captured and used for irrigation to satisfy this rule, the following are required:

    A. A map of the area to be irrigated shall be submitted with the application. This area must be preserved by dedication and/or perpetual easement to the VBWD, as specified elsewhere in these rules. If public land, including public right-of-way, will be irrigated, documentation that the public entity agrees to the irrigation shall be submitted in lieu of preserving the land by dedication and/or perpetual easement to the VBWD.

    B. Areas that will not be irrigated cannot be included in the calculations. Irrigation is prohibited on hard surfaces (e.g., sidewalks, parking lots, driveways) and slopes steeper than 4 feet horizontal to 1 foot vertical (4H:1V).

    C. The most recent Ramsey-Washington Metro Watershed District Reuse Calculator, or its equivalent, must be used as approved by the VBWD.

    D. If a constructed stormwater pond is used to draw irrigation water, the "Minnesota Stormwater Manual" design guidelines and requirements shall be followed. Impermeable liners shall be used at ponds used as reservoirs to draw irrigation water.

11. For sites in active karst that require stormwater management through the NPDES Construction Stormwater Permit, stormwater basins must have an impermeable liner.

12. Maintenance access at least 8 feet wide must be designed for all stormwater management systems.

13. All stormwater management systems must be located outside of the minimum vegetative buffers listed in Rule 4.

14. Filtration practices shall conform to requirements and recommendations including the "Minnesota Stormwater Manual."

15. Wet ponds must include aquatic benches and access benches. An access bench extending 10 feet outward from the permanent pool edge to the toe of the pond side slope should be

provided. Narrower benches may be used on sites with extreme limitations. The maximum cross-slope of the access bench should be 0.06:1 (V:H), or 6 percent. Access benches are not needed when the pond side slopes are 1:4 (V:H) or flatter. An irregularly configured aquatic bench, extending up to 10 feet inward from the normal shoreline and graded no more than 18 inches below the permanent pool water surface elevation, should also be incorporated into the pond.

16. For sites adjacent to Valley Creek, an undisturbed buffer zone of at least 100 linear feet must be maintained at all times, both during construction and as a permit feature post-construction, except where water crossings or other encroachment is necessary to complete the project.

17. Snow must not be plowed into or dumped on waters or within the minimum vegetative buffers, as listed in Rule 4. An exhibit may be requested for approval to show how snow will be managed. When vegetative buffers encroach into public right-of-way, public entities are exempt from this standard but public entities shall make efforts to avoid plowing and dumping snow in vegetative buffers when feasible.

18. For projects creating a total of 1 acre or more of new and fully reconstructed impervious surface on sites other than individual single-family home sites, the permit holder must provide a plan for post-project management of chloride use that includes, at a minimum:

    A. Designation of an individual authorized to implement the chloride-use plan

    B. Designation of an MPCA-certified salt applicator to implement the chloride-use plan for the site

    The chloride-management plan for a residential subdivision need not encompass the individual home properties within the subdivision.

    Municipal Separate Storm Sewer System operators who have Winter Road Materials (salt) Management Plans are exempt from this requirement.

19. As specified in the closeout process in Rule 1, before the release of any remaining fee or security, the permit holder must provide documentation that constructed infiltration facilities perform as designed and submit the chloride-management plan according to Rule 2, Standard 18 (if applicable).

20. The determination of whether a design will result in an erosion problem shall be based on generally accepted engineering design manuals or practices.

21. Best management practices shall meet the standards established in the VBWD Plan for runoff water quality management and erosion control plans.

22. A maintenance agreement in the general format of Appendix A, as revised and updated by the VBWD (attorney), is required before issuing a VBWD permit unless the VBWD has a memorandum of understanding for the city or township in which the site lies. No maintenance agreement is required for sites within the Minnesota Department of Transportation right-of-way.

23. Land used for stormwater management facilities shall be preserved by dedication and/or perpetual easement to the VBWD. These easements shall cover those portions of the property which are adjacent to the facility and which lie below the 100-year flood elevation. All stormwater management facilities must be accessible for inspection, maintenance, landscaping upkeep, and appropriate equipment and vehicles. For sites within a city or township where the VBWD has a memorandum of understanding, the easement shall be granted to that city or township. For sites within the public right-of-way, no easement is required.

Rule 3: Erosion and Sedimentation Control

Policies

1. To minimize the erosion resulting from land alteration, the Managers require that temporary and permanent erosion control measures be implemented for all projects that may affect the waters of the VBWD. The permit applicant shall be responsible for removing all temporary measures upon completion of the project.

2. A permit will not be required for usual agricultural practices, but the Managers will encourage good conservation measures.

3. If an erosion problem develops, the Managers will require action to correct the problem and prevent a recurrence.

4. Submittals for VBWD-permitted projects must show how the project will meet the VBWD requirements for preventing sediment from leaving a site and controlling erosion.

Standards

1. The "Minnesota Stormwater Manual" shall serve as the minimum guidelines for erosion control measures.

2. All activities shall comply with the NPDES Construction Stormwater Permit as administered by the MPCA. This includes:

    A. Erosion prevention practices

        i. Before work begins, locations of areas not to be disturbed must be delineated by the VBWD permit holder or VBWD permit holder's contractor.

        ii. The VBWD permit holder or VBWD permit holder's contractor must minimize the need to disturb portions of the project with steep slopes. When steep slopes must be disturbed, the VBWD permit holder or VBWD permit holder's contractor must use techniques such as phasing and stabilization practices designed for steep slopes (e.g., slope draining and terracing).

        iii. The VBWD permit holder or VBWD permit holder's contractor must stabilize all exposed soil areas, including stockpiles. Stabilization must be initiated immediately to limit soil erosion when construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed no later than 14 calendar days after the construction activity has ceased. Stabilization is not required on constructed base components of roads, parking lots, and similar surfaces. Stabilization is not required on temporary stockpiles without significant silt, clay, or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) but

the VBWD permit holder or VBWD permit holder's contractor must provide sediment controls at the base of the stockpile.

iv. For Public Waters where the DNR has designated "work in water restrictions" during specified fish spawning time frames, the VBWD permit holder or the VBWD permit holder's contractor must complete stabilization of all exposed soil areas within 200 feet of the water's edge and all areas that drain to these waters within 24 hours during the restriction period.

v. The VBWD permit holder or the VBWD permit holder's contractor must stabilize the normal wetted perimeter of the last 200 linear feet of temporary or permanent drainage ditches or swales that drain water from the site within 24 hours after connecting to a surface water or property edge. The VBWD permit holder or the VBWD permit holder's contractor must complete stabilization of the remaining portions of temporary or permanent ditches or swales within 14 calendar days after connecting to a surface water or property edge; construction in that portion of the ditch temporarily or permanently ceases.

vi. Temporary or permanent ditches or swales used as a sediment containment system during construction (with properly designed rock-ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized. The VBWD permit holder or the VBWD permit holder's contractor must stabilize these areas within 24 hours after their use as a sediment containment system ceases.

vii. The VBWD permit holder or the VBWD permit holder's contractor must not use mulch, hydromulch, tackifier, polyacrylamide, or similar erosion prevention practices within any portion of the normal wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than 2 percent.

viii. The VBWD permit holder or the VBWD permit holder's contractor must provide temporary or permanent energy dissipation at all pipe outlets within 24 hours after connection to a surface water or permanent stormwater treatment system.

ix. The VBWD permit holder or the VBWD permit holder's contractor must not disturb more land (i.e., phasing) than can be effectively inspected and maintained.

B. Sediment control practices

i. The VBWD permit holder or VBWD permit holder's contractor must establish sediment control BMPs on all downgradient perimeters of the site and downgradient areas that drain to any surface water, including curb and gutter systems. The VBWD permit holder or VBWD permit holder's contractor must locate sediment control practices upgradient of any buffer zones. The VBWD permit holder or VBWD permit holder's contractor must

install sediment control practices before any upgradient land-disturbing activities begin and must keep the sediment control practices in place until they establish a permanent cover.

ii. If the downgradient sediment controls are overloaded, based on frequent failure or excessive maintenance requirements, the VBWD permit holder or VBWD permit holder's contractor must install additional upgradient sediment control practices or redundant BMPs to eliminate the overloading and amend the site plans to identify these additional practices.

iii. Temporary or permanent drainage ditches and sediment basins designed as part of a sediment containment system (e.g., ditches with rock-check dams) require sediment control practices only as appropriate for site conditions.

iv. A floating silt curtain placed in the water is not a sediment control BMP to satisfy perimeter control requirements in this part except when working on a shoreline or below the waterline. Immediately after the short-term construction activity (e.g., installation of rip rap along the shoreline) in that area is complete, the VBWD permit holder or VBWD permit holder's contractor must install an upland perimeter control practice if exposed soils still drain to a surface water.

v. The VBWD permit holder or VBWD permit holder's contractor must re-install all sediment control practices adjusted or removed to accommodate short-term activities such as clearing or grubbing, or passage of vehicles, immediately after the short-term activity is completed. The VBWD permit holder or VBWD permit holder's contractor must re-install sediment control practices before the next precipitation event, even if the short-term activity is not complete.

vi. The VBWD permit holder or VBWD permit holder's contractor must protect all storm drain inlets using appropriate BMPs during construction until they establish permanent cover on all areas with potential for discharging to the inlet.

vii. The VBWD permit holder or VBWD permit holder's contractor may remove inlet protection for a particular inlet if a specific safety concern (e.g., street flooding/freezing) is identified by the permit holder, the permit holder's contractor, or the jurisdictional authority (e.g., city/county/township/MnDOT engineer). The VBWD permit holder or VBWD permit holder's contractor must document the need for removal in the site plans.

viii. The VBWD permit holder or VBWD permit holder's contractor must provide a silt fence or other effective sediment controls at the base of stockpiles on the downgradient perimeter.

ix. The VBWD permit holder or VBWD permit holder's contractor must locate stockpiles outside of natural buffers or surface waters, including stormwater conveyances such as curb and gutter systems, unless there is a bypass in place for the stormwater.

x. The VBWD permit holder or VBWD permit holder's contractor must install a vehicle tracking BMP to minimize the track out of sediment from the construction site or onto paved roads within the site.

xi. The VBWD permit holder or VBWD permit holder's contractor must use street sweeping if vehicle tracking BMPs do not prevent sediment tracking onto the street.

xii. In any areas of the site where final vegetative stabilization will occur, the VBWD permit holder or VBWD permit holder's contractor must restrict vehicle and equipment use to minimize soil compaction.

xiii. The VBWD permit holder or VBWD permit holder's contractor must preserve topsoil on the site unless infeasible.

xiv. The VBWD permit holder or VBWD permit holder's contractor must direct discharges from BMPs to vegetated areas unless infeasible.

xv. The VBWD permit holder or VBWD permit holder's contractor must preserve a 50-foot natural buffer or, if a buffer is infeasible, provide redundant (double) perimeter sediment controls when a surface water is within 50 feet of the project's earth disturbances, and stormwater flows to the surface water. The VBWD permit holder or VBWD permit holder's contractor must install perimeter sediment controls at least 5 feet apart unless limited by lack of available space. Natural buffers are not required adjacent to road ditches, judicial ditches, county ditches, stormwater conveyance channels, storm drain inlets, and sediment basins. If preserving the buffer is infeasible, the VBWD permit holder or VBWD permit holder's contractor must document the reasons in the site plans. Sheet piling is a redundant perimeter control if installed in a manner that retains all stormwater.

xvi. The VBWD permit holder or VBWD permit holder's contractor must use polymers, flocculants, or other sedimentation treatment chemicals following accepted engineering practices, dosing specifications, and sediment removal design specifications provided by the manufacturer or supplier. The VBWD permit holder or VBWD permit holder's contractor must use conventional erosion and sediment controls before chemical addition and direct treated stormwater to a sediment control system for filtration or settlement of the floc before discharge.

C. Dewatering and basin draining

i. The VBWD permit holder or VBWD permit holder's contractor must discharge turbid or sediment-laden waters related to dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) to a temporary or permanent sediment basin on the project site unless infeasible. The VBWD permit holder or VBWD permit holder's contractor may dewater to surface waters if they visually check to ensure adequate treatment has been obtained and nuisance conditions (see Minn. R. 7050.0210, subp. 2) will not result from the discharge. If the VBWD permit holder or VBWD permit holder's contractor cannot discharge the water to a sedimentation basin before entering a surface water, the VBWD permit holder or VBWD permit holder's contractor must treat it with appropriate BMPs such that the discharge does not adversely affect the surface water or downstream properties.

ii. If the VBWD permit holder or VBWD permit holder's contractor must discharge water that contains oil or grease, the VBWD permit holder or VBWD permit holder's contractor must use an oil-water separator or suitable filtration device (e.g., cartridge filters, absorbents pads) before discharge.

iii. The VBWD permit holder or VBWD permit holder's contractor must discharge all water from dewatering or basin-draining activities in a manner that does not cause (a) erosion or scour in the immediate vicinity of discharge points or (b) significant adverse impacts to wetlands.

iv. If the VBWD permit holder or VBWD permit holder's contractor use filters with backwash water, they must haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not cause erosion.

D. Inspection and maintenance

i. The VBWD permit holder or VBWD permit holder's contractor must ensure that a trained person will inspect the entire construction site at least once every 7 days during active construction and within 24 hours after a rainfall event greater than one-half inch in 24 hours.

ii. The VBWD permit holder or VBWD permit holder's contractor must inspect and maintain all permanent stormwater treatment BMPs.

iii. The VBWD permit holder or VBWD permit holder's contractor must inspect all erosion prevention and sediment control BMPs and pollution prevention management measures to ensure integrity and effectiveness. The VBWD permit holder or VBWD permit holder's contractor must repair, replace, or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery unless another time frame is specified

below. The VBWD permit holder or VBWD permit holder's contractor may take additional time if field conditions prevent access to the area.

iv. During each inspection, the VBWD permit holder or VBWD permit holder's contractor must inspect surface waters, including drainage ditches and conveyance systems but not curb and gutter systems, for evidence of erosion and sediment deposition. The VBWD permit holder or VBWD permit holder's contractor must remove all deltas and sediment deposited in surface waters, including drainage ways, catch basins, and other drainage systems and restabilize the areas where sediment removal results in exposed soil. The VBWD permit holder or VBWD permit holder's contractor must complete removal and stabilization within 7 calendar days of discovery unless precluded by legal, regulatory, or physical access constraints. The VBWD permit holder or VBWD permit holder's contractor must use all reasonable efforts to obtain access. If precluded, removal and stabilization must occur within 7 calendar days of obtaining access. The VBWD permit holder or VBWD permit holder's contractor is responsible for contacting all local, regional, state, and federal authorities and receiving applicable permits before conducting any work in surface waters.

v. The VBWD permit holder or VBWD permit holder's contractor must inspect construction site vehicle-exit locations, streets, and curb and gutter systems within and adjacent to the project for sedimentation from erosion or tracked sediment from vehicles. The VBWD permit holder or VBWD permit holder's contractor must remove sediment from all paved surfaces within 1 calendar day of discovery or, if applicable, within a shorter time to avoid a safety hazard to users of public streets.

vi. The VBWD permit holder or VBWD permit holder's contractor must repair, replace, or supplement all perimeter control devices when they become nonfunctional, or the sediment reaches one-half of the device's height.

vii. The VBWD permit holder or VBWD permit holder's contractor must drain temporary and permanent sedimentation basins and remove the sediment when the depth of sediment collected in the basin reaches one-half of the storage volume.

viii. The VBWD permit holder or VBWD permit holder's contractor must ensure that at least one individual present on the site (or available to the project site in 3 calendar days) is trained in the job duties of overseeing the implementation of, revising, and/or amending the site plans and performing inspections for the project.

ix. The VBWD permit holder or VBWD permit holder's contractor may adjust the inspection schedule as follows:

1. Inspections of areas with permanent cover can be reduced to once per month, even if construction activity continues on other portions of the site.

2. Where construction sites have permanent cover on all exposed soil areas and no construction activity is occurring anywhere on the site, inspections can be reduced to once per month and, after 12 months, may be suspended completely until construction activity resumes. The MPCA may require inspections to resume if conditions warrant.

3. Inspections may be suspended when construction activity has been suspended due to frozen ground conditions. Inspections must resume within 24 hours of runoff occurring or upon resuming construction, whichever comes first.

x. The VBWD permit holder or VBWD permit holder's contractor must record all inspections and maintenance activities within 24 hours of being conducted. These records must be retained with the site plans and include:

1. Date and time of inspections.

2. Name of person(s) conducting inspections.

3. Accurate findings of inspections, including the specific location where corrective actions are needed.

4. Corrective actions (including dates, times, and party completing maintenance activities).

5. Date of all rainfall events greater than one-half inch in 24 hours, and the amount of rainfall for each event. The VBWD permit holder or VBWD permit holder's contractor must obtain rainfall amounts by either a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of the VBWD permit holder or VBWD permit holder's contractor's location, or a weather reporting system that provides site-specific rainfall data from radar summaries.

6. Photographs and descriptions of any discharges observed during the inspection (i.e., location, color, odor, settled or suspended solids, oil sheen, and other obvious indicators of pollutants).

7. Any amendments to the site plans proposed as a result of the inspection. These must be documented within 7 calendar days.

E. Storage and maintenance

i. The VBWD permit holder or VBWD permit holder's contractor must place building products and landscape materials under cover (e.g., plastic sheeting or temporary roofs) or protect them by similarly effective means designed to

minimize contact with stormwater. The VBWD permit holder or VBWD permit holder's contractor is not required to cover or protect products that are either not a source of contamination to stormwater or designed to be exposed to stormwater.

ii. The VBWD permit holder or VBWD permit holder's contractor must place pesticides, fertilizers, and treatment chemicals under cover (e.g., plastic sheeting or temporary roofs) or protect them by similarly effective means designed to minimize contact with stormwater.

iii. The VBWD permit holder or VBWD permit holder's contractor must store hazardous materials and toxic waste (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) in sealed containers to prevent spills, leaks, or other discharge. Storage and disposal of hazardous waste materials must comply with Minn. R. Ch. 7045, including secondary containment as applicable.

iv. The VBWD permit holder or VBWD permit holder's contractor must properly store, collect, and dispose of solid waste in compliance with Minn. R. Ch. 7035.

v. The VBWD permit holder or VBWD permit holder's contractor must position portable toilets so they are secure and will not tip or be knocked over. The VBWD permit holder or VBWD permit holder's contractor must dispose of sanitary waste per Minn. R. Ch. 7041.

vi. The VBWD permit holder or VBWD permit holder's contractor must take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded, including the use of drip pans or absorbents unless infeasible. The VBWD permit holder or VBWD permit holder's contractor must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. The VBWD permit holder or VBWD permit holder's contractor must report and clean up spills immediately as required by Minn. Stat. § 115.061, using dry cleanup measures where possible.

vii. The VBWD permit holder or VBWD permit holder's contractor must limit the washing of vehicle exteriors and equipment to a defined site area. The VBWD permit holder or VBWD permit holder's contractor must contain runoff from the washing area in a sediment basin or use other similarly effective controls and must dispose of waste from the washing activity properly. The VBWD permit holder or VBWD permit holder's contractor must properly use and store soaps, detergents, or solvents.

viii. The VBWD permit holder or VBWD permit holder's contractor must provide effective containment for all liquid and solid wastes generated by washout

operations (e.g., concrete, stucco, paint, form release oils, curing compounds, and other construction materials) related to the construction activity. The VBWD permit holder or VBWD permit holder's contractor must prevent liquid and solid washout wastes from contacting the ground and must design the containment so it does not result in runoff from the washout operations or areas. The VBWD permit holder or VBWD permit holder's contractor must properly dispose of liquid and solid wastes in compliance with Minn. R. Ch. 7035. The VBWD permit holder or VBWD permit holder's contractor must install a sign indicating the location of the washout facility.

F. Temporary sedimentation basins

i. Where 10 or more acres of disturbed soil drain to a common location, the VBWD permit holder or VBWD permit holder's contractor must have a temporary sediment basin to provide treatment of the runoff before it leaves the construction site or enters surface waters. The VBWD permit holder or VBWD permit holder's contractor may convert a temporary sediment basin to a permanent basin after construction is complete. The temporary basin is no longer required when permanent cover has reduced the disturbed soil to less than 10 acres draining to a common location.

ii. The temporary basin must provide live storage for a calculated runoff volume from a 2-year 24-hour storm from each acre drained to the basin or 1,800 cubic feet of live storage per acre drained, whichever is greater.

iii. Where the VBWD permit holder or VBWD permit holder's contractor has not calculated the 2-year 24-hour storm runoff amount, the temporary sediment basin must provide 3,600 cubic feet of live storage per acre of the basin's drainage area.

iv. The VBWD permit holder or VBWD permit holder's contractor must design basin outlets to prevent short-circuiting and the discharge of floating debris.

v. The VBWD permit holder or VBWD permit holder's contractor must design the outlet structure to withdraw water from the surface to minimize the discharge of pollutants. The VBWD permit holder or VBWD permit holder's contractor may temporarily suspend the use of a surface withdrawal mechanism during frozen conditions. The basin must include a stabilized emergency overflow to prevent failure of pond integrity.

vi. The VBWD permit holder or VBWD permit holder's contractor must provide energy dissipation for the basin outlet within 24 hours after connection to a surface water.

vii. The VBWD permit holder or VBWD permit holder's contractor must locate temporary basins outside of surface waters and any required buffer zones.

viii. The VBWD permit holder or VBWD permit holder's contractor must construct temporary basins before disturbing 10 or more acres of soil draining to a common location.

ix. Where a temporary sediment basin meeting the requirements of this part is infeasible, the VBWD permit holder or VBWD permit holder's contractor must install effective sediment controls such as smaller sediment basins and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures as dictated by individual site conditions. In determining whether installing a sediment basin is infeasible, the VBWD permit holder or VBWD permit holder's contractor must consider public safety and may consider factors such as site soils, slope, and available area onsite. The VBWD permit holder or VBWD permit holder's contractor must document this infeasibility determination in the site plans.

G. Project completion

i. The VBWD permit holder or VBWD permit holder's contractor must complete all construction activities and install permanent cover over all areas. Vegetative cover must consist of uniform perennial vegetation with a density of 70 percent of its expected final growth. Vegetation is not required where the function of a specific area dictates no vegetation, such as impervious surfaces or the base of a sand filter.

ii. The VBWD permit holder or VBWD permit holder's contractor must clean the permanent stormwater treatment system of any accumulated sediment and ensure the system meets all applicable requirements and operates as designed.

iii. The VBWD permit holder or VBWD permit holder's contractor must remove all sediment from conveyance systems.

iv. The VBWD permit holder or VBWD permit holder's contractor must remove all temporary synthetic erosion prevention and sediment control BMPs. The VBWD permit holder or VBWD permit holder's contractor may leave BMPs designed to decompose onsite in place.

v. For construction projects on agricultural land (e.g., pipelines across cropland), the VBWD permit holder or VBWD permit holder's contractor must return the disturbed land to its preconstruction agricultural use.

H. Additional requirements for sites draining into special and impaired waters

i. The VBWD permit holder or VBWD permit holder's contractor must immediately initiate stabilization of exposed soil areas and complete the stabilization within 7 calendar days of the temporary or permanent end of construction activity in that portion of the site.

ii. The VBWD permit holder or VBWD permit holder's contractor must provide a temporary sediment basin for common drainage locations that serve an area where 5 or more acres are disturbed at one time.

iii. The VBWD permit holder or VBWD permit holder's contractor must include an undisturbed buffer zone of not less than 100 linear feet from a special water (not including tributaries) and must maintain this buffer zone at all times, both during construction and as a permanent feature postconstruction, except where a water crossing or other encroachment is necessary to complete the project. The VBWD permit holder or VBWD permit holder's contractor must fully document in the site plans the circumstance and reasons the buffer encroachment is necessary and include restoration activities. The VBWD permit holder or VBWD permit holder's contractor must minimize all potential water quality, scenic, and other environmental impacts of these exceptions by using additional or redundant (double) BMPs and must document this in the site plans for the project.

iv. The VBWD permit holder or VBWD permit holder's contractor must conduct routine site inspections once every 3 days for projects that discharge to prohibited waters.

Rule 4: Wetland Management and Vegetative Buffers

Policies

1. To protect the quantity, quality, and biological diversity of the wetlands within the VBWD, all projects below the 100-year flood level of a wetland will be regulated by the VBWD Managers.

2. The VBWD has adopted the Minnesota Wetland Conservation Act of 1991 (Minnesota Laws 1991 Chapter 354, codified as Minnesota Statute Sections 84 and 103, as amended), and the accompanying rules of the BWSR (Minnesota Rules Chapter 8420, as amended) herein referred to as the WCA and the WCA Rules, respectively.

3. The VBWD will continue as the local government unit (LGU) administering the WCA throughout the VBWD as long as the cities and townships in VBWD continue to designate the VBWD as the LGU. The LGU responsible for administering the WCA on state land is the agency responsible for the land. For all projects requiring a VBWD permit, the VBWD will continue to administer the wetlands management provisions of its rules and regulations, regardless of LGU status for the WCA. In addition, if the WCA should ever be repealed, the VBWD will incorporate the WCA requirements into the VBWD rules and regulations.

4. The VBWD will continue to accept the DNR's waived permit jurisdiction for Public Waters Work Permit program projects on a case-by-case basis. In these cases, a DNR representative will be included on the Technical Evaluation Panel (TEP).

5. Upland vegetative buffers will be required adjacent to lakes, streams, and wetlands because they reduce the amount of phosphorus from runoff, prevent shoreline erosion, discourage waterfowl nesting/feeding, and provide additional wildlife habitat.

Standards and Procedures

1. The WCA, as amended, and its implementing rules as outlined in Minnesota Rules Chapter 8420, as amended, are incorporated into this rule, and shall govern in all cases where the VBWD is the LGU responsible for administering the WCA with any exceptions and additions defined elsewhere in these Rules.

2. Any wetland alteration shall not reduce the existing storage volume in the immediate watershed below the 100-year flood level. The 100-year flood level will be determined as stated elsewhere in these Rules. Wetland alterations shall meet all other requirements of these Rules.

3. A pre-permit application meeting between the permit applicant and the VBWD or TEP is strongly encouraged for all projects involving potential wetland impacts and wetland banks.

4. All wetlands within the property of the permitted project shall:

    A. Have boundaries and types determined by methodologies outlined in Minnesota Rules Chapter 8420.0405, as amended.

B. Be evaluated with the Minnesota Routine Assessment Method for Evaluating Wetland Functions, Version 3.4 (MNRAM 3.4), or updated functional assessment methodologies.

C. Be classified according to VBWD's wetland management classification system (see Appendix C). The VBWD wetland management classification has been evaluated for many wetlands within VBWD and can be viewed on the VBWD web map. The applicant is responsible for conducting a MNRAM or updated functional assessment methodology evaluation for wetlands not included on the VBWD web map. Based on the wetland's management classification, proposals must conform to the wetland management standards and guidelines shown in Appendix C, Table C-2. In some situations, the VBWD Engineer may determine that deviations from the hydrologic guidelines in Appendix C, Table C-2 would benefit the wetland and not adversely affect downstream waters. In that case, a deviation may be allowed without the requirement of a variance application.

5. Replacement wetlands

A. Replacement wetlands must be sited in the following order of priority:

i. On site, if restoration (not creation) opportunities are available

ii. Within the same VBWD subwatershed, as defined in the VBWD watershed management plan

iii. Within the VBWD

iv. Within the seven-county metropolitan area of the Lower St. Croix River watershed (HUC 07030005) (In other words, within areas of Anoka, Ramsey, or Washington Counties draining to the St. Croix River.)

v. Within the Lower St. Croix River watershed (HUC 07030005)

vi. The priorities according to Minnesota Rule 8420.0522, as amended or revised

B. Replacement wetlands must be sized at a ratio to the affected wetland (replacement area: impacted area) of:

i. Within VBWD: Two-to-one (2:1)

ii. Outside of VBWD, the ratios of Minnesota Rules 8420.0522, as amended or revised

C. If replacement is outside of VBWD, payment to a VBWD Restoration Fund must also be made at the following replacement to impacted ratios:

Wetland Classification	Ratio
Preserve	4:1
Manage 1	2:1
Manage 2	1:1

The Restoration Fund payment rate is determined and set by the VBWD Board of Managers by formal resolution. Contributions to the Restoration Fund will be paid to, administered by, and held by the VBWD, and will be used by the VBWD for wetland restoration activities and other natural resource improvements that restore, protect, and/or improve wetlands or water resources of the VBWD.

D. Where more restrictive than Standards 5.A. and 5.B., state rules will apply.

E. Minnesota Rule 8420.0544, as amended or revised, when applicable, will supersede Standards 5.A, 5.B., and 5.C for Minnesota Department of Transportation (MnDOT) projects where MnDOT is the LGU responsible for administering the WCA and for projects that qualify for replacement through the Local Government Road Wetland Replacement Program.

6. The VBWD may permit the excavation of some wetlands. However, no excavation will be allowed in wetlands classified as Type 7 or Type 8 wetlands as defined by the Circular 39 classification system developed by the U.S. Fish and Wildlife Service. Excavations in Type 3, 4, and 5 wetlands are regulated activities under the WCA and may require replacement. The VBWD may permit excavation in existing wetlands when the following apply:

   A. The applicant can show that the activity will not affect all property owners contiguous to the wetland.

   B. The excavated spoil material will not be placed within a wetland.

   C. The wetland is a Manage 2 wetland, as classified in Appendix C.

   D. No more than 50 percent of a Type 1, 2, or 6 wetland is excavated unless it is an approved action as stated in Minnesota Rules 8420.0526 and will not result in a conversion of wetland to upland or deep water habitat (greater than 2.0 meters).

   Considerations will be given to allow excavations of existing wetland areas so that adjacent replacement wetlands are hydrologically and ecologically connected to existing wetlands or if the proposed excavation is certain to result in greater functions and values as determined by MNRAM 3.4 or an updated version.

7. In addition to the requirements of the WCA for wetland banking applications, two of the three TEP members must meet on the site prior to the LGU decision. The permit applicant is responsible for obtaining all other permit approvals (i.e., U.S. Army Corps of Engineers).

8. The applicant is to provide all copies needed for proper distribution and recording when the application is made.

9. For all WCA decision requests, including wetland boundary/type concurrence, no-loss, exemption, sequencing, replacement plan, and banking applications, the applicant shall submit an electronic copy of the Joint Application Form for Activities Affecting Water Resources in Minnesota (Joint Application Form), and an electronic VBWD permit application form with applicable fees for consideration. Once the applications and fees have been received, the VBWD will follow the completeness review, notification, and review procedures defined in the WCA. The VBWD may determine that an application is incomplete when seasonal constraints prevent on-site review and verification of the wetland delineation. The VBWD will review the application based on the policies and standards of the VBWD Plan, the WCA, and these Rules. The permit applicant and any TEP member can request a meeting to further discuss the application at any time between the *Notice of Application* and the *Notice of Decision*. After the TEP has been given an opportunity to review and comment on the application, the VBWD will consider the TEP comments and decide if the application conforms to the WCA rules, the VBWD Plan, and these Rules.

10. Prior to the VBWD issuing a permit for the construction of project-specific wetland replacement sites, the permit applicant must submit a draft *Declaration of Restrictions and Covenants,* an *Affidavit of Landowner,* and *Consent to Replacement Wetland.* Once the VBWD Attorney has approved the draft *Declaration of Restrictions and Covenants*, which shall include a metes and bounds survey of the wetland replacement area, the *Declaration of Restrictions and Covenants* must be recorded. Proof of recording the *Declaration of Restrictions and Covenants* and *Consent to Replacement Wetland,* along with a signed and notarized *Affidavit of Landowner,* must be submitted to the VBWD Attorney before impacting a wetland.

11. Decisions made under the WCA may be appealed to the BWSR under WCA Rules part 8420.0905. For project-specific wetland replacement plans, the applicant shall post a cash surety or letter of credit equivalent to 150 percent of the estimated cost of the replacement wetland, to be determined by the permit applicant and approved by the VBWD Engineer. This shall include the cost to construct, vegetate, manage (conducting at least 5 years of effective vegetation management), monitor (consisting of at least three site visits during each growing season for at least 5 years), and create and publish annual monitoring reports or the cost of obtaining and finalizing the purchase of suitable wetland banking credits. Additional cash sureties may be required based upon conditions imposed on the applicant by the VBWD.

12. Under the WCA Rules part 8420.0810, replacement wetlands and wetland bank sites will require monitoring, vegetation management, and the submittal of annual reports to the TEP and VBWD by October 1 of each monitoring year for 5 years after construction certification with possible extensions of up to 5 years. Monitoring programs and the submission of annual reports to the TEP are the applicant's responsibility and are to be performed according to the WCA Rules. If the permit holder fails to submit an annual report to the TEP, VBWD will pursue enforcement action per WCA or prepare the annual monitoring report at the permit holder's expense. The VBWD may perform vegetation management under some circumstances at the applicant's expense. If, at the end of 5 years, the replacement wetland components meet the approved performance standards, future monitoring will not be required. If the project fails to meet the goals of the approved wetland replacement plan,

VBWD will take enforcement actions, per WCA, or conduct wetland replacement at the expense of the permit holder.

13. **Upland vegetative buffer strips**: Upland buffer vegetation shall be provided around wetlands, streams, and lakes as discussed in the following paragraphs and Rule 4, Standard 6c. Native, noninvasive vegetation is preferred. Buffer vegetation shall not be cultivated, cropped, pastured, mowed, fertilized, subject to the placement of mulch, yard waste, or snow piles, or otherwise disturbed, except for periodic cutting or burning that promotes the health of the buffer, actions to address disease or invasive species, mowing for purposes of public safety, temporary disturbance for placement or repair of buried utilities, or other actions to maintain or improve buffer quality, each as approved by the VBWD or when implemented pursuant to a written agreement executed with the VBWD. No new structure or impervious surface shall be placed within a buffer. Grading within upland buffers must result in slopes of 5 feet horizontal to 1 foot vertical or flatter with 8-feet-horizontal to 1-foot-vertical buffers encouraged. No fill, debris, or other material shall be excavated from or placed within a buffer without VBWD approval.

    A. **Wetlands:** A minimum 25-foot vegetative buffer strip immediately adjacent and contiguous to the delineated wetland boundary or the Ordinary High Water level (OHW), whichever is greater in elevation, shall be provided for all permitted activities. Average buffer widths at wetlands shall conform to Appendix C. A mowed access path within the buffer is allowed but must not exceed a width of 6 feet. Access paths shall not be located where concentrated runoff will flow to the wetland.

    B. **Streams:**

        i. **Valley Creek:** A minimum 100-foot vegetative buffer strip measured perpendicular to the edge of the water on each side of the creek shall be provided and maintained at all times for all permitted activities adjacent to the perennial portion of Valley Creek. Exceptions from this requirement for areas, such as water crossings, are allowed if the permit applicant fully documents the circumstances and reasons that the buffer encroachment is necessary. A mowed access path within the buffer is allowed but must not exceed a width of 6 feet. Access paths shall not be located where concentrated runoff will flow to the creek.

        ii. **Raleigh Creek and all intermittent streams (including the intermittent reaches of Valley Creek):** An average 50-foot-wide vegetative buffer strip and a minimum 25-foot-wide foot vegetative buffer strip measured perpendicular to and on both sides of the centerline shall be provided and maintained at all times for all permitted activities adjacent to the stream. Exceptions from this requirement for special situations, such as water crossings, are allowed if the permit applicant fully documents the circumstances and reasons that the buffer encroachment is necessary. A mowed access path within the buffer is allowed but must not exceed a width of 6 feet. Access paths shall not be located where concentrated runoff will flow to the creek.

Drainageways that serve local projects (such as road ditches) and convey runoff to a stormwater management facility before draining to a stream or other VBWD water are not considered intermittent streams by the VBWD and are not required to have vegetative buffers.

C. **Lakes:** A minimum 35-foot-wide buffer strip measured perpendicular to the OHW extending 35 feet inland shall be provided. A mowed access path and shoreline are allowed but must not exceed 30% of the landowner's shoreline width or 30 feet, whichever is less. For shorelines less than 20 feet wide, a 6-foot-wide access path is allowed. Access paths shall not be located where concentrated runoff will flow to the lake.

   For this rule, lakes are defined as Silver Lake, Long Lake, Lake DeMontreville, Lake Olson, Lake Jane, Lake Elmo, Horseshoe Lake, Lake Edith, and Sunfish Lake. Other non-stormwater pond basins will be considered wetlands and must conform to the required vegetative buffers discussed elsewhere in these Rules. (These lakes are the VBWD waters with a "P" designation in the Minnesota Department of Natural Resources' public water inventory. Acorn Lake and Eagle Point Lake were given a "P" designation but are considered wetlands by the VBWD because of their shallow depths.)

D. **Stormwater ponds**: A stormwater pond is a pond constructed in an upland area with a permanent pool, the purpose of which is to treat stormwater runoff. A minimum 10-foot-wide buffer strip measured perpendicular to the normal water elevation extending 10 feet inland shall be provided.

E. **Exceptions:**

   i. For roads and sites with existing homes, if a VBWD permit is needed for an activity, the buffer widths listed in these Rules and Regulations are strongly encouraged but may be infeasible and impractical. The VBWD Managers will review these situations on a case-by-case basis.

   ii. For streambank and shoreline stabilization projects, the buffer widths listed are strongly encouraged but not required.

Rule 5: Floodplain Management

Policies

1. It is in the best interest of the public health, safety, and welfare that the Managers regulate the development and the use of floodplains.

2. A permanent easement with all permitted projects for all land up to the 100-year flood level of existing and future waters and waterways will be required to prevent future work within the floodplain.

3. Alterations or work within the floodplain or waters of the VBWD will be reviewed to:

    A. Control floodplain encroachments.

    B. Prevent adverse environmental impact.

Standards

1. **Flood level determination**

    A. The ultimate development of the tributary watershed shall be assumed.

    B. Design criteria shall be the 2-, 10-, and 100-year storms. The 100-year 10-day snowmelt event shall also be modeled. See Rule 2, Standard 5. Also, see Rule 5, Standard 1.D.

    C. Flood levels shall be either determined or approved by the VBWD Engineer.

    D. Many depressions within the VBWD are landlocked (i.e., they have no surface water outlet). Because there is no surface outlet, runoff collecting in these depressions is removed only by seepage and evaporation. Under these circumstances, a detailed flood level analysis should include the effects of seepage and evaporation. Analysis of this type can be very complex.

    A simpler method of analysis was devised to determine appropriate flood levels for these depressions. With this method, the approximate 100-year flood level is determined using the annual runoff volumes shown in the following table.

Table 5

VBWD Simplified Method Runoff Volumes for Calculating Flood Levels of Landlocked Depressions

Land Use	100-Year Annual Runoff Volume (inches)	Average Annual Runoff Volume (inches)	Differences: Net 100-Year Annual Volume (inches)
Impervious	32	16	16
Turfed	18	8	10
Water Surface	12	-6	18

For a natural landlocked pond, the average year's runoff volume is assumed to be dissipated by the average seepage rate of the pond. The additional runoff for a wet year is assumed to be stored in the pond above the normal pond level (the long-term average water level of the pond). If the applicant can demonstrate that seepage will be greater than is assumed by this method, a less conservative flood level may be accepted.

The 100-year flood level is the level at which the depression will store the runoff volume calculated using the above table and the tributary watershed. Storage below the normal water level of the depression shall not be included in the computations.

To use the land within the VBWD to the maximum extent desirable, the communities and developers are encouraged to make detailed analyses and accurately determine 100-year flood levels. However, in the absence of a detailed analysis, the VBWD Engineer's recommendations and requirements shall be based upon flood levels determined using the above approximate method.

2. **Minimum building elevations**

A. Adjacent to all waters of the VBWD, other than those listed in Rule 5, Standard 2B, the Managers shall set the minimum building elevation at 2 feet above the 100-year flood elevation. The grading plan shall note the minimum building elevation for each lot.

B. Because of historic flooding and significant investments by the VBWD to address the flooding and/or the consequences of flooding at landlocked basins, the minimum floor elevation for new buildings shall be the higher of 2 feet above the natural overflow elevation or 2 feet above the 100-year flood level for the following: Sunnybrook Lake and adjacent low areas, Friedrich's Pond, Klawitter Pond, Downs Lake/Eden Park Pond/Durand's Pond, Legion Pond, Reid Park Ponds, Kramer Lake, and Hilton Court Ponds—unless specifically approved by the VBWD.

C. The VBWD Managers may deviate from their usual minimum building elevation requirement if the applicant provides site-specific data (e.g., soil borings) that

show buildings will be protected from flooding. For example, the Managers may allow a minimum building elevation lower than the above requirement if the lowest entry points to the proposed building are at least 2 feet higher than the 100-year flood level and 1 foot higher than the emergency overflow of the adjacent low area and the low area does not have the potential to raise the water table elevation.

3. **Floodplain preservation and uses**

   A. Floodplains adjacent to existing and future waters and waterways shall be preserved by dedication and/or perpetual easement to the VBWD. These easements shall cover portions of the property adjacent to the water or waterway and below the 100-year flood elevation. In some situations (e.g., permits for beach sand blankets), the Managers may waive this requirement.

   B. Filling and crossing of waters of the VBWD

      i. **Lakes, ponds, and storage sites:** Fill volumes shall be limited so that the cumulative effect of all possible filling will not raise the 100-year flood level by more than 0.1 foot.

      ii. **Waterways:** Fill and other alterations shall be limited so that the cumulative effect of all possible alterations shall not increase the 100-year flood level by more than 0.5 foot.

   C. The Board of Managers may determine that certain areas of the VBWD are or will be in a flood situation and will not allow any filling until the situation has been corrected.

   D. Snow shall not be imported or created in areas that drain into landlocked basins. Ice and snow sculptures shall not be created within areas that drain into landlocked basins unless specifically authorized by the VBWD after the applicant provides documentation that the resulting water volume will not cause flooding.

   E. Uses of floodplain adjacent to waters of the VBWD

      i. Buildings or other improvements to be located in the floodplain or materials to be stored in the floodplain will be permitted only when:

         a. It can be shown that the building or improvements to be located in the floodplain will not be significantly damaged by flooding.

         b. It can be shown that the improvements and materials will not unreasonably endanger life or property.

         c. It can be shown that the improvements and materials will not unreasonably affect the water resource.

4. **Floodplain alterations**

   A. Alterations that will unreasonably impact another community will not be permitted. Such alterations may include the outletting of landlocked ponds to another community and modifying lake, wetland, or low area outlet elevations.

   B. Alterations that will unnecessarily impact the waters of the VBWD will not be permitted.

   C. Alterations not in conformance with the VBWD Plan and applicable Minnesota Law will not be permitted.

Rule 6: Illicit Discharge and Connection

Policies

1. The VBWD will regulate any user's contribution of pollutants to the District's municipal separate storm sewer system (MS4).

2. The VBWD will prohibit Illicit connections and discharges to the District's MS4.

3. The VBWD will carry out all necessary inspection, surveillance, and monitoring procedures to ensure compliance with this Rule.

4. The VBWD will require a District permit for new direct connections, changes to existing hydrology, and other impacts related to the proper function, access, and maintenance of the District's MS4 or easements.

5. The VBWD will not allow new direct connections or other impacts to the District's MS4 if the connection shall cause or exacerbate water conveyance or structural problems in the system, including but not limited to surcharging and flooding.

6. This Rule shall apply to all water entering the storm drain system of VBWD's MS4 generated on any developed and undeveloped lands unless explicitly exempted by VBWD. A permit and stormwater management plan are required under this rule for new direct connections, replacement of existing connections, changes to existing hydrology, or other impacts to Project 1007, other components of VBWD's MS4, or its easements.

7. In this Rule, a pollutant is defined as anything that causes or contributes to pollution. Pollutants may include, but are not limited to, paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that some may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform, and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Standards

1. **Connection to the VBWD's MS4 system**

    A. New direct connections and replacement of existing connections shall be completed using a method approved by the VBWD.

    B. Peak flow rate, the total volume of flow, and the timing of the flow for new connections must be managed to avoid causing new water conveyance problems or exacerbating existing water conveyance problems.

2. **Discharge prohibitions**

A. **Prohibition of illegal discharges.** No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials other than stormwater. This includes but is not limited to pollutants that cause or contribute to a violation of applicable water quality standards.

B. **Prohibition of illicit connections.** The construction, use, maintenance, or continued existence of illicit connections to the storm drain system without a VBWD permit is prohibited.

i. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

ii. A person is considered to violate this Rule if they connect a line conveying sewage to the VBWD's MS4 or allow such a connection to continue.

3. **Suspension of MS4 access**

A. **Suspension due to illicit discharges in emergencies.** The VBWD may, without prior notice, suspend MS4 discharge access when such suspension is necessary to stop an actual or threatened discharge that presents or may present an imminent and substantial danger to the environment or the health or welfare of persons or VBWD's MS4 or Waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, VBWD may take such steps as deemed necessary to prevent or minimize damage to VBWD's MS4 or Waters of the United States or to minimize danger to persons or the environment.

B. **Suspension due to the detection of illicit discharge.** Any person discharging to the VBWD's MS4 in violation of this Rule may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The VBWD shall notify a violator of the proposed termination of its MS4 access. The violator may petition the VBWD for a reconsideration and hearing. A person commits an offense subject to enforcement if the person reinstates MS4 access to facilities terminated under this Section without the prior approval of the VBWD.

4. **Monitoring of discharges**

A. **Applicability.** This section applies to all facilities that have stormwater discharges associated with industrial activity, including construction activity.

B. **Access to facilities**

i. The VBWD shall be permitted to enter and inspect facilities subject to regulation under this Rule as often as necessary to determine

compliance with this Rule. The discharger shall make the necessary arrangements to allow access to representatives of the VBWD.

ii. Facilities operators shall allow VBWD ready access to all parts of the premises for inspection, sampling, examination, and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater and the performance of any additional duties as defined by state and federal law.

iii. If the VBWD has been refused access to any part of the premises from which stormwater is discharged, VBWD may seek the issuance of a search warrant from any court of competent jurisdiction.

5. **Requirement to prevent, control, and reduce stormwater pollutants by the use of best management practices.** The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through structural and non-structural BMPs. Any person responsible for a property or premise, which is, or may be the source of an illicit discharge, may be required by VBWD to implement, at said person's expense, additional structural and nonstructural BMPs to prevent the further discharge of pollutants to the municipal separate storm sewer system.

6. **Watercourse protection.** Every person owning property through which a watercourse passes shall keep and maintain that part of the watercourse within the property free of trash, debris, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse so that such structures shall not become a hazard to the use, function, or physical integrity of the watercourse.

7. **Notification of spills.** Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which result or may result in illegal discharges or pollutants discharging into stormwater, the storm drain system, or water of the U.S., said person shall take all necessary steps to ensure the containment and cleanup of such release. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the release. In the event of a release of nonhazardous materials, said person shall notify VBWD in person, by phone, or facsimile no later than the next business day following discovery of the release.

8. **Enforcement**

A. **Notice of violation.** Whenever the VBWD finds that a person has violated a prohibition or failed to meet a requirement of this Rule, VBWD may order

compliance by written notice of violation to the responsible person. Such notice may require without limitation:

i. The performance of monitoring, analyses, and reporting.

ii. The elimination of illicit connections or discharges.

iii. That violating discharges, practices, or operations shall cease and desist.

iv. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property.

v. Payment of a fine to cover administrative and remediation costs.

vi. The implementation of source control or treatment BMPs.

B. **Abatement.** If abatement of a violation and/or restoration of affected property are required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work shall be done by a designated governmental agency or a contractor, and the expense shall be charged to the violator.

C. **Appeal of Notice of Violation.** Any person receiving a Notice of Violation may appeal the determination of the VBWD. The notice of appeal must be received within 5 days from the date of the Notice of Violation. A hearing on the appeal before the VBWD Board of Managers shall take place within 15 days of receipt of the notice of appeal. The decision of the VBWD shall be final.

D. **Enforcement measures after appeal.** If the violation has not been corrected according to the requirements outlined in the Notice of Violation, or, in the event of an appeal, within 3 days of the decision of the VBWD Board of Managers, then representatives of the VBWD are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent, or person in possession of any premises to refuse to allow VBWD or its agents to enter the premises for the purposes set forth above.

E. **Cost of abatement.** VBWD may assess costs for abatement. Within 30 days of abatement of the violation, the VBWD shall notify the property owner of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the assessment amount within 10 days. If the amount due is not paid in a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

F. **Injunctive relief.** It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Rule. If a person has violated

or continues to violate the provisions of this Rule, the VBWD may petition for a preliminary or permanent injunction restraining the person from activities that would create further violations or compelling the person to perform abatement or remediation of the violation.

G. **Violations deemed a public nuisance.** In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Rule is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

H. **Relation to other rules.** None of the enforcement provisions of this Rule shall abridge or alter the right of the VBWD to seek remedies under Rule 1 herein.

I. **Exceptions**

   i. The following discharges are exempt from discharge prohibitions established by this Rule: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising groundwater, groundwater infiltration to storm drains, uncontaminated pumped groundwater, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air-conditioning condensation, springs, noncommercial washing of vehicles, natural riparian habitat or wetland flows, swimming pools (if dechlorinated—typically less than one PPM chlorine), street wash water, and firefighting activities.

   ii. Discharges specified in writing by the VBWD as necessary to protect public health and safety.

   iii. Dye testing is an allowable discharge but requires a verbal notification to the VBWD before the test.

   iv. Any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

Rule 7: Groundwater Management

Policies

1. Negative impacts (e.g., reduced flow to surface water bodies, lowered lake or wetland levels, well interference) to groundwater-dependent resources will be prevented through permit review, community plan review, and education efforts.

2. Negative impacts (e.g., flooding) to surface waters due to groundwater quality mitigation efforts (e.g., pump-out systems) will be prevented through permit review, community plan review, and education efforts.

Standards

1. See other Rules, including but not limited to Rule 2, Rule 4, and Rule 5.

Rule 8: Individual Sewage Treatment Systems

Policies

1. Since septic systems are already regulated by the MPCA, the counties, and the communities, VBWD will not take on this role but will cooperate with other government units to address specific concerns or issues.

2. VBWD supports Washington County's requirement that septic systems not be placed within drainage easements, which effectively prevents the installation of septic systems within the 100-year floodplain of VBWD waters (See Rule 5, Standard 3A.). The VBWD encourages Washington County to require all features of septic systems to be at least 2 feet higher than the emergency overflow elevation of sites at Sunnybrook Lake and adjacent low areas, Friedrich's Pond, Klawitter Pond, Downs Lake/Eden Park Pond/Durand's Pond, Legion Pond, Reid Park Ponds, Kramer Lake, and Hilton Court Ponds.

Rule 9: Water Appropriations

Policies

1. To manage the water resources of the VBWD, the Managers must be informed of the proposed appropriation of ground and/or surface waters.

2. The Managers require that the effect of the proposed appropriation be defined before approval is granted.

Standards

1. In all cases of appropriation of waters requiring a DNR permit, a copy of the permit application must be filed with the Managers for their review and comment.

2. The Managers will act on the DNR permit application within 30 days, or as required by the DNR, after receipt of the complete application.

Rule 10: Fees

Policies

1. The application fee defrays the VBWD's review, inspection, and administration costs. The amount of the application fee is set by the Managers and is available by contacting the VBWD. Any costs incurred by the VBWD greater than the submitted fee may be billed to the applicant.

2. No fee is required for governmental units applying for a VBWD permit.

3. Any unused portion of the fee over $500 will be returned to the permit holder upon request.

Rule 11: Sureties and Performance Bonds

Policies

1. To assure compliance with these Rules, the Managers may require the posting of a performance bond or other security where it is shown to be reasonable and necessary under the particular circumstances of any permit application filed with the VBWD.

2. Where a municipality or other governmental agency requires that the applicant furnish a performance bond or other security, the VBWD may require an additional performance bond from the applicant.

3. At the Managers' discretion, the VBWD may reduce the amount of the security held for a project if the permit holder requests a reduction with documentation of the project's progress.

Rule 12: Variances

Policies

1. The Managers may grant variances from these Rules when they find that due to unique physical conditions of the land or waters involved, extraordinary and unnecessary hardship may result from strict compliance. Such variances will not nullify the intent and purpose of these Rules or the VBWD Plan.

2. In considering the variance, the Managers shall consider the effect upon the entire VBWD and VBWD Plan.

3. An application for a variance shall be submitted to the Managers and shall document the exceptional conditions and peculiar difficulties claimed and resulting impacts from approval of the variance.

4. The Managers shall approve or deny the variance within 60 days of receipt of a complete variance application.

Rule 13: Local Government Responsibilities

Policies

1. The communities are responsible for the following:

    A. Land-use plans and zoning ordinances

    B. Local watershed management plans

    C. Shoreland and floodplain ordinances

    The Managers will review these plans and documents to minimize adverse impacts on the waters of the VBWD and ensure regional water management needs are included in the local watershed management plans.

2. Communities are responsible for enforcing minimum building elevations established by the VBWD.

3. Communities are responsible for maintaining stormwater management facilities where easements covering the facility have been granted to the community or to support the VBWD in maintaining the facility.

4. Communities shall submit copies of developers' agreements and/or grading permits of proposed subdivisions and development plans for review by the VBWD.

5. In cases of mining operations, a copy of the permit application must be filed with the Managers for their review and approval.

VALLEY BRANCH WATERSHED DISTRICT
BOARD OF MANAGERS

I, John Brach, Secretary of the Valley Branch Watershed District Board of Managers, certify that the attached are true and correct copies of the rules of the Valley Branch Watershed District, which were properly adopted by the Board of Managers on February 9, 2023.

John Brach Date: 2/9/2023

John Brach, Secretary

STATE OF MINNESOTA)
) ss.
COUNTY OF WASHINGTON)

The foregoing instrument was acknowledged before me this 9th day of February 2023, by John Brach, as Secretary of Valley Branch Watershed District.

Susannah J Torseth Foster

Notary Public

SUSANNAH J TORSETH FOSTER
NOTARY PUBLIC
MINNESOTA
My Commission Expires Jan. 31, 2026

Appendices

Appendix A

Maintenance Agreements

INDIVIDUAL

STORMWATER MANAGEMENT FACILITY
MAINTENANCE AGREEMENT

THIS AGREEMENT is made this _____ day of _____, 20___ by and between the Valley Branch Watershed District, a political subdivision of the State of Minnesota ("VBWD") and _____ (name(s)), _____ (marital status)("Owner").

RECITALS:

A. Owner owns certain real property situated in the City of _____, _____ County, Minnesota, legally described as follows:

[add legal description from most recent Deed]

(the "Property").

B. The Property constitutes the entirety of the land to which VBWD Permit applies.

C. As a condition of its approval of the development of the Property, VBWD has required that the Owner dedicate and/or grant to the VBWD a perpetual easement for:

1) all floodplains adjacent to existing and future waters and waterways, and

2) all land used for stormwater management facilities.

D. VBWD requires that the Owner enter into an agreement for the maintenance of the Stormwater Management Facility for the Property (the "Facility"). The Facility includes all above and below ground areas necessary to meet the VBWD stormwater management rules and is located within the boundaries of the Property, as shown on construction plans prepared by Owner, which are attached as **Exhibit A** and incorporated by reference.

E. Owner hereby warrants and represents to the VBWD that Owner's interest in the Property is as fee owner. Owner warrants that it has the right and authority to execute this Agreement, and that the person signing this Agreement has authority to bind the Owner to the terms of this Agreement.

F. The Owner desires to set forth its agreement with respect to the maintenance of the Facility and the cost of such maintenance.

NOW, THEREFORE, in consideration of the foregoing facts and circumstances, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Access Easement. The Owner shall grant to VBWD the necessary easements and rights-of-way and/or maintain perpetual access from public rights-of-way to the Facility for VBWD, its agent, or contractor.

2. Recording. VBWD shall record this Agreement with the Recorder of the County of Washington, Minnesota. The Owner shall pay a $150.00 processing and filing fee to VBWD upon submission of this Agreement.

3. Assessments. The Owner, for itself and respective successors and assigns, hereby waives any statutory right which it may have to contest any assessment for costs hereunder by VBWD.

4. Through Permit Closeout. Until such time as the permit with VBWD for the project is closed out, the Owner shall inspect the site and each Facility per the Stormwater Pollution Prevention Plan (as amended). If Stormwater Pollution Prevention Plan is not required for the project, the Owner shall inspect the site and each Facility as necessary to ensure compliance with the VBWD permit.

5. Post Construction and Post VBWD Permit Closeout. The Owner will maintain and repair each Facility as follows:

    a) The integrity and intended function of all Facilities shall be preserved. If applicable, the maintenance shall be accordance with the manufacturer-specified maintenance.

    b) In the case of hydraulic conveyances and other structures, the hydraulic capacity shall be preserved.

    c) In the case of Facilities relying on soils and vegetation for stormwater management, the soil permeability shall remain permeable and the vegetation shall remain healthy.

    d) If necessary, Owner shall undertake at its expense periodic dredging or removal of silt buildup and other deposited materials within the Facility to maintain its treatment capacity and proper operation, as established in the construction plans.

    e) Owner will annually inform the VBWD of Facility conditions, actions taken and dates of the actions, and repair or maintenance needs.

    f) VBWD may annually inspect the Facility to ensure that it meets the minimum maintenance standards outlined above.

    g) Any maintenance needs noted during a VBWD inspection shall be conveyed to the Owner in a Notice of Maintenance Inspection Improvement Requirements mailed to Owner's last known address, and shall be implemented within sixty (60) days of the date of mailing of the Notice. The Owner shall be solely responsible for the maintenance of the Facility, and shall bear all costs of such maintenance.

h) If the Owner does not undertake the necessary maintenance, the VBWD may give notice to the Owner by mailing a Notice of Deficiency to the Owner's last known address, detailing the deficiency. If the deficiency has not been corrected within sixty (60) days after mailing of the notice, or Owner has not made arrangements deemed adequate by the VBWD for the deficiency to be corrected within that period, then the VBWD upon five (5) days' notice may correct the deficiency, and may have access to the property during reasonable times for that purpose. The VBWD may contract such maintenance, and the costs incurred by VBWD for contracting such maintenance, including but not limited to reasonable administrative, consultant, and attorney fees, shall be reimbursed to VBWD by the Owner.

6. Covenants to Run with the Property. The parties hereto agree that the covenants and obligations contained herein shall run with the Property, and further declare that the Property will be owned, used, occupied, and conveyed subject to the covenants and obligations set forth herein, all of which are binding on all persons owning or acquiring any right, title or interest in the Property and their respective heirs, successors, personal representatives and assigns.

IN WITNESS WHEREOF, the parties hereto have caused this document to be executed as of the day and year first above written.

VALLEY BRANCH WATERSHED DISTRICT

By_____
Its President

By_____
Its Secretary

STATE OF MINNESOTA)
) ss
COUNTY OF WASHINGTON)

The foregoing was acknowledged before me this _____ day of _____, 20____, by Edward Marchan and Donald Pereira, respectively the President and Secretary of the Valley Branch Watershed District, State of Minnesota.

_____
Notary Public

OWNER

_____

_____

STATE OF MINNESOTA)
) ss
COUNTY OF _____)

The foregoing was acknowledged before me this _____ day of _____, 20___, by _____ (name(s)), _____ (marital status).

_____
Notary Public

DRAFTED BY:

GALOWITZ • OLSON, PLLC
Lawyers
10390 39th Street North
Lake Elmo, MN 55042
Telephone: (651) 777-6960
(ST)

EXHIBIT A

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STORMWATER MANAGEMENT FACILITY
MAINTENANCE AGREEMENT

THIS AGREEMENT is made this _____ day of _____, 20____ by and between the Valley Branch Watershed District, a political subdivision of the State of Minnesota ("VBWD") and _____ (a Minnesota corporation or limited liability company) ("Owner").

RECITALS:

A. Owner owns certain real property situated in _____, Washington County, Minnesota, legally described in **Exhibit A**, and attached hereto (the "Property").

B. The Property constitutes the entirety of the land to which VBWD Permit applies.

C. As a condition of its approval of the development of the Property, VBWD has required that the Owner dedicate and/or grant to the VBWD a perpetual easement for:

1) all floodplains adjacent to existing and future waters and waterways, and

2) all land used for stormwater management facilities.

D. VBWD requires that the Owner enter into an agreement for the maintenance of the Stormwater Management Facility for the Property (the "Facility"). The Facility includes all above and below ground areas necessary to meet the VBWD stormwater management rules and is located within the boundaries of the Property, as shown on construction plans prepared by Owner, which are attached as **Exhibit B** and incorporated by reference.

E. Owner hereby warrants and represents to the VBWD that Owner's interest in the Property is as fee owner. Owner warrants that it has the right and authority to execute this Agreement, and that the person signing this Agreement has authority to bind the Owner to the terms of this Agreement.

F. The Owner desires to set forth its agreement with respect to the maintenance of the Facility and the cost of such maintenance.

NOW, THEREFORE, in consideration of the foregoing facts and circumstances, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Access Easement. The Owner shall grant to VBWD the necessary easements and rights-of-way and/or maintain perpetual access from public rights-of-way to the Facility for VBWD, its agent, or contractor.

2. Recording. VBWD shall record this Agreement with the Recorder of the County of Washington, Minnesota. The Owner shall pay a $150.00 processing and filing fee to VBWD upon submission of this Agreement.

3. Assessments. The Owner, for itself and respective successors and assigns, hereby waives any statutory right which it may have to contest any assessment for costs hereunder by VBWD.

4. Through Permit Closeout. Until such time as the permit with VBWD for the project is closed out, the Owner shall inspect the site and each Facility per the Stormwater Pollution Prevention Plan (as amended). If Stormwater Pollution Prevention Plan is not required for the project, the Owner shall inspect the site and each Facility as necessary to ensure compliance with the VBWD permit.

5. Post Construction and Post VBWD Permit Closeout. The Owner will maintain and repair each Facility as follows:

    a) The integrity and intended function of all Facilities shall be preserved. If applicable, the maintenance shall be accordance with the manufacturer-specified maintenance.

    b) In the case of hydraulic conveyances and other structures, the hydraulic capacity shall be preserved.

    c) In the case of Facilities relying on soils and vegetation for stormwater management, the soil permeability shall remain permeable and the vegetation shall remain healthy.

    d) If necessary, Owner shall undertake at its expense periodic dredging or removal of silt buildup and other deposited materials within the Facility to maintain its treatment capacity and proper operation, as established in the construction plans.

    e) Owner will annually inform the VBWD of Facility conditions, actions taken and dates of the actions, and repair or maintenance needs.

    f) VBWD may annually inspect the Facility to ensure that it meets the minimum maintenance standards outlined above.

    g) Any maintenance needs noted during a VBWD inspection shall be conveyed to the Owner in a Notice of Maintenance Inspection Improvement Requirements mailed to Owner's last known address, and shall be implemented within sixty (60) days of the date of mailing of the Notice. The Owner shall be solely responsible for the maintenance of the Facility, and shall bear all costs of such maintenance.

    h) If the Owner does not undertake the necessary maintenance, the VBWD may give notice to the Owner by mailing a Notice of Deficiency to the Owner's last known address, detailing the deficiency. If the deficiency has not been corrected within

sixty (60) days after mailing of the notice, or Owner has not made arrangements deemed adequate by the VBWD for the deficiency to be corrected within that period, then the VBWD upon five (5) days' notice may correct the deficiency, and may have access to the property during reasonable times for that purpose. The VBWD may contract such maintenance, and the costs incurred by VBWD for contracting such maintenance, including but not limited to reasonable administrative, consultant, and attorney fees, shall be reimbursed to VBWD by the Owner.

6. Covenants to Run with the Property. The parties hereto agree that the covenants and obligations contained herein shall run with the Property, and further declare that the Property will be owned, used, occupied, and conveyed subject to the covenants and obligations set forth herein, all of which are binding on all persons owning or acquiring any right, title or interest in the Property and their respective heirs, successors, personal representatives and assigns.

IN WITNESS WHEREOF, the parties hereto have caused this document to be executed as of the day and year first above written.

VALLEY BRANCH WATERSHED DISTRICT

By_____
Its President

By_____
Its Secretary

STATE OF MINNESOTA)
) ss
COUNTY OF WASHINGTON)

The foregoing was acknowledged before me this _____ day of _____, 20____, by Ed Marchan and Don Pereira, respectively the President and Secretary of the Valley Branch Watershed District, State of Minnesota.

_____
Notary Public

OWNER

_____
Print Name/Title

_____
Print Name/Title

STATE OF MINNESOTA)
) ss
COUNTY OF WASHINGTON)

The foregoing was acknowledged before me this _____ day of _____, 20____, by _____, the _____ of the _____, to me known to be the same person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same on behalf of the _____.

_____
Notary Public

DRAFTED BY:

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Lawyers
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Lake Elmo, MN 55042
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(ST)

EXHIBIT A

EXHIBIT B

Appendix B

Design Sequence Flow Chart

Review Data*:
VBWD web map (vbwd.org)

- Soils
  - Hydrologic Soil Group
  - Hydric soil potential
- Karst
- Drinking Water Supply Management Area (DWSMA) and Emergency Response Area (ERA)
- Federal Emergency Management Agency Flood Hazard Areas
- Wetland management classifications
- Topography
- Aerial photography

Other data and references

- Topography
- Aerial photography
- Soils information
- Groundwater levels
- Wellhead protection maps
- Local flood level data
- Soil borings and site survey
- Minnesota Pollution Control Agency listing of potential contaminated sites
- Phase 1 and Phase 2 Environmental Assessments
- Total Maximum Daily Load studies and local water quality standards
- Wetland delineations
- Proposed conditions, conceptual/preliminary site design
- Local zoning and land use requirements/ordinances
- Communication with local landowners, Local Government Unit, and others knowledgeable about area and site
- Site inspection

*This is not an exhaustive list

Define Volume Control Requirement

New, Nonlinear Developments and Reconstruction/Redevelopment Projects:
Retain a volume of 1.1 inches times the total new and fully reconstructed impervious surface without any abstractions/losses. Retain an additional 0.2 inches times the net new impervious surface area (i.e., 1.3 inches times the net new impervious surface area) unless the plan specifies a VBWD-approved method to restore soil structure on at least 50% of remaining disturbed pervious areas for sites that
(1) disturb 10 acres or more, and
(2) create 1 acre or more of net new impervious surface

Summary Equations:

- Sites that disturb less than 10 acres or create less than 1 acre of net new impervious surface:

  Retention Volume = (New + Fully Reconstructed Impervious Surface Area)* 1.1"

- Sites that disturb 10 acres or more, and create 1 acre or more of net impervious surface without soil restoration on 50% of remaining disturbed pervious areas:

  Retention Volume = ((New + Fully Reconstructed Impervious Surface Area)* 1.1") + (Net Increase in New Impervious Surface Area * 0.2")

  No negative value can be used of Net New Impervious Surface Area

Linear Projects
Retain the larger of
(1) A volume of 0.55 inches times the total new and fully reconstructed impervious surface area
(2) A volume of 1.1 inches times the net increase in the impervious surface area

Flexible Treatment Options (FTO)

The Flexible Treatment Options (FTO) presented here should be employed when the Volume Control Requirement is not feasible and/or allowed. The designer should document the reasons why the Volume Control Requirement and rejected FTO are not feasible and/or allowed.

FTO 1

Applicant designs site to comply with the following conditions:

1a Retain 0.55 inches of runoff from the new and fully reconstructed impervious surfaces, and

1b Remove 75% of the annual total phosphorus load

FTO 2

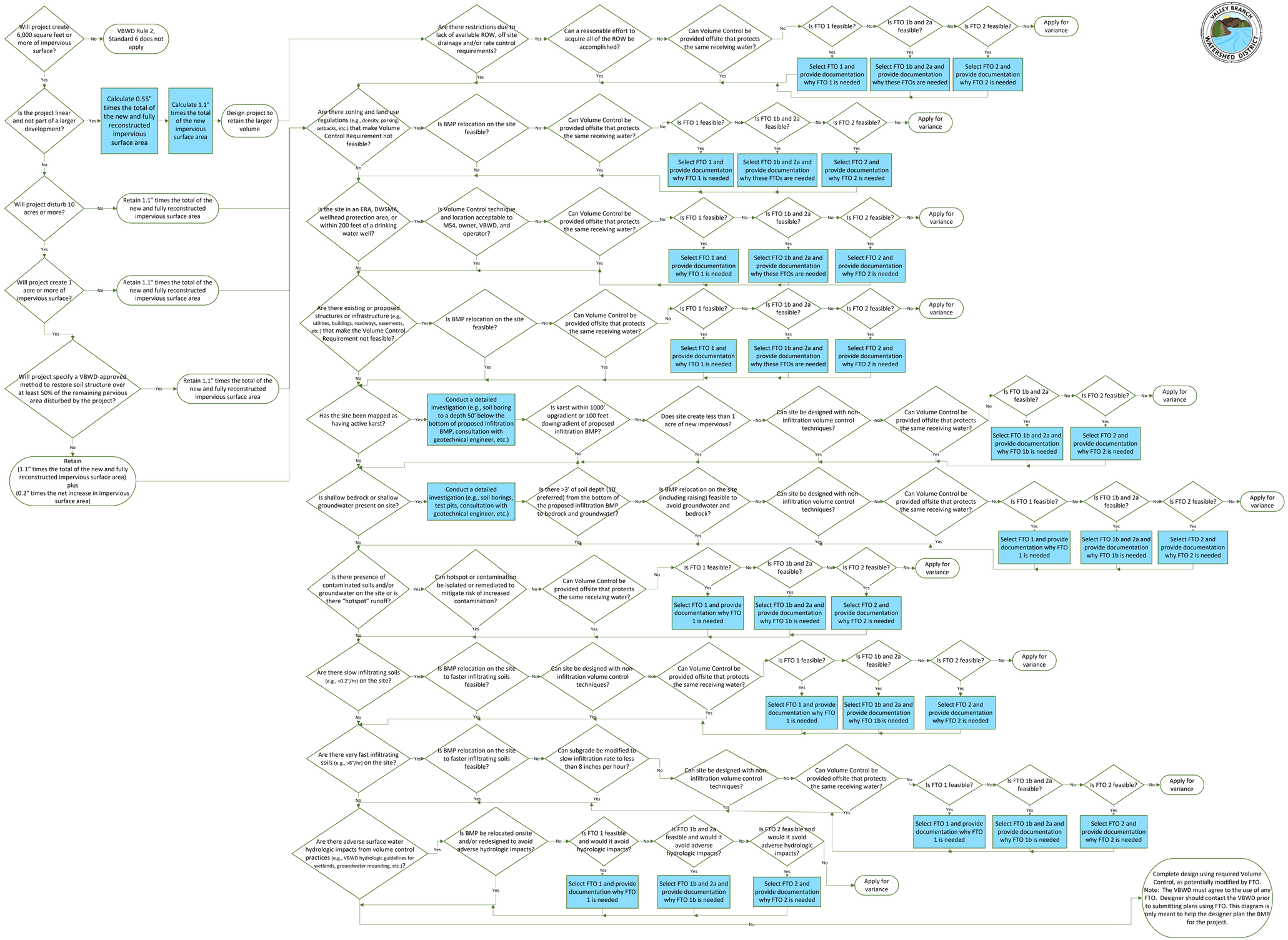
Applicant designs site to comply with the following conditions:

2a Retain runoff volume to the maximum extent practicable (as determined by the VBWD), and

2b Remove 60% of the annual total phosphorus load

Notes and Definitions:

- Fully reconstructed impervious surfaces: Areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects and other pavement rehabilitation projects that do not alter the underlying soil material beneath the structure, pavement, or activity are not considered fully reconstructed. In addition, other maintenance activities such as catch basin and pipe repair/replacement, lighting, and pedestrian ramp improvements shall not be considered fully reconstructed impervious surfaces. Reusing an existing building foundation and re-roofing of an existing building area not considered fully reconstructed.
- Listed examples do not provide an exhaustive list.
- Soils that infiltrate too quickly may not provide sufficient pollutant removal before the infiltrated runoff enters groundwater.



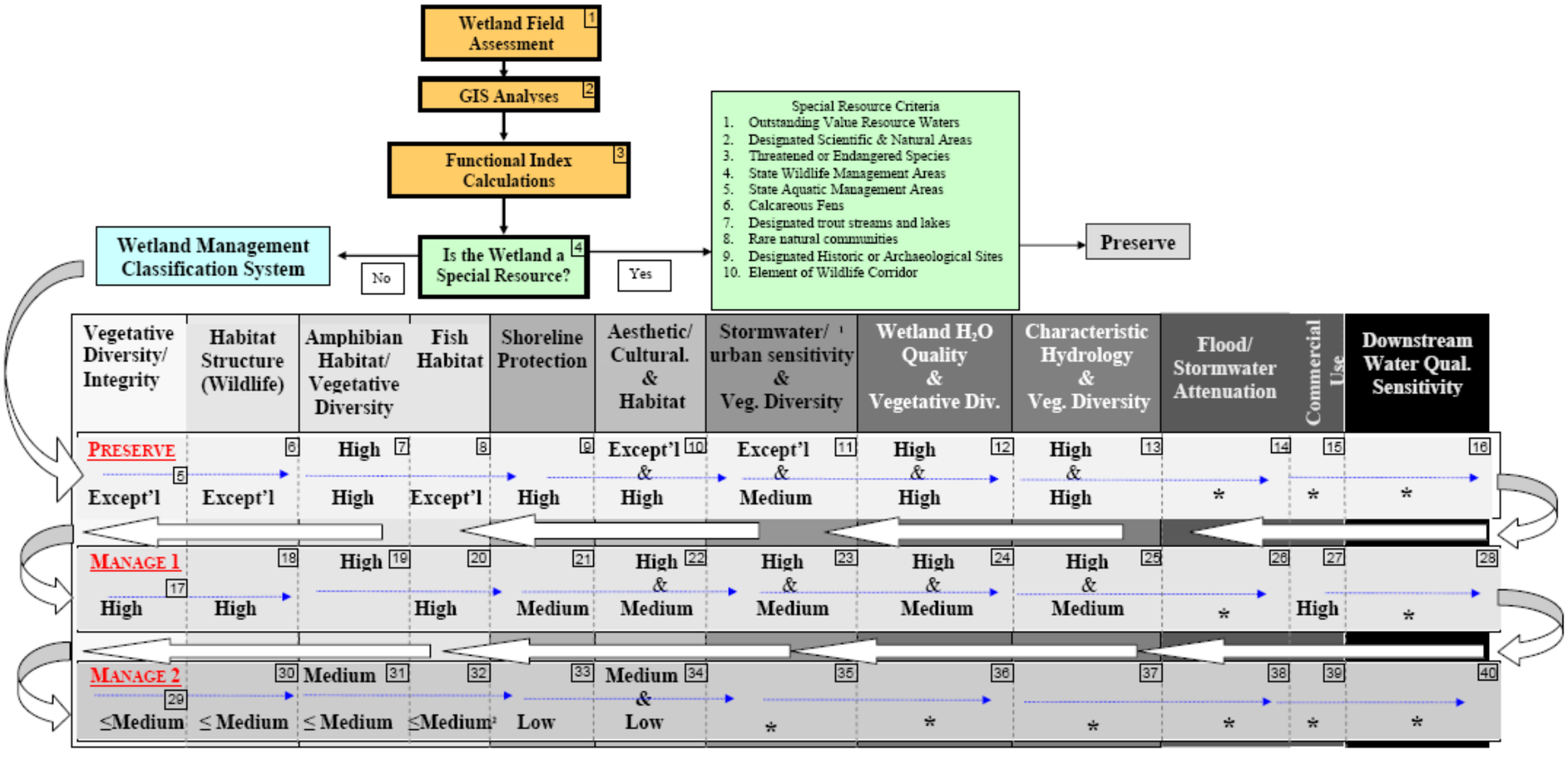
Appendix C

Wetland Inventory and Functional Assessment and Classification

Figure C-1

Wetland Management Classification Flowchart

Each wetland will be ranked into a Wetland Management group by the highest rated function for the wetland.
Follow the arrows through numbered boxes in progression through the tables; classify wetlands into the first group that applies.



Stormwater Pond — **A stormwater pond is a pond constructed in upland with a permanent pool, the purpose of which is to treat stormwater runoff.**

*** This rating does not apply here.**

Table C-2
WETLAND MANAGEMENT STANDARDS AND GUIDELINES[1]
Valley Branch Watershed District

Management Class	Average Buffer[2,3,4]	Hydrologic Guidelines
A-Preserve	100 feet Monuments required marking buffer edge[6]	*Bounce (10-year, 24-hour)*: Existing *Inundation*[5] *(1- and 2-year, 24-hour):* Existing *Inundation*[5] *(10-year, 24-hour)*: Existing *Runout Control*: No Change Maintain existing hydrology. The runoff volume flowing into the wetland from a 2-year 24-hour event cannot be changed by more than 10%[7]. Encourage infiltration and reduced impervious BMPs Conduct water budget analysis
B-Manage 1	75 feet Monuments required marking buffer edge[6]	*Bounce (10-year, 24-hour)*: Existing + 0.5 feet *Inundation*[5] *(1- and 2-year, 24-hour):* Existing plus 1 day *Inundation*[5] *(10-year, 24-hour)*: Existing + 7 days *Runout Control*: No Change Maintain existing hydrology. The runoff volume flowing into the wetland from a 2-year 24-hour event cannot be changed by more than 10%[7]. Encourage infiltration and reduced impervious BMPs
C-Manage 2	50 feet	*Bounce (10-year, 24-hour)*: Existing + 2.0 feet *Inundation*[5] *(1- and 2-year, 24-hour):* Existing plus 5 days *Inundation*[5] *(10-year, 24-hour)*: Existing + 14 days *Runout Control*: 0 to 2.0 feet above existing runout Runoff volume flowing into the wetland from a 2-year 24-hour event cannot be changed by more than 25%[7].

1 Modified from Minnesota Routine Assessment Method For Evaluating Wetland Functions, Version 3.0 (MNRAM).

2 Buffers are unmowed, naturalized strips of vegetation around the perimeter of the wetland. Buffers shall be provided during development or redevelopment. Buffer widths will be measured from the delineated wetland boundary, the OHW, or the normal water level, whichever is greater in elevation. See Rule 4 for details regarding buffers.

3 A minimum 25-foot-wide vegetative buffer strip is required around the delineated wetland boundary or the OHW, whichever is greater in elevation.

4 The average buffer widths listed are within the ranges recommended by MNRAM.

5 Defined as the time when wetland water levels are above the outlet elevation following the prescribed storm event.

6 The VBWD shall approve buffer monuments and locations.

7 This is not a guideline of MNRAM but a VBWD standard meant to meet the Wetland Conservation Act's intent of avoiding direct or indirect impacts from activities that destroy or diminish the quantity, quality, and biological diversity of wetlands. In lieu of the applicant submitting plans and calculations that show the hydrology of wetlands will not be negatively impacted due to the proposed project, a 5-year wetland monitoring plan shall be submitted and approved by the VBWD Engineer before construction. If wetlands are negatively impacted by hydrology changes due to the project, the applicant will need to replace the lost wetlands.