2014 Annual Report
Valley Branch Watershed District
Includes parts of the cities of Afton, Grant, Lake Elmo, Mahtomedi, Maplewood, North St. Paul, Oakdale, Oak Park Heights, Pine Springs, St. Mary's Point, White Bear Lake, and Woodbury, and the townships of Baytown, and West Lakeland in Ramsey and Washington counties.
Valley Branch Watershed District
2014 Annual Report

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The Valley Branch Watershed District was established November 14, 1968 by the Minnesota Water Resources Board, now the Board of Water and Soil Resources. Flooding problems in the area led to the citizens’ petition to establish the District. Up until May 27, 2009, the Valley Branch Watershed District covered approximately 64 square miles. On May 27, 2009, approximately six square miles in southern Afton, which had previously been part of the Lower St. Croix Watershed Management Organization, was added to the Valley Branch Watershed District through a Washington County petition. On December 16, 2009, approximately 30 square miles in Denmark Township, southern Afton, and northeast Cottage Grove was transferred to the Valley Branch Watershed District from the South Washington Watershed District through a citizens’ boundary change petition. On September 22, 2010, the area added to Valley Branch Watershed District on December 16, 2009 was transferred from Valley Branch Watershed District to the South Washington Watershed District. Approximately one square mile of the Valley Branch Watershed District is in Ramsey County; the remainder of the Valley Branch Watershed District lies in Washington County. Figure 1 shows the location and communities of the Valley Branch Watershed District.

This 2014 Annual Report is intended to furnish public officials and agencies with information about the Valley Branch Watershed District and to satisfy the requirements of Minnesota Statutes 103D.351 and Minnesota Rules Chapter 8410, the Metro Area Local Water Management Rules. This report summarizes Valley Branch Watershed District activities during the period of January 1, 2014 through December 31, 2014.

The remainder of this annual report is organized into two sections. Section 1 is the report on activities of the Board of Managers, and includes 2014 and 2015 organization and budget information, a summary of 2014 projects and accomplishments, and a list of goals for 2015.

Section 2 is a summary of the District Engineer’s activities. Technical data collected during 2014 is tabulated in the appendices to this report.
1.0 Activities of the Managers

1.1 Organization Information

The regularly scheduled Valley Branch Watershed District meetings are held on the second and fourth Thursdays of every month, in the Lake Elmo City Council Chambers located at 3800 Laverne Avenue North in Lake Elmo. At times, the regular meeting dates are changed and, when necessary, the meetings are canceled. As in other years, the Managers held only one meeting in November and one in December 2014.

The official address of the Valley Branch Watershed District is **P.O. Box 838, Lake Elmo, Minnesota 55042**. The Valley Branch Watershed District does not have a central office. Interested citizens may write to the Valley Branch Watershed District at the address above, contact one of the Managers, or attend a Valley Branch Watershed District meeting.

Table 1-1 lists the Valley Branch Watershed District Board of Managers, 2014 offices, addresses, and appointment information.

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>County</th>
<th>Month/Year First Appointed</th>
<th>Term Expiration Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Bucheck</td>
<td>2301 Legion Avenue</td>
<td></td>
<td>12/1995</td>
<td>11/13/2017</td>
</tr>
<tr>
<td>President</td>
<td>Lake Elmo, MN 55042</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:djbucheck@yahoo.com">djbucheck@yahoo.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vice President</td>
<td>North St. Paul, MN 55109</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:lincoln.fetcher@gmail.com">lincoln.fetcher@gmail.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jill Lucas</td>
<td>14888 50th Street South</td>
<td></td>
<td>1/2011</td>
<td>11/13/2016</td>
</tr>
<tr>
<td>Secretary</td>
<td>Afton, MN 55001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:jill.m.lucas@gmail.com">jill.m.lucas@gmail.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dale Borash</td>
<td>996 Neal Avenue North</td>
<td></td>
<td>8/1996</td>
<td>11/13/2015</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Stillwater, MN 55082</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:dbotash@q.com">dbotash@q.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed Marchan</td>
<td>13633 Greenwood Trail North</td>
<td></td>
<td>1/2011</td>
<td>11/13/2017</td>
</tr>
<tr>
<td></td>
<td>Stillwater, MN 55082</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:ed@brockmanmarchan.com">ed@brockmanmarchan.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Valley Branch Watershed District’s website address is [www.vbwd.org](http://www.vbwd.org). The website includes permitting information; Manager and consultant information; agendas and minutes from Managers’ meetings; links to other state, county, and community sites; water quantity and quality information; annual reports; information regarding stormwater best management practices; and the 2005-2015 Watershed Management plan.
The Valley Branch Watershed District has no full-time employees. As required by Minnesota Statutes, the Managers solicit proposals for legal and professional consultant service biennially. The Managers solicited proposals in the fall of 2014 and voted on January 8, 2015, to retain the legal, engineering, secretarial services, and auditing consultants. Table 1-2 lists the consultants serving the Managers.

Table 1-2 Valley Branch Watershed District Consultants

<table>
<thead>
<tr>
<th>Role</th>
<th>Consultant &amp; Mailing Address</th>
<th>Consultant’s Phone Number &amp; Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountant</td>
<td>Nancy Martinson&lt;br&gt;Redpath and Company&lt;br&gt;4810 White Bear Lake Parkway&lt;br&gt;White Bear Lake, MN 55110</td>
<td>651-426-7000&lt;br&gt;<a href="mailto:nmartinson@redpathcpas.com">nmartinson@redpathcpas.com</a></td>
</tr>
<tr>
<td>Attorney</td>
<td>Ray Marshall&lt;br&gt;Lawson, Marshall, McDonald &amp; Galowitz, P.A.&lt;br&gt;10390 39th Street North&lt;br&gt;Lake Elmo, MN 55042</td>
<td>651-777-6960&lt;br&gt;<a href="mailto:ray@lawsonlawfirm.com">ray@lawsonlawfirm.com</a></td>
</tr>
<tr>
<td>Auditor</td>
<td>Mark Gibbs&lt;br&gt;Redpath and Company&lt;br&gt;4810 White Bear Lake Parkway&lt;br&gt;White Bear Lake, MN 55110</td>
<td>651-426-7000&lt;br&gt;<a href="mailto:mgibbs@redpathcpas.com">mgibbs@redpathcpas.com</a></td>
</tr>
<tr>
<td>Best Management Practices (BMP) Cost-Share Program Administrator</td>
<td>Tara Kline&lt;br&gt;Washington Conservation District&lt;br&gt;455 Hayward Avenue North&lt;br&gt;Oakdale, MN 55128</td>
<td>651-330-8220 ext. 28&lt;br&gt;<a href="mailto:tkline@mnwcd.org">tkline@mnwcd.org</a></td>
</tr>
<tr>
<td>Educator</td>
<td>Angie Hong&lt;br&gt;East Metro Water Resources Education Program&lt;br&gt;455 Hayward Avenue North&lt;br&gt;Oakdale, MN 55128</td>
<td>651-330-8220 ext. 35&lt;br&gt;<a href="mailto:ahong@mnwcd.org">ahong@mnwcd.org</a></td>
</tr>
<tr>
<td>Engineer</td>
<td>John Hanson&lt;br&gt;Barr Engineering Co.&lt;br&gt;4700 West 77th Street&lt;br&gt;Minneapolis, MN 55435</td>
<td>952-832-2622&lt;br&gt;<a href="mailto:jhanson@barr.com">jhanson@barr.com</a></td>
</tr>
<tr>
<td>Inspector</td>
<td>Ray Roemmich&lt;br&gt;301 Crestwood Terrace&lt;br&gt;Stillwater, MN 55082</td>
<td>651-439-4551&lt;br&gt;<a href="mailto:rayr1955@gmail.com">rayr1955@gmail.com</a></td>
</tr>
<tr>
<td>Recording Secretary</td>
<td>Melissa Imse&lt;br&gt;11398 Halstead Trail&lt;br&gt;Woodbury, MN 55129</td>
<td>651-436-5938&lt;br&gt;<a href="mailto:mimse1994@msn.com">mimse1994@msn.com</a></td>
</tr>
</tbody>
</table>

The Managers annually designate an official District bank and official newspaper. On December 12, 2013, the Managers selected Lake Elmo Bank as the District’s official bank for 2014 and retained the Lillie Suburban Newspaper as the District’s Legal Newspaper for 2014.
1.2 Management Plans

1.2.1 Valley Branch Watershed District Watershed Management Plan

The 2005-2015 Valley Branch Watershed District (VBWD) Watershed Management Plan (Plan) was approved by the Minnesota Board of Water and Soil Resources on October 26, 2005. The District Managers adopted the Plan on November 10, 2005. The Valley Branch Watershed District Managers approved a Plan amendment on September 22, 2011 to include the area of the former Lower St. Croix WMO (LSCWMO). The Plan is posted to the District’s website.

The current Plan expires on October 26, 2015. It typically takes nearly two years from the time of planning to final plan approval. In 2014, the Managers continued working with staff from Barr Engineering Co. to prepare the 2015-2025 Watershed Management Plan. The Plan revision process began with stakeholder meetings to identify and prioritize issues for VBWD. The VBWD Managers reviewed the stakeholder comments, and began revisions to the VBWD vision and mission statement. VBWD finalized the Plan outline. VBWD will continue to work with Barr in 2015 to finalize the 2015-2025 Watershed Management Plan.

1.2.2 Local Water Management Plans

As of December 31, 2014, the Board of Managers had officially approved plans for all but three of the communities with land within the Valley Branch Watershed District. Table 1-3 summarizes the status of the local plans.

Table 1-3 Local Water Management Plan Status

<table>
<thead>
<tr>
<th>Community</th>
<th>Deadline</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afton</td>
<td>11/10/07</td>
<td>VBWD approved the City of Afton’s plan on April 14, 2011.</td>
</tr>
<tr>
<td>Baytown Township</td>
<td>05/2008</td>
<td>VBWD approved Baytown Township’s local plan on July 9, 2009.</td>
</tr>
<tr>
<td>Grant</td>
<td>11/10/07</td>
<td>VBWD approved the City of Grant’s plan on January 14, 2010.</td>
</tr>
<tr>
<td>Lake Elmo</td>
<td>3/31/09</td>
<td>VBWD approved the City of Lake Elmo’s plan on July 22, 2010.</td>
</tr>
<tr>
<td>Mahtomedi</td>
<td>11/10/07</td>
<td>In March 2009, VBWD sent comments on their comprehensive plan. In December 2009, VBWD sent a letter to Mahtomedi requesting an update on the plan status. Mahtomedi anticipated completing a local plan by spring 2012, which is within two years of the Rice Creek Watershed District adopting an updated watershed management plan. Mahtomedi submitted a draft plan to the VBWD in February 2014. The VBWD approved the Mahtomedi plan in August 2014.</td>
</tr>
<tr>
<td>Maplewood</td>
<td>11/10/07</td>
<td>VBWD approved the City of Maplewood plan in August 2009.</td>
</tr>
<tr>
<td>North St. Paul</td>
<td>11/10/07</td>
<td>VBWD approved the City of North St. Paul’s plan on November 13, 2008.</td>
</tr>
<tr>
<td>Community</td>
<td>Deadline</td>
<td>Status</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Oak Park Heights</td>
<td>05/2008</td>
<td>VBWD approved the City of Oak Park Heights’ plan on May 29, 2009.</td>
</tr>
<tr>
<td>Oakdale</td>
<td>11/10/2007</td>
<td>VBWD approved a Memorandum of Understanding and the City of Oakdale’s plan on July 22, 2010.</td>
</tr>
<tr>
<td>St. Mary’s Point</td>
<td>05/2008</td>
<td>St. Mary’s Point submitted a water management plan to VBWD in March 2008. VBWD replied with comments on May 23, 2008. As of December 31, 2014, the VBWD had not officially approved the plan.</td>
</tr>
<tr>
<td>West Lakeland Township</td>
<td>05/2008</td>
<td>On January 22, 2009, West Lakeland Township submitted a local water management plan as a chapter of its draft comprehensive plan. On March 2, 2009, the VBWD submitted comments on the Township’s plan. In December 2009, VBWD sent a letter to the Township, requesting an update on the plan status. In March 2010, VBWD submitted draft comments on the plan. VBWD has not approved a West Lakeland Township Plan.</td>
</tr>
<tr>
<td>Woodbury</td>
<td>11/10/2007</td>
<td>VBWD approved the City of Woodbury’s plan on January 22, 2009.</td>
</tr>
</tbody>
</table>

### 1.3 Wetland Banks

The Managers, as the Local Government Unit responsible for administering the Wetland Conservation Act, have certified one wetland bank within the Valley Branch Watershed District. The wetland bank is within the Whistling Valley 2nd Addition in the City of Lake Elmo. Another wetland bank is being developed within the Wildflower Shores subdivision in the City of Lake Elmo, but the bank has yet to be certified. The Managers certified the wetland bank for Whistling Valley 2nd Addition on November 9, 2006. The permit for developing the Wildflower Shores wetland bank was approved by the Managers on February 25, 2010. As of the end of 2014, no credits had been deposited into the Wildflower Shores wetland bank. For more information on wetland credits available from this wetland bank, the Minnesota Board of Water and Soil Resources should be contacted.

### 1.4 2014 Administrative Budget

Table 1-4 shows the Administrative Budget for the year beginning January 1, 2014.
Table 1-4  2014 Administrative Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting and Audit</td>
<td>$20,000</td>
</tr>
<tr>
<td>Bank Service Charges</td>
<td>$100</td>
</tr>
<tr>
<td>Dues and Publications</td>
<td>$4,000</td>
</tr>
<tr>
<td>Engineering/Administration*</td>
<td>$70,000</td>
</tr>
<tr>
<td>Insurance &amp; Bonds</td>
<td>$9,200</td>
</tr>
<tr>
<td>Legal Services</td>
<td>$7,000</td>
</tr>
<tr>
<td>Managers’ Expenses</td>
<td>$1,000</td>
</tr>
<tr>
<td>Managers’ Per Diem</td>
<td>$12,000</td>
</tr>
<tr>
<td>Office Expense</td>
<td>$100.00</td>
</tr>
<tr>
<td>Postage</td>
<td>$50</td>
</tr>
</tbody>
</table>

*These budget items are completed by Barr Engineering Co. They include responding to information requests, reviewing and preparing correspondence for the Managers, attending Managers’ meetings, representing the Managers at meetings and other functions, etc.

The Valley Branch Watershed District’s 2014 annual financial report and audit is being prepared. The 2014 financial report and audit will contain the content required of Minnesota Rule 8410.0150, Subpart 2 and Subpart 3, Paragraph d.

1.5  Advisory Committees

The Valley Branch Watershed District’s Advisory Committee is comprised of interested individuals and representatives of affected statutory and home rule charter cities, counties, and soil and water conservation districts.

Table 1-5  Citizen Advisory Committee

<table>
<thead>
<tr>
<th>Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeff Berg</td>
</tr>
<tr>
<td>3271 Lampert Ave. N.</td>
</tr>
<tr>
<td>Lake Elmo, MN 55042</td>
</tr>
<tr>
<td>651-779-3640</td>
</tr>
<tr>
<td>Roger Johnson</td>
</tr>
<tr>
<td>8048 Hill Trail</td>
</tr>
<tr>
<td>Lake Elmo, MN 55042</td>
</tr>
<tr>
<td>651-777-7766</td>
</tr>
<tr>
<td>James Kubiak</td>
</tr>
<tr>
<td>13761 Tomahawk Dr. S.</td>
</tr>
<tr>
<td>Afton, MN 55001</td>
</tr>
<tr>
<td>612-940-9842</td>
</tr>
</tbody>
</table>
### Member

<table>
<thead>
<tr>
<th>Charles Taylor</th>
</tr>
</thead>
<tbody>
<tr>
<td>4677 Birch Bark Trail N.</td>
</tr>
<tr>
<td>Lake Elmo, MN 55042</td>
</tr>
<tr>
<td>651-777-2979</td>
</tr>
</tbody>
</table>

### Table 1-6 Community Representatives

<table>
<thead>
<tr>
<th>Community</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Afton</td>
<td>Diane Hankee</td>
</tr>
<tr>
<td>Baytown Township</td>
<td>Jim Studenski</td>
</tr>
<tr>
<td>City of Grant</td>
<td>Phil Olson</td>
</tr>
<tr>
<td>City of Lake Elmo</td>
<td>Jack Griffin and Ryan Stempski</td>
</tr>
<tr>
<td>City of Mahtomedi</td>
<td>Jay Kennedy</td>
</tr>
<tr>
<td>City of Maplewood</td>
<td>DuWayne Konewko</td>
</tr>
<tr>
<td>City of North St. Paul</td>
<td>Jay Kennedy, Morgan Dawley, Keith Stachowski, and Scott Duddeck</td>
</tr>
<tr>
<td>City of Oak Park Heights</td>
<td>Chris Long</td>
</tr>
<tr>
<td>City of Oakdale</td>
<td>Brian Bachmeier</td>
</tr>
<tr>
<td>City of St. Mary’s Point</td>
<td>John Parotti</td>
</tr>
<tr>
<td>West Lakeland Township</td>
<td>Ryan Stempski</td>
</tr>
<tr>
<td>City of White Bear Lake</td>
<td>Mark Burch</td>
</tr>
<tr>
<td>City of Woodbury</td>
<td>Steve Kernik</td>
</tr>
<tr>
<td>Ramsey County</td>
<td>Terry Noonan</td>
</tr>
<tr>
<td>Ramsey Conservation District</td>
<td>Ryan Johnson</td>
</tr>
<tr>
<td>Washington County</td>
<td>Stephanie Souter and Jessica Colin-Pilarski</td>
</tr>
<tr>
<td>Washington Conservation District</td>
<td>Jed Chesnut and Jay Riggs</td>
</tr>
</tbody>
</table>

### 1.6 2014 Goals and Initiatives

Guided by their mission, the VBWD Managers continued to execute the 2005-2015 Watershed Management Plan in 2014. The VBWD Managers’ vision and mission are listed below. Following the vision and mission are the Managers 2014 goals and initiatives organized by each mission subset, with the status shown in italics. Table 1-10 also provides the status of VBWD Managers’ activities.

**VBWD Vision:**

*Always be careful stewards of the water resources within our watershed boundaries.*
VBWD Mission:

To manage and protect our water resources: lakes, ponds, creeks, streams, wetlands, drainages, and groundwater by:

A. Promoting open communication with our constituents, both our citizen base and pertinent governmental units.
B. Improving and protecting the quality of water for all water bodies within the VBWD.
C. Managing the quantity of water and minimizing the negative impact on the VBWD from floods, high flows, and droughts by providing public works projects and other prudent measures.
D. Understanding the effects of community growth and other activities on groundwater, initially focusing on the groundwater-surface water interface.
E. Continuing to enforce the Wetland Conservation Act requirements as the responsible local unit of government.
F. Educating our constituents and the local units of government within the VBWD on water quality and quantity issues, management, and means of improvement.

2014 Goals and Initiatives:

A. Continue working with communities who are developing stormwater management plans, comprehensive plans, floodplain ordinances, and other plans to ensure water resource issues are considered.
B. Begin to implement projects to stabilize and protect Valley Creek under the Clean Water Fund Grant.
D. Work with lake associations to support their aquatic invasive species management programs, as funds allow.
E. Continue reporting requirements for Wildflower Shores wetland banking program.
F. Continue basin and stream monitoring and reporting programs, including the continuous monitoring stations at Kelle’s Coulee and the outlet of Rest Area Pond.
G. Continue existing system and dam inspections, maintenance, operations and reporting programs.
H. Continue basin and groundwater level monitoring and reporting programs.
I. Continue to manage water level drawdown program for the 1007 project.
J. Continue the permit program for land development within the district.
K. Continue current and explore new education activities, including sponsoring the East Metro Water Resources Education Program (EMWREP), funding the Stillwater Area High School students’ macroinvertebrate monitoring of Valley Creek, and providing and/or funding opportunities for the VBWD Citizen Advisory Committee members and Managers.
L. Plan to hold a watershed tour in the spring for the Managers.
M. Supervise the Minnesota Pollution Control Agency as they complete a Watershed Restoration and Protection Strategies project over the next few years and begin to compile data and study the watersheds included in the project.
N. Follow grant opportunities, identify applicable grants for VBWD programs and projects, and pursue grants when appropriate.

P. Partner with the City of North St Paul to conduct maintenance and repairs at the Silver Lake Bioretention Basin.

Q. Determine if a well at Lake Olson needs to be sealed and seal it if necessary.

R. Work with the City of Lake Elmo to evaluate the impact of development on landlocked and/or semi-landlocked lakes.

1.7 Projects and Activities Initiated by the Board of Managers in 2014

The following is a summary of the projects and activities initiated by the Board of Managers or other significant activities involving the Managers in 2014. Figure 2 shows the locations of the 2014 Board-initiated projects.

1.7.1 Valley Creek Planning and Stabilization Projects

In September 2012, the VBWD applied for a 2013 Clean Water Fund Grant assistance from the Minnesota Board of Water and Soil Resources for infiltration and ravine stabilization within the Valley Creek watershed. The projects will develop an infiltration basin or basins at the head of Valley Creek and revegetate and control erosion at the intersection of 30th and Trading Post, where runoff discharges to a ravine. In December 2012, the BWSR announced that the project was awarded a $453,300 grant. The VBWD finalized a work plan and signed an agreement for the grant in 2013. In 2014 VBWD contacted the landowners and finalized the plans. Construction with begin in the summer of 2015.

1.7.2 BMP Cost-Share Program

In 2014, the Managers continued the Best Management Practices (BMP) Cost Share Program funding mechanism at a rate of $5,000 per pound of phosphorous removed for residential and community grant projects across the entire watershed. VBWD continued to contract with the Washington Conservation District to administer the program. A subcommittee reviews and recommends which projects should be funded by the Managers. Fifteen BMP cost share proposals were approved for funding by the Managers in 2014. The 2014 year-end report, prepared by the VBWD’s contractor, is attached in Appendix A.

1.7.3 Special Incentive BMP Program

The Managers developed a framework for a special incentive BMP cost-share program in 2009. The program is intended to encourage developers to implement practices that go above and beyond the stormwater management requirements. In 2014, there were no special incentive BMP projects.

1.7.4 Aquatic Plants

In April 2014, the Managers hosted a meeting with various lake associations and the public to discuss aquatic plant management and permit processes and requirements.
In 2014, the Managers reviewed the results of the point intercept plant surveys at Long Lake, Lake DeMontreville, Lake Olson, Lake Jane, Eagle Point Lake, Lake Elmo, Horseshoe Lake, Lake Edith, Lake McDonald, and Sunfish Lake.

In 2014, Lake Vegetation Management Plans were completed for Lake DeMontreville and Lake Olson. At the end of 2014, the Managers authorized Barr Engineering Co. to prepare Lake Vegetation Management Plans for Silver Lake, Lake Jane, and Lake Elmo. In addition, the Managers authorized technical support to the Silver Lake Improvement Association, Friends of Long Lake, Lake Olson/DeMontreville Association, and the City of Lake Elmo. Technical support includes: two point-intercept surveys in each lake, permitting, treatment design, and reporting required by the Minnesota Department of Natural Resources. See also Section 1.7.11.

1.7.5 Eagle Point Lake Dam Revegetation
To improve the habitat of Eagle Point Lake, the Managers began the first phase of revegetating the earthen dam in the fall of 2008. In 2014 maintenance mowing was done by Prairie Restorations, Inc.

1.7.6 DeMontreville Ravine Stabilization
In 2014, VBWD continued to maintain the vegetation of the DeMonteville Ravine stabilization project, which the VBWD constructed in 2009.

1.7.7 Silver Lake Restoration
In March 2012, the City of North St. Paul considered making modifications to the Silver Lake Bioretention Basin. The modifications would include excavating the basin a foot deeper and installing curb cuts along adjacent roads. The City agreed to have a survey of the basin done to determine if the potential modifications will achieve the City’s goals and still adequately treat the stormwater runoff. By the end of 2012, the City had partially completed the survey. In 2013, the survey was complete. Barr Engineering provided plans and cost estimates for the bioretention basin improvements. VBWD met with the North St. Paul City Staff to review the plans and began to negotiate roles and responsibilities for implementing and maintaining the Silver Lake bioretention basin. In 2014, VBWD continued to contact the City of North St. Paul, and the City has agreed to repair the basin.

1.7.8 Inspections, Operations, Monitoring, Permitting, and Reporting Programs
Inspections of the District’s systems and dams were completed in 2014, as usual. All systems appeared to performing adequately. Minor maintenance items were completed on Project 1007 and Farney Creek in 2014. Downed trees and debris were removed from Raleigh Creek. Operation of the Project 1007 drawdown was not necessary in 2014. In August 2014, an inlet grate and vortex reducer was installed at the Lake Olson outlet. The District’s monitoring program and data reporting is presented in Section 2. Permitting is discussed in Section 1.8.
1.7.9  East Metro Watershed Education Program

The VBWD is a member of the East Metro Watershed Education Program (EMWREP). The VBWD pays for approximately 20% of the program. The EMWREP 2014 annual report is attached in Appendix B.

1.7.10 Written Communication/Information Program

In addition to the East Metro Watershed Education Program discussed in Section 1.7.9, the Managers use the District’s website to communicate with the public. Because the District is an environmental-conscious organization, the Managers attempt to reduce mailings of paper documents. Therefore, this annual report, which contains the information required in Minnesota Rules 89410.0100, subpart 54, is posted to the District’s website and member communities and other stakeholders are notified when the annual report is posted.

1.7.11 Citizens Advisory Committee

Throughout 2014, the Managers continued to work with the VBWD Citizens Advisory Committee (CAC). The Managers directed its Citizen Advisory Committee (CAC) to organize a special VBWD aquatic invasive species (AIS) management committee to inform stakeholders of management options and discuss roles and responsibilities. AIS management committee members will include representatives lake associations (Silver Lake, Long Lake, Lake DeMontreville, Lake Olson, Lake Jane, Lake Elmo), at least one VBWD Board member, the District Engineer and other appropriate Barr staff, and representatives from each of the cities (Lake Elmo, Pine Springs, Mahtomedi, North St. Paul, and Maplewood). The AIS management committee will address aquatic invasive species (including zebra mussels) rather than solely Eurasian watermilfoil. Brian Buchmayer agreed to be added to the VBWD CAC. The VBWD CAC (Roger Johnson, Jeff Berg, and Brian Buchmayer; not James Kubiak or Chuck Taylor) will lead the effort. Chuck Taylor, another CAC member, continued to collect precipitation wand lake level data for the Managers.

1.7.12 Watershed Protection and Restoration Program

The MPCA has a Watershed Restoration and Protection (WRPP) program that provides funds to assess waters on a 10-year cycle that do not meet water quality standards, and to protect those waters that do meet standards. In June 2011, the MPCA inquired if VBWD would like to participate in the program. In September 2011, the VBWD Managers approved participation in the program and authorized Barr to begin developing a work plan. In July 2012, the Managers agreed to allow the contract for the WRPP to be between Barr Engineering Co. and the MPCA rather than between VBWD and the MPCA. In 2012, the Managers approved the WRPP work plan and authorized submittal of the work plan to the MPCA. In June 2013, Phase I work was completed. This included sediment samples in Lake Edith, developing P8 modeling inputs for new water quality best management practices, constructing updated P8 models, and developing lake vs. wetland classifications. The first public meeting was in May 2013. In August 2014, a second round of meetings was held to discuss the technical analyses results and a draft Total Maximum Daily Loads (TMDLs) for Sunfish Lake and Kelle's Creek, and potential resource restoration and protection strategies. A final set of technical stakeholder meetings will be held in the early 2015 to present the final TMDLs and implementation strategies.
1.7.13 **Afton Village Flood Protection**

In April 2014, after two years of planning, the City of Afton requested funding for the Afton Village project for flood protection efforts. In June 2014, the Managers approved Resolution 14-01, authorizing VBWD to contribute to the City of Afton's Old Village flooding, water quality, and sanitary improvements for up to $500,000.00 over a ten year period starting in 2015.

1.7.14 **Grant Participation**

In 2014, the VBWD applied for a Clean Water Fund Grants for the Downs Lake watershed, including stormwater reuse/irrigation/Lake Elmo Village, and another grant for investigating failing septic systems in the Kelle's Creek area and helping to replace failed systems. The VBWD has received a 2015 Clean Water Fund grant from the State of Minnesota for conducting a septic system inventory in the Kelle’s Creek watershed for $48,000. The Down’s Lake project was not funded.

1.7.15 **8400/8060 DeMontreville Trail Culvert/ Flooding Issues**

An 8400 DeMontreville Trail resident contacted VBWD to discuss concerns about flooding issues on her property. Unpermitted culvert crossings on a downstream property (8060 DeMontreville Trail) are restricting flow, frequently plugging with debris, and causing water to back up the channel. Throughout the summer, the Managers discussed the issue. The current property owners of the unpermitted culverts did not install them. Neither the City of Lake Elmo nor VBWD permitted the installation of the culverts. The Managers directed Barr Engineering to provide alternatives for the culvert crossings that would reduce the flooding and would conform to the VBWD Rules. The Managers reviewed alternatives and proposed a plan to remove all pipe crossings, install one bridge crossing, and assume the homeowner would hire the contractor, oversee construction, and ensure the contractor builds the crossing to meet design specifications.

1.7.16 **Long Lake**

In 2013, VBWD was notified that during the Highway 36 construction project, a culvert was damaged along Long Lake. As part of the conditions set forth in the VBWD permit of project, Minnesota Department of Transportation (MnDOT) must maintain the condition of the culvert. In late April 2014, MnDOT completed the installation of a new pipe.

1.7.17 **Watershed Level Flood Study**

At the April 10, 2014 meeting, the Managers direct Barr Engineering to prepare a cost estimate for modeling work for the watersheds within VBWD. The current hydrologic and hydraulic models of the VBWD were constructed in the early 1980s and are outdated. After discussing with the City of Lake Elmo and developers about partnering, but not getting positive responses, the Managers directed Barr Engineering to complete the studies of Goetschel Pond and Sunfish Lake for up to $85,000.00. The Managers agreed to share the results with developers, use the model to evaluate the effects of the proposed Wildflower at Lake Elmo and Gonyea/Schiltgen Parcel B developments, further investigate the
downward trend in Goetschel Pond’s water levels, and eventually submit information to FEMA and the City of Lake Elmo.

### 1.7.18 Sunnybrook Lake

In July, residents of Sunnybrook Lake attend a Managers’ meeting and expressed their concerns with flooding. VBWD met with City of Grant officials and discussed the flooding issues at the landlocked Sunnybrook Lake. VBWD paid Indian Hills Golf Club to pump water into the golf course in an attempt to ease the flooding at Sunnybrook Lake. VBWD also began to explore the feasibility of creating an ultimate emergency overflow out of the landlocked basin.
### 1.8 Permit Review Program

Table 1-7 is a listing of the permit applications that were reviewed in 2014. Figure 3 shows the location of the permits in the Valley Branch Watershed District.

#### Table 1-7 2014 Valley Branch Watershed District Permits

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Project</th>
<th>Location</th>
<th>Township</th>
<th>Range</th>
<th>Quarter Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-01</td>
<td>Oak-Land Junior High Tennis Courts</td>
<td>820 Manning Ave N, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Northeast quarter of Section 36</td>
<td>Reconstruct three tennis courts, creating six tennis courts</td>
</tr>
<tr>
<td>2014-02</td>
<td>Easton Village</td>
<td>South of railroad, west of Manning Avenue, north of 30th Street North, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Southeast quarter Section 13</td>
<td>Subdivide 98 acres into 218 single family residential lots approximately 0.2 acres in size. Construct roads, sidewalks, trails, sanitary sewer, water, and stormwater management facilities.</td>
</tr>
<tr>
<td>2014-03</td>
<td>Beaulieu Home</td>
<td>577 Julep Court N, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Southeast quarter of the northwest quarter of Section 34</td>
<td>Construction of a new home</td>
</tr>
<tr>
<td>2014-04</td>
<td>Rhoades Home</td>
<td>3592 Kelvin Court N, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Northwest quarter Section 14</td>
<td>Construction of a new home and swimming pool</td>
</tr>
<tr>
<td>2014-05</td>
<td>Pink Home</td>
<td>10902 57th Street N, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Northeast quarter of the northeast quarter of Section 2</td>
<td>Construction of a new home</td>
</tr>
<tr>
<td>Permit Number</td>
<td>Project</td>
<td>Location</td>
<td>Township</td>
<td>Range</td>
<td>Quarter Section</td>
<td>Description</td>
</tr>
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<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2014-06</td>
<td>Lake Elmo Avenue Trunk Watermain Improvements</td>
<td>Lake Elmo Ave between 30th St N and the future 5th St N, Lake Elmo</td>
<td>29</td>
<td>21</td>
<td>West half of Section 24, east line of Section 26/west line of Section 25, northwest line of Section 35/northwest line of Section 36</td>
<td>Remove/abandon 1,586 linear feet of watermain and install 14,311 linear feet of watermain</td>
</tr>
<tr>
<td>2014-07</td>
<td>Hammes Property</td>
<td>South of Goose Lake/Stonegate 2nd Addition and north of Savona, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Northeast quarter of Section 34</td>
<td>Subdivide 79 acres into 163 single family residential lots with roads, sidewalks, trails, sanitary sewer, water, and stormwater management.</td>
</tr>
<tr>
<td>2014-08</td>
<td>Valley Creek Trout Habitat Improvement</td>
<td>2121 Stagecoach Trail S, Afton</td>
<td>28N</td>
<td>20W</td>
<td>Northwest quarter of Section 15</td>
<td>Stabilize banks at strategic locations along 3,600 feet of Valley Creek</td>
</tr>
<tr>
<td>2014-09</td>
<td>Oman Home</td>
<td>8255 Lake Jane Trail, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Southeast quarter of Section 9</td>
<td>Construct new home</td>
</tr>
<tr>
<td>2014-10</td>
<td>Hunters Crossing</td>
<td>Approximately 0.7 miles south of 10th Street North, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Southwest quarter of Section 36</td>
<td>Construct 51 homes and associated roads, infrastructure, and stormwater management facilities</td>
</tr>
<tr>
<td>2014-11</td>
<td>Permit number assigned to an incomplete permit application and no permit was issued for the project in 2014</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

1 The Managers discussed the project but did not issue a permit because one was not required.
<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Project</th>
<th>Location</th>
<th>Township</th>
<th>Range</th>
<th>Quarter Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-12</td>
<td>Kwik Trip/Lakewood Crossing</td>
<td>Directly west of Keats Avenue between I-94 and Hudson Blvd, Lake Elmo</td>
<td>29</td>
<td>21W</td>
<td>Southeast quarter Section 34</td>
<td>Construct a Kwik Trip gas station/convenience store with car wash</td>
</tr>
<tr>
<td>2014-13</td>
<td>2014 Oakdale Streets Project</td>
<td>Several streets south of Stillwater Boulevard, north of 18th Street North, east of Helena Avenue North, and west of the Lake Elmo corporate boundary, Oakdale</td>
<td>29</td>
<td>21W</td>
<td>Northeast quarter of Section 29 and Section 20</td>
<td>Mill and overlay streets, replace 5 pond structures, remove sediment from 10 locations with stormwater ponds, and stabilize one ditch</td>
</tr>
<tr>
<td>2014-14</td>
<td>5730 57th Street Cove North</td>
<td>5730 57th Street Cove North, Lake Elmo</td>
<td>29</td>
<td>21W</td>
<td>Northeast quarter of Section 2</td>
<td>Construct a new home</td>
</tr>
<tr>
<td>2014-15</td>
<td>Highview Afton</td>
<td>30th Street South, Afton</td>
<td>28</td>
<td>20W</td>
<td>Southwest quarter of Section 16</td>
<td>Construct two new homes with separate driveways</td>
</tr>
<tr>
<td>2014-16</td>
<td>2014 Lake Elmo Street Improvements</td>
<td>Several streets near Deer Pond and in the Packard Park, Eden Park, and Schwartz Martinco neighborhoods, Lake Elmo</td>
<td>29</td>
<td>21W</td>
<td>South half of Section 9 and South half of Section 24</td>
<td>Reclaim some streets and reconstruct others; treat stormwater runoff.</td>
</tr>
<tr>
<td>2014-17</td>
<td>Westby Home</td>
<td>9754 Whistling Valley Road, Lake Elmo</td>
<td>29</td>
<td>21W</td>
<td>Southeast quarter of Section 27</td>
<td>Construct a new home</td>
</tr>
<tr>
<td>2014-18</td>
<td>Jasmine Hills</td>
<td>6639 Jasmine Avenue, Grant</td>
<td>30</td>
<td>21W</td>
<td>Northwest quarter of Section 34</td>
<td>Subdivide 76 acres into 7 single family lots and 1 outlet, construct a 1200 foot long road, 2 bioretention basins, 1 dry pond, and 1 wet pond</td>
</tr>
<tr>
<td>2014-19</td>
<td>Woodbury Lutheran Church</td>
<td>9060 60th Street North, Grant</td>
<td>30</td>
<td>21W</td>
<td>Southwest quarter of the southwest quarter of Section 34</td>
<td>Fill a depression to allow the area to be used by church members</td>
</tr>
<tr>
<td>Permit Number</td>
<td>Project</td>
<td>Location</td>
<td>Township</td>
<td>Range</td>
<td>Quarter Section</td>
<td>Description</td>
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</tr>
<tr>
<td>2014-20</td>
<td>39th Street North Improvements</td>
<td>39th Street North, between Lake Elmo Avenue and Highway 5 and a corridor from Highway 5 south to the railroad tracks, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Northwest quarter of Section 13</td>
<td>Reconstruct 39th Street North, construct an 8-foot wide trail on the north side, and a 6-foot wide sidewalk on the south side, and install sanitary sewer</td>
</tr>
<tr>
<td>2014-21</td>
<td>Woodbury NE Lift Station L77 &amp; Forcemain Improvements</td>
<td>South side of Hudson Road from the entrance of Gander Mountain to Settlers Ridge Parkway and east side of Settlers Ridge Parkway from Hudson Road to Gateway Place, Woodbury</td>
<td>28N</td>
<td>21W</td>
<td>Northeast quarter of Section 2 and west line of Section 1</td>
<td>Construct a sewage lift station and forcemain to serve Lake Elmo and northeast Woodbury</td>
</tr>
<tr>
<td>2014-22</td>
<td>Cimarron Community Center</td>
<td>Southeast of 10th Street North and Lake Elmo Avenue, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Northwest quarter Section 36</td>
<td>Construct a community center and outbuilding at Cimarron Park Lake Elmo</td>
</tr>
<tr>
<td>2014-23</td>
<td>Village Park Preserve</td>
<td>North of 30th Street North, west of Manning Avenue, south of Easton Village, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Southeast quarter of Section 13</td>
<td>Subdivide 45 acres into 100 single-family residential lots, generally 0.2 acres in size. Construct roads, sidewalks, trails, sanitary sewer, water, and stormwater management facilities</td>
</tr>
<tr>
<td>2014-24</td>
<td>Hanline Home</td>
<td>Lot2, Block 1, Artisan, West Lakeland Township</td>
<td>29N</td>
<td>20W</td>
<td>Southwest quarter Section 20</td>
<td>Construct a new home and garage</td>
</tr>
<tr>
<td>2014-25</td>
<td>Savona</td>
<td>West of Keats Avenue and north of Hudson Boulevard, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>South half of Section 34</td>
<td>Construct five multi-family buildings and public and private road access</td>
</tr>
<tr>
<td>Permit Number</td>
<td>Project</td>
<td>Location</td>
<td>Township</td>
<td>Range</td>
<td>Quarter Section</td>
<td>Description</td>
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<tr>
<td>2014-26</td>
<td>Koch Pipeline Company Hwy 36 Bore Site-Pipe Replacement</td>
<td>Highway 36 and Gateway Trail, Lake Elmo, Pine Springs, and Grant</td>
<td>29N 30N</td>
<td>21W</td>
<td>Northeast quarter Section 5, Southeast quarter Section 32, Southwest quarter Section 33</td>
<td>Replace approximately 1200 feet of pipeline</td>
</tr>
<tr>
<td>2014-27</td>
<td>Hedlund Silver Lake Shoreline Restoration</td>
<td>2825 Division Street North, North St. Paul</td>
<td>29N</td>
<td>22W</td>
<td>Southeast quarter Section 1</td>
<td>Install gravel-filled bags at shoreline</td>
</tr>
<tr>
<td>2014-28</td>
<td>Wildflower at Lake Elmo</td>
<td>North of Highway 5, east of Lake Elmo Avenue, and west of Fields of St. Croix 2nd Addition, Lake Elmo</td>
<td>29N</td>
<td>21W</td>
<td>Parts of the southwest quarter of Section 12 and northwest quarter of Section 13</td>
<td>Subdivide 101 acres into 143 single-family lots. Construct roads, sidewalks, trails, sanitary sewer, water, and stormwater management facilities</td>
</tr>
</tbody>
</table>
1.9 2015 Goals and Initiatives

The VBWD Managers plan to continue to execute the 2005-2015 Watershed Management Plan in 2015 with the following goals and initiatives.

1. Continue working with communities who are developing stormwater management plans, comprehensive plans, floodplain ordinances, and other plans to ensure water resource issues are considered.
2. Complete the project to stabilize and protect selected Valley Creek ravines under the Clean Water Fund Grant.
4. Work with lake associations to support their aquatic invasive species management programs if DNR permission is obtained.
5. Continue reporting requirements for Wildflower Shores wetland banking program.
6. Continue basin and stream monitoring and reporting programs, including the continuous monitoring stations at Kelle’s Creek and the outlet of Rest Area Pond.
7. Continue existing system and dam inspections, maintenance, operations and reporting programs.
8. Continue basin and groundwater level monitoring and reporting programs.
9. Continue to manage water level drawdown program for the 1007 project.
10. Continue the permit program for land development within the district.
11. Continue current and explore new education activities, including sponsoring EMWREP, funding the Stillwater Area High School students’ macroinvertebrate monitoring of Valley Creek, and providing and/or funding opportunities for the VBWD Citizen Advisory Committee members and Managers.
12. Plan to hold a watershed tour in the fall for the managers.
13. Monitor the Minnesota Pollution Control Agency as they complete a Watershed Restoration and Protection Project.
14. Stay abreast of grant opportunities, identify applicable grants for VBWD programs and projects, and pursue grants when appropriate.
15. Complete, approve and distribute the VBWD 10 Year Plan.
16. Partner with the City of North St Paul to conduct maintenance and repairs at the Silver Lake Bioretention Basin.
17. Complete the High Priority Projects in the system maintenance plan and consider at midyear if any Medium Priority Projects can be ordered.
18. Fulfill the grant requirements in the Kelle’s Creek Septic System Assessment.
19. Initiate full watershed modelling with emphasis on Downs Lake Subwatershed, the area with substantial residential development planned.
20. Continue to promote communication and collaboration with our residents, communities, and pertinent governmental units to achieve our Vision.
1.10 2015 Organization Information

At the January 22, 2015 meeting, the Managers elected the following officers for 2015:

<table>
<thead>
<tr>
<th>Office</th>
<th>Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>David Bucheck</td>
</tr>
<tr>
<td>Vice President</td>
<td>Lincoln Fetcher</td>
</tr>
<tr>
<td>Secretary</td>
<td>Jill Lucas</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Dale Borash</td>
</tr>
</tbody>
</table>

At the January 8, 2015 meeting, the Managers unanimously voted to retain the services of the Lake Elmo State Bank as the official bank for the District, and the Oakdale-Lake Elmo Review and Ramsey County Review as the official legal newspaper.

1.11 2015 Administrative Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting and Audit</td>
<td>$20,000</td>
</tr>
<tr>
<td>Bank Service Charges</td>
<td>$100</td>
</tr>
<tr>
<td>Dues and Publications</td>
<td>$4,000</td>
</tr>
<tr>
<td>Engineering/Administration*</td>
<td>$70,000</td>
</tr>
<tr>
<td>Insurance &amp; Bonds</td>
<td>$9,200</td>
</tr>
<tr>
<td>Legal Services</td>
<td>$7,000</td>
</tr>
<tr>
<td>Managers’ Expenses</td>
<td>$1,000</td>
</tr>
<tr>
<td>Managers’ Per Diem</td>
<td>$12,000</td>
</tr>
<tr>
<td>Office Expense</td>
<td>$100</td>
</tr>
<tr>
<td>Postage</td>
<td>$50</td>
</tr>
</tbody>
</table>

*These budget items are completed by Barr Engineering Co. They include responding to information requests, reviewing and preparing correspondence for the Managers, attending Managers’ meetings, representing the Managers at meetings and other functions, etc.

1.12 Plan Implementation Status

The Managers’ vision and mission statements and the policy statements listed in the 2005-2015 VBWD Watershed Management Plan (Plan) follow. Mission topics are given identification letters A through F. Policy statements are given a short letter prefix and a number. These codes are used in Table 1-10, and the mission topic and policies are listed in the first two columns of the table, respectively. For some
activities, the policy column is blank, especially for activities that reference Section 5 of the Plan. This is because there is no policy reference given for these activities in the Plan. The third column of the table is the action item identification code from the Plan. The action item has a prefix of the type of action and the legend for the prefix is listed in the table footer. A brief description of the action item is included in the fourth column. The reference to the Plan section is in the next column. The sixth column lists the implementation year that was estimated in the Plan. The last column gives the status of the implementation item.

**VBWD Vision:**
Always be careful stewards of the water resources within our watershed boundaries.

**VBWD Mission:**
To manage and protect our water resources: lakes, ponds, creeks, streams, wetlands, drainages, and groundwater by:

A. Promoting open communication with our constituents, both our citizen base and pertinent governmental units.
B. Improving and protecting the quality of water for all water bodies within the VBWD.
C. Managing the quantity of water and minimizing the negative impact on the VBWD from floods, high flows, and droughts by providing public works projects and other prudent measures.
D. Understanding the effects of community growth and other activities on groundwater, initially focusing on the groundwater-surface water interface.
E. Continuing to enforce the Wetland Conservation Act requirements as the responsible local unit of government.
F. Educating our constituents and the local units of government within the VBWD on water quality and quantity issues, management, and means of improvement.

**VBWD Public Involvement and Public Information (PI) Policies to Accomplish Mission:**

PI-A. Awareness of the VBWD’s presence and its role in managing water resources will be increased through expanded communications efforts.
PI-B. Interest in and support of VBWD will be increased through expanded cooperative education efforts, recruitment of volunteers, and involvement of the public, local units of government, and other agencies in VBWD projects and programs.
PI-C. 1. Awareness of the impacts that individual/corporate behavior can have on the watershed’s water resources will be raised through dissemination of education materials to targeted groups and through other public information efforts.
   2. Individual/corporate behaviors that have a positive impact on the water resources will be promoted through coordination/cooperation with other groups, agencies and others. The VBWD will investigate and develop a plan for an incentive program to encourage implementation of best management practices in the watershed.
   3. To assist with the VBWD’s watershed education-related efforts, a watershed educator will be hired.

**VBWD Surface Water Quality (WQ) Policies to Accomplish Mission:**

WQ-A. All major water bodies will be classified
WQ-B. All major water bodies will be managed for non-degradation of water quality, with allowance for natural variability.
WQ-C. The water quality and habitat of all major water bodies will be monitored to detect changes or trends.
WQ-D. The water quality monitoring data will be analyzed to track trends.
WQ-E. The water quality monitoring results will be reported.
WQ-F. Action triggers will be set to assist in determining appropriate water quality management/improvement actions.

WQ-G. Appropriate water quality management/improvement actions will be implemented. New technologies/methods will be investigated.

WQ-H. Current and future VBWD water quality improvement systems will be operated and maintained to ensure they provide the designed benefits.

**VBWD Stream Management and Restoration (SM&R) Policies to Accomplish Mission**

SM&R-A. 1. The water quality of VBWD’s perennial streams (Valley Creek) will be regularly monitored. The water quality of intermittent streams may be monitored.

   2. The physical condition of VBWD’s perennial streams (Valley Creek) and major intermittent streams (Raleigh Creek) will be monitored on a regular basis.

   3. Monitoring results will be reported.

SM&R-B. Stream degradation problems will be prevented through administration of VBWD’s permit program, review of community plans, and education.

SM&R-C. VBWD will implement stream management and stream restoration projects and actions to address identified streambank erosion, gully erosion and other stream degradation problems.

SM&R-D. VBWD will not allow new buildings to be constructed within the 100-year floodplain of a stream. The VBWD will consider solutions to existing flooding problems.

**VBWD Stormwater Runoff Management (SW) Policies to Accomplish Mission**

SW-A. 1. 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.

   2. Stormwater volume control requirements will be developed and adopted.

SW-B. 1. All stormwater runoff will be treated at the time of development, through VBWD’s permitting program.

   2. Developers will be encouraged to try new and innovative stormwater management techniques.

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

   4. Projects and developments plans will be reviewed to evaluate compliance with VBWD standards.

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

   6. Local watershed management plans will be reviewed for compliance with this Plan.

SW-C. Stormwater quality treatment ponds will be inventoried, maintained, repaired and retrofitted to provide the required level of stormwater quality treatment.

SW-D. NPDES Phase II MS4 requirements will be met.

SW-E. 1. A permit program regulating land use and development will continue to be administered and enforced to prevent negative impacts from stormwater runoff.

   2. The VBWD will allow local units of government to assume VBWD’s permitting authority if certain conditions are met.

   3. Submittals will be required for VBWD-permitted projects that must show how the project will meet VBWD requirements for stormwater quality treatment, stormwater rate and volume management, and erosion control.
VBWD Water Level and Floodplain Management (WL&FM) Policies to Accomplish Mission:

WL&FM-A. Data (e.g., lake levels, precipitation records, snowpack monitoring, groundwater levels) will continue to be collected to assist in managing the water levels and floodplains of the VBWD’s water resources.

WL&FM-B. This data (e.g., lake levels, precipitation records, snowpack monitoring, groundwater levels) will be reported.

WL&FM-C. The VBWD will determine the appropriate level of its involvement in solving the remaining flooding problems on a case-by-case basis. If determined necessary, the VBWD will take the appropriate water level and floodplain management actions to solve flooding problems in the VBWD.

WL&FM-D. Current and future VBWD flood control systems (e.g., Project 1007) will be operated and maintained to ensure they provide the designed benefits.

WL&FM-E. Flooding problems will be prevented through permit review, community plan review, and education efforts.

VBWD Groundwater Management (GM) Policies to Accomplish Mission:

GM-A. Groundwater level data will continue to be collected to assist in managing the water levels and floodplains of the VBWD’s water resources.

GM-B. Groundwater level data will be reported.

GM-C. 1. The VBWD will cooperate with Washington County to address groundwater quality issues (e.g., failing individual and community sewage systems).

2. The VBWD encourages the cities and other public water suppliers to adopt wellhead protection programs. These programs will include the identification and sealing of abandoned wells. The wellhead protection plans must be submitted to VBWD for review.

3. The VBWD will cooperate with the cities and other public water suppliers to educate the general public concerning the use of best management practices to prevent contamination of groundwater supplies and the importance of these measures in protecting groundwater supplies.

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

GM-E. 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.

VBWD Wetland Management (WL) Policies to Accomplish Mission

WL-A. Revise VBWD rules and regulations to incorporate wetland management standards and a wetland management classification system.

WL-B. Complete wetland inventories and assessments in targeted areas of the VBWD. The VBWD will meet with agencies, local government units, technical evaluation panel members, and other groups to share the results of the inventories, assessments, and classifications, gather feedback, and explore partnerships and potential projects related to wetland management.

WL-C. Wetland activities will be managed through VBWD administration of the Wetland Conservation Act and the VBWD rules and regulations.

WL-D Develop invasive species control program.
<table>
<thead>
<tr>
<th>VBWD Mission</th>
<th>VBWD Policy</th>
<th>Item Number from Table 7-1 of Plan</th>
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<tbody>
<tr>
<td>A, F</td>
<td>PI-A, PI-B, PI-C</td>
<td>AA-1</td>
<td>General education activities: • Increase awareness of VBWD • Coordinate and cooperate with other entities to educate the public on general watershed issues • Promote positive behaviors through education and other public information efforts</td>
<td>4.1.7</td>
<td>Annually</td>
<td>Continuing. This is accomplished through a variety of methods, including but not limited to newspaper articles and notices, the VBWD website, the VBWD BMP cost-share program, meetings with neighborhood groups, and attending community meetings.</td>
</tr>
<tr>
<td>A, F</td>
<td>PI-A</td>
<td>AA-2</td>
<td>Update VBWD website</td>
<td>4.1.7</td>
<td>Annually</td>
<td>Meeting information updates are done twice a month. Larger updates are done when necessary.</td>
</tr>
<tr>
<td>A, F</td>
<td>PI-A</td>
<td>AA-3</td>
<td>Respond to information requests/provide information</td>
<td>4.1.7</td>
<td>Annually</td>
<td>Continuing. Each year, the VBWD receives hundreds of information requests, ranging from water levels and aquatic plants to 30-year old development plans and possible PFC contaminant routes.</td>
</tr>
<tr>
<td>A, F</td>
<td>PI-B</td>
<td>AA-4</td>
<td>Recruit and train volunteers for monitoring and other programs/projects</td>
<td>4.1.7</td>
<td>Annually</td>
<td>Volunteers continue to monitor the quality of lakes, pond, and wetlands through CAMP. Volunteers also monitor water levels.</td>
</tr>
<tr>
<td>A, F</td>
<td>PI-B</td>
<td>AA-5</td>
<td>Develop and implement VBWD volunteer recognition program</td>
<td>4.1.7</td>
<td>Annually</td>
<td>The Managers held a volunteer recognition event in 2012.</td>
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<td>A, F</td>
<td>PI-B</td>
<td>AA-6</td>
<td>Maintain VBWD Citizen Advisory Committee and seek to develop meaningful responsibilities for committee</td>
<td>4.1.7</td>
<td>Annually</td>
<td>Planning was done in 2008. Recruitment occurred and the committee was appointed in 2009. In 2014, the CAC lead education efforts regarding managing aquatic plants.</td>
</tr>
<tr>
<td>A, F</td>
<td>PI-C</td>
<td>AA-7</td>
<td>Develop plan for an incentive program encouraging implementation of best management practices in the watershed. This incentive program will focus on residents, but can also apply to businesses, developers, and others.</td>
<td>4.1.7</td>
<td>2006 – Develop program 2007 – Begin implementing annually thereafter</td>
<td>Developed cost-share program in 2007 and implemented in 2008. Each year since 2008, at least 15 proposals have been funded.</td>
</tr>
<tr>
<td>B</td>
<td>WQ-C</td>
<td>AA-9</td>
<td>Review and comment on MPCA’s draft impaired waters (303(d)) list</td>
<td>4.2.7</td>
<td>Every other year</td>
<td>Continues. The VBWD reviews the draft list when it comes out in odd numbered years and provides comments, if applicable, to the MPCA.</td>
</tr>
<tr>
<td>B</td>
<td>WQ-G</td>
<td>AA-10</td>
<td>Buffers: require 16.5-foot wide buffers and encourage/support wider buffers for new VBWD-permitted projects; encourage/support buffers at existing homes/businesses and park areas</td>
<td>4.2.7</td>
<td>Annually</td>
<td>Wider buffer rules were adopted January 25, 2007. VBWD continues to encourage/support wider buffers at existing homes/businesses. The Managers updated the rules in 2013, which included a 25-foot minimum buffer.</td>
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<tr>
<td>B, C</td>
<td>SW-B</td>
<td>AA-11</td>
<td>Develop and implement incentive program to encourage developers to try new and innovative stormwater management techniques. Incentive program could include VBWD funding of additional cost for implementing innovative measures, VBWD construction of demonstration project (see Capital Projects section of Table 7-1), and VBWD grant program.</td>
<td>4.4.7</td>
<td>2005 – Develop program 2006 – Begin implementing Annually thereafter</td>
<td>VBWD’s cost-share BMP program (Item AA-7), developed in 2007 and implemented in 2008, partially addressed this item. VBWD developed a separate incentive program to target non-homeowners in 2009. One project at Century College in White Bear Lake has already been approved for funding by the VBWD Managers and was constructed in the summer of 2009. No projects were approved in 2010, 2011 and 2014. One project was approved in 2012 and another was approved in 2013.</td>
</tr>
<tr>
<td>A, B</td>
<td>SW-D</td>
<td>AA-12</td>
<td>Conform to NPDES Phase II MS4 requirements, implement VBWD’s Stormwater Pollution Prevention Plan (SWPPP)</td>
<td>4.4.7</td>
<td>Annually</td>
<td>Continues. VBWD holds an annual public hearing to discuss the SWPPP and annual report and submits the annual report to the MPCA before the deadline. As required, VBWD updated its SWPPP and MS4 permit in 2013.</td>
</tr>
<tr>
<td>B, C</td>
<td>SW-E</td>
<td>AA-13</td>
<td>Administer VBWD permit program</td>
<td>4.4.7</td>
<td>Annually</td>
<td>Continues. See Table 1-7.</td>
</tr>
<tr>
<td>B, C, D</td>
<td>WL&amp;F M-E</td>
<td>AA-14</td>
<td>Review and comment on all DNR public waters work permit applications</td>
<td>4.5.7</td>
<td>Annually</td>
<td>Continues. The VBWD reviews and comments on approximately half a dozen DNR permit applications per year.</td>
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<tr>
<td>D</td>
<td>GM-C</td>
<td>AA-15</td>
<td>Cooperate with other units of government to address groundwater quality issues</td>
<td>4.6.7</td>
<td>Annually</td>
<td>Continues. Two examples of this work include working with Washington County, the MN Department of Health, the Minnesota Pollution Control Agency (MPCA), and the University of Minnesota in 2006-2008 to study issues related to PFC groundwater contamination and working with the MPCA, City of Lake Elmo, and Baytown Township in 2007 to develop an acceptable groundwater capture, treatment, and disposal system for the Baytown Groundwater Contamination Site.</td>
</tr>
<tr>
<td>E</td>
<td>WL-C</td>
<td>AA-16</td>
<td>Administer Wetland Conservation Act (VBWD is Local Government Unit)</td>
<td>4.7.7</td>
<td>Annually</td>
<td>Continues.</td>
</tr>
<tr>
<td>B, C, E</td>
<td>EP&amp;SC-B</td>
<td>AA-17</td>
<td>Inspect VBWD-permitted projects &amp; enforcement</td>
<td>4.8.7</td>
<td>Annually</td>
<td>Continues. See Item AA-13. The VBWD’s erosion control inspector routinely inspects VBWD-permitted projects. The VBWD permits about 30 projects annually. Of these, nearly all require erosion and sediment control inspection. The frequency of inspection depends upon the project size, the risk of failure, and the amount of activity.</td>
</tr>
<tr>
<td>B</td>
<td>AA-18</td>
<td></td>
<td>Valley Creek – facilitate meeting regarding 2000 Subwatershed Plan implementation</td>
<td>5.20.2.1 Item 7</td>
<td>Annually</td>
<td>VBWD continues to work with stakeholders, and staff has met with various stakeholders. No longer planned to be an annual event, but rather as needed.</td>
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<td>B</td>
<td>WQ-H</td>
<td>AOM-1</td>
<td>Operate, inspect, maintain, modify, and repair all existing and future VBWD water quality improvement systems</td>
<td>Section 4.2.7</td>
<td>Annually</td>
<td>Continues. Currently, no systems other than those in AOM-2 have been installed that require inspections, but ravine and stream restoration projects will be inspected routinely.</td>
</tr>
<tr>
<td>B, C</td>
<td>WL&amp;F M-D</td>
<td>AOM-2</td>
<td>Operate, inspect, maintain, modify, and repair all existing and future VBWD flood control systems (e.g., Project 1007, Rest Area Dam, Eagle Point Lake Dam, Olson Lake Estates Outlet, Echo Lake Outlet, Downs Lake Outlet, Weber Pond Outlet)</td>
<td>Section 4.5.7</td>
<td>Inspections: Annually Operation, maintenance and repair: as needed</td>
<td>Continues. Because operations are only needed and allowed when the water content of the snow is high in the spring, the system has needed no operations since 2005. Each fall the VBWD inspects the system. Some repairs (vegetation removal, sealing leaks, etc.) have been made since 2005, based on the inspections. No modifications to the systems have been made since 2005.</td>
</tr>
<tr>
<td>B, C</td>
<td></td>
<td>AOM-3</td>
<td>Valley Creek – inspect dam</td>
<td>Section 5.20.3</td>
<td>Annually</td>
<td>Done in 2007. VBWD does not anticipate conducting future inspections on this private dam.</td>
</tr>
<tr>
<td>A, F</td>
<td>PI-A</td>
<td>ADC-1</td>
<td>Publish and distribute VBWD annual report</td>
<td>Section 4.1.7</td>
<td>Annually</td>
<td>Continues. Paper copies of the annual report are sent to a few agencies before May 1 of each year and the report is posted to the VBWD’s website.</td>
</tr>
<tr>
<td>A, B, F</td>
<td>WQ-C</td>
<td>ADC-2</td>
<td>Basin water quality monitoring</td>
<td>Section 4.2.7 and individual subsections of Section 5 and Table 4.2.3</td>
<td>Annually</td>
<td>Continues. See Appendix D.</td>
</tr>
<tr>
<td>B</td>
<td>WQ-E, WQ-F</td>
<td>ADC-3</td>
<td>Analyze and report basin water quality monitoring, including calculating trends and action triggers and comparing results to triggers</td>
<td>Section 4.2.7</td>
<td>Annually</td>
<td>Continues. See Appendix D.</td>
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<tr>
<td>A, B, C, D, F</td>
<td>SM&amp;R-A</td>
<td>ADC-4</td>
<td>Stream water quality and streamflow monitoring of perennial streams (Valley Creek), and annual reporting</td>
<td>Sections 4.3.7, 5.10, and 5.20.2.1, Item 1</td>
<td>Annually</td>
<td>Continues, includes the WOMP station on the main stem of Valley Creek, WOMP-like stations on the south fork and north fork of Valley Creek, Item ADC-5, and invertebrate sampling, analyzing, and reporting at two stations on Valley Creek. See Appendix D.</td>
</tr>
<tr>
<td>A, B, F</td>
<td>ADC-5</td>
<td>Valley Creek – continue volunteer stream monitoring program</td>
<td>Section 5.20.21, Item 2</td>
<td>Annually</td>
<td>Continues. VBWD has funded a program with the Stillwater Area High School since 2002.</td>
<td></td>
</tr>
<tr>
<td>A, B, F</td>
<td>SM&amp;R-A</td>
<td>ADC-6</td>
<td>Physical monitoring of DNR-protected streams (i.e., Valley Creek and Raleigh Creek) and report results</td>
<td>Sections 4.3.7 and 5.11.2</td>
<td>Annually</td>
<td>Physical monitoring of portions of Raleigh Creek began prior to 2005. Physical monitoring of Raleigh Creek, Valley Creek, and Kelle’s Creek was done in 2012. As projects (see P-32) are implemented at Valley Creek, the VBWD will physically monitor the projects’ performance.</td>
</tr>
<tr>
<td>A, B, F</td>
<td>ADC-7</td>
<td>Raleigh Creek – Fund volunteer stream monitoring program</td>
<td>Section 5.11.2</td>
<td>Annually</td>
<td>Volunteers for the VBWD attempted to monitor Raleigh Creek in 2007, but it was too dry. This is no longer an annually planned activity.</td>
<td></td>
</tr>
<tr>
<td>A, C, F</td>
<td>WL&amp;F M-A, WL&amp;F M-B</td>
<td>ADC-8</td>
<td>Monthly basin water level monitoring and reporting. Possibly expand to include: Echo Lake, Weber Pond, Capaú’s Pond, Legion Pond, Bay Lake, Goose Lake, Clear Lake, Mergens Pond, Rose Lake and Kramer Pond</td>
<td>Sections 4.5.7, 5.3.3, 5.4.3, 5.6.3, 5.27.3, 5.28.3, 5.29.3, 5.30.3, 5.32.3, 5.33.3, and 5.34.3</td>
<td>Annually</td>
<td>Continues. As suggested in the Plan and summarized in the item description, the VBWD expanded the water level monitoring program in 2008. VBWD determines whether to continue to monitor the water levels of each basin on a case-by-case basis.</td>
</tr>
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<tr>
<td>A, B, C, F</td>
<td>WL&amp;F M-A, WL&amp;F M-B</td>
<td>ADC-9</td>
<td>Daily precipitation monitoring and monthly reporting</td>
<td>Section 4.5.7</td>
<td>Annually</td>
<td>Continues. A volunteer for the VBWD records daily precipitation at the station north of Lake Jane and reports the monthly amounts to the VBWD.</td>
</tr>
<tr>
<td>C</td>
<td>WL&amp;F M-A, WL&amp;F M-B</td>
<td>ADC-10</td>
<td>Snowpack monitoring</td>
<td>Section 4.5.7</td>
<td>When needed</td>
<td>As needed. Since 2005, the VBWD has not needed to conduct snowpack monitoring. In 2011 and 2014, the VBWD reviewed adjacent watershed district's snowpack monitoring results and tracked results on NOAA's website. Snowpack monitoring is done when the water content of the snow is suspected to be high enough to trigger operations on the VBWD's flood control system. See Item AOM-2.</td>
</tr>
<tr>
<td>A, C, D, F</td>
<td>WL&amp;F M-A, WL&amp;F M-B, GM-A, GM-B</td>
<td>ADC-11</td>
<td>Groundwater level monitoring &amp; reporting</td>
<td>Section 4.5.7 and 4.6.7</td>
<td>At least quarterly monitoring, annual reporting</td>
<td>Continues. See Appendix E.</td>
</tr>
<tr>
<td>A, F</td>
<td>PI-A</td>
<td>A-1</td>
<td>Hold tours, events, and/or orientation meetings for interested citizens</td>
<td>Section 4.1.7</td>
<td>As needed or in response to requests</td>
<td>As needed. For example, the VBWD held a tour of Valley Creek stabilization projects with MPCA and EPA officials in 2008. In 2009, the Managers and CAC members toured several sites within the VBWD. In 2011 and 2014, the Managers toured several sites. See Item AA-4, too.</td>
</tr>
<tr>
<td>A, B, C, D, E, F</td>
<td>PI-B</td>
<td>A-2</td>
<td>Seek input from Technical Advisory Committee</td>
<td>Section 4.1.7</td>
<td>As needed</td>
<td>As needed. For example, the VBWD requested input from the TAC when it developed its 2007 rules.</td>
</tr>
<tr>
<td>B</td>
<td>WQ-A</td>
<td>A-3</td>
<td>Revise individual water body classifications</td>
<td>Section 4.2.7</td>
<td>As warranted</td>
<td>No revisions have been made yet.</td>
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<tr>
<td>B</td>
<td>WQ-G</td>
<td>A-4 (See also P-4 in this table)</td>
<td>Implement recommended actions resulting from habitat monitoring program</td>
<td>Section 4.2.7</td>
<td>As recommended</td>
<td>The VBWD is working with its educator to implement many of the recommendations. The VBWD revegetated the Eagle Point Lake dam.</td>
</tr>
<tr>
<td>B</td>
<td>WQ-G</td>
<td>A-5</td>
<td>Cooperate with the DNR and other groups on fisheries issues</td>
<td>Section 4.2.7</td>
<td>As requested</td>
<td>Not requested yet.</td>
</tr>
<tr>
<td>A, B, C, D, E, F</td>
<td>SW-B</td>
<td>A-7</td>
<td>Work with local government units to adopt/revise land use ordinances to allow for runoff prevention methods (narrower streets smaller parking lots, etc.)</td>
<td>Section 4.4.7</td>
<td>2006-2008</td>
<td>VBWD’s educator has organized training workshop for local officials to incorporate policies for allowing these practices in local comprehensive plans. VBWD expects to continue to work with LGUs through the comprehensive planning and implementation process.</td>
</tr>
<tr>
<td>A, B, C, D, E, F</td>
<td>WL&amp;F M-E</td>
<td>A-8</td>
<td>Review community comprehensive land use plans, proposed revisions and zoning changes</td>
<td>Section 4.5.7, Section 8.1</td>
<td>As needed. Assumed in 2008 for Oakdale, Lake Elmo, Woodbury, Afton, Oak Park Heights, Grant, White Bear Lake, Maplewood, Mahtomedi, North St. Paul</td>
<td>See Table 1-3.</td>
</tr>
<tr>
<td>VBWD Mission</td>
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<tr>
<td>A, B, C, D, E, F</td>
<td>WL&amp;FM-E</td>
<td>A-9</td>
<td>Review environmental assessments (e.g., EAW, EIS, AUAR)</td>
<td>Section 4.5.7</td>
<td>As needed</td>
<td>Continues. Since 2005, the VBWD has submitted comments on environmental assessments (EAWs, EISs, AUARs, etc.) for a proposed fly ash landfill in West Lakeland Township, clean-up plans for the Baytown Groundwater Contamination Site, a sanitary sewer line extension, developments in Afton, Woodbury, and Lake Elmo.</td>
</tr>
<tr>
<td>A, B, C, D, E, F</td>
<td>WL&amp;FM-E</td>
<td>A-10</td>
<td>Review community floodplain and shoreland management ordinances</td>
<td>Section 4.5.7</td>
<td>As needed. Assumed in 2008 for cities listed in A-8.</td>
<td>The VBWD reviewed the City of Lake Elmo’s revised ordinance in 2014.</td>
</tr>
<tr>
<td>A, D, F</td>
<td>GM-C</td>
<td>A-11</td>
<td>Review community wellhead protection plans</td>
<td>Section 4.6.7</td>
<td>As needed</td>
<td>Continues.</td>
</tr>
<tr>
<td>A, D, F</td>
<td>GM-C</td>
<td>A-12</td>
<td>Cooperate with cities and other public water suppliers in education efforts regarding preventing contamination of groundwater supplies</td>
<td>Section 4.6.7</td>
<td>As needed</td>
<td>Continues, including, but not limited to, VBWD’s participation in the East Metro Watershed Education Program and Washington County Water Consortium.</td>
</tr>
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<tr>
<td>A, F</td>
<td>EP &amp; SC C</td>
<td>A-15</td>
<td>Cooperate with other agencies to encourage good agricultural conservation measures in VBWD</td>
<td>Section 4.8.7</td>
<td>As needed</td>
<td>Continues, including, but not limited to, VBWD’s participation in the East Metro Water Resources Education Program (EMWREP) and Washington County Water Consortium and VBWD’s cooperation with and support of the Washington Conservation District programs.</td>
</tr>
<tr>
<td>A</td>
<td>F-A</td>
<td>A-16</td>
<td>Update VBWD legal boundary</td>
<td>Section 4.9.7</td>
<td>As needed</td>
<td>In 2008, the VBWD worked with Washington County to update the entire VBWD boundary. The VBWD legal boundary was changed in 2009 to include a portion of the former Lower St. Croix Watershed Management Organization. The boundary will likely be updated again in 2015.</td>
</tr>
</tbody>
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Valley Branch Watershed District  
2014 Annual Report
<table>
<thead>
<tr>
<th>Item Number from Table 7-1 of Plan</th>
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<tbody>
<tr>
<td>A-18</td>
<td>Silver Lake – Encourage buffers</td>
<td>Section 5.1.2.1, Item 2d and Section 4.2.7</td>
<td>2006</td>
<td>In 2007, VBWD communicated the benefits of buffers to the North St. Paul City Council and the Silver Lake Association. VBWD will continue to encourage buffers at Silver Lake on its own and through partnerships with EMWREP, Ramsey-Washington Metro Watershed District, and other organizations. VBWD also included comments regarding buffers in reviewing North St. Paul and Maplewood’s local plans in 2008. In 2008, the VBWD approved funding to help Maplewood establish vegetative buffers at Joy Park. Some of these buffers were constructed/installed in 2010. In 2009-2010, the VBWD worked with North St. Paul and the city stopped mowing so closely to the lake. Eventually, North St. Paul might submit a BMP cost-share grant application to the VBWD to improve the buffers.</td>
</tr>
<tr>
<td>A-18</td>
<td>Acorn Lake – Require Oakdale to install outlet restriction or provide information that shows not needed</td>
<td>Section 5.2.3</td>
<td>2007</td>
<td>The 2010 Oakdale water management plan addresses this issue.</td>
</tr>
<tr>
<td>A-20</td>
<td>Long Lake Outlet operation–Communication with property owners</td>
<td>Section 5.5.3.3, Item 3</td>
<td>As needed, assume every other year</td>
<td>Continues. The VBWD communicates frequently with Friends of Long Lake representatives regarding the Long Lake outlet.</td>
</tr>
<tr>
<td>A-21</td>
<td>Eagle Point Lake watershed – Work with WCP to protect oak forest areas and upland buffers</td>
<td>Section 5.12.2.1, Item 3</td>
<td>2007</td>
<td>VBWD communicated with Washington County Parks (WCP) in 2006 regarding this issue. VBWD will continue to work with WCP.</td>
</tr>
<tr>
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<tr>
<td>A, B, C, F</td>
<td>A-22</td>
<td>Valley Creek – provide incentives and technical assistance for removing or modifying flood control structures</td>
<td>Section 5.20.2.1, Item 5</td>
<td>2007</td>
</tr>
<tr>
<td>A, B, F</td>
<td>A-23</td>
<td>Valley Creek – work with agencies on reduction of thermal impacts</td>
<td>Section 5.20.2.1, Item 6</td>
<td>2006</td>
</tr>
<tr>
<td>B</td>
<td>SM&amp;R-A</td>
<td>DC-1</td>
<td>Monitor water quality of Raleigh Creek and other VBWD intermittent streams</td>
<td>Sections 4.3.7 and 5.11.2</td>
</tr>
<tr>
<td>B</td>
<td>SM&amp;R-A</td>
<td>DC-2</td>
<td>Monitor physical condition of streams other than Valley Creek and Raleigh Creek</td>
<td>Section 4.3.7</td>
</tr>
<tr>
<td>B</td>
<td>SW-C</td>
<td>DC-3</td>
<td>Stormwater pond inventory – locate ponds and determine if ponds meet criteria</td>
<td>Section 4.4.7</td>
</tr>
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<tr>
<td>B</td>
<td>EP&amp;SC-A</td>
<td>DC-4</td>
<td>Identify, inventory, prioritize, and monitor erosion and sedimentation problems that arise outside of VBWD permit program</td>
<td>Section 4.8.7</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>DC-6</td>
<td>Silver Lake ditch erosion stabilization evaluation</td>
<td>Section 5.1.2.1, Item 4</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>DC-7</td>
<td>Long Lake – Evaluate ravine erosion from Weber Pond</td>
<td>Section 5.5.2.1, Item 3a</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>DC-8</td>
<td>Long Lake – Evaluate sedimentation source from Highway 36</td>
<td>Section 5.5.2.1, Item 3b</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>DC-9</td>
<td>Goose Lake – Investigate gully erosion</td>
<td>Section 5.29.2, Item 2</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>DC-10</td>
<td>Goose Lake – complete aquatic plant surveys to determine if curlyleaf pondweed is kept in check</td>
<td>Section 5.29.2, Item 4</td>
</tr>
<tr>
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<td>VBWD Policy</td>
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<tr>
<td>B</td>
<td>DC-11</td>
<td>Goetschel Pond – Investigate gully erosion</td>
<td>Section 5.31.2, Item 3</td>
<td>2005</td>
</tr>
<tr>
<td>B</td>
<td>DC-12</td>
<td>Mergens Pond - develop bathymetric map</td>
<td>Section 5.32.2</td>
<td>2005</td>
</tr>
<tr>
<td>B, F</td>
<td>WQ-G S-1</td>
<td>Complete diagnostic-feasibility studies, when recommended, to determine needed water quality improvement projects</td>
<td>Section 4.2.7</td>
<td>As recommended</td>
</tr>
<tr>
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<tr>
<td>A, B, F</td>
<td>WQ-G</td>
<td>S-2</td>
<td>TMDL studies: cooperate with MPCA to determine responsible party for developing TMDL study, actively participate in TMDL process</td>
<td>Section 4.2.7</td>
</tr>
<tr>
<td>A, B, F</td>
<td>SW-C</td>
<td>S-3</td>
<td>Develop stormwater pond maintenance/repair/retrofit plan</td>
<td>Section 4.4.7</td>
</tr>
<tr>
<td>A, C, F</td>
<td>WL&amp;F M-D</td>
<td>S-5</td>
<td>Assist property owners in FEMA unnumbered A zones in obtaining Letters of Map Amendment or Letters of Map Revision</td>
<td>Section 4.5.7</td>
</tr>
<tr>
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<tr>
<td>A, B, F</td>
<td>WL-B</td>
<td>S-6</td>
<td>Complete wetland inventories and functional assessments in targeted areas of the VBWD, and meet with stakeholders to share results, gather feedback, and explore partnerships/projects.</td>
<td>Section 4.7.7</td>
</tr>
<tr>
<td>A, B, F</td>
<td>WL-D</td>
<td>S-7</td>
<td>Develop invasive species education and control program</td>
<td>Section 4.7.7</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>S-8</td>
<td>Silver Lake – Study (i.e., literature review) of curlyleaf pondweed and Eurasian water milfoil transport to downstream waters</td>
<td>Section 5.1.2.1, Item 3</td>
</tr>
<tr>
<td>A, C, F</td>
<td></td>
<td>S-9</td>
<td>Echo Lake Addition – Flood Relief Study</td>
<td>Section 5.3.3.1</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>S-10</td>
<td>Lake DeMontreville – Prepare feasibility study for sedimentation control project</td>
<td>Section 5.7.2.1</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>S-11</td>
<td>Rest Area Pond – Study (i.e., literature review) possible downstream impact of curlyleaf pondweed infestation</td>
<td>Section 5.17.2, Item 2</td>
</tr>
<tr>
<td>B, C</td>
<td></td>
<td>S-12</td>
<td>Rest Area Pond – Investigate feasibility of restricting outlet</td>
<td>Section 5.17.3</td>
</tr>
<tr>
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<tr>
<td>S-13</td>
<td>Valley Creek – Identify critical areas of concern for protection</td>
<td>Section 5.20.2.1, Item 1</td>
<td>2005</td>
<td>Completed in 2005 and re-inventoried in 2012.</td>
</tr>
<tr>
<td>P-1</td>
<td>Install information signs at current and future VBWD projects</td>
<td>Section 4.1.7</td>
<td>As needed.</td>
<td>A sign was installed at the Silver Lake Bioretention Site in 2007. A sign was replaced at the Eagle Point Lake dam in 2006, and a sign was placed at the Century College West Campus Education Island. More signs will be considered with future work.</td>
</tr>
<tr>
<td>P-2</td>
<td>Implement stream management and stream restoration projects and actions to address identified stream degradation problems</td>
<td>Section 4.3.7</td>
<td>To be determined</td>
<td>See below and Item P-32.</td>
</tr>
<tr>
<td>P-3</td>
<td>Implement TMDL studies in VBWD</td>
<td>Section 4.2.7</td>
<td>As required</td>
<td>Potential future work.</td>
</tr>
</tbody>
</table>

- **Mission**: VBWD Policy
- **Item Number from Plan**: S-13, S-14, P-1, P-2, P-3
- **Plan Reference Section**: Section 5.20.2.1, Item 1, Section 5.20.2.1, Item 3, Section 4.1.7, Section 4.3.7, Section 4.2.7
- **Proposed Implementation Year in Plan**: 2005, 2005, As needed, To be determined, As required
- **Status/Accomplishments**: Completed in 2005 and re-inventoried in 2012, Completed. Rules updated in 2007 and again in 2013, A sign was installed at the Silver Lake Bioretention Site in 2007. A sign was replaced at the Eagle Point Lake dam in 2006, and a sign was placed at the Century College West Campus Education Island. More signs will be considered with future work, VBWD completed a plan in 2008 and implemented projects in 2009, Detention ponds may be added in the future, but are no longer planned in the short-term, Potential future work.
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<tr>
<td>A, B, F</td>
<td>WQ-G</td>
<td>P-4</td>
<td>Implement recommended projects resulting from habitat monitoring program, i.e., lakescaping demonstration project, sediment excavation, aquatic plant management</td>
<td>Section 4.2.7</td>
<td>As needed</td>
<td>VBWD is working with its educator, WCD, and CAC members to implement recommendations from 2005-2009 monitoring reports.</td>
</tr>
<tr>
<td>B</td>
<td>SW-C</td>
<td>P-5</td>
<td>Implement stormwater pond maintenance/repair/retrofit plan</td>
<td>Section 4.4.7</td>
<td>Starting in 2012 and ongoing until plan fully implemented</td>
<td>Implemented in the winter of 2008-2009, when sediment from nine ponds was removed.</td>
</tr>
<tr>
<td>A, B, F</td>
<td>SW-B</td>
<td>P-6</td>
<td>Construct demonstration project for new and innovative stormwater management techniques</td>
<td>Sections 4.4.7 and 5.20.2.1, Item 4</td>
<td>2007 and in future years, when warranted</td>
<td>Long Lake shoreline project done in 2007. Silver Lake bioretention site done in 2005. Other projects funded through BMP cost-share program and incentive program.</td>
</tr>
<tr>
<td>A, B, F</td>
<td>WL-D</td>
<td>P-7</td>
<td>Implement invasive species education and control program</td>
<td>Section 4.7.7</td>
<td>2008 and in future years, if needed</td>
<td>VBWD has discussed this with its educator and WCD to implement and will be considered in the VBWD's BMP cost-share program.</td>
</tr>
<tr>
<td>B</td>
<td>EP&amp;SC-A</td>
<td>P-8</td>
<td>Implement measures to correct erosion and sedimentation problems</td>
<td>Section 4.8.7</td>
<td>As needed</td>
<td>Continues. Also see P-16, P-21, P-35, P-32, and P-36.</td>
</tr>
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<tr>
<td></td>
<td>B</td>
<td>P-9</td>
<td>Silver Lake – In-lake alum treatment</td>
<td>Section 5.1.2.1, Item 2b</td>
<td>2009</td>
<td>The 2000 water quality study of Silver Lake referenced in the 2005 Plan recommended that the VBWD consider in-lake alum treatment. At that time, it was unclear if Silver Lake was meeting its water quality goals, so this activity was included in the Plan. VBWD had decided not to perform this activity because of excellent water quality from 1999 through 2006. However, the lake water quality deteriorated in 2007 and continued to degrade due to whole lake treatments of aquatic plants (performed by the Silver Lake Improvement Association). The water quality improved in 2014. The VBWD is waiting for the completion of the WRAP (see items S-1 and S-2) to determine the most appropriate project for restoring Silver lake’s water quality.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>P-10</td>
<td>Silver Lake – Manage macrophytes</td>
<td>Section 5.1.2.1, Item 2c</td>
<td>2009</td>
<td>VBWD is no longer planning to take the lead in these efforts, but has contributed to efforts led by the Silver Lake Improvement Association.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>P-11</td>
<td>Silver Lake ditch erosion stabilization project implementation</td>
<td>Section 5.1.2.1, Item 4</td>
<td>2008</td>
<td>Ravine has evaluated in 2007. Stabilization work, if needed, will likely be done in partnership with Maplewood.</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>P-12</td>
<td>Echo Lake – In-lake alum treatment, if it benefits downstream waters</td>
<td>Section 5.3.2, Item 3a</td>
<td>2010</td>
<td>Potential future work.</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>P-13</td>
<td>Echo Lake Addition - Flood Relief Implementation</td>
<td>Section 5.3.3.1</td>
<td>Listed in final VBWD Plan as Not Applicable</td>
<td>Plan indicates Mahtomedi will perform. See S-9.</td>
</tr>
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<tr>
<td>B</td>
<td>P-14</td>
<td>Long Lake - Water quality improvement projects – one of the following: 1) Stormwater alum treatment, 2) 3 wet detention basins and infiltration basin, or 3) 3 wet detention basins, replacing about 26 sanitary septic systems.</td>
<td>Section 5.5.2.1, Item 1</td>
<td>2010</td>
<td>VBWD updated its feasibility assessment report and implemented an in-lake alum treatment in 2008. A second dose of alum was conducted in 2009.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-15</td>
<td>Long Lake – Manage curlyleaf pondweed</td>
<td>Section 5.5.2.1, Item 2</td>
<td>2010</td>
<td>VBWD has worked with the Friends of Long Lake to manage the macrophytes in the lake.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-16</td>
<td>Long Lake – Prepare feasibility study and implement project to stabilize ravine from Weber Pond</td>
<td>Section 5.5.2.1, Item 3a</td>
<td>2008</td>
<td>Plans prepared in 2008 and construction completed in 2009.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-17</td>
<td>Long Lake – Work with Mn/DOT to eliminate sedimentation source from Highway 36</td>
<td>Section 5.5.2.1, Item 3b</td>
<td>2008</td>
<td>See DC-8.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-18</td>
<td>Long Lake Outlet Debris Removal</td>
<td>Section 5.5.3.3, Item 2</td>
<td>As needed</td>
<td>As needed. Debris was removed and a trash rack was installed in 2007.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-19</td>
<td>Lake DeMontreville – In-lake alum treatment water quality improvement project</td>
<td>Section 5.7.2.1, Item 1a</td>
<td>2011</td>
<td>VBWD evaluated Lake DeMontreville’s water quality in 2008-2009. Improvement projects, if any, might be implemented after 2015.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-20</td>
<td>Lake DeMontreville – Curlyleaf pondweed management</td>
<td>Section 5.7.2.1, Item 1b</td>
<td>2011</td>
<td>Potential future work. The VBWD has conducted a point-intercept aquatic plant surveys to prepare for a potential curlyleaf pondweed treatment.</td>
<td></td>
</tr>
<tr>
<td>VBWD Mission</td>
<td>VBWD Policy</td>
<td>Item Number from Table 7-1 of Plan</td>
<td>Item Description</td>
<td>Plan Reference Section</td>
<td>Proposed Implementation Year in Plan</td>
<td>Status/Accomplishments</td>
</tr>
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<td>--------------</td>
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<tr>
<td>B</td>
<td>P-21</td>
<td>Lake DeMontreville – Implement sedimentation control project</td>
<td>Section 5.7.2.1</td>
<td>2008</td>
<td>VBWD evaluated the sedimentation issue in 2008 and implemented a project in 2009.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-22</td>
<td>Lake Olson - In-lake alum treatment water quality improvement project</td>
<td>Section 5.8.2.1, Item 1</td>
<td>2012</td>
<td>Potential future work, based on monitoring results.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-23</td>
<td>Lake Olson – Curlyleaf pondweed management</td>
<td>Section 5.8.2.1, Item 2</td>
<td>2012</td>
<td>Potential future work.</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>P-24</td>
<td>Lake Olson – Abandon old well</td>
<td>Section 5.8.3</td>
<td>2012</td>
<td>Future work, if necessary.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-25</td>
<td>Lake Jane – Curlyleaf pondweed management</td>
<td>Section 5.9.2.1, Item 3</td>
<td>2013</td>
<td>Potential future work.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-26</td>
<td>Eagle Point Lake – Curlyleaf pondweed management</td>
<td>Section 5.12.2.1, Item 2a</td>
<td>2014</td>
<td>Potential future work.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-27</td>
<td>Eagle Point Lake wetlands – Reed canary grass eradication</td>
<td>Section 5.12.2.1, Item 2b</td>
<td>2014</td>
<td>Potential future work.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-28</td>
<td>Eagle Point Lake Dam Revegetation</td>
<td>Section 5.12.2.1, Item 4</td>
<td>2006</td>
<td>VBWD began this project in 2008 and completed it in 2012.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-29</td>
<td>Horseshoe Lake – Curlyleaf pondweed management</td>
<td>Section 5.15.2, Item 4</td>
<td>2015</td>
<td>Potential future work.</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>P-30</td>
<td>Rest Area Pond – implement, if approved, restricting outlet</td>
<td>Section 5.17.3</td>
<td>2014</td>
<td>Potential future work.</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>P-31</td>
<td>Lake Edith – Curlyleaf pondweed management</td>
<td>Section 5.19.2, Item 3</td>
<td>2015</td>
<td>Potential future work.</td>
<td></td>
</tr>
<tr>
<td>VBWD Mission</td>
<td>VBWD Policy</td>
<td>Item Number from Table 7-1 of Plan</td>
<td>Item Description</td>
<td>Plan Reference Section</td>
<td>Proposed Implementation Year in Plan</td>
<td>Status/Accomplishments</td>
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<tr>
<td>B</td>
<td></td>
<td>P-32</td>
<td>Valley Creek – implement habitat improvement and stabilization projects</td>
<td>Section 5.20.1, Items 3 and 4</td>
<td>2005-2008</td>
<td>Continues. Oakgreen Avenue Infiltration Basin was constructed in 2008. Two stream stabilization projects and one road runoff stabilization project were also constructed in 2008. More projects are being planned as finances allow.</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>P-33</td>
<td>Valley Creek – implement dam rehabilitation or removal project</td>
<td>Section 5.20.3</td>
<td>2006</td>
<td>No longer planned – decision based on 2007 study and discussions.</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>P-34</td>
<td>Sunnybrook Lake – Implement Flood Level Reduction Project or other listed options</td>
<td>Section 5.21.3.4, Items 2 and 3</td>
<td>2005</td>
<td>No project was considered feasible. The Managers will re-evaluate in 2015.</td>
</tr>
<tr>
<td>B</td>
<td>WQ-G</td>
<td>P-37</td>
<td>Water quality improvement projects recommended in future water quality diagnostic feasibility studies</td>
<td>Section 4.2.7</td>
<td>As needed</td>
<td>An in-lake alum treatment improvement project was implemented at Sunfish Lake in 2008.</td>
</tr>
</tbody>
</table>
2.0 Engineer’s Annual Report

Engineering activities of the Board of Managers of the Valley Branch Watershed District (VBWD) during 2014 are summarized in different parts of this annual report. Sections 1.7, 1.12, and 2.1 include investigations by the Managers. As engineering advisors for the Managers, we assisted the Managers with these studies or projects. Also during 2014, the Board of Managers responded to activities of others within the Valley Branch Watershed District. As engineering advisors, we reviewed these actions and made recommendations to the Managers concerning conformance with the policies, objectives, rules, and regulations of the Valley Branch Watershed District. Many of these activities are summarized in Sections 1.2, 1.8, and 1.12. Section 2.2 summarizes the types of technical assistance we provided the Managers.

2.1 Valley Branch Watershed District Investigations and Studies

2.1.1 Basin water level monitoring program

Managing the quantity of water and minimizing the negative impact from floods, high flows, and droughts is a mission of the VBWD Managers. Collecting water level data helps the Managers make decisions in managing the water levels and floodplains of the VBWD’s water resources.

In 2014, the VBWD collected water level data from 21 basins. VBWD contracted with the Washington Conservation District to collect most of the water levels. Volunteers also collected water levels for the VBWD. Ramsey County Public Works read the water levels every two weeks during the ice-out months at Silver Lake. A volunteer for the Minnesota Department of Natural Resources (MDNR) reads and reports the water levels of Sunnybrook Lake.

In general, water levels rose in the spring, reached peaks in July, and declined in the late summer and fall. Many basins ended 2014 with water levels slightly higher than the water levels they had at the end of 2013. After a wet spring, almost 9.5 inches of fell in June at Lake Jane, with over 4.9 inches falling between June 15 and 19. The extraordinary amount of rain caused water levels in some lakes to reach heights not seen in 36 years. While still below its 100-year flood level, Silver Lake recorded its highest water level since July 1978. Long Lake also recorded its highest water level since July 1978 and exceeded its 100-year flood level on June 20. The water level of Lakes DeMontreville and Olson remained at least one foot below the VBWD’s 100-year flood level for the lakes, but remained above the Minnesota Department of Natural Resources’ Ordinary High Water level from late May until early July. Lake Jane’s late-June to mid-July water levels were the highest seen on the lake since the VBWD completed Project 1007 in 1987. The water level in Eagle Pont Lake also rose to its highest level since the VBWD completed Project 1007. Lake Elmo’s water level was the highest it had been since 1996.

The water level graphs presented in Appendix C were prepared by the VBWD using the volunteers’ and contractor’s data, and in some cases, additional data from the MDNR’s database is included. The data for the water bodies monitored by Mr. Charles Taylor, a volunteer for the VBWD and member of the VBWD Citizens Advisory Committee, are also presented in tabular format in the appendix.
2.1.2 Water Quality Monitoring Program

The VBWD Managers routinely assess whether water bodies are meeting the VBWD’s water quality goals. The type of monitoring conducted for a water body varies according to the classification the VBWD has assigned to it. The VBWD monitors the water quality and habitat of the major basins within the VBWD to detect changes in the water quality and habitat over time, thereby determining the effect of changing land use patterns in the watershed and the effectiveness of the VBWD’s efforts to preserve/improve water quality. The water quality monitoring program and results are discussed in detail in Appendix D.

2.1.2.1 Basin Water Quality

In 2014, the VBWD monitored the water quality of 19 basins. Ramsey County Public Works monitored the water quality of Silver Lake and shared the data with the VBWD.

2.1.2.2 Stream Quality

In addition to the basin water quality monitoring, the VBWD collected data on its streams. Invertebrate samples were collected from Valley Creek in 2014. The VBWD continued to participate in the Metropolitan Council’s Watershed Outlet Monitoring Program (WOMP) by collecting discrete and continuous water quality and flow data from the creek in 2014. The VBWD also collected discrete and continuous water quality and flow data from stations on the South Fork and North Fork of Valley Creek. The VBWD continued to fund a program in 2014 in which students from the Stillwater Area High School collected stream macroinvertebrate and physical habitat data from Valley Branch Creek.

In 2014, the VBWD continued to collect discrete and continuous water quality and flow data on Kelle’s Creek. The VBWD also collected continuous water quality and flow data at the outlet of Rest Area Pond. The Managers contracted with the Washington Conservation District for this monitoring.

2.1.2.3 Habitat

In June, 2014, the VBWD monitored the macrophytes at 10 basins. VBWD collected June point-intercept survey aquatic plant information at Long Lake, Lake DeMontreville, Lake Olson, Lake Jane, Eagle Point Lake, Lake Elmo, Horseshoe Lake, Lake Edith, Lake McDonald, and Sunfish Lake.

2.1.3 Groundwater Level Observation Program

Understanding the effects of community growth and other activities on groundwater and the groundwater–surface water interface is a mission of the VBWD Managers. Groundwater level monitoring during 2014 was conducted for the VBWD’s 14 operational observation piezometers. Groundwater level data are summarized in Appendix E. Locations of all observation piezometers and generalized groundwater contours based on groundwater and lake level data are shown on Figure E-1.

2.1.4 Precipitation Data

Collecting precipitation data helps the Managers make decisions in managing the water levels and floodplains of the VBWD’s water resources. The VBWD recorded precipitation amounts in 2014 as in previous years. The precipitation gage is located at 4677 Birchbark Trail North, near Lake Jane. Mr. Charles
Taylor of the Citizens Advisory Committee reads daily the precipitation amounts. Those amounts are summarized in graphs presented in Appendix F. Precipitation readings from the St. Paul airport and the Minneapolis-St. Paul International Airport are shown for comparison.

Precipitation data was also collected at the Belwin Conservancy in Afton for use with the Valley Creek WOMP station. These data are reported to the Metropolitan Council and are available from the VBWD, but are not included in this annual report.

2.1.5 *Project 1007, Olson Lake Estates Outlet, and Dam Inspections*

The VBWD owns, operates, and maintains various stormwater management systems. Some general maintenance items were found during the fall of 2013 inspection and maintenance for these items took place in 2014. In the fall of 2014, the VBWD completed its annual inspection of Project 1007, the Olson Lake Estates Outlet Project, and other VBWD-constructed projects. The investigation included dam inspections at Rest Area Pond and Eagle Point Lake.

2.2 *Review of Actions Initiated by Others*

During 2014, the Managers issued 27 permits. These permits are listed in Table 1-7 of the Managers Report. As engineering advisors, we provided technical assistance to the Managers in review of these projects.

Some of the types of assistance that we provided include the following:

2.2.1 *Flood Levels*

Technical activities grouped under this heading include computing flood levels and reviewing flood levels computed by others. In general, flood levels throughout the VBWD are computed assuming ultimate development of the tributary watershed and using the existing drainage system or drainage features proposed to be constructed in the near future. Computations included hydrologic analysis of the watershed and hydraulic analysis of storm drain systems. The information was used by the Managers to set minimum elevations and outline easements.

2.2.2 *Wetland Impacts*

Permit applications were reviewed to determine if the proposed work impacted wetlands. Wetland impacts were reviewed according for conformance with the VBWD’s Rules and Regulations and the Wetland Conservation Act. Technical activities included review of the applicant’s wetland delineation, and review of any necessary wetland mitigation. The purpose of the reviews was to determine if the proposed work complied with the VBWD’s and the State’s wetlands regulations.

2.2.3 *Erosion and Sediment Control and Water Quality Effects*

Permit applications were reviewed to ensure that the proposed activities would not result in erosion problems and to determine the effectiveness of proposed temporary and permanent erosion control
measures. The effect of the development on the water quality leaving the site was analyzed and the suitability of ponds, infiltration facilities, and skimmers was assessed.

2.2.4 Effect of Development on Downstream Property
Technical activities in this category include quantifying flow rate changes and flood level changes and reviewing flow path alterations resulting for proposed development. This information was considered by the Managers before approving permit applications, particularly when the proposed activity could impact more than one community.

2.2.5 Development Compatibility with Water Management Plan and Rules & Regulations
At the direction of the Managers, we reviewed and informed the Managers of the compatibility of the proposed developments with the VBWD’s Watershed Management Plan and the VBWD Rules and Regulations.

2.2.6 Inspections
Inspections of permitted activities in the VBWD were undertaken to ensure compliance with VBWD regulations and permit conditions. The VBWD’s inspector, Mr. Ray Roemmich, handled the day-to-day inspections of permitted activities. At the direction of the Managers and/or inspector, we inspected projects which could impact wetlands and performed other inspections as needed.

2.2.7 Administrative Services
In addition to providing technical advice to the Managers, we continued to provide administrative services for the Managers in 2014. These activities included drafting correspondence, printing and publishing documents such as sections of the Annual Report, providing typing and word processing services, maintaining mailing lists, reviewing reports and planning documents, and representing the Managers by attending Washington County Water Consortium meetings, and other meetings regarding activities within the VBWD.

Respectfully submitted,
BARR ENGINEERING CO.

John P. Hanson, P.E.
Minnesota License Number 24678