

Riley-Purgatory-Bluff Creek Watershed District

Board of Managers Regular Meeting

Monday, September 17, 2018

7:00pm Public Hearing and Special Board Meeting

DISTRICT OFFICE

18681 Lake Drive East

Chanhassen

Agenda

1. **Call to Order**
2. **7:00 pm Approval of the Agenda** (Additions/Corrections/Deletion) **Action**
3. **Reading and approval of minutes** **Action**
Special Board of Manager Meeting, August 27, 2018
4. **Budget and Levi Public Hearing** **Action**
 - a. Resolution 2018-009 Adopt 2019 Budget
 - b. Resolution 2018-010 Adopt 2019 Metropolitan Surface Water Management Levy
5. **Action Items** **Action**
 - a. Cost-Share: Approve Pauls Shoreline Restoration
 - b. Approve Cooperative Agreement with Chanhassen – Bluff Creek Tributary
6. **Lower Riley Creek Corridor Enhancement Plan** **Information**
7. **Upcoming Events** **Information**
 - Cycle the Creek, September 29, 10:00 am, District Office, 18681 Lake Drive East, Chanhassen
 - Regular Board Meeting, October 3, 5:30 pm, 18681 Lake Drive East, Chanhassen

MEETING MINUTES

Riley-Purgatory-Bluff Creek Watershed District

August 27, 2018, Board of Managers Budget Workshop

PRESENT:

Managers: Jill Crafton, Treasurer

Larry Koch

Dorothy Pedersen, Vice President

Dick Ward, President

David Ziegler, Secretary

Staff: Claire Bleser, District Administrator

Maya Swope, RPBCWD

Louis Smith, Attorney (Smith Partners)

Scott Sobiech, Engineer (Barr Engineering Company)

Other attendees: Laurie Susla, CAC

1. Budget Workshop

President Ward opened the workshop on the RPBCWD's 2019 budget at 5:30 p.m. in the District Office, 18681 Lake Drive East, Chanhassen, MN 55317.

Administrator Bleser introduced the RPBCWD's draft 2019 budget and proposed 2019 levy in the amount of \$3,642,500.00, which is an increase of \$222,500 over the District's 2018 levy. She went line by line through the budget table, which was divided into the columns: budget description, 2018 Levy, 2018 Budget, Plan, and 2019 Levy. Manager Koch commented that going forward he would like the table to include a column that shows the current year's year-end anticipated spend for each line item.

Administrator Bleser described the anticipated 2019 revenues including the levy, \$25,000 in permit fees, and \$400,000 in grants. She highlighted budget changes compared to the District's 2018 budget, including a \$7,000 increase for insurance and bonds, a \$3,000 increase for dues/publications, a \$41,000 increase for office costs, a \$42,000 increase for permit review and inspection, a \$6,000 decrease for recorder services, a \$102,000 increase for staff cost, a new budget item of \$19,000 for chloride initiatives, the removal of the budget line for the Atlas 14/SMM model, and a \$2,000 increase for the plant restoration work via the University of Minnesota,

She noted that the 2019 budget includes \$5,000 for the 10-year Management Plan in case the District undertakes plan amendments. There was discussion about the 2019 proposed budget of \$200,000 for cost-shares.

Administrator Bleser noted that the District does have to provide matching funds for the cost-share projects. Manager Pedersen asked if the Board thought \$200,000 is enough funding. Manager Koch remarked that the Board and staff need to be conscious of what amount of its 2018 cost-share budget is not going to be spent this year. Administrator Bleser asked the Board if it wants to reduce the 2019 cost-share budget line from \$200,000 to \$100,000. Managers Koch and Ward agreed with that change.

Administrator Bleser talked about the funding of the District's multi-year projects including the Wetland Management, Opportunity Projects, Bluff Creek Tributary, Wetland Restoration and Flood Mitigation, Rice

Marsh Lake Water Quality Improvement Phase I, Riley Creek Restoration (Reach E and D3), Upper Riley Creek Stabilization and Restoration, Silver Lake Restoration, and the Hyland Lake in-lake phosphorous load control.

The Board talked about its proposed 6.1% increase of the 2019 levy over the 2018 levy and how it would impact the taxpayers. Manager Koch asked staff to provide to the managers the numbers for the net increase in the District's tax base for 2019 over 2018 due to the boundary changes. He remarked that he would like staff and the Board to examine its proposed budget for line 26 - Opportunity Projects and line 15 - Cost-Share so that the Board can have a progressive budget that is not burdensome.

There was discussion about the timeline for publishing notifications and adopting the budget. Attorney Smith said that the Board will need to adopt its budget and levy amount in September, but it will have a public hearing in December at which time the District will have an idea of its 2018 carry-over funds and can act to modify its budget and reduce its levy amount. The Board agreed to have further budget discussion at its regular monthly meeting on September 5th and to hold on September 17 at 7n p.m. its public hearing to adopt its 2019 budget and levy.

President Ward asked for staff to provide the managers with more detail on the office costs, staff costs, and permit reviews. Administrator Bleser said she will provide to the managers the information they have requested and will forecast the budget and will submit the public notification.

Manager Pedersen moved to close the workshop. Manager Crafton seconded the motion. Upon a vote, the motion carried 5-0. The workshop adjourned at 7:27 p.m.

Respectfully submitted,

David Ziegler, Secretary

Budget Description Number	Item & Description	Budget Amount	Change from '18 Plan increase (decrease)
1	Accounting and Audit Preparation of the District's annual audit, provide monthly accounting services.	\$ 42,000.00	\$ -
2	Advisory Committees Budget to cover Miscellaneous expenses related to the duties and activities of District advisory Committees.	\$ 5,000.00	\$ -
3	Insurance and bonds District general liability, workers compensation, property/casualty, public official liability insurance. The increase reflect in the amount of expenditure increase, increase in staff numbers.	\$ 20,000.00	\$ 7,000.00
4	Engineering Services Oversight of all District Engineerins activities. Engineering attendance at meetings of the District - covers board and related project meetings, mini case studies, assisting in District water management planning activities, and other matters requiring District Engineer.	\$ 106,000.00	\$ -
5	Legal Services Legal advice at meetings, research on various issues for Board consideration, preparation and publication of legal notices, preparation of Board resolutions, and other matters requiring legal counsel.	\$ 78,000.00	\$ -
6	Manager Compensation Manager per diems for regular and special meeting attendance. Manager expenses incurred in the performance of official manager duties, such as attendance at conferences and meetings and related expenses.	\$ 20,000.00	\$ -
7	Dues and Publications Dues for appropriate organization memberships (MAWD, League of Minnesota Cities, etc.) and for purchase of necessary publications and reference materials. Due membership for MAWD have shaply increased (\$4,000 to \$7,500). We will see a dues increase with the League as well.	\$ 12,000.00	\$ 3,000.00
8	Office Cost Rent, Office supplies, utilities, purchase additional office equipment, janitorial expenses, compter software, telecommunications and postage. Utilities 850, Telecommunication 800, Rent 7600, Cleaning Costs 350, Miscellaneous Costs \$1400 Current Budget runs around 11,000 per month for expenses.	\$ 144,000.00	\$ 41,000.00
9	Permit Review and Inspection Provides for engineering assistance in review of permit applications, clarifying problems with the developer, meet developer on-site, coordinate permit issues with communities, counties, and other regulatory bodies. Inspects projects.	\$ 135,000.00	\$ 42,000.00

Enhance data base cost (estimated 35,000). Please see separate spreadsheet for further details.

10	Recording Services Recording Services for the District. 2019 will include publication of official notices.	\$ 10,000.00	\$ -
11	Staff Cost Includes salary, taxes, insurance, benefits and employee expenses (mileage, parking, professional development and supplies) for existing full time staff as well as interns). We hired one additional staff member and 4 interns over the summer. This budget includes an allowance for salary increases and benefit costs. Salary (380,000) with Benefits 532,000 with 1.4 multiplier. \$18,000 left for traveling expenses, continuing education, professional development.	\$ 550,000.00	\$ 102,000.00
12	10-year Management Plan Update the 10-year plan as needed.	\$ 5,000.00	\$ -
13	AIS Inspection and early response Support AIS inspections in Chanhassen and Eden Prairie. Support early rapid response to new infestation.	\$ 75,000.00	\$ -
14	Chloride Initiative This is a new budget item. The District is taking the lead on a chloride initiative for Hennepin County.	\$ 19,000.00	\$ 19,000.00
15	Cost-share* Provides technical assistance and funds for our cost-share program.	\$ 200,000.00	\$ -
16	Creek Restoration Action Strategies Phase 2* Provide funds to determine causes and solution to the deterioration of creek reaches. The funds allow us to conduct pre-feasibilities analysis.	\$ 20,000.00	\$ -
17	Data Collection and Monitoring Monitor and collect water quality data as identifies in our lakes and creeks report as well as collecting data for potential CIP sites and monitoring effectiveness of implmented CIPs.	\$ 186,000.00	\$ -
18	District Wide Floodplain Evaluation - Atlas 14/SMM model* Maintain and update SWMM model.	\$ 20,000.00	\$ 20,000.00
19	Education and Outreach Develop education materials to raise awareness. Fund master water stewards program. Support programs that engage our community from youth to local decision makers. Maintain and enhance website.	\$ 119,000.00	\$ -
20	Plant Restoration - U of M Partner with the University of Minnesota to implement plan restoration measures on Lake Susan, Lake Riley, Mitchell Lake and Staring Lake.	\$ 42,000.00	\$ 2,000.00
21	Repair and Maintenance Fund *	#REF!	#REF!

Develop and implement grant program that LGU can use to repair and maintain stormwater infrastructure.

This is a multi year program that has a balance of \$102,005. Next levying is expected in 2020.

<p>22 Survey and Analysis Fund *</p> <p>Funds in this category are funds dedicated in helping the District survey its resources as well as for analysis</p> <p><i>This is a multi year program that has a balance of \$13,837.</i></p>	<p>\$ 177,005.00</p>	<p>\$ 177,005.00</p>
<p>23 Wetland Management*</p> <p>The District will have enough carry over from 2018 that it will not need all of 2019 plan allocation. Work currently is in the surveying of watershed and identifying function and values of the wetlands.</p>	<p>\$ 135,000.00</p>	<p>\$ 35,000.00</p>
<p>24 Groundwater Conservation*</p> <p>Groundwater Conservationw as also identified as part of our 10 year plan process. The funds will be used in for project and studies.</p>	<p>\$ 130,000.00</p>	<p>\$ 30,000.00</p>
<p>25 Lake Vegetation Implementation</p> <p>Funds in this category are to cover expenses for approved lake vegetation plans.</p>	<p>\$ 75,000.00</p>	<p>\$ -</p>
<p>26 Opportunity Project*</p> <p>Funds in this category are for new opportunity projects that were not identified in the 10 year plan CIP program.</p>	<p>\$ 200,000.00</p>	<p>\$ 100,000.00</p>
<p>27 Stormwater Pond</p> <p><i>The District is partnering with the University of Minnesota and the Cities of Bloomington, Chanhassen, Eden Prairie and Shorewood on a research project to identify if ponds are internally contributing phosphorus and if iron filings could reduce internal loads.</i></p>	<p>\$ 22,000.00</p>	<p>\$ 22,000.00</p>
<p>28 TMDL - MPCA</p> <p>Assist and provide input in the TMDL process.</p>	<p>\$ 10,000.00</p>	<p>\$ -</p>
<p>29 Bluff Creek Tributary*</p> <p>Based on finalizing design for the project an additional \$50,000 is being allocated for the implementation of this project.</p> <p><i>This project is made in partnership with the City of Chanhassen.</i></p>	<p>\$ 230,000.00</p>	<p>\$ 230,000.00</p>
<p>30 Wetland Restoration and Flood Mitigation*</p> <p><i>This project will rehabilitate a wetland complex on the northwest corner of Pioneer and 101. The funds identified in here are for the purchases of two of three homes that would need to be removed. The City of Chanhassen will be purchasing the third home through the help of the Department of Natural Resources. In addition, the District will be receiving targeted funds for restoration purposes only for close to 300K.</i></p> <p><i>The City of Chanhassen, Department of Natural Resources, Clean Water Legacy Funds, Carver County Soil and Water Conservation District.</i></p>	<p>\$ 750,000.00</p>	<p>\$ 400,000.00</p>
<p>31 Chanhassen High School *</p>	<p>\$ 20,000.00</p>	<p>\$ 20,000.00</p>

Implement capture and reuse project at Chanhassen High School.
This is a multi-year project that is funded by a Stormwater Metropolitan Council Grant (\$200,000) with a District match of \$50,000. Additional funds are needed for this project in order to implement as bids came back higher than expected. The District is levying an additional \$75,000. Chanhassen will be contributing as well.

<p>32 Lake Riley - Alum Treatment 1st dose *</p> <p>Alum treatment was implemented in 2016. District will be monitoring but no additional funds are needed at this time. <i>This is a multi-year project. No additional funds are needed at this time. Monitoring will continue to assess longevity at efficacy of the treatment.</i></p>	<p>\$ 20,000.00</p>	<p>\$ 20,000.00</p>
<p>33 Lake Susan Improvement Phase 1 *</p> <p>The Spent Lime project will be completed in 2016 and the District will be monitoring in 2017 through their data collection program. The City of Chanhassen was a partner on this project. No additional funds are needed at this time. <i>Monitoring technology through Data Collection. Project is complete.</i></p>	<p>\$ -</p>	<p>\$ -</p>
<p>34 Lake Susan Water Quality Improvement Phase 2 *~</p> <p>Lake Susan Water Quality project is looking at capturing and reusing water from towncenter. Project is currently being implemented.</p> <p><i>This is a multi-year project funded by the Clean Water Legacy Funds (\$233,400) and with \$150,000 District funds levied in 2015. The City of Chanhassen is a partner on this project. Based on Recent Bids an additional \$80,000 was identified as needed.</i></p>	<p>\$ 50,000.00</p>	<p>\$ 50,000.00</p>
<p>35 Rice Marsh Lake in-lake phosphorus load</p> <p>Alum treatment is anticipated to be implemented in 2018 if conditions are right.</p>	<p>\$ 50,000.00</p>	<p>\$ 50,000.00</p>
<p>36 Rice Marsh Lake Water Quality Improvement Phase 1*</p> <p>The Rice Marsh Lake Water Quality Improvement Phase 1 is to address external loads that are coming from the subwatershed northwest of Rice Marsh Lake.</p>	<p>\$ 150,000.00</p>	<p>\$ -</p>
<p>37 Riley Creek Restoration (Reach E and D3) *~</p> <p>Provide funds to implement restoration of Reach E and D3 on Riley Creek. Additional funds are needed to complete the project. <i>This is a multi-year project. The District is levying an additional \$400,000 in 2018 for this project. Anticipated cost for the project is \$1,515,000. The City of Eden Prairie and the Lower Riley Creek Watershed District will be partnering in this effort but funds (anticipate \$300,000 and \$150,000 respectively).</i></p>	<p>\$ 1,727,987.00</p>	<p>\$ 1,427,987.00</p>
<p>38 Upper Riley Creek Stabilization and Restoration*</p> <p>This project will be levied over several years. The anticipated cost of this project is 1,625,000.</p>	<p>\$ 425,000.00</p>	<p>\$ -</p>
<p>39 Fire Station 2 (Eden Prairie)*</p>	<p>\$ -</p>	<p>\$ -</p>

Implement a project to capture and reuse water at fire station 2 in Eden Prairie.

This is a multi-year project that is funded by a Stormwater Metropolitan Council Grant (\$99,287), City of Chanhassen and the District match of \$19,206.50 each. Project anticipated to be completed in 2017. No additional funds needed.

<p>40 Purgatory Creek Rec Area- Berm/retention area - feasibility/design*</p> <p>The District and the City of Eden Prairie will be doing a feasibility to design phase to determine maintenance and repairs needed for this area.</p>	<p>\$ 50,000.00</p>	<p>\$ 50,000.00</p>
<p>41 Lotus Lake in-lake phosphorus load control*</p> <p>Pending feasibility study and invasive species check, internal control of phosphorus is anticipated in Lotus Lake in 2018.</p>	<p>\$ 95,000.00</p>	<p>\$ 95,000.00</p>
<p>42 Lotus Lake - Feasibility Phase 1</p> <p>The UAA identified management of internal loads to Lotus Lake.</p>	<p>\$ -</p>	<p>\$ 95,000.00</p>
<p>43 Purgatory Creek at 101*</p> <p>Project will be implemented in 2016 - no additional funds are needed for the creek restoration on Purgatory Creek near highway 101. The City of Minnetonka was a partner on this project. <i>Project completed.</i></p>	<p>\$ -</p>	<p>\$ -</p>
<p>44 Silver Lake Restoration - Feasibility Phase 1*</p> <p>Implement stabilization project north of pleasant view rd.</p>	<p>\$ 167,500.00</p>	<p>\$ -</p>
<p>45 Scenic Heights*</p> <p>This is water quality and habitat restoration located on the School of Forest grounds at Scenic Heights Elementary School. <i>This is a multi-year project. Partners include Minnetonka School District (\$45,000), City of Minnetonka and Hennepin County (\$50,000).</i></p>	<p>\$ 80,000.00</p>	<p>\$ 80,000.00</p>
<p>46 Hyland Lake in-lake phosphorus load control</p> <p>This project is intended to stabilize an existing gully that is delivering sediment to Silver Lake. In conjunction with the channel stabilization, storm sewer improvements will be made to reduce the scour force of the runoff. Ditch checks with iron filing will be installed within the channel to reduce phosphorus loading to Silver Lake as well. <i>Three River Park District is a partner on this project.</i></p>	<p>\$ 120,000.00</p>	<p>\$ (30,000.00)</p>
<p>47 Duck Lake watershed load*</p> <p>The project has change to focus on implementing watershed load reductions in the subwatershed and working with our stakeholders.</p>	<p>\$ 200,000.00</p>	<p>\$ 200,000.00</p>
<p>48 Reserve</p> <p>Contingency funds.</p>	<p>\$ 100,000.00</p>	<p>\$ -</p>

Permit Database - DRAFT AUG 31, 2018

The District sent out an RFP on 9/11/17 for the development of a Permit and Cost Share Database. The RFP was sent to WSB and Associates, Houston Engineering, and HDR. Houston Engineering and HDR responded to the RFP.

Houston Engineering would use their existing Microsoft software program to develop our database modeled after CRWD database. It would be able to address Permitting, Financial Assurance ledger, Tabulation of Water Quality Benefits, Inspections, Cost-Share, and Education and Outreach. It would not have a public interface so it would require staff time to input all application materials and any electronic submittals would require email transmittal and would not be remotely accessible by Engineering. Estimated cost = \$28,600 plus \$5,000/year subscription fee. Additional costs would be required for hosting of the database.

HDR provided an estimate to build a “wireframe” which is a mock up of what the full database would look like. This database would allow for a public interface where materials could be uploaded by applicant and reviewer, automatic reminders emailed, and plans could be remotely accessed in the field. The database would include Inspections as well as tabulation of Water Quality benefits. The database would not include Cost-Share Program or Education and Outreach. An out of the box system, called Zoho would be used for those elements. The wire frame has been completed and would be available for review by managers upon request. The wireframe as well as support for Zoho was \$7,500. The Education and Outreach and Cost-Share Zoho databases have been developed. A full itemized opinion of cost has not been prepared by HDR. However, preliminary estimates by HDR staff, indicate that the development of the database would be \$55,000 - \$70,000. Additional hosting fees would be required. There would be no annual subscription fee.

WSB did not respond to the RFP.

Budget Description	2018 LEVY	2018 Budget	End of Year 2018 forecast	Carry Over estimates	Plan	2019 Levy	2019 Proposed Budget
LEVY							
REVENUES							
Plan Implementation Levy	\$ 3,420,000.00	\$ 3,420,000.00			\$ 3,605,500.00	\$ 3,602,500.00	\$ 3,602,500.00
Permit	20000	20,000.00				25,000.00	25,000.00
Grant Income		\$373,175.27				\$400,000.00	\$400,000.00
Data Collection Income							
Other Income							
Investment Income							
Past Levies		\$ 1,736,968.00				\$ 2,889,992.00	\$ 2,889,992.00
2018 Partner Funds		\$ 445,000.00					
TOTAL REVENUE	\$ 3,440,000.00	\$ 5,995,143.27				\$ 6,917,492.00	\$ 6,917,492.00
EXPENDITURES							
<i>Administration</i>							
1 Accounting and Audit	\$ 40,000.00	\$ 40,000.00	\$ -		\$ 42,000.00	\$ 42,000.00	\$ 42,000.00
2 Advisory Committees	\$ 4,000.00	\$ 4,000.00	\$ -		\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
3 Insurance and bonds	\$ 12,000.00	\$ 12,000.00	\$ -		\$ 13,000.00	\$ 20,000.00	\$ 20,000.00
4 Engineering Services	\$ 103,000.00	\$ 103,000.00	\$ -		\$ 106,000.00	\$ 106,000.00	\$ 106,000.00
5 Legal Services	\$ 75,000.00	\$ 75,000.00	\$ -		\$ 78,000.00	\$ 78,000.00	\$ 78,000.00
6 Manager Compensation	\$ 19,000.00	\$ 19,000.00	\$ -		\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
7 Dues and Publications	\$ 8,000.00	\$ 8,000.00	\$ -		\$ 9,000.00	\$ 12,000.00	\$ 12,000.00
8 Office Cost	\$ 100,000.00	\$ 100,000.00	\$ -		\$ 103,000.00	\$ 144,000.00	\$ 144,000.00
9 Permit Review and Inspection	\$ 90,000.00	\$ 90,000.00	\$ -		\$ 93,000.00	\$ 135,000.00	\$ 135,000.00
10 Recording Services	\$ 15,000.00	\$ 15,000.00	\$ -		\$ 16,000.00	\$ 10,000.00	\$ 10,000.00
11 Staff Cost	\$ 434,000.00	\$ 434,000.00	\$ -		\$ 448,000.00	\$ 550,000.00	\$ 550,000.00
Subtotal	\$ 900,000.00	\$ 900,000.00	\$ -		\$ 933,000.00	\$ 1,122,000.00	\$ 1,122,000.00
<i>Programs and Projects</i>							
<i>District Wide</i>							
12 10-year Management Plan	\$ 5,000.00	\$ 9,661.91	\$ (21,000.00)		\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
13 AIS Inspection and early response	\$ 75,000.00	\$ 75,000.00	\$ 13,000.00		\$ 75,000.00	\$ 75,000.00	\$ 75,000.00
14 Chloride Initiative						\$ 19,000.00	\$ 119,000.00
15 Cost-share*	\$ 200,000.00	\$ 200,000.00	\$ 100,000.00	\$ 100,000.00	\$ 200,000.00	\$ 100,000.00	\$ 200,000.00
16 Creek Restoration Action Strategies Phase 2*	\$ 20,000.00	\$ 20,000.00			\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
17 Data Collection and Monitoring	\$ 180,000.00	\$ 180,000.00			\$ 186,000.00	\$ 186,000.00	\$ 186,000.00
18 District Wide Floodplain Evaluation - Atlas 14/SMM model*	\$ 30,000.00	\$ 30,000.00	Carry over	\$ 20,000.00			\$ 20,000.00
19 Education and Outreach	\$ 115,000.00	\$ 115,000.00			\$ 119,000.00	\$ 119,000.00	\$ 119,000.00
20 Plant Restoration - U of M	\$ 40,000.00	\$ 40,000.00	\$ -		\$ 40,000.00	\$ 42,000.00	\$ 42,000.00
21 Repair and Maintenance Fund*		\$ 177,005.00	Carry Over	\$ 177,005.00			\$ 177,005.00
22 Survey and Analysis Fund*		\$ 13,464.00	\$ -				
23 Wetland Management*	\$ 150,000.00	\$ 150,000.00	Carry Over	\$ 110,000.00	\$ 100,000.00	\$ 25,000.00	\$ 135,000.00
24 Groundwater Conservation*	\$ 130,000.00	\$ 130,000.00	Carry Over	\$ 130,000.00	\$ 100,000.00		\$ 130,000.00
25 Lake Vegetation Implementation	\$ 75,000.00	\$ 75,000.00	\$ 25,000.00		\$ 75,000.00	\$ 75,000.00	\$ 75,000.00
26 Opportunity Project*	\$ 100,000.00	\$ 100,000.00	Carry Over	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00	\$ 200,000.00
27 Stormwater Pond		\$ 22,092.00	\$ -			\$ 22,000.00	\$ 22,000.00
28 TMDL - MPCA	\$ 10,000.00	\$ 10,000.00	Carry over	\$ 10,000.00	\$ 10,000.00		\$ 10,000.00
Subtotal	\$ 1,130,000.00	\$ 1,347,222.91		\$ 647,005.00	\$ 1,030,000.00	\$ 788,000.00	\$ 1,535,005.00
<i>Bluff Creek</i>							
29 Bluff Creek Tributary*		\$ 236,741.00	Carry over	\$ 180,000.00		\$ 50,000.00	\$ 230,000.00
30 Wetland Restoration and Flood Mitigation*				\$ 350,000.00		\$ 450,000.00	\$ 750,000.00
31 Chanhassen High School *	\$ 75,000.00	\$ 282,478.00	Carry over	\$ 20,000.00			\$ 20,000.00
Subtotal	\$ 75,000.00	\$ 519,219.00		\$ 200,000.00	\$ 350,000.00	\$ 500,000.00	\$ 1,000,000.00
<i>Riley Creek</i>							
32 Lake Riley - Alum Treatment 1st dose *		\$ 22,424.13	Carry over	\$ 20,000.00			\$ 20,000.00
33 Lake Susan Improvement Phase 1*		\$ 7,105.72	\$ -				
34 Lake Susan Water Quality Improvement Phase 2**	\$ 80,000.00	\$ 353,365.58	Carry over	\$ 50,000.00			\$ 50,000.00
35 Rice Marsh Lake in-lake phosphorus load	\$ 150,000.00	\$ 150,000.00	Carry over	\$ 50,000.00			\$ 50,000.00
36 Rice Marsh Lake Water Quality Improvement Phase 1*					\$ 150,000.00	\$ 150,000.00	\$ 150,000.00
37 Riley Creek Restoration (Reach E and D3)**	\$ 400,000.00	\$ 1,427,987.00	Carry over+ 100K from Purgatory Creek at 101	\$ 1,477,987.00	\$ 300,000.00	\$ 250,000.00	\$ 1,727,987.00
38 Upper Riley Creek Stabilization and Restoration*					\$ 425,000.00	\$ 425,000.00	\$ 425,000.00
Subtotal	\$ 630,000.00	\$ 1,960,882.43		\$ 1,597,987.00	\$ 875,000.00	\$ 825,000.00	\$ 2,422,987.00
<i>Purgatory Creek</i>							
39 Fire Station 2 (Eden Prairie)*		\$ 100,262.00	\$ -				\$ -
40 Purgatory Creek Rec Area- Berm/retention area - feasibility/design*		\$ 50,000.00	Carry over	\$ 50,000.00			\$ 50,000.00
41 Lotus Lake in-lake phosphorus load control*	\$ 345,000.00	\$ 345,000.00	Carry over	\$ 95,000.00			\$ 95,000.00
42 Lotus Lake - Feasibility Phase 1		\$ 18,802.00	\$ 18,802.00				\$ -
43 Purgatory Creek at 101*		\$ 246,258.40	\$ 126,259 - 100K to Lower Riley Creek				\$ -
44 Silver Lake Restoration - Feasibility Phase 1*		\$ 11,093.00	\$ -				\$ 167,500.00
45 Scenic Heights*		\$ 208,957.00	Carry over	\$ 80,000.00	\$ 167,500.00	\$ 167,500.00	\$ 80,000.00
46 Hyland Lake in-lake phosphorus load control	\$ 20,000.00	\$ 20,000.00	Carry over	\$ 20,000.00	\$ 150,000.00	\$ 100,000.00	\$ 120,000.00
47 Duck Lake watershed load*	\$ 220,000.00	\$ 220,000.00	Carry over	\$ 200,000.00			\$ 200,000.00
Subtotal	\$ 585,000.00	\$ 1,220,282.40		\$ 445,000.00	\$ 317,500.00	\$ 267,500.00	\$ 712,500.00
48 Reserve	\$ 100,000.00	\$ 99,628.00			\$ 100,000.00	\$ 100,000.00	\$ 100,000.00
TOTAL EXPENDITURE	\$ 3,420,000.00	\$ 6,047,234.74		\$ 2,889,992.00	\$ 3,605,500.00	\$ 3,602,500.00	\$ 6,892,492.00
EXCESS REVENUES OVER (UNDER) EXPENDITURES \$ 20,000.00							
ESTIMATED FUND BALANCE BEGINNING							
ESTIMATED FUND BALANCE ENDING							

DRAFT AUGUST 31 2017

* Denotes multi-year projects and programs - please see budget description sheet for further details BOARD WORKSHOP: August 27, 2018 PUBLIC HEARING: September 17, 2018 DECEMBER BOARD MEETING: December 5, 2018	County	Payable 2018 Net Tax Capacity	Net Tax Capacity Percent Distribution	Apportionable Payable 2019	Apportionable Payable 2019
	Carver	\$ 33,472,720	23.2869%	\$ 838,910.57	\$ 838,910.57
	Hennepin	\$ 110,268,094	76.7131%	\$ 2,763,589.43	\$ 2,763,589.43
	Watershed Total	\$ 143,740,814	100.00%	\$ 3,602,500.00	\$ 3,602,500.00

transfer 100K from Purgatory Creek at 101 to

**Resolution 2018-09
RILEY-PURGATORY-BLUFF CREEK WATERSHED DISTRICT
RESOLUTION TO ADOPT 2018 BUDGET**

Manager _____ offered the following resolution and moved for its adoption, seconded by Manager _____:

BE IT RESOLVED, that the Board of Managers of the Riley-Purgatory-Bluff Creek Watershed District, pursuant to Minnesota Statutes Section 103D.911, hereby adopts its **2019** annual budget as presented on **September 17, 2018**, in the amount of **\$6,917,492**.

The question was on the adoption of the above resolution and there were ___ ayes, and ___ nay as follows:

	<u>AYE</u>	<u>NAY</u>	<u>ABSTAIN</u>	<u>ABSENT</u>
Jill Crafton				
Larry Koch				
Dorothy Pedersen				
Richard Ward				
David Ziegler				

* * * * *

I, _____, Secretary of the Riley-Purgatory-Bluff Creek Watershed District, do hereby certify that I have compared the above resolution with the original thereof as the same appears of record and on file with the District and find the same to be a true and correct transcript thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand this **17th** day of **September, 2018**.

David Ziegler, Secretary

Resolution 2018-10
RILEY-PURGATORY-BLUFF CREEK WATERSHED DISTRICT
RESOLUTION TO ADOPT
2018 METROPOLITAN SURFACE WATER MANAGEMENT ACT LEVY

Manager _____ offered the following resolution and moved for its adoption, seconded by Manager _____:

BE IT RESOLVED, that the Board of Managers of the Riley Purgatory Bluff Creek Watershed District hereby directs that the Secretary shall certify to the Auditors of Carver and Hennepin Counties in amounts bearing the same proportion to the total levy as the net tax capacity of the areas of the county within the watershed bears to the net tax capacity of the entire watershed district the total amount of **\$3,602,500**, levied upon all taxable property in the Riley Purgatory Bluff Creek Watershed District, Carver and Hennepin Counties, State of Minnesota, for the year **2019**, for the purpose of paying the cost of management planning and plan implementation, as authorized by the Metropolitan Surface Water Management Act, Minnesota Statutes Sections 103B.241 and 103B.251.

The question was on the adoption of the above resolution and there were ___ ayes, and ___ nay as follows:

	<u>AYE</u>	<u>NAY</u>	<u>ABSTAIN</u>	<u>ABSENT</u>
Jill Crafton				
Larry Koch				
Dorothy Pedersen				
Richard Ward				
David Ziegler				

* * * * *

I, _____, Secretary of the Riley Purgatory Bluff Creek Watershed District, do hereby certify that I have compared the above resolution with the original thereof as the same appears of record and on file with the District and find the same to be a true and correct transcript thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand this **17th** day of **September, 2018**.

David Ziegler, Secretary

Cost share grant application 2018



Applicant type (check one) Homeowner Non-profit - 501(c)(3)
 Business or corporation Public agency or local government unit School

Do not fill in gray boxes.
District use only.

Project type (check all that apply) Raingarden Vegetated swale Lake/creek/wetland buffer
 Shoreline/bank stabilization Wetland restoration Pervious hard surface Infiltration basin
 Conservation practice Other _____

Applicant information

Works or resides in district?

Name PATRICIA PAULS Address 11010 OREGON CURVE
City/State/Zip Bloomington, MN 55438
Phone 952-838-9883 Alt phone 612-270-9974 Email PATMVP0713@gnssmit.com

Primary contact Same as applicant (leave blank)

Name _____ Address _____
City/State/Zip _____
Phone _____ Alt phone _____ Email _____

Project location

Address 4687 Horseshoe Curve City/State/Zip CHANKASSEN, MN 55317
Property Identification Number (PID) 25-10300230
Property owner(s) PATRICIA A. PAULS

Project located in district?

Project summary

Title Pauls shoreline stabilization & natural Buffer
Total project cost \$12,350.00 Grant amount requested Max allowed

Tributary to a waterbody?

No Yes, indirectly Yes, adjacent

Estimated start date fall 2018/spring 2019 Estimated completion date fall 2018/spring 2019

Sub-watershed _____

Project located in priority drainage area?

Is project tributary to a water body? No, water remains on site Yes, indirectly Yes, directly adjacent

2-3 sentence project description

Old concrete, partially submerged removed. some that is currently helping to hold the shoreline in place, and is already entwined with native plants may remain. will be replaced with vegetative riprap.

Is this work required as a part of a permit? No Yes

(If yes: describe how the project provides water quality treatment beyond permit requirements on the next page.)

Site visit One of the requirements for a complete application is a site visit from district staff.

Have you had a site visit? No Yes

(If you answered no, please contact staff to schedule one: 952-607-6512)

Project details

Do not fill in gray boxes. District use only.

Checklist To be considered complete the following must be included with the application.

- location map
- site plan & design schematics
- itemized budget or contractor bid
- project time-line
- proof of property ownership
- plant list & planting plan (if project includes plants)

Is time-line reasonable?

Is budget reasonable?

Is plan comprehensive?

Does plant list conform to district's approved plant list?

Description

Describe the current site conditions, as well as site history, and past management.

this site has been in my family since 1938. Both my sister and I grew up here and want to do what is best for the property and the lake which is why we have ~~been~~ tried for so many years to remove the concrete my father put in to prevent erosion in the 50's. It did the job for many years but eventually broke down and created problems. Most of the concrete is gone but we need larger equipment to remove the remaining amt. the very steep hill to the lake makes getting equipment to the lake difficult. We try very hard to keep our waterfront attractive.

What are the project objectives and expected outcomes? Give any additional project details.

- 1. Stabilize the shoreline. there has been a tremendous increase in boat traffic on the lake as I can see the waves crashing in on the shore and the amount of debris that ends up in our waterfront*
- 2. Create a native buffer and in doing so some added natural beauty and butterflies*

Are there multiple objectives?

Does the project have well-defined, measurable results?

List other key participants and their roles

Terry Sanders - Contractor
Seth Ristow - Site Plan

Does the project demonstrate strong partnerships & support?

Which cost share goals does the project support? (check all that apply)

- Improve watershed resources
- Increase awareness of the vulnerability of watershed resources.
- Increase familiarity with and acceptance of solutions to improve waters
- Foster water resource stewardship

How does the project support the goals you checked?

Serve as an example that it can be done and you still have yard for family enjoyment while creating a beautiful buffer that protects the watershed and give you the extra benefit of keeping the geese off your lawn and a few less trips back forth mowing the lawn.
Impress upon your neighbors its for the benefit of the Lake!

Project details (continued)

Do not fill in gray boxes.
District use only.

Benefits Estimate the project benefits in terms of restoration and/or **annual** pollution reduction. If you are working with a designer or contractor, they can provide these numbers. If you need help, contact the district cost share program coordinator.

Benefit	Amount
Water captured	gal / year
Water infiltrated	gal / year
Phosphorus removed	lbs / year
Sediment removed	lbs / year
Land restored	330 ft ²

Does the project provide water quality treatment?

Does the project provide restoration?

How will you share the project results with your community?

tell the neighbors about the project

Is there educational value to the project?

Will the project be visible to the public?

Are there other projects that could be initiated as a result of this one?

Possibly other neighbors might see that it's a good thing

Evaluation

How will the project be monitored and evaluated?

monitored 4x's per yr against wave action and ice melt for loss of soil and plants.

Maintenance agreement

I acknowledge that receipt of a grant is contingent upon agreeing to maintain the project for the number of years outlined in the cost share guidelines document Yes

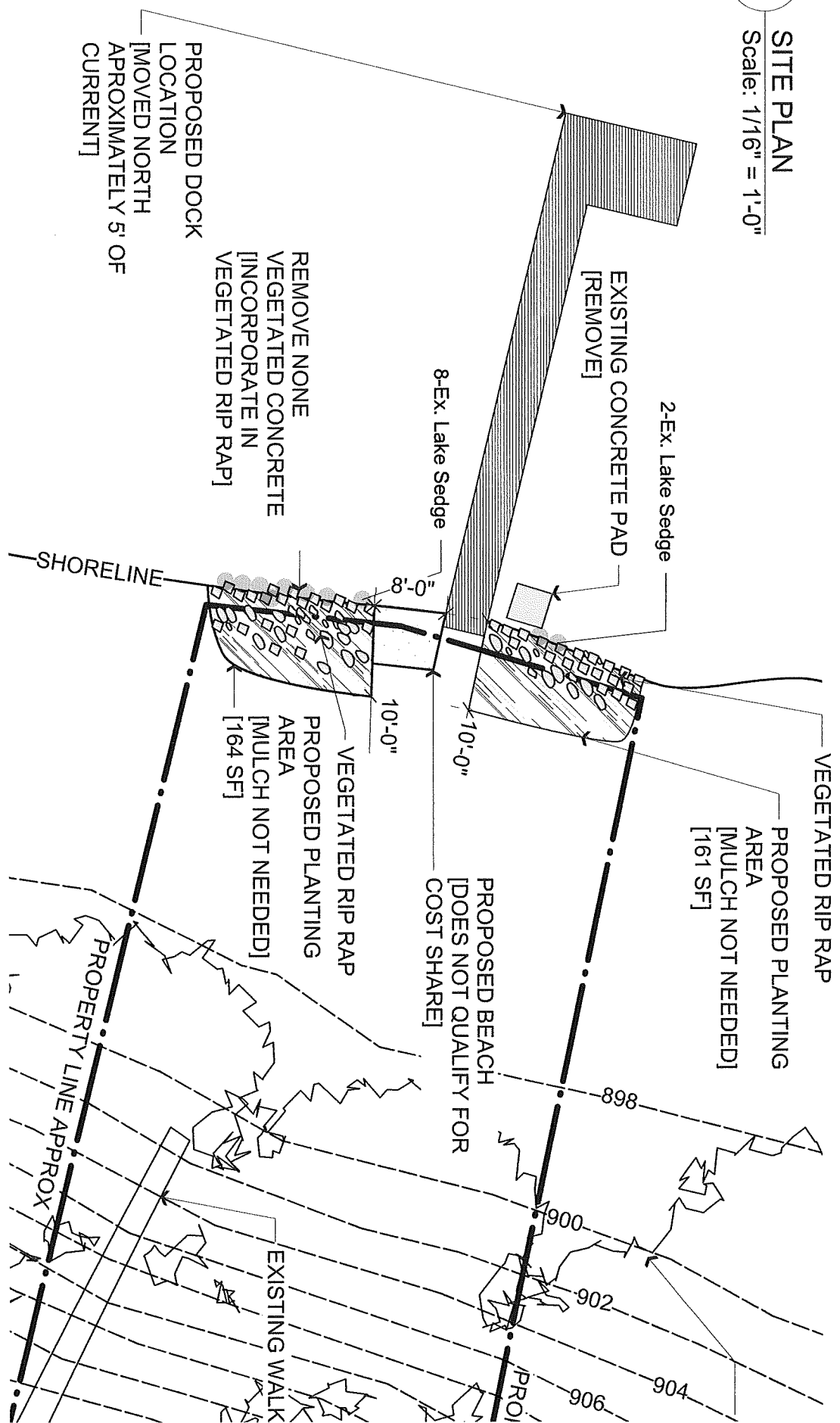
Authorization

Name of landowner or responsible party Patricia Pauls
Signature Patricia Pauls Date 8/14/2018

1

SITE PLAN

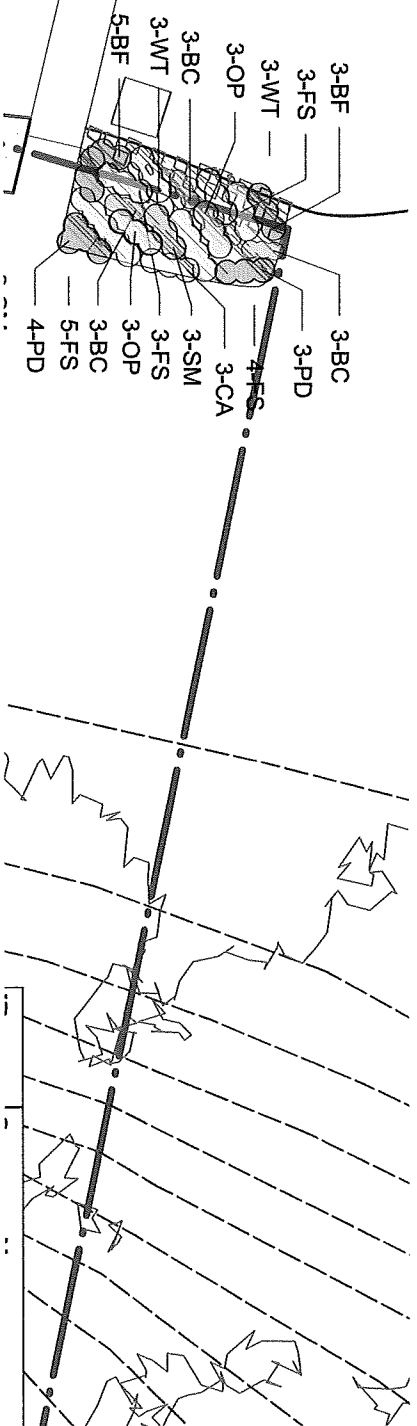
Scale: 1/16" = 1'-0"



2

PLANTING PLAN

Scale: 1/16" = 1'-0"





Natural Environments Corporation
3243 Winpark Drive, Crystal, MN 55427
Phone (763) 544-8002, Fax (763) 283-5110
www.naturalenvironmentscorp.com
info@naturalenvironmentscorp.com

July 25, 2018

CONTRACT PROPOSAL

Pat Pauls
612-270-9974
6687 Horseshoe Curve
Chanhassen, MN 55317
patmvp0713@gmail.com

Natural Environments Corporation proposes to provide all of the materials and labor necessary to complete the landscaping services along the shoreline as shown in the sketch provided by the watershed district.

The scope of work includes the removal of concrete and other debris along the shoreline, the installation of fieldstone rip rap, and the installation of plants to help stabilize the shoreline. We will also install a sand beach as shown on the sketch. Access for the project will be through the yard and down the hill using small equipment to get down the stairs. Some damage may occur to the already decrepit stair system. Access restoration includes black dirt, seed, and erosion control blanket for disturbed turf areas. We will deliver and install 10 cbyds of planting soil. Repairs for any damages to the existing concrete steps are not included. Natural Environments is not responsible for damage to any privately owned utilities that are not marked by Gopher State One. These may include things like dog fence, irrigation system, owner owned electrical lines, etc. We are also not responsible for damages to landscaping, grass, trees, etc. If the owner gives permission to transport equipment across pavement or sidewalks any ensuing damages are not the responsibility of Natural Environments Corp.

Quantity	Unit	Item	Price Per Unit	Total Price
1 Lump sum		Demolition and disposal of concrete		\$ 2,000.00
12 tons		Fieldstone rip rap installed	\$ 300.00	\$ 3,600.00
7 tons		Beach sand installed	\$ 150.00	\$ 1,050.00
1 Lump sum		Planting costs		\$ 2,000.00
10 cbyds		Planting soil installed	\$ 150.00	\$ 1,500.00
2,200 sqft		Access restoration	\$ 1.00	\$ 2,200.00
		Total Cost:		\$ 12,350.00

The total cost for the base bid is \$12,350.00.

Authorization Patricia Pauls

Payments are \$6,350.00 down and \$6,000.00 on completion of the project.



**Carver County
Property Tax, Elections & License Centers**

600 East 4th Street, P.O. Box 69
Chaska, MN 55318-0069
952-361-1910 • www.co.carver.mn.us

For the following visit our website at www.co.carver.mn.us

- Pay your taxes online
- Sign up for our Tax Payment Reminder
- Print additional copies of your Tax Statement

Property ID #: 25.6300230



05002381

Taxpayer: PATRICIA A PAULS
TRUSTEE OF TRUST
11010 OREGON CURV
BLOOMINGTON MN 55438-2806



2018 Property Tax Statement

VALUES AND CLASSIFICATION			
Taxes Payable Year:		2017	2018
Step 1	Estimated Market Value:	462,500	484,100
	Homestead Exclusion:		
	Taxable Market Value:	462,500	484,100
	New Improvements/ Expired Exclusions:		
	Property Classification:	Rel Res Hstd	Rel Res Hstd
Step 2	PROPOSED TAX \$5,872.00		
PROPERTY TAX STATEMENT			
Step 3	First half taxes due:	May 15	2,951.00
	Second half taxes due:	October 15	2,951.00
	Total Taxes Due in 2018:		5,902.00

\$\$\$

REFUNDS?

You may be eligible for one or even two refunds to reduce your property tax. Read the back of this statement to find out how to apply.

II#: 913999

Property Address:
187 HORSESHOE CURV
CHANHASSEN MN 55317-9526

Property Description:

Section 01 Township 116 Range 023
EASANT VIEW Lot 029
1/2 OF LOT 29

Line 13 Special Assessment Detail:
AZ & SOLID WASTE FEE RES/AG 30.00

Principal: 30.00
Interest:

Tax Detail for Your Property:

Taxes Payable Year:		2017	2018
1. Use this amount on Form M1PR to see if you are eligible for a property tax refund. File by August 15. If this box is checked, you owe delinquent taxes and are not eligible. <input type="checkbox"/>			
2. Use these amounts on Form M1PR to see if you are eligible for a special refund.			
Tax and Credits	3. Property taxes before credits	5,701.00	5,872.00
	4. Credits that reduce property taxes		
	A. Agricultural market value credits B. Other Credits		
	5. Property taxes after credits	5,701.00	5,872.00
Property Tax by Jurisdiction	6. County		
	A. CARVER COUNTY	1,797.11	1,811.78
	B. CO RAIL AUTHORITY	4.85	5.53
	7. City or Town CITY OF CHANHASSEN	1,103.28	1,097.27
	8. State General Tax		
	9. School District SD 0276 MINNETONKA		
	A. Voter Approved Levies	1,417.74	1,488.08
	B. Other Local Levies	1,021.30	1,099.00
	10. Special Taxing Districts		
	A. Metro Council	40.55	40.02
B. Metro Mosquito Control	21.89	21.59	
C. Metro Transit District	68.63	66.14	
D. Carver County CDA	80.07	79.39	
E. Watershed	92.50	109.30	
11. Non-school voter approved referenda levies	53.08	53.90	
12. Total property tax before special assessments	5,701.00	5,872.00	
13. Special Assessments	Interest: 25.00	Principal: 30.00	30.00
14. TOTAL PROPERTY TAX AND SPECIAL ASSESSMENTS	5,726.00	5,902.00	

To pay online go to www.co.carver.mn.us
The online payment feature is available for a current year tax payment.
Delinquent payments cannot be paid online.

TO AVOID PENALTY PAY ON OR BEFORE: October 15

2

2nd HALF PAYMENT STUB - PAYABLE 2018

PLEASE INDICATE YOUR ADDRESS CORRECTION
ON REVERSE SIDE OF THIS PAYMENT STUB.
Property ID#: 25.6300230

SECOND 1/2 TAX AMOUNT DUE: 2,951.00

Make checks payable to and remit to:



05002381

**Carver County
P.O. Box 69
Chaska, MN 55318-0069**



02 2018 256300230 000295100 5

Your cancelled check is proof of payment. Please write your Property ID # on your check. Postdated checks are not held. Only official U.S. Postmark determines payment mail date. No receipt sent unless requested and is void until check is honored. Manufactured Home taxes of \$50.00 or less and Real Estate taxes of \$100.00 or less must be paid in full. If you pay your taxes late, you will be charged a penalty. See back for details.

↑
DETACH HERE AND RETURN THIS STUB
WITH YOUR SECOND HALF PAYMENT

**COOPERATIVE AGREEMENT
BETWEEN THE CITY OF CHANHASSEN AND
RILEY-PURGATORY-BLUFF CREEK WATERSHED DISTRICT**

BLUFF CREEK SOUTHWEST BRANCH STABILIZATION AND RESTORATION PROJECT

This cooperative agreement is made by and between the City of Chanhassen (Chanhassen), a Minnesota municipal corporation, and the Riley-Purgatory-Bluff Creek Watershed District (RPBCWD), a watershed district created pursuant to Minnesota Statutes chapters 103B and 103D, to achieve shared water-resource protection and improvement goals through design, construction and maintenance of the Bluff Creek Southwest Branch Stabilization and Restoration Project in Chanhassen, Carver County, Minnesota.

Recitals

WHEREAS RPBCWD has an approved water resources management plan pursuant to Minnesota Statutes section 103B.231 (the Plan) that has as a primary goal addressing all impairments in water resources in RPBCWD's jurisdiction and removing all RPBCWD waterbodies from the State of Minnesota impaired waters list;

WHEREAS in 2002 Bluff Creek was listed on the 303(d) list of impaired waters for elevated turbidity levels, and in 2004 the creek was placed on the Minnesota Pollution Control Agency's list of impaired waters in need of a Total Maximum Daily Load study for impaired biota due to low fish index of biotic integrity scores; in 2013 RPBCWD published an implementation plan identifying projects that would reduce sediment loads to the creek and address habitat fragmentation;

WHEREAS a 2015 Creek Restoration Assessment Strategy report evaluated segments of all creeks in RPBCWD and prioritized reach BT3A for restoration;

WHEREAS in January 2017 the RPBCWD engineer produced a Bluff Creek Stream Stabilization Assessment that provides concept plans for the stabilization of reach BT3A, including repair of erosion and channel cutting in Bluff Creek reach BT3A to reduce the transport of sediment downstream to other sections of Bluff Creek and Rice Lake (the Project, as defined in greater detail under Paragraph 1 of this Contract);

WHEREAS on May 15, 2017, following a duly noticed public hearing, the RPBCWD Board of Managers adopted a proposed watershed management plan amendment, adding the Bluff Creek Stream Stabilization and Restoration Project to the capital improvements program in the Plan and, following a duly noticed public hearing pursuant to Minnesota Statutes section 103B.251, ordered the Project;

WHEREAS the Project is planned to be constructed on property owned by Chanhassen (the Chanhassen Parcel), and on an adjacent privately owned parcel (the Private Parcel), as depicted in Exhibit A, attached hereto and incorporated herein (together, the parcels are referred to herein as the Project Area);

WHEREAS at a January 2018 informational meeting conducted jointly by RPBCWD and Chanhassen, watershed residents expressed support for the Project;

WHEREAS Chanhassen operates its stormwater-management system under the state Municipal Separate Storm Sewer System general permit, and construction and maintenance of the Project will accrue to the benefit of Chanhassen's fulfillment of its obligations under the permit; and

WHEREAS Chanhassen and RPBCWD are authorized by Minnesota Statutes section 471.59 to enter into this cooperative agreement for the Project.

Agreement

NOW, THEREFORE, CHANHASSEN AND RPBCWD enter into this agreement to document their understanding as to the scope of the Project, reaffirm their commitments as to the general responsibilities for and tasks to be undertaken by the parties, dedicate the necessary rights to the use of property owned by Chanhassen, and facilitate communication and cooperation to successfully complete the Project.

1 **Project.** The Project is defined and specified for purposes of this cooperative agreement and the parties' implementation thereof as consisting of the following:

1.1 **PROPERTY ACQUISITION.** Land-use rights necessary to construct and maintain the Project.

1.2 **DESIGN.** Design and preparation of all necessary construction documents (plan sheets, drawings, technical specifications) for the Project. Eighty percent designs and plans for the Project are attached to and incorporated into this agreement as Exhibit B). Exhibit B includes and the final design will incorporate: construction access and grading; repair of eroded banks and channel cutting; construction of rock riffles; re-grading the channel thalweg; placing root wads on creek banks; placing fieldstone; and restoring banks through seeding and installation of erosion control blanket.

1.3 **CONSTRUCTION.** The Project will be constructed by a contractor under contract to RPBCWD and with construction oversight and management by the RPBCWD engineer. Construction will include advance determination and procurement of permits and other regulatory approvals necessary for the Project. Construction documents will provide for a three-year warranty on vegetation.

1.4 MAINTENANCE. RPBCWD will refine and Chanhassen will approve and implement the plan for the post-construction maintenance of the Project (the Maintenance Plan). The final Maintenance Plan will identify reporting to be completed and delineate routine maintenance and repair of the Project.

2 Costs

2.1 In accordance with subsection 4.3 herein, Chanhassen will contribute the land-use rights needed for the Project on the Chanhassen Parcel at no out-of-pocket cost to either party.

2.2 RPBCWD will be responsible for the costs for design, construction, construction oversight and management, and development and finalization of the Maintenance Plan for the Project, as described herein. RPBCWD will be responsible for the costs and fees associated with complying with regulatory requirements applicable to the Project, except that Chanhassen will assess no fee to RPBCWD for city permits required for the Project, if any.

2.2 Chanhassen will be responsible for \$50,000 of Project costs and the costs of routine post-construction maintenance of the Project as defined and specified in the final Maintenance Plan.

2.3 Each of the parties will bear its administrative costs of fulfilling its responsibilities and obligations under this agreement, and costs incurred in providing and conducting public education, outreach and meetings for the Project. And in the event of cancellation in accordance with subsection 3.5 herein or Chanhassen's failure to approve the design and plans for the Project as provided in subsection 4.1 herein, each party will bear its costs incurred prior to RPBCWD's issuance of notice in accordance with subsection 5.8 herein.

3 RPBCWD's Specific Rights and Duties

3.1 RPBCWD will endeavor to obtain the land-use rights on the Private Parcel for the Project. RPBCWD will attempt to obtain the necessary rights at no cost. In its sole discretion, RPBCWD may elect to omit a portion or portions of the Project because of a failure to obtain rights necessary, in RPBCWD's judgment, to construct and maintain the Project. RPBCWD will retain sole discretion to determine that adequate public benefit will be obtained from the investment of public funds in the construction of the Project in general and as pertains to any particular property or properties.

3.2 RPBCWD has contracted with the RPBCWD engineer for the development of the plans and design for the Project, along with the specifications and all other necessary

construction documentation, as well as the Maintenance Plan. Notwithstanding the foregoing, RPBCWD makes no warranty to Chanhassen regarding the RPBCWD engineer's or another third party's performance in design, construction or construction management for the Project. RPBCWD has submitted and Chanhassen will approve, by signing this agreement, the final (90 percent) design and plans for the Project in accordance with paragraph 4.1 below. The RPBCWD engineer will prepare contract documents for bidding in accordance with state procurement law.

3.3 RPBCWD will contract for the construction of the Project in accordance with applicable public-procurement law, as determined by RPBCWD, and will ensure that the Project, when constructed, is compatible with the Property Area and this agreement. RPBCWD will award and enter a contract for the construction of the Project (Contract) that will:

- a. Require the contractor to indemnify, defend and hold harmless Chanhassen, its officers, council members, employees and agents from any and all actions, costs, damages and liabilities of any nature arising from the contractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty, or a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by the contractor to RPBCWD. The contract will require that for any claim subject to indemnification by an employee of selected contractor or a subcontractor, the indemnification obligation is not limited by a limitation on the amount or type of damages, compensation or benefits payable by or for the contractor or a subcontractor under workers' compensation acts, disability acts or other employee benefit acts.
- b. Require that the contractor name Chanhassen as an additional insured with primary coverage for general liability on a noncontributory basis for both ongoing work and completed operations to the extent of RPBCWD's statutory liability limit.
- c. Extend all product warranties and workmanship guaranties under the Contract to Chanhassen.

3.4 As between the parties and with the assistance and cooperation of Chanhassen, RPBCWD will obtain all permits, licenses and other necessary approvals for itself and Chanhassen from entities with regulatory authority, including but not limited to the necessary approval to access the Chanhassen Parcel from Carver County right of way, as determined by RPBCWD, and will ensure that the Project is completed in accordance with applicable law and regulatory standards and criteria.

3.5 RPBCWD, or the RPBCWD engineer on RPBCWD's behalf, will oversee the construction of the Project. RPBCWD may adjust the plans, design and specifications for

the Project during construction in consultation with Chanhassen, as long as the revised plans do not require RPBCWD to exceed the scope of the rights granted under this agreement or create maintenance obligations not anticipated hereunder. Until completion of construction, if RPBCWD, in its judgment, should decide that the Project is infeasible, RPBCWD, at its option, may declare this agreement rescinded and annulled. If RPBCWD so declares, all obligations herein, performed or not, will be voided; RPBCWD will return the portions of Chanhassen Parcel materially to their preexisting condition or to a condition agreed on by Chanhassen and RPBCWD to the extent the Chanhassen property has been physically disturbed by RPBCWD, its contractor, agents or assigns.

3.6 Within 90 days of certification of the Project as substantially complete for the intended purposes RPBCWD will provide as-built construction drawings of the Project to Chanhassen and the final draft Maintenance Plan.

4 Chanhassen's Specific Rights and Duties, and Grant of Access, Construction and Maintenance Rights

4.1 On submission from RPBCWD, Chanhassen will have 30 days to approve the design and plans for the Project. Failure to timely act will constitute approval. Chanhassen's authority to approve plans and specifications will not be unreasonably exercised.

4.2 Chanhassen will cooperate with RPBCWD's efforts to obtain permits and approvals needed for the Project and act to facilitate proper and efficient processing of applications for city approvals.

4.3 LAND-USE RIGHTS.

a. Chanhassen hereby grants to RPBCWD, its contractors, agents and assigns a temporary and nonexclusive license to access and use the Chanhassen Parcel, legally described in Exhibit C attached hereto solely for the purpose of

access to the Project Area and construction of the Project. RPBCWD, on reasonable notice to Chanhassen, may temporarily restrict or preclude public access to the Project Area to ensure safety while construction activities are under way.

b. Chanhassen will forbear from any activity that unreasonably interferes with the RPBCWD's ability to exercise its rights or meet its obligations under this agreement, including the transfer of ownership of the Chanhassen Parcel. Subject to its interest in preserving public safety, Chanhassen will facilitate RPBCWD's reasonable exercise of its rights under this agreement with regard to access to and use of the Chanhassen Parcel. .

c. On completion of construction of the Project, Chanhassen will retain ownership of the portions of the Project on the Chanhassen Parcel.

4.4 On receipt from RPBCWD of documentation of construction costs under the Contract, Chanhassen will reimburse RPBCWD in accordance with paragraph 2.2.

4.5 On approval of the Maintenance Plan, Chanhassen will perform all maintenance and monitoring of the Project in accordance with the Maintenance Plan, along with reporting required by the Maintenance Plan. The Maintenance Plan may be revised for purposes of finalization on mutual agreement of the parties. Chanhassen will notify RPBCWD of any need for major repair or maintenance of the Project (beyond the scope of the Maintenance Plan), and the parties in good faith will develop a collaborative approach to designing and implementing major repairs or maintenance. If Chanhassen disapproves the Maintenance Plan, all maintenance necessary to assure that the Project will continue to effectively function as designed will become the sole responsibility of Chanhassen.

4.6 Chanhassen may conduct data-collection and analysis on the performance of the Project in reducing loading of sediment and other pollutants to Bluff Creek, and may utilize all credit toward compliance with goals and requirements imposed by state and federal regulatory programs, such as through the National Pollutant Discharge Elimination System as applied to Chanhassen.

5 General Terms

5.1 INDEPENDENT RELATIONSHIP; LIABILITY. This agreement does not create a joint powers board or organization within the meaning of Minnesota Statutes section 471.59, and neither party agrees to be responsible for the acts or omissions of the other pursuant to subdivision 1(a) of the statute. Only contractual remedies are available for the failure of a party to fulfill the terms of this agreement. Chanhassen and RPBCWD enter this agreement solely for the purposes of improving the ecological health and condition of Bluff Creek in Chanhassen. Accordingly, with respect to any and all activity undertaken pursuant to this agreement, Chanhassen and RPBCWD each agree to hold the other harmless, and defend and indemnify the other, its officers, employees and agents from and against any and all liability, loss, claim, damage or expense (including reasonable attorney fees, costs and disbursements) that the indemnified party may incur as a result of the Project due to any negligent or willful act or omission by the indemnifying party or the indemnifying party's breach of any specific contractual duty. Notwithstanding the foregoing or any other provision of this agreement, Chanhassen's and RPBCWD's obligations under this paragraph will survive the termination of the agreement.

This agreement creates no right in and waives no immunity, defense or liability limitation with respect to any third party. As between the parties, only contract remedies are available for a breach of this agreement. Notwithstanding the foregoing, RPBCWD will not be deemed to have acquired by entry into or performance under this agreement, any form of interest or ownership in or to any portion of the land that is the site of the construction of the Project or adjacent property. RPBCWD will not by entry into or performance under this agreement be deemed to have exercised any form of control over the use, operation or management of any portion of the property that is the site of the Project or adjacent property so as to render RPBCWD a potentially responsible party for any contamination under state and/or federal law.

5.2 PUBLICITY AND ENDORSEMENT. Any publicity regarding the Project must identify Chanhassen and RPBCWD as the sponsoring entities. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for Chanhassen or RPBCWD individually or jointly with others, or any subcontractors, with respect to the Project. RPBCWD and Chanhassen will collaborate on the development of educational and informational signage pertinent to the Project, and each party, at its cost, may develop, produce and, after approval of the other party, distribute educational, outreach and publicity materials related to the Project.

5.3 DATA MANAGEMENT. All designs, written materials, technical data, research or any other work-in-progress will be shared between the parties to this agreement on request, except as prohibited by law. As soon as is practicable, the party preparing plans, specifications, contractual documents, materials for public communication or education will provide them to the other party for recordkeeping and other necessary purposes.

5.4 DATA PRACTICES. All data created, collected, received, maintained or disseminated for any purpose in the course of this agreement is governed by the Data Practices Act, Minnesota Statutes chapter 13, any other applicable state statute, or any state rules adopted to implement the act, as well as federal regulations on data privacy

5.5 ENTIRE AGREEMENT. This agreement contains the complete and entire agreement between the parties relating to the subject matter hereof, and supersedes all prior negotiations, agreements, representations and understandings, if any, between the parties respecting such matters. The recitals stated at the outset are incorporated into and a part of the agreement.

5.6 COMPLETE AGREEMENT. This agreement, as it may be amended in writing, constitutes the entire agreement between the Parties. Any amendment to this agreement must be in writing and will not be effective until it has been executed and approved by

the same parties who executed and approved the original agreement or their successors in office.

5.7 **WAIVERS.** The waiver by Chanhassen or RPBCWD of any breach or failure to comply with any provision of this agreement by the other party will not be construed as nor will it constitute a continuing waiver of such provision or a waiver of any other breach of or failure to comply with any other provision of this agreement.

5.8 **NOTICES, COORDINATION.** The parties designate the following authorized representatives, each to serve as the liaison to the other party for purposes of coordinating inspection, construction oversight and maintenance of the Project as provided in this agreement. Any written communication required under this agreement will be addressed to the other party as follows, except that either party may change its address for notice by so notifying the other party in writing:

Chanhassen

Vanessa Strong, Water Resources
Coordinator
7700 Market Boulevard
P.O. Box 147
Chanhassen, MN 55317
952-227-1168

RPBCWD

Claire Bleser, Administrator
18681 Lake Drive East
Chanhassen, MN 55317
952-607-6512

5.9 **TERM; TERMINATION.** This agreement is effective on execution by both parties and will terminate three years from the date of execution of the latest amendment hereto or on the written agreement of both parties. Any responsibility or obligation that has come into being before expiration, specifically including obligations under paragraphs 1.4, 4.3 and 5.1 herein, will survive expiration.

IN WITNESS WHEREOF, the parties have caused the agreement to be duly executed intending to be bounded thereby.

(Signature page follows.)

CITY OF CHANHASSEN
MAYOR

RILEY-PURGATORY-BLUFF CREEK
WATERSHED DISTRICT

By: Denny Laufenbuger, Mayor

By: _____

By: NAME, President

Date: _____

Date: _____

CITY MANAGER

Approved as to form & execution:

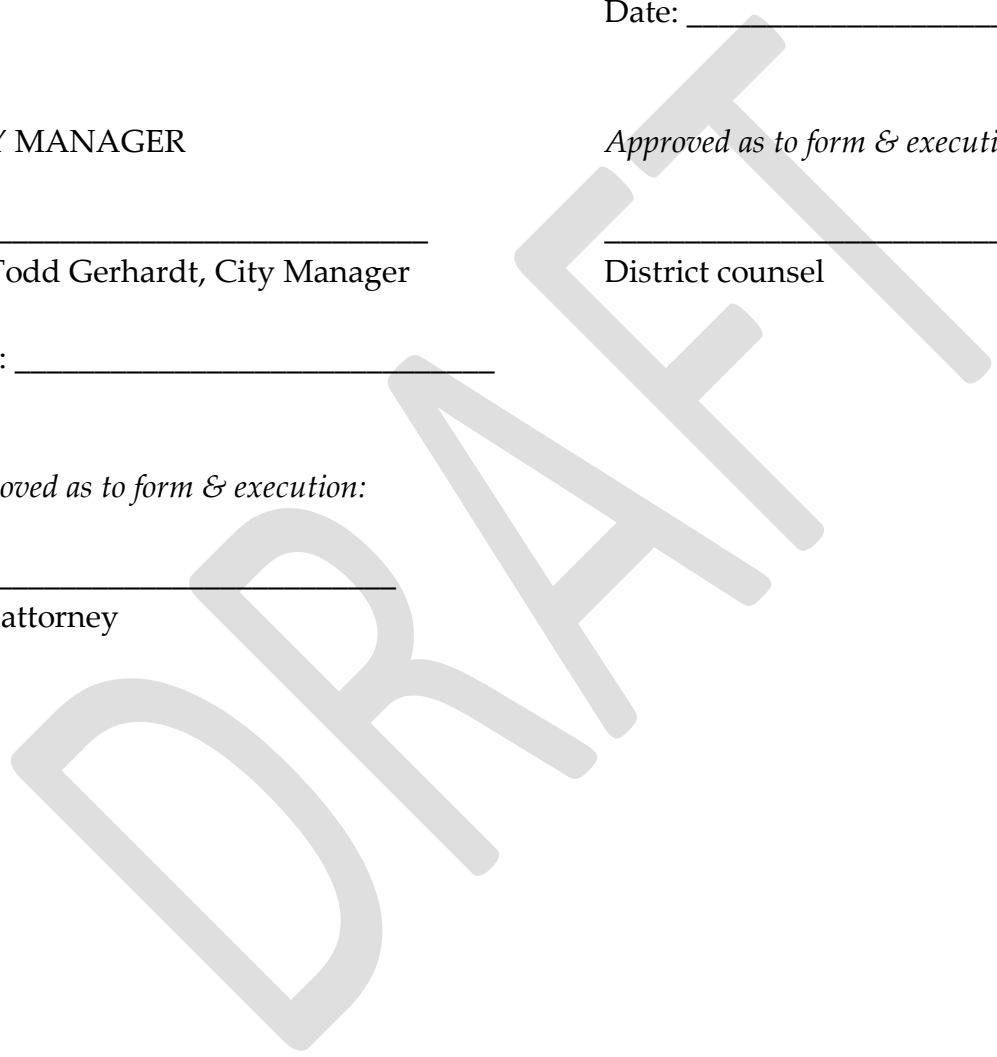
By: Todd Gerhardt, City Manager

District counsel

Date: _____

Approved as to form & execution:

City attorney



**EXHIBIT A
Project Area**

DRAFT

EXHIBIT B
80 Percent Design and Plans

DRAFT

Exhibit C

Legal Description of License Area for City Property

That portion of Outlot B, Liberty on Bluff Creek, Carver County, Minnesota, according to the recorded plat thereof lying south of a line extended easterly from the southeast corner of Lot 15, Block 2, Liberty on the Bluff Creek and parallel to the south line of Outlot B, Liberty on Bluff Creek;

And

The North 306.00 feet of the following described parcel:

That part of the Southwest Quarter of the Northeast Quarter and the Northwest Quarter of the Southeast Quarter of said Section 27, Township 116, Range 23 West of the Fifth Principle Meridian, described as follows:

Commencing at the southeast corner of said Southwest Quarter of the Northeast Quarter, thence on an assumed bearing of North 00 degrees 28 minutes 53 seconds West, along the east line of said Southwest Quarter of the Northeast Quarter, a distance of 528.00 feet; thence on a bearing of South 89 degrees 31 minutes 07 seconds West, a distance of 617.10 feet; thence on a bearing of South 00 degrees 28 minutes 53 seconds East, parallel with said east line of the Southwest Quarter of the Northeast Quarter, a distance of 665.28 feet; thence on a bearing of South 80 degrees 28 minutes 53 seconds East, a distance of 626.58 feet (620.50 feet deeded), to the east line of said Northwest Quarter of the Southeast Quarter; thence on a bearing of North 00 degrees 28 minutes 16 seconds West, along the said east line of the Northwest Quarter of the Southeast Quarter, a distance of 246.08 feet to the point of beginning.

Except any portion thereof within MNDOT Right-of-Way Plat No. 10-20.

DRAFT

Lower Riley Creek Corridor (Reach E and D3)

Enhancement Plan

Add photo of site (Aerial)

Prepared for
Riley Purgatory Bluff Creek Watershed District and the City of Eden
Prairie

June, 2018



Lower Riley Creek Corridor (Reach E and D3)

Enhancement Plan

June, 2018

Prepared for
Riley Purgatory Bluff Creek Watershed District and the City of Eden
Prairie



Ecological Enhancement Plan
Lower Riley Creek Stabilization Project

June 2018

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1.0 Context and Goals for this Ecological Enhancement Plan

This document was written to guide enhancement and stewardship efforts of ecological resources within Reach E and Site D3 of Lower Riley Creek (i.e. the Lower Riley Creek Stabilization Project, or Project) as shown in Figure 1-1. The project partners include the Riley Purgatory Bluff Creek Watershed District (RPBCWD), Lower Minnesota River Watershed District (LMRWD), and City of Eden Prairie (City). This partnership was created when the City granted RPBCWD rights to the property for stream restoration and resulting ecological enhancement. LMRWD and the City are funding partners for the Project. This Ecological Enhancement Plan documents the goals of the partnership for the Lower Riley Creek Stabilization Project and establishes roles and responsibilities of Project partners for the 20 year life of the agreement.

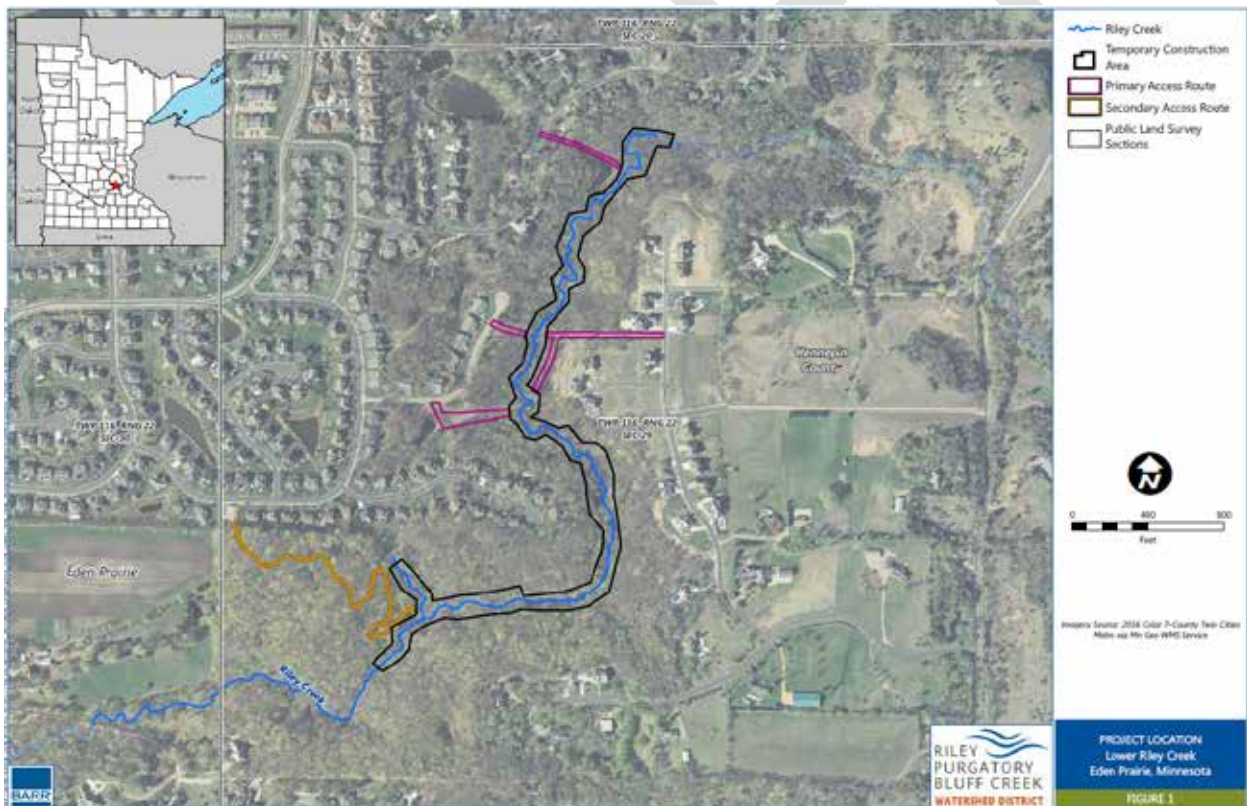


Figure 1-1 Location of Lower Riley Creek Stabilization Project

The partners will work collaboratively to review this ecological enhancement plan and financial prospectus that collectively establish leadership by each organization in site

management tasks. The financing plan in Section 9.0 includes information on which tasks are lead by which partner and how they are paid for.

2.0 Vision, Goals, and Project Approach

The vision for this Project is to provide an ecologically diverse stream reach that significantly reduces streambank erosion, provides diverse habitat layers, and enhances the public's access and their understanding of why stable stream systems are important. Presently, Reach E has a primarily sandy channel bed with limited riffle/pool variability. The Project will provide greater stream depth variability, more channel bed substructure types, and varied channel velocities. The proposed Project will reduce erosion and improve water quality while also improving natural stream habitat for aquatic organisms. Providing better floodplain connectivity for Lower Riley Creek also enhances surrounding riparian habitat. By establishing a stable stream corridor, the Project will also address the Minnesota Pollution Control Agency's (MPCA's) identified turbidity impairment within this reach of Riley Creek. The Project's location in the Riley Creek Conservation Area provides opportunities for interpretive signage and future programming to educate the public on the importance of diverse stream corridors.

As part of the Project partners planning processes, each have established goals intended to protect, restore, and enhance water resources. Table 2-1 provides a summary of how the Project aligns with these goals.

Table 2-1 Summary of Partner Goals and Project

Partner	Goals	How Project Aligns with Goal
RPBCWD	Design, maintain, and implement Education and Outreach programs to educate the community and engage them in the work of protecting, managing, and restoring water resources. (EO 1)	The project will educate the community that is near and recreational users on the project itself but also stewardship ideas that they can implement.
	Include sustainability and the impacts of climate change in District projects, programs, and planning.	The District is going to utilize sustainable materials as part of the project.
	Protect, manage, and restore water quality of District lakes and creeks to maintain designated uses. (WQual 1)	The project is restoring the reach E and D3 of Riley Creek.
	Preserve and enhance habitat important to fish, waterfowl, and other wildlife.(WQual 3)	<p>The project will enhance the creek corridor which includes both terrestrial and aquatic habitats.</p> <p>The project will enhance the aquatic habitats by stabilizing eroding streambanks. Furthermore, the project will reduce habitat fragmentation by reconnecting the creek with the terrestrial uplands.</p>
	Protect and enhance the ecological function of District floodplains to minimize adverse impacts. (WQuan 1)	The project will reconnect the creek to the floodplain which will also help increase of pollutant removal, promote infiltration and enhancing the ecological habitat.
	Limit the impact of stormwater runoff on receiving waterbodies. (WQuan 2)	The project will dissipate the energy of stormwater runoff entering the creek at stormwater sewer discharge at location.
LMRWD	Erosion and Sediment Control – To manage erosion and control sediment discharge	The project will stabilize the streambanks and reconnect the stream to the floodplain which will dissipate the energy of the runoff, enhance pollutant removal, minimize streambank erosion, and reduce sediment discharge downstream.

Partner	Goals	How Project Aligns with Goal
City of Eden Prairie	Work to achieve water quality standards in Lakes, Streams and Wetlands consistent with intended use and classification and State of Minnesota water quality standards.	The City will work in partnership with the Watershed District, DNR, adjacent property owners and other interested parties to restore creeks, creek banks, and gullies for health, safety and ecological integrity, using bioengineering for stabilization projects where feasible. We will also be setting an example for citizens and property owners by managing City-owned property.
	Protect downstream water resources, reduce the potential for flooding and minimize related public capital and maintenance expenditure necessary to control excessive volume and rates of runoff and to mitigate erosion.	The project will provide education information and opportunities for residents to restore similar projects to restore shorelines.
	Increase public involvement in knowledge in management and protection of water resources	The project will facilitate a better understanding of water resource issues in the creek corridor while involving the public in the process.
	Support water recreation activities and fish and wildlife habitat by implementation of programs to maintain or improve water quality.	The project will enhance recreational opportunities and access to the creek corridor while maintaining the accessibility and habitat in the creek corridor.

This plan intends to adopt an adaptive management approach to restoring Riley Creek at Reach E and D3. An adaptive management approach evaluates the project performance following implementation and then determine if further actions are necessary to maintain the restoration.

This project looks to mitigate and prevent additional erosion of streambanks and foster the use of natural materials and bioengineering principals for the restoration and maintenance of stream reaches whenever feasible. Technical stakeholders, including the USACE and MNDNR, have expressed a preference for bioengineering over hard armoring for stream stabilization where possible. Bioengineering techniques maintain more of a stream's natural function and provide better habitat and a more natural appearance than hard armoring.

3.0 Location

Reach E (Figure 3-1) is approximately 4,600 feet long and located in the lower portion of Riley Creek as it flows to the Minnesota River. Site D3 is a 375-foot long ravine that conveys urban runoff to Reach E. Both Reach E and Site D3 are located within the boundaries of the Riley Creek Conservation Area, owned by the City of Eden Prairie, and have a watershed area of approximately 9.2 acres.

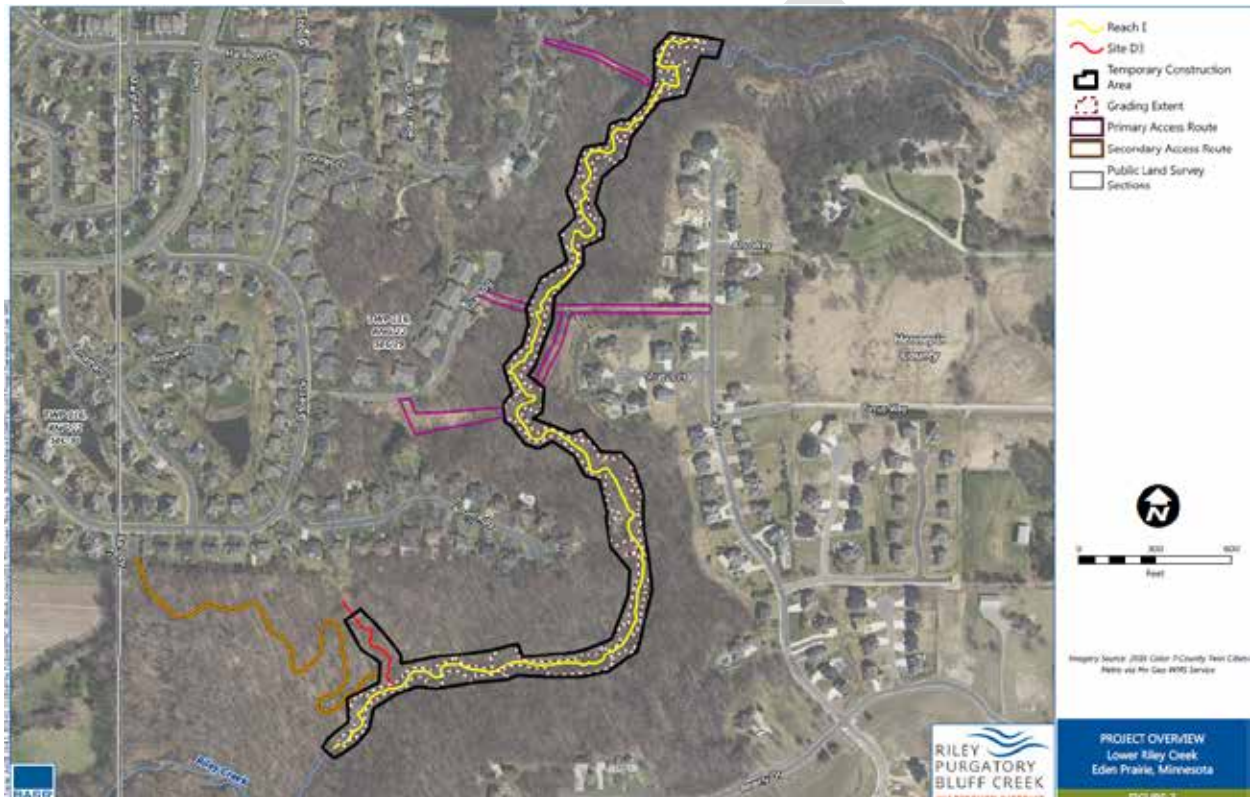


Figure 3-1 Location of Lower Riley Creek Stabilization Project

4.0 Land Use History

Prior to European settlement, the entire Riley Creek watershed was located in an ecoregion known as the Big Woods, where oak woodland and maple-basswood forests were the dominant vegetation types. As settlement occurred, much of the landscape was initially converted to farmland. As urban development spread outwards from the Minneapolis core, areas of farmland then became converted to urban and suburban landscapes. This conversion is ongoing in some of the undeveloped areas of Riley Creek watershed.

As development occurred, the City of Eden Prairie recognized the importance of protecting remnants of the Big Woods landscape and creek corridors some of which are found within the boundaries of the Riley Creek Conservation Area. The Project is located in the Riley Creek Conservation Area, which is owned by the City of Eden Prairie. Three different zoning classifications are found in the vicinity, including public, residential, and rural. Adjacent land use is primarily residential.

5.0 Existing Conditions

5.1 Vegetation

A vegetation assessment was completed in July 2016 to determine vegetation composition of the riparian portions of the Project area. The plant community surrounding Riley Creek in Reach E and Site D3 is dense hardwood forest with a nearly continuous canopy cover (90-100%). The riparian area is dominated by sugar maple, northern red oak, and basswood tree species. Other canopy and sub-canopy species commonly found throughout the Project area, though more prevalent in upstream portions, include ironwood, black cherry, bitternut hickory, and hackberry. The understory is comprised of marginal coverage to total coverage (30-100% cover) with large bare patches on heavily eroded slopes found closer to Riley Creek's banks. Wood nettle is the dominant understory species, covering 80-100% of the ground layer along large stretches of the Project area. Other native plant species found frequently through the Project area include wild ginger, Pennsylvania sedge, bloodroot, riverbank rye, and golden glow.

Forest in the upstream portions of the Project exhibits characteristics of a native hardwood forest community, with a nearly closed canopy and open understory (Figure 5-1). However, glossy buckthorn is prevalent in the downstream portion of the Project area, with trees ranging from approximately three to eight feet in height, and saplings comprising a significant portion of the understory (Figure 5-2). Canada thistle is also found in the Project area, primarily in locations where small openings in the forest canopy allow for more sunlight in the understory layer.



Figure 5-1 Native Hardwood Forest Community, upstream portion of Project



Figure 5-2 Buckthorn Dominated Forest, downstream portion of Project

5.2 Soils and Hydrology

Five different soil types are found in the Project area, as described in Table 5-1. Although soils in the Project area generally have low to moderate susceptibility to erosion, most of these soils are generally found on steep slopes.

Table 5-1 Summary of Soils Conditions within the Project Area

Soil Type	Typical Soil Slopes	Erosion Susceptibility	Hydric Status
Hawick loamy sand	20-40 percent slopes	Low to Moderate	Not hydric
Hawick gravelly sandy loam	12-20 percent slopes	Low to Moderate	Not hydric
Lister-Ridgeton complex	25-45 percent slopes	Moderate	Predominantly non-hydric
Sucker creek fine sandy loam	0-2 percent slopes	Moderate	Predominantly hydric
Metea loamy fine sand	6-12 percent slopes	Low to Moderate	Not hydric
Lester-Metea complex	18-25 percent slopes	Low to Moderate	Predominantly non-hydric

Riley Creek is the primary hydrologic resource in the Project area. It travels through a steep valley, known as the Riley Creek Lower Valley, before flowing to the Minnesota River. This reach of Riley Creek has a deeply incised channel with a very limited floodplain. The narrow Riley Creek Lower Valley limits the ability of high flows to spread into a floodplain, thereby keeping high flows concentrated in and near the main channel, exacerbating existing bank erosion. Table 5-2 summarizes the flow rates in Reach E for design storm event of various sizes and the observed flows at Flying Cloud Drive.

Table 5-2 Summary of Design Flows within the Project Area

Design Event	Hydrologic Model, Station 140+00 (cfs)	Met. Council Gage, Flying Cloud Drive (cfs)
1 year	86	23
2 year	134	96
10 year	323	297
100 year	804	--
Maximum observed	--	472

5.3 Water Quality Impairments

The MPCA maintains a list of impaired waters for the state of Minnesota. A body of water is considered impaired if it fails to meet one or more of the state's water quality standards presented in Table 5-3. Waters that are not able to meet their designated uses due to exceeding water quality standards are considered impaired. Lower Riley Creek, from Lake Riley to Grass Lake is included on the MPCA's 2018 Inventory of Impaired Waters (MPCA, 2016) for several impairments as summarized Table 5-4.

States must develop a list of impaired waters that require total maximum daily load (TMDL) studies and routinely coordinate with the U.S. Environmental Protection Agency (EPA) for study approval. A TMDL study identifies the maximum amount of a certain pollutant that a body of water can receive without violating water quality standards and allocates that amount to the pollutant's sources. The MPCA began a TMDL study for this impaired reach of Riley Creek in 2014 and is targeted to complete the study in 2019.

Table 5-3 MPCA Water Quality Standards

Water Quality Parameter	MPCA Water Quality Standard
Total Phosphorus (summer average, µg/L)	100
Chlorophyll a (summer average, µg/L)	18
Secchi Disc Transparency (summer average, m)	NA
Total Suspended Solids (mg/L)	30
Daily Dissolved Oxygen Flux (mg/L)	3.5
Biological Oxygen Demand (5 day) (mg/L)	2
Escherichia coli (# per 100 mL)	126 ³
Chloride (mg/L)	230

Table 5-4 Riley Creek and Minnesota River Impairments

Waterbody	Impaired Use	Pollutant or Stressor	Year Listed	TMDL Study Target Start	TMDL Study Target Completion	TMDL Study Approved
Riley Creek	Aquatic Life	Turbidity	2002	2014	2019	--
	Aquatic Life ¹	Aquatic Macroinvertebrate Bioassessments	2018		2019	
	Aquatic Life ¹	Fishes Bioassessments	2018		2019	
	Aquatic Recreation ¹	Escherichia coli	2018		2019	
	Aquatic Consumption	Mercury in Fish Tissue ³	1998	1998	2025	--
Minnesota River	Aquatic Life	Nutrients/Eutrophication	2016	2014	2019	--
	Aquatic Life	Turbidity	1996	2014	2019	--
	Aquatic Consumption	PCB in Fish Tissue	1998	1998	2025	--
	Aquatic Consumption	Mercury in Water Column	1998	--	--	2008 ²
	Aquatic Consumption	Mercury in Fish Tissue	1998	--	--	2008 ²
¹ Included on the MPCA's Draft 2018 impaired waters list. ² Covered under the statewide mercury TMDL, approved in 2007. ³ Mercury impairments for Lake Riley and Staring Lake are not covered by the statewide mercury TMDL due to mercury in fish tissue exceeding a threshold value of 0.57 mg/kg.						

5.4 Wetlands

One wetland has been delineated within the Project area, located in the downstream end of Reach E. This wetland is an excavated stormwater pond approximately 0.38 acres in size and classified as a shallow open water basin.

5.5 Stream Geomorphic Assessment

The Riley Creek channel through this reach is deeply incised and entrenched with large, steep, eroding valley walls. One erosion location measured approximately 50 feet wide and 40 feet tall. RPBCWD staff also noted that the headcuts documented in RPBCWD's 2007 *Lake Riley Outlet Improvements and Riley Creek Lower Valley Stabilization Feasibility Study* have migrated upstream such that the upstream reach is also now incised and entrenched.

Stream survey data was collected in 2016 and compared to similar data collected in 2007 to verify the stream geomorphic changes during this time period. The 2007 survey was conducted during the winter months and included limited data in the upstream

portions of the reach below the ice. However, the points available below the ice clearly show that the channel bed has lowered in the upper portions of the reach (approximately 2,500 feet of the reach) while remaining fairly unchanged in the lower section. This survey data correlates with field observations of active erosion and head cutting in the upper section of the study reach. A comparison of cross sections (Figure 5-3) also shows that the channel has lowered since the 2007 survey as it is currently both deeper and wider.

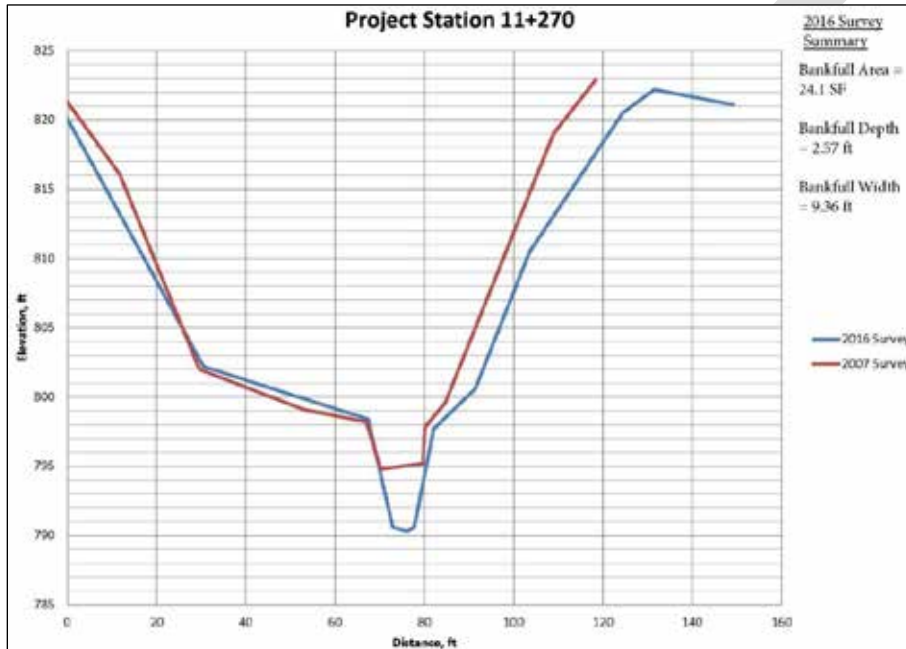


Figure 5-3 Reach E Cross Section Comparison Example

Channel dimensions and ratios were not summarized for Site D3 because flow in this ravine is very sporadic. The cause of erosion at Site D3 is flashy stormwater runoff from adjacent residential and park property to a ravine.

5.6 Streambank Erosion

The initial instability within Reach E was likely caused by the gradual increase in runoff volume and increased peak runoff rates generated by a developing watershed. The bank soils within the Lower Valley are clayey and cohesive, making them somewhat naturally resistant to erosion, particularly if sufficient vegetation is present to provide reinforcement with root masses. Streambanks within this reach are 6 to 10 feet tall, with vertical side slopes that are largely bare of vegetation. A narrow valley concentrates flood flows closer to the channel than in a wide floodplain, thereby generating more erosive pressure on the stream bed and banks, especially during larger storm flows. Due

to the channel depth, the creek has limited access to a floodplain. Based on MDNR regional curves and USGS regression equations, Riley Creek should have a mean bankfull depth of 1.5 to 2.5 feet instead of the current 6 to 10 feet. Based on Barr's 2015 PCSWMM model, design flood events up to the 100-yr design storm are largely conveyed within the channel.

At Site D3, the original cause of erosion appears to be concentrated runoff into the ravine from agricultural fields, as shown in Figure 5-4. It appears that the top of the ravine was partially filled and some erosion protection was installed when the current development was built. The adjacent parkland and the back half of seven residential lots along Laforet Drive and Acorn Ridge drain toward the ravine, and the runoff is captured by two berms located near the top of the ravine. A small storm sewer system captures stormwater collected behind the berms and discharges the runoff into the ravine. It is assumed that the current development reduced the drainage area to the ravine and the runoff rates and volume to the ravine have likely been further reduced by the berms installed to intercept runoff at the top of the ravine. However, erosion has continued, as evidenced by undermining of the riprap installed at the storm sewer outlet. The storm sewer outlet is still located high enough within the ravine that the discharge causes erosion of the ravine bed. High velocities from the culvert (12 to 13 feet per second) combined with the steep channel slope of the ravine (11 percent slope) to cause continual erosion downstream of the culvert outfall. The invert of the ravine is actively eroding, creating scarps and adding sediment load to Riley Creek.

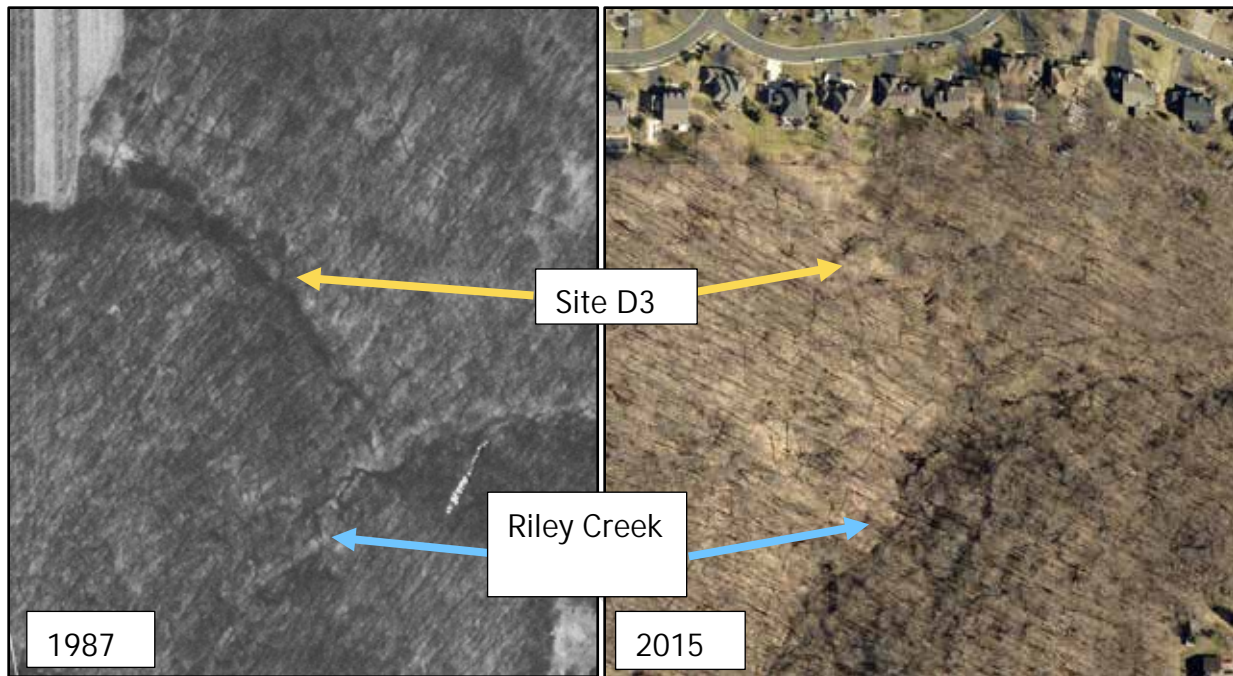


Figure 5-4 Aerial images of Site D3 from 1987 and 2015

5.7 Wildlife

Riley Creek Corridor which includes an upland deciduous forest provide potential habitat for a diversity of organisms, such as fish, including green sunfish, fathead minnow, and bluntnose minnow; amphibians, such as frogs, toads, and salamanders; birds such as bald eagles, hawks, heron, wood ducks, and perching birds; and mammals, such as fox, deer, squirrels, beaver, and muskrats. Wildlife found in the Project area are primarily expected to be habitat generalists due to the present lack of high-quality habitat through a majority of this Riley Creek reach.

The proposed Project area is located within the Minnesota Biological Survey (MBS) Riley Creek Site of Biodiversity Significance, which is ranked high with regard to biodiversity significance (SBS; MNDNR 2017). The proposed Project area is also located within a Central Region Regionally Ecological Significant Area (RESA; MNDNR 2003). In general, RSEAs include places where intact native plant communities and/or native animal habitat are still found in the region and continue to provide important ecological functions. The Project's location within these designated areas enhances the importance of improving local habitat quality and diversity.

6.0 Desired Future Outcomes

The proposed stabilization measures will result in reduced stream bank erosion and, therefore, reduced sediment and phosphorus loading to Riley Creek and all downstream water bodies, including Grass Lake, the Minnesota River, the Mississippi River, and Lake Pepin. The existing stream bank erosion rate (in units of feet per year) for each stabilization site was estimated based on a field assessment method known as the Bank Assessment for Non-Point Source Consequences of Sediment (BANCS) model. The BANCS model uses two erosion-estimation tools to develop risk ratings for the Bank Erosion Hazard Index (BEHI) and the Near-Bank Stress (NBS).

The portions of Reach E and Site D3 analyzed are generally rated “moderate” or “high” for BEHI due to the high, steep eroding banks. For NBS, the sub-reaches are designated “low” or “high”. The total reduction in pollutant loading as a result of stabilizing the Reach E and Site D3 project reaches is estimated as **2,173,930** pounds per year **TSS** and **1,250** pounds per year **TP**. These values are representative of an erosion rate of approximately 0.1 to 0.2 feet per year for the stream banks.

The proposed Project has been designed to provide streambank stability while improving degraded habitat conditions of Reach E and Site D3. Presently, Reach E has a primarily sandy channel bed with limited riffle/pool variability. The proposed Project would provide greater stream depth variability, more channel bed substructure types, and varied channel velocities. Each of these variabilities enhances in-stream habitat features, potentially allowing more opportunities for macroinvertebrates and fish to use this reach of Lower Riley Creek. Providing better floodplain connectivity for Lower Riley Creek also enhances surrounding riparian habitat.

In addition to the expected water quality improvement expect from restoring the stream, the Project will provide other benefits as summarized in Table 6-1.

Table 6-1 Project Benefit Summary

Benefits	Qualitative Discussion	Metric
Habitat (acres)	Create in-channel habitat for fish and macroinvertebrates providing pools, riffle and refuge area for aquatic life. Improve riparian habitat conditions through invasive species removal and better connection of riparian corridor to stream channel.	2.9 acres of in-channel habitat improvements; 2.4 acres of riparian habitat improvements
Pollutants (e.g., TP, TSS, etc; lbs)	Restore stable streambanks and improve riparian buffer to reduce movement of eroded soil and nutrients to Riley Creek	Reduce TSS by 2,173,930 lbs/yr; Reduce TP by 1,250 lbs/yr
Abstraction (cubic ft)	Re-connecting Riley Creek channel to floodplain allows for greater infiltration due to sandy soils found in the floodplain. Vegetation found within the floodplain also improves infiltration.	Metric cannot be measured in the context of this Project.
Streambank Restored (feet)	Restore stable streambanks and improve riparian buffer is significant driver of the other benefits presented in this table.	4,600 feet of Reach E; 375 feet of Site D3
Groundwater Conserved (gal)	Benefit is not applicable.	
Community Reach	Location in a recreation area allows for public accessibility; public hearing held prior to RPBCWD Board ordering project; will hold neighborhood meetings prior to construction; informational pamphlets explaining project will be placed at recreation trailhead during construction; plans for future interpretive signage	
Flow Reduction (fps, cfs, psf, etc.)	Re-connect Riley Creek channel to floodplain, allowing high flows to extend into floodplain, reducing velocity of flows through the area.	
Flood Storage (acft)	Improve connectivity of creek to floodplain, providing for project resiliency and reducing flow velocities	
Wetland Management Class	Benefit is not applicable.	

¹ These values are representative of an erosion rate of approximately 0.1 to 0.2 feet per year for the stream banks.

7.0 Strategies for Ecological Enhancement and Management

The RPBCWD is proposing to enhance 4,600 feet of Lower Riley Creek (Reach E), as well as approximately 375 feet of a ravine tributary to the creek (Site D3) as summarized on Figure 2. All restoration projects require ongoing management to ensure their long-term success. This section describes the initial restoration techniques and outlines a management program.

7.1 Restoration Activities

Improvements to Reach E will be provided through several methods (Figure 7-1a & b). The elevation of the Riley Creek channel in Reach E will be raised through constructing a series of approximately 30 rock riffles. The constructed riffles will raise the elevation of the channel by providing areas of grade control, allowing higher flows to better widen outside of the creek channel. The newly connected floodplain would be sized proportional to its setting in a narrow valley and would be approximately 30 to 60 feet wide. Allowing higher flow to more easily move outside the creek channel reduces the potential of further downcutting and associated erosion. As such, raising the channel elevation will increase the stability of Reach E. A series of approximately 8 log/rock step pools will be constructed to provide variable flow conditions. These step pools are planned to be constructed using trees salvaged on-site. In addition, a variety of bioengineering methods, including rock cross vanes, rock vanes, log vanes, root wads, and toe wood bank stabilization, will be incorporated across the proposed Project reach as needed to dissipate stream flows. Overbank areas would be graded to a stable, 2:1 or flatter slope. The proposed Project is planned to be cut/fill neutral, meaning there will be no net gain or loss of soil materials from the Project site.



Figure 7-1a Northern Portion of Reach E Restoration Methods



Figure 7-2b Northern Portion of Reach E Restoration Methods

Site D3 would be stabilized through the use of riprap, cross checks, scarp toe stabilization, and scarp stabilization (Figure 7-3). The existing riprap outfall in Site D3 would be reconstructed using new, appropriately-sized riprap. Eight boulder cross vanes would be installed in the lower two-thirds of Site D3 to provide ravine bottom stability and manage flow velocities through the ravine. There are several scarps adjacent to Site D3; these scarps and associated scarp toes would also be stabilized.

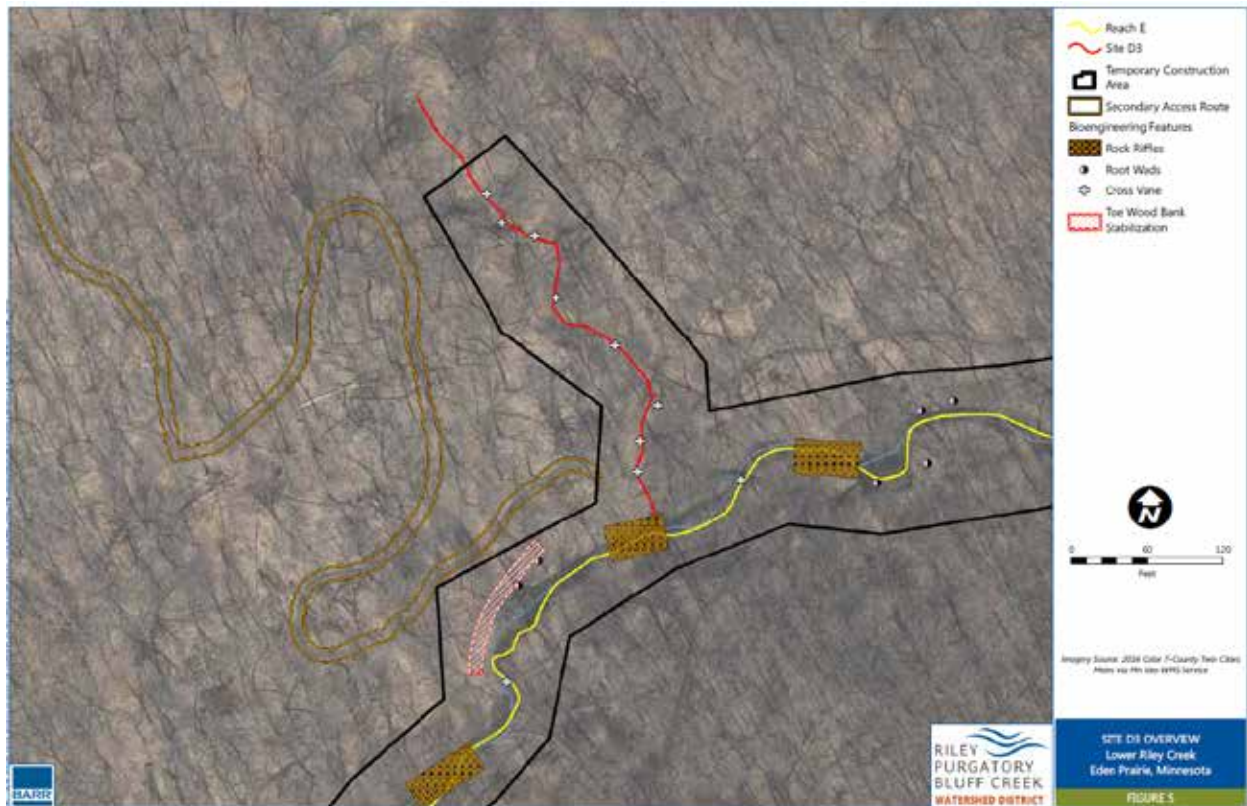








Figure 7-3 Reach D3 Restoration Methods

The proposed Project will require modification or replacement of five storm sewer outfalls within the extents of Reach E. Existing pedestrian bridges are anticipated to remain in place; however, one new pedestrian bridge would be constructed to connect with an existing, paved access trail to the nature trails within the Riley Creek Conservation Area.

Table 7-1 Project Design Elements

Design Element	Purpose	Ecological Benefit
<p>Rock Riffles</p> 	<p>Gravel or cobble-sized material installed in the stream bed to create natural flow patterns and to control stream bed elevations.</p>	<p>The variety in flow and channel substrate size provides habitat diversity for aquatic species.</p>
<p>Cross Vanes</p> 	<p>Boulders buried in the stream bed and extending partially ("vanes") or entirely across the stream ("cross vanes") to achieve one or more of the following goals: re-direct flows away from banks, encourage sediment deposition in selected areas, and control stream bed elevations.</p>	<p>Scour pools develop over time near the vane, which provide habitat diversity for species that prefer pools to faster flowing in-channel habitat.</p>
<p>Scarp and Scarp Toe Stabilization</p>	<p>Vertical cedar pilings placed one foot on center along the toe of the actively eroding scarp and extending approximately 2 feet above the channel bed. Salvaged trees are installed longitudinally on the landward side of the cedar pilings. The combined structure reduces further erosion of the scarp toe and provide a bench for scarp material to deposit, eventually reducing the slope of the scarp and allowing for the scarp revegetation.</p>	

Design Element	Purpose	Ecological Benefit
<p>Root Wads</p> 	<p>Tree trunks with the root ball attached, installed either singly (root wads) or in conjunction with additional large woody debris and toe wood to Increase bank roughness and resistance to erosion, re-direct flows away from banks, and provide a bench for establishment of riparian vegetation</p>	<p>Creates undercut/overhanging bank habitat features.</p>
<p>VRSS/Toe Wood Bank Stabilization</p> 	<p>Soil lifts created with a combination of root wads and long-lasting, biodegradable fabric and vegetated to stabilize steep slopes and encourage establishment of root systems for further stabilization.</p>	<p>Creates undercut/overhanging bank habitat features.</p>
<p>Floodplain Connectivity</p> 	<p>Active floodplain/vegetated bench—modifications made to the stream cross section to increase floodplain connectivity and decrease erosive stress during flood flows; for this project, constructed by raising the channel bed.</p>	<p>Provides a smooth transition between in-channel, riparian, and upland habitat.</p>
<p>Vegetation/Buffer</p> 	<p>Established along a stream bank or overbank area to stabilize bare soils and increase resistance to fluvial erosion.</p>	<p>Using trees, shrubs, and a seed mix of grass and forbs provides a diverse array of vegetation strata and habitat types. Allows for more naturalized aesthetics, with emphasis on native species.</p>

7.2 Management Activities

7.2.1 Inspections

Between August 15 and October 15 each year, the partners will conduct an inspection of the Project. All inspections will include the tasks listed below, along with any other visual observation necessary. In addition, stream bank erosion issues often develop following high flow events; therefore the inspection tasks listed below should also be performed following storm events exceeding a 10-year return period for storm events with durations of 12 hours or greater, as defined by Atlas 14 and as recorded at the National Weather Service station in Chanhassen.

- Inspect the condition of each of the stream bank protection locations throughout the Project Area. Criteria to note include but are not limited to the following:
 - For areas with riprap protection, should note:
 - § The general condition of the riprap.
 - § Observed displacement of riprap material.
 - For areas with rock vanes and cross vanes for bank protection, should note:
 - § Displacement of boulders used to construct the vanes.
 - § Potential undermining of the vanes due to scour immediately downstream of the vanes.
 - § Flow patterns that appear to be eroding around the vane.
 - § Any bank erosion within approximately 10 feet of the vane.
 - For areas with root wads for bank protection, should note:
 - § The general condition of the root wads (moved, rotted, etc.).
 - § Any bank erosion within approximately 10 feet of the root wad.
 - For areas with re-established vegetation, should note:
 - § The general condition of seeded areas and vegetative plantings.
 - § The survival rates of vegetative plantings.
 - § The percent cover by grasses and forbs in seeded areas.
- Document significant bank erosion locations, as defined as areas with raw, unvegetated banks greater than approximately two feet tall and with bank angles steeper than approximately 45 degrees.
- Note any observed changes in the stream flow pattern or direction throughout the Project, and note other locations where bank protection may be required;
- Examine storm sewer outlets for undermining, blockage and scour at the outlet and erosion;
- Record location of accumulated debris, downed trees and branches that may adversely redirect the stream flow into the stream banks;

- Take photographs to document the inspection findings in the preceding inspection tasks.

The inspection results will be summarized in a brief inspection report as described in the ANNUAL REPORT section. The assessment will be amended to this report (the Lower Riley Creek Corridor Enhancement Plan) and can be used to inform potential actions.

7.2.2 Maintenance

Routine maintenance activities may include removal of fallen trees that may impede the flow of water, revegetating exposed soils, replacement of boulders for cross vanes, repair of displaced riprap and maintenance of buffer areas as identified through the inspection report. Annual maintenance will consist of activities to ensure that the flow of water is not impeded. All maintenance activities will comply with RPBCWD's standard buffer maintenance requirements as summarized below:

- Buffer vegetation must not be cultivated, cropped, pastured, mowed, fertilized, subject to the placement of mulch or yard waste, or otherwise disturbed, except for periodic cutting or burning that promotes the health of the buffer, actions to address disease or invasive species, mowing for purposes of public safety, temporary disturbance for placement or repair of buried utilities, or other actions to maintain or improve buffer quality and performance, each as approved by RPBCWD in advance in writing or when implemented pursuant to a written maintenance plan approved by RPBCWD.
- Diseased, noxious, invasive or otherwise hazardous trees or vegetation may be selectively removed from buffer areas and trees may be selectively pruned to maintain health.
- Pesticides and herbicides may be used in accordance with Minnesota Department of Agriculture rules and guidelines.
- No fill, debris or other material will be placed within a buffer.
- No structure or impervious cover (hard surface) may be created within a buffer area.

Routine maintenance of the Project is defined as:

- Removing fallen trees that are causing bank erosion;
- Vegetation maintenance, such as vegetation replacement that does not require the use of heavy equipment within the Project area.
- Replacement of cross vane boulders and repair of displaced riprap.

7.2.3 Annual report

A brief Project inspection and maintenance report will be developed on or before January 31 of each year. The report will contain the following information:

- A summary of the annual inspection, including the presence or absence of any and all items specifically mentioned in the Inspections section above.
- Describe any maintenance activities completed for the previous 12-month period ending December 31, including dates and actions.
- A record of the location and quantity of any debris or fallen trees removed from Riley Creek.
- List the type and quantities of materials used to repair bank protection at any repair locations stabilized.
- A tabulation of costs for all labor, materials, and equipment involved in any maintenance activities for the previous 12-month period ending December 31.

8.0 Agreements

Table 8-1 summarizes anticipated agreements required prior to construction of the Lower Riley Creek Restoration Project.

Table 8-1 Summary of Anticipated Agreements

Description	Notes	Period	Lead Organization
Cooperative agreement between RPBCWD, LMRWD and city of Eden Prairie	Cooperative agreement between RPBCWD, LMRWD and city of Eden Prairie for activities related to construction and maintenance of the restoration project. The agreement would establish procedures for performing specific tasks, and define responsibilities of each organization.	2018	RPBCWD, LMRWD, and city of Eden Prairie

9.0 Financing, Work Plan and Responsibilities

Table 9-1 identifies work plan, finances and responsibilities for the project. There are four main parts to the project: design, implementation, post-construction monitoring and long-term monitoring.

Table 9-1 Financing, Work Plan Summary

	Activity	Estimated Dollars	Year	Organization Lead
Design	Riley Creek Stabilization	\$147,900	2017-2018	RPBCWD
	Bridge	TBD	2017-2018	City of Eden Prairie
Bidding and Award	Riley Creek Stabilization with Bridge as option	\$4,600	2018	RPBCWD*
Implementation	Bridge	TBD	2018-2019	City of Eden Prairie*
	Creek, ravine, trail restorations	\$1,500,000 (includes \$150,000 from each City of Eden Prairie and Lower Minnesota River Watershed District)	2018-2019	RPBCWD
	Storm sewers outfalls	RPBCWD and City to Split cost 50/50	2018-2019	RPBCWD
Post-Construction monitoring and inspections	3-year Warranty	Staff will monitor	2019-2022	City of Eden Prairie and RPBCWD
Long-term	Inspections	In-Kind	2022-2039	City of Eden Prairie and RPBCWD
	Routine maintenance	TBD	2022-2039	City of Eden Prairie
	Major maintenance	Determined as needed based on inspections	2022-2039	City of Eden Prairie and RPBCWD

* The project bidding and award will be through RPBCWD. Supervision of implementation of the bridge will fall to the City.

The primary points of contact are presented in the table below.

Organization	Name	Phone
RPBCWD	Claire Bleser	952-687-1348
Eden Prairie Engineering	Dave Modrow	952-949-8360
Eden Prairie Park	Matt Bourne	952-949-8535
LMRWD	Linda Loomis	763-545-4659

Financial Participation Summary

Organization	Amount
RPBCWD	\$1,265,000
Eden Prairie	150,000+Bridge+ outfalls+ routine maintenance
LMRWD	\$150,000