Winooski River Basin Water Quality Council Meeting

18 January 2024

Agenda

1:00	**Call to order & Roll call**
1:05	Updates to agenda
1:10	Public Comment
1:15	Review & approve minutes from 21 December 2023 meeting (action)
1:20	Project Ranking & Prioritization – FY24 Round 2 Project Solicitation (action)
2:10	Outreach & Communications Policy (action)
2:25	Phosphorus Efficiency Threshold (discussion)
2:40	Project Development funding (discussion)
2:55	Announcements (discussion)
3:00	Adjourn

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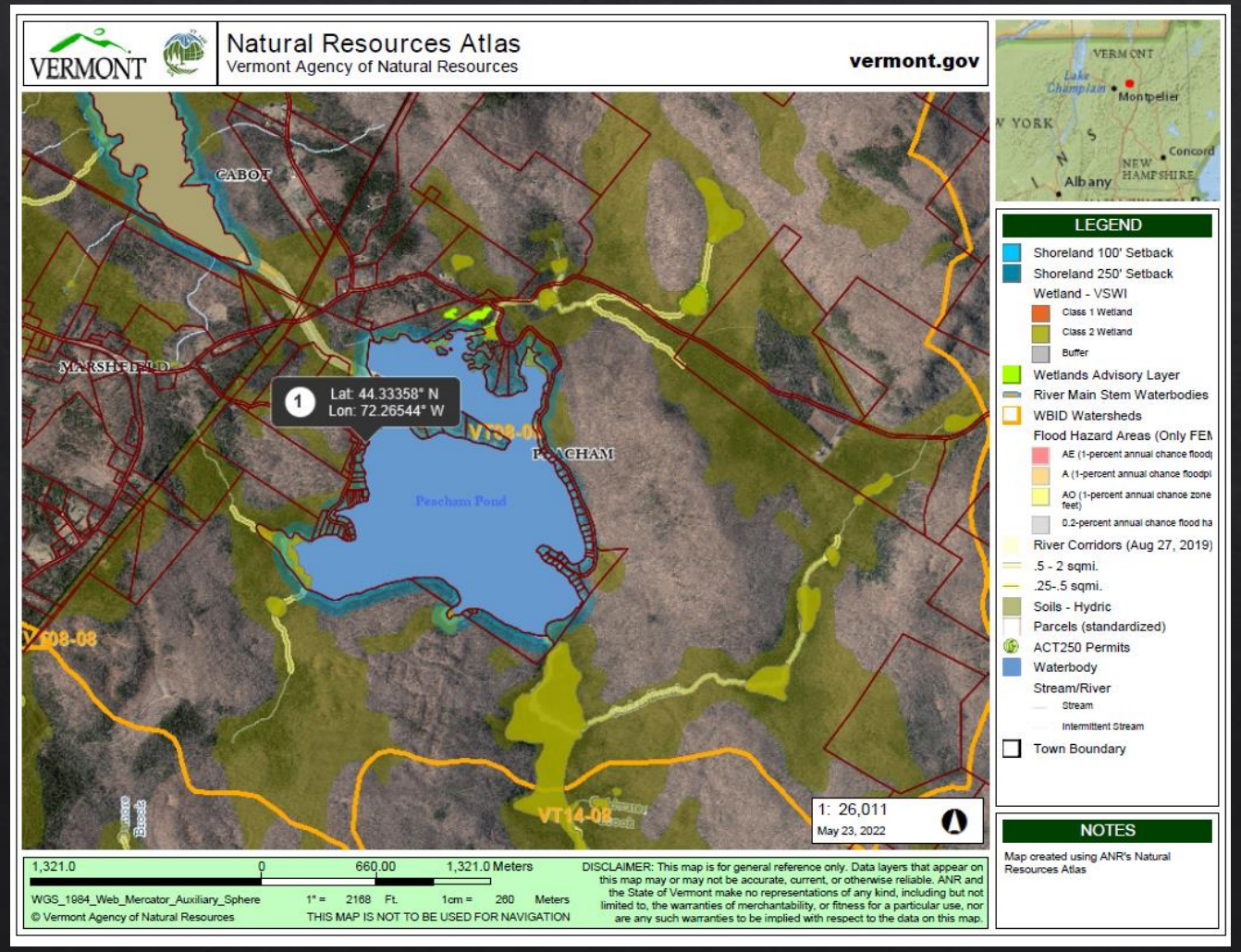
Project Review: Peacham Pond DFW Access - Stormwater Implementation

- Primary Contact: Emily Finnegan, District Manager, Caledonia County Natural Resources Conservation District
- Project Type: Stormwater
- Project Phase: Implementation
- Project Description: Procure engineering & construction services to implement stormwater practices at a Department of Fish & Wildlife access point on Peacham Pond. The project proposes to grade the surface to control runoff on the north side of the access point using a stone-lined swale, a stone-lined spillway that leads to a grassed forebay and a rain garden.
- P-reduction: 0.14 kg/yr
- Project Budget: $33,901 (+$500 in state matching funds)

Project Review: Peacham Pond DFW Access - Stormwater Implementation



Caledonia County Natural Resources Conservation District – Peacham Pond Access

Table 1-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	$33,900
Future Funding Request	$0
Total Cost	$33,900
Phosphorous Reduction (kg / yr)	0.14
Design Life	10
Cost Effectiveness ($ / kg)	**$363,214**
Cost-Effectiveness Score	**0**
Cost Effectiveness Formula ($ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 1-2: Project Risk Score

Risk Category	Points
Landowner Relations	2.5
Organizational Capacity	2.5
Operations & Maintenance	2.5
Permitting	2
Total Score	**9.5**
Maximum Total Score = 10 points	

Caledonia County Natural Resources Conservation District – Peacham Pond Access

Table 1-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	0	17.78%	0
Income	0		
Race	0		
Language	0		
Ecological Benefits	6	30.44%	1.8264
Listed / Impaired Water Resource	3		
Priority Water Resource	3		
Habitat & Species Enhancement	0		
Ecosystem Services	0	23.78%	0
Flood Regulation	0		
Carbon Sequestration	0		
Community Building	4	15.78%	0.6312
Community Involvement	2		
Working Landscape	0		
Recreation	2		
Education	5	12.22%	0.611
Interpretive Signage	5		
Meetings & Workshops	0		
Co-benefits Score			**3.0686**
Maximum Weighted Score = 10 points			

Table 1-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	0
Project Risk Score	9.5
Design Life Score	0
Co-benefits Score	3.0686
Total Project Score	**12.5686**

The project cost effectiveness exceeds the rate required to achieve the phosphorous-reduction target for the basin

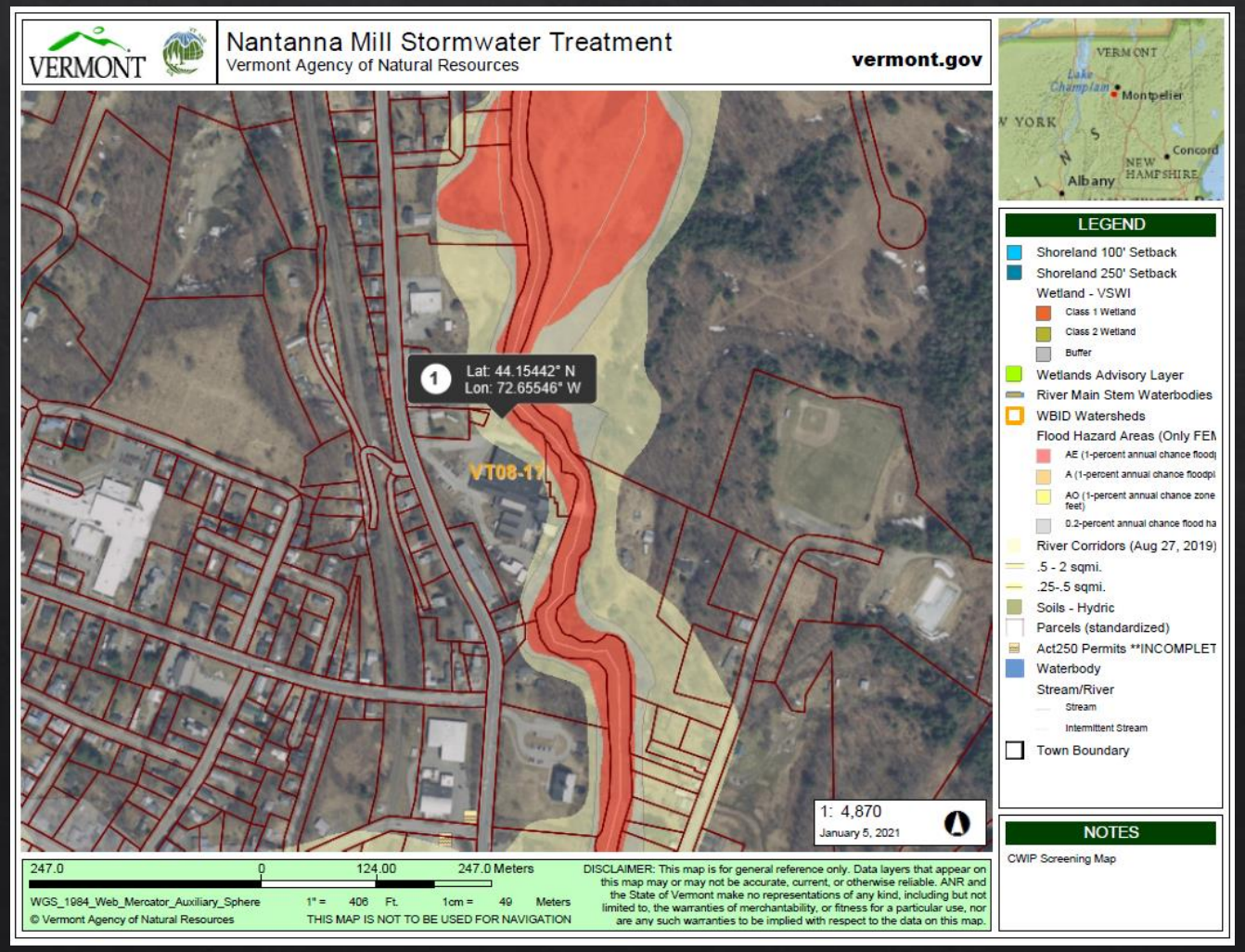
Recommendation: Do not fund this proposal at this time.*

*Given the low cost of project implementation and the potential for significant recreation benefit it may be possible to fund this project at a later date if the basin's p-reduction target is met for a fiscal year with Formula Grant funds remaining.

Project Review: Nantanna Mill Stormwater Project

- Primary Contact: Michele Braun, Executive Director, Friends of the Winooski River
- Project Type: Stormwater
- Project Phase: Final Design
- Project Description: Procure engineering services to complete a final engineering design for a stormwater retrofit of the Nantanna Mill and North Main Street drainage area in the Town of Northfield. The project proposes to separate stormwater from the wastewater system. Diverted water will be captured and treated prior to reaching the Dog River by installing a sand filter.
- P-reduction: 0.74 kg/yr
- Project Budget: $35,439 (+$485,000 for implementation)

Project Review: Nantanna Mill Stormwater Project



Friends of the Winooski River – Nantanna Mill Stormwater Project

Table 2-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	$35,439
Future Funding Request	$485,000
Total Cost	$520,439
Phosphorous Reduction (kg / yr)	0.74
Design Life	15
Cost Effectiveness ($ / kg)	**$703,296**
Cost-Effectiveness Score	**0**
Cost Effectiveness Formula ($ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 2-2: Project Risk Score

Risk Category	Points
Landowner Relations	0
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	0
Total Score	**2.5**
Maximum Total Score = 10 points	

Friends of the Winooski River – Nantanna Mill Stormwater Project

Table 2-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	0	17.78%	0
Income	0		
Race	0		
Language	0		
Ecological Benefits	0	30.44%	0
Listed / Impaired Water Resource	0		
Priority Water Resource	0		
Habitat & Species Enhancement	0		
Ecosystem Services	5	23.78%	1.189
Flood Regulation	5		
Carbon Sequestration	0		
Community Building	0	15.78%	0
Community Involvement	0		
Working Landscape	0		
Recreation	0		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			1.189
Maximum Weighted Score = 10 points			

Table 2-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	0
Project Risk Score	2.5
Design Life Score	5
Co-benefits Score	1.189
Total Project Score	**8.689**

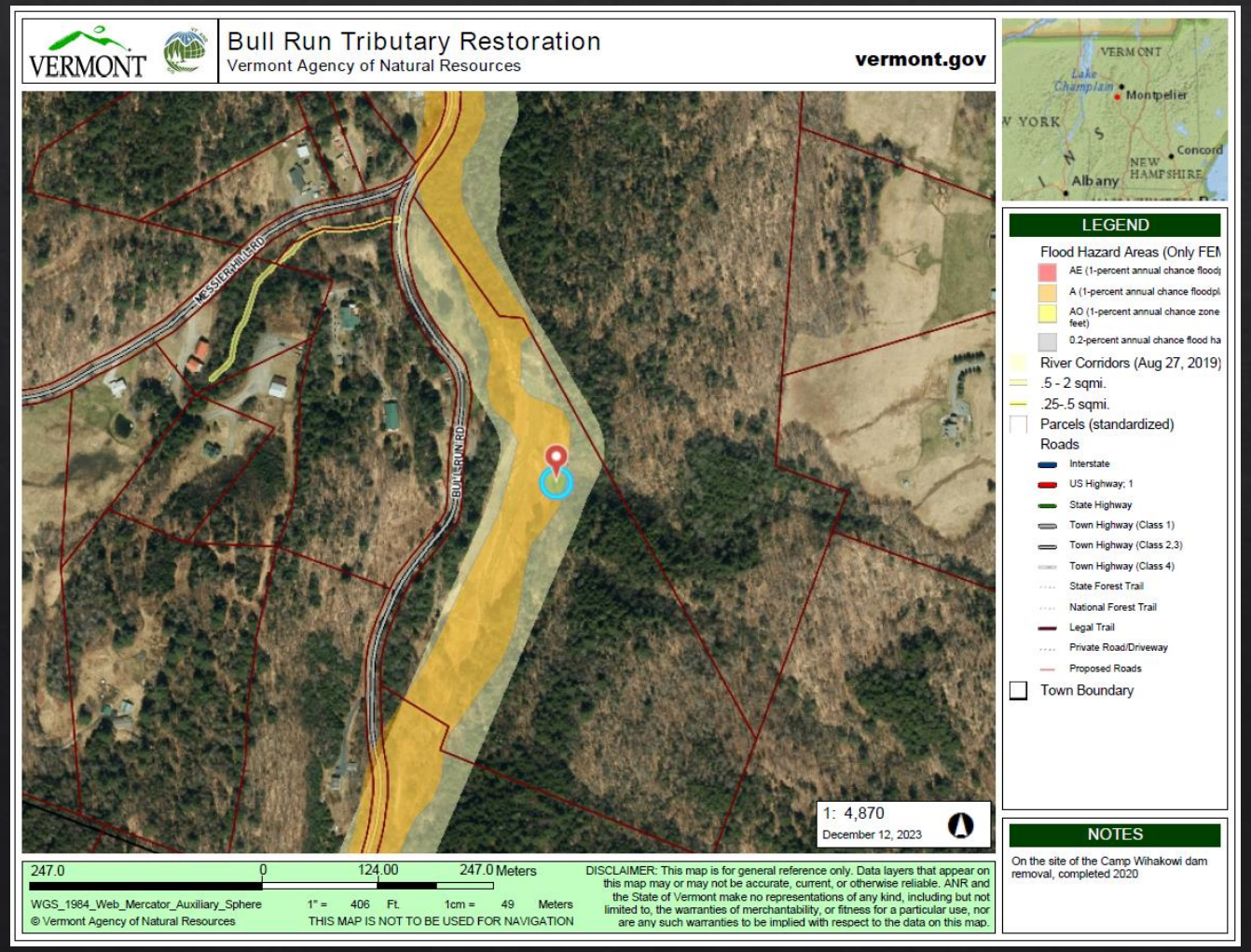
Although there are obvious public benefits to designing and implementing Best Management Practices at this site, the (extremely) high cost and low phosphorous-reduction return on investment render this project a poor choice to support with Formula Grant funds.

Recommendation: Do not fund this proposal.

Project Review: Bull Run Tributary Restoration Implementation at Camp Wihakowi

- Primary Contact: Michele Braun, Executive Director, Friends of the Winooski River
- Project Type: Floodplain / Stream Restoration
- Project Phase: Design & Implementation
- Project Description: Complete a design of stabilization measures using Strategic Woody Addition techniques, as well as the addition of some large stone, to address a headcut that formed along the tributary following the July 2023 storm. Once the design is complete, a landworks contractor will be procured to implement the project.
- P-reduction: 0.9 kg/yr
- Project Budget: $97,261

Project Review: Bull Run Tributary Restoration Implementation at Camp Wihakowi



Friends of the Winooski River – Bull Run Tributary Restoration

Table 3-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	$97,261
Future Funding Request	$0
Total Cost	$97,261
Phosphorous Reduction (kg / yr)	0.9
Design Life	15
Cost Effectiveness ($ / kg)	**$108,068**
Cost-Effectiveness Score	**0**
Cost Effectiveness Formula ($ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 3-2: Project Risk Score

Risk Category	Points
Landowner Relations	2.5
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	1.25
Total Score	**6.25**
Maximum Total Score = 10 points	

Friends of the Winooski River – Bull Run Tributary Restoration

Table 3-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	7	17.78%	1.2446
Income	3		
Race	3		
Language	0		
Ecological Benefits	0	30.44%	0
Listed / Impaired Water Resource	0		
Priority Water Resource	0		
Habitat & Species Enhancement	0		
Ecosystem Services	5	23.78%	1.189
Flood Regulation	5		
Carbon Sequestration	0		
Community Building	2	15.78%	0.3156
Community Involvement	0		
Working Landscape	0		
Recreation	2		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			2.7492
Maximum Weighted Score = 10 points			

Table 3-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	0
Project Risk Score	6.25
Design Life Score	5
Co-benefits Score	2.7492
Total Project Score	**13.9992**

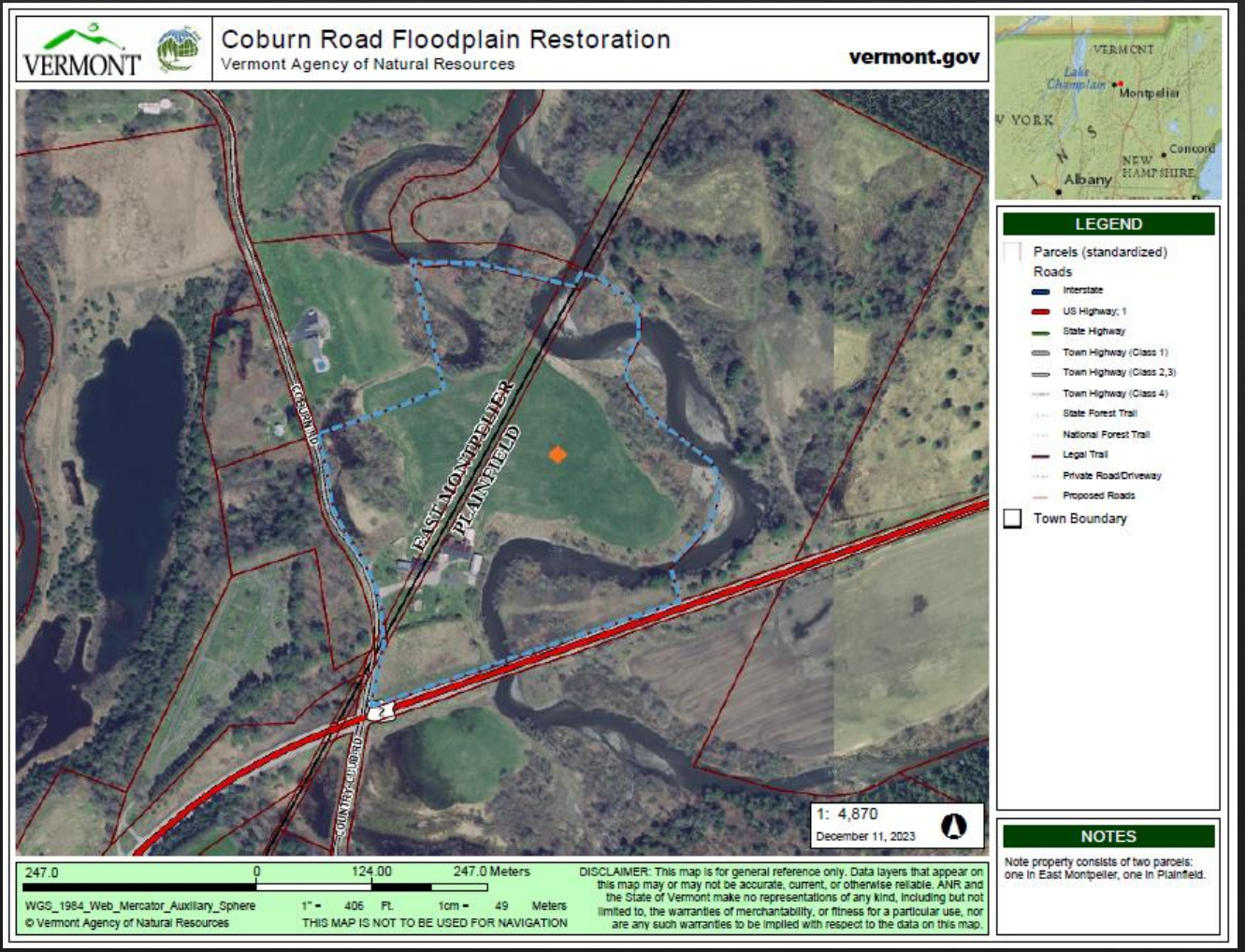
The proposal requests funding for both Final Design and Implementation. (Note: the BWQC previously agreed to fund project phases individually to ensure satisfactory completion of deliverables and continued viability of the project.) The project cost effectiveness exceeds the rate necessary to achieve the phosphorous-reduction target for the basin.

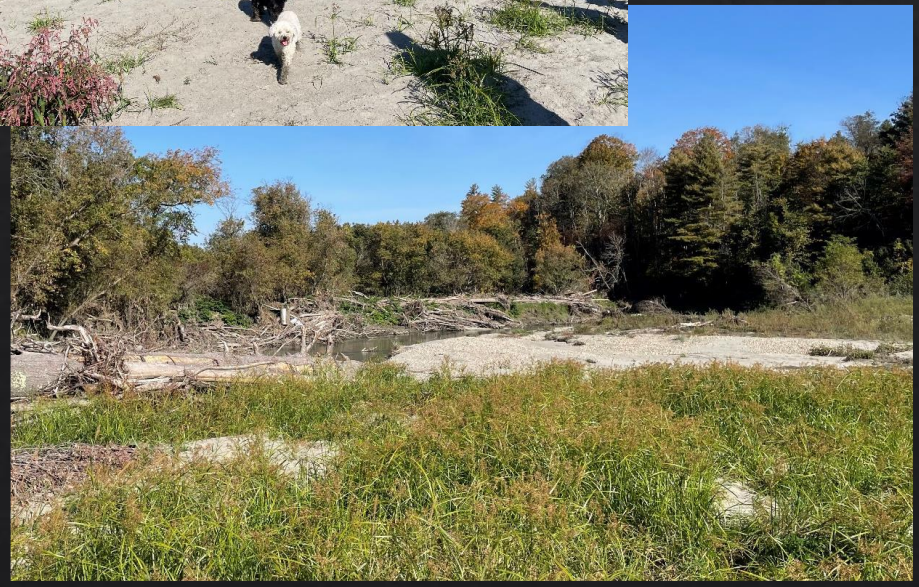
Recommendation: Do not fund this proposal

Project Review: Coburn Road Floodplain Restoration Final Design

- Primary Contact: Michele Braun, Executive Director, Friends of the Winooski River
- Project Type: Floodplain / Stream Restoration
- Project Phase: Preliminary Design
- Project Description: Procure engineering services to design a floodplain reconnection project to reduce extreme erosion along the adjacent streambanks. Existing berms and riprap were breached during the July 2023 storm, resulting in flooding of the house and barn.
- P-reduction: 22.04 kg/yr
- Project Budget: $27,504

Project Review: Coburn Road Floodplain Restoration Final Design





Friends of the Winooski River – Coburn Road Floodplain Restoration

Table 4-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	$27,504
Future Funding Request	$0
Total Cost	$27,504
Phosphorous Reduction (kg / yr)	22.04
Design Life	15
Cost Effectiveness ($ / kg)	**$1,248**
Cost-Effectiveness Score	**37.5**
Cost Effectiveness Formula ($ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 4-2: Project Risk Score

Risk Category	Points
Landowner Relations	2.5
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	1.25
Total Score	**6.25**
Maximum Total Score = 10 points	

Friends of the Winooski River – Coburn Road Floodplain Restoration

Table 4-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	7	17.78%	1.2446
Income	3		
Race	0		
Language	3		
Ecological Benefits	3	30.44%	0.9132
Listed / Impaired Water Resource	3		
Priority Water Resource	0		
Habitat & Species Enhancement	0		
Ecosystem Services	0	23.78%	0
Flood Regulation	0		
Carbon Sequestration	0		
Community Building	0	15.78%	0
Community Involvement	0		
Working Landscape	0		
Recreation	0		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			2.1578
Maximum Weighted Score = 10 points			

Table 4-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	37.5
Project Risk Score	6.25
Design Life Score	5
Co-benefits Score	2.1578
Total Project Score	**50.9078**

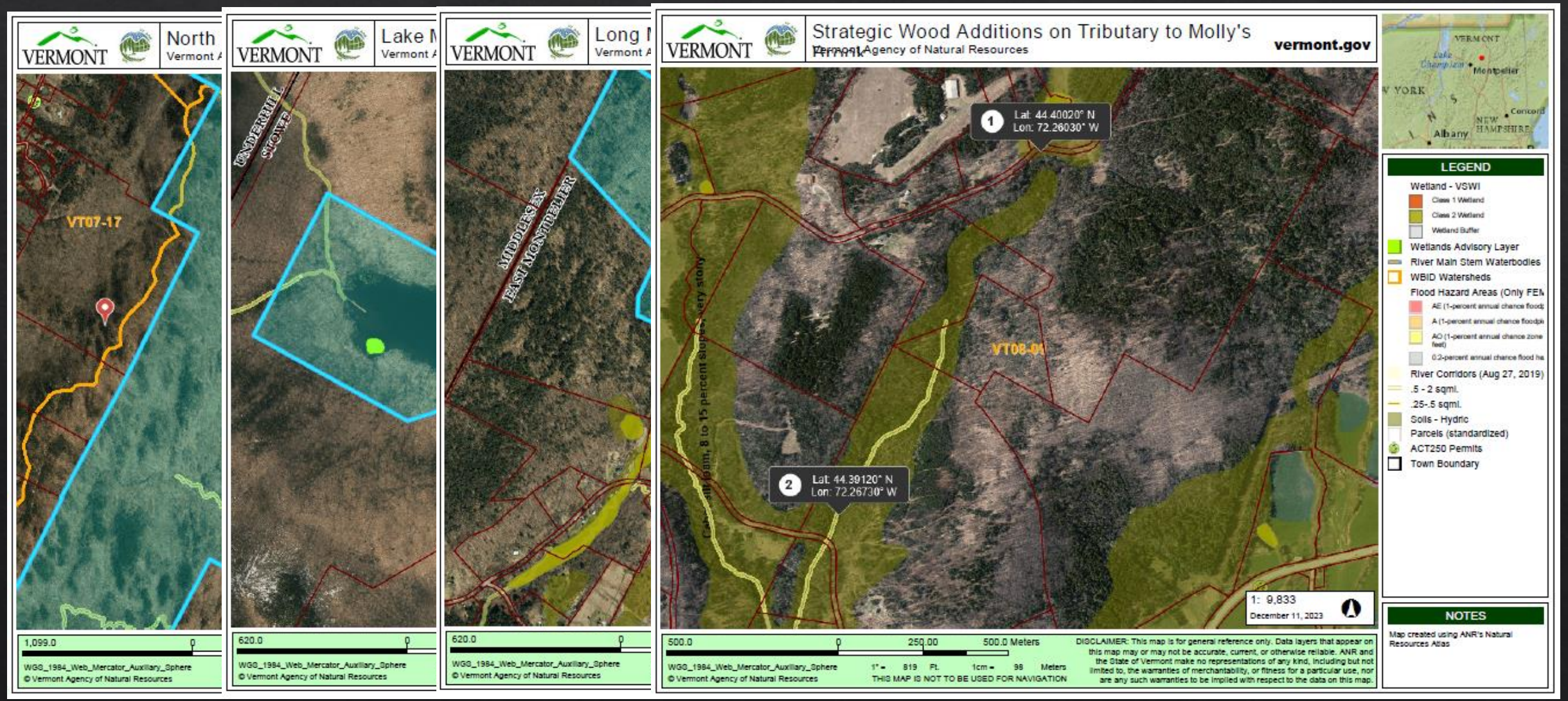
Even with a significant future funding request (on the order of $300,000), the overall cost-effectiveness of the project would be near or below the target cost per kilogram of phosphorous for the Basin. The total project score of 50.91 is *high* for a Design-phase project.

Recommendation: Prioritize funding this proposal.

Project Review: Basin 8 Strategic Wood Additions

- Primary Contact: Michele Braun, Executive Director, Friends of the Winooski River
- Project Type: Floodplain / Stream Restoration
- Project Phase: Final Design
- Project Description: Procure engineering services to produce final designs for four strategic woody addition projects throughout the Winooski River Basin. Measurement and documentation of stream incision and abandoned floodplain along the planned strategic wood debris areas will be developed to demonstrate the reliability of the p-reduction estimates. Additional deliverables include completion of Vermont Department of Historical Preservation review and acquisition of remaining permits for project implementation.
- P-reduction: 80.1 kg/yr
- Project Budget: $19,337 (+ $119,650 for implementation)

Project Review: Basin 8 Strategic Wood Additions



Friends of the Winooski River – Strategic Woody Addition (4 sites)

Table 5-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	$19,337
Future Funding Request	$119,680
Total Cost	$139,017
Phosphorous Reduction (kg / yr)	80.1
Design Life	15
Cost Effectiveness ($ / kg)	**$1,736**
Cost-Effectiveness Score	**37.5**
Cost Effectiveness Formula ($ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 5-2: Project Risk Score

Risk Category	Points
Landowner Relations	1.25
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	1.25
Total Score	**5**
Maximum Total Score = 10 points	

Friends of the Winooski River – Strategic Woody Addition (4 sites)

Table 5-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	1.75	17.78%	0.31115
Income	0.75		
Race	0.75		
Language	0		
Ecological Benefits	3.5	30.44%	1.0654
Listed / Impaired Water Resource	3		
Priority Water Resource	0		
Habitat & Species Enhancement	0.5		
Ecosystem Services	5	23.78%	1.189
Flood Regulation	5		
Carbon Sequestration	0		
Community Building	7	15.78%	1.1046
Community Involvement	0		
Working Landscape	3		
Recreation	4		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			2.1578
Maximum Weighted Score = 10 points			

Table 5-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	37.5
Project Risk Score	5
Design Life Score	5
Co-benefits Score	3.67015
Total Project Score	**51.17015**

When combined with the anticipated future funding need, the overall cost-effectiveness for implementing the proposed Best Management Practices would be significantly below the target cost per kilogram of phosphorous for the Basin. The total project score of 51.17 is *high* for a Design-phase project.

Recommendation: Prioritize funding this proposal.

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Cost Rate Calculations

- Water Quality Restoration Formula Grant Target and Fund Allocation Methodology (DEC, 3 June 2022)
- Establishes methods for the following:
  - Non-regulatory total phosphorous load reduction targets for Lake Champlain & Lake Memphremagog basins;
  - Standard cost for pollutant reduction by land use sector; and
    - considers the cost of engineering / design (if applicable) + implementation cost at the project level
  - Water Quality Restoration Formula Grant fund allocation by watershed.
- Limitations:
  - limited pool of complete project information
  - out of date – does not account for recent inflation

2022 $

Non-regulatory target land use sector	Clean water project categories representing costs of implementing non-regulatory targets	Estimated cost per total p-load reduction ($ / kg / yr)*
Streams	Floodplain / stream restoration	$16,647
	River corridor easement	$10,041
	Riparian buffer restoration	$5,116
	STREAMS SECTOR AVERAGE COST RATE	**$10,601**
Developed	Stormwater BMPs	$46,026
	Non-regulatory road BMPs	$3,153
	Riparian buffer restoration	$5,116
	Lake shoreline restoration	$8,333
	Lake shoreland runoff treatment	$16,482
	DEVELOPED SECTOR AVERAGE COST RATE	**$15,822**
Farm field	Riparian buffer restoration	$5,116
	Lake shoreline restoration	$8,333
	FARM FIELD SECTOR AVERAGE COST RATE	**$6,725**
Forest	Non-regulatory forest road BMPs	$15,245
	Riparian buffer restoration	$5,116
	Lake shoreline restoration	$8,333
	FOREST SECTOR AVERAGE COST RATE	**$9,565**

Winooski River Basin Clean Water Service Provider: Formula Grant Funding Overview

Annual Funding Based on Formula					
	Design, Engineering & Construction	Project Identification & Development	Total Project Funding	Maximum Administrative Costs	Total Project Funding + Max Admin
FY23	$827,068	$57,737	$884,805	$156,142	$1,040,947
FY24	$871,791	$60,859	$932,650	$164,585	$1,097,235

Phosphorous Reduction Targets (kg)				
Farm Fields	Developed Lands	Forest	Streams	Total
9.2	23.9	0	36.4	69.6

Average Cost ($) / kg		
	Project Implementation Costs	Administrative Costs
FY23	$12,713	$2,243
FY24	$13,400	$2,365

Basin 8 CWSP Cost-Effectiveness Score

Price / kg P ($)	Implementation	Design
< 7,500	75	37.5
7,500 – 10,000	65	32.5
10,000 – 12,500	55	27.5
12,500 – 15,000	45	22.5
15,000 – 17,500	35	17.5
17,500 – 20,000	25	12.5
20,000 – 25,000	15	7.5
25,000 – 30,000	5	2.5
> 30,000	0	0

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Project Development Funding

- Met with DEC Project Manager (Chris Rottler) & Basin Planner (Keith Fritschie)
  - Proposal required ~ can’t allocate funds without a purpose
  - Willing to engage on simplifying the process to speed up project development
- Draft project proposal form
  - Outstanding questions
    - Individual project v collection of projects
    - Amount per activity (project assessment / identification / development)
    - Duration of award
    - Ensuring assessed / identified / developed project is brought before BWQC for design / implementation funding
  - Review with DEC
  - Finalize in February 2024 and announce opportunity thereafter

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Announcements

- Winooski River Tactical Basin Plan
  - 2024 Final Plan & Responsiveness Summary
- FY 24 Project solicitation schedule
  - FY24 – Round 3
    - RFP issued: 24 January 2024
    - Proposals due: 6 March 2024
    - BWQC Pre-review meeting: 21 March 2024
    - BWQC Prioritization meeting: 18 April 2024
  - FY24 – Round 4
    - RFP issued: 27 March 2024
    - Proposals due: 8 May 2024
    - BWQC Pre-review meeting: 16 May 2024
    - BWQC Prioritization meeting: 20 June 2024

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