



**VTTrans Fall 2023 Transportation Alternatives (TAP)
and
Municipal Highway and Stormwater Mitigation Program Grant (MHSMP)
Combined Application**

Thoroughly read the TAP and MHSMP application guidebooks before you begin your application. It includes important program information and step-by-step instructions. Pay particular attention to the application process requirements. **Applications are due by e-mail by December 8, 2023.** Please e-mail the completed application to: Ross.gouin@vermont.gov and Scott.robertson@vermont.gov.

Shore Acres – Cedar Ridge Stormwater
(Project Name/Title)

802-264-5621
(Phone)

Karen Adams
(Municipality contact person responsible
for the management of this project)

Kadams@colchestervt.gov
(e-mail address)

Colchester
(Town)

\$ 119,200
Amount of **Federal Funds requested** (no more
than 80% of the project cost estimate).

05446
(Zip Code)

\$29,800
Amount of Local Match. Example:
Federal Award = \$600,000 (80% of total)
Local Match = \$150,000 (20% of total)
Total Project Cost = \$750,000 (100% of the total)

781 Blakely Road
(Mailing Address)

County: Chittenden County

Town/Village/City: Town of Colchester

Specific location, street, or road: Shore Acres Dr, Hillcrest Ln

Regional Planning Commission: Chittenden County RPC

If a linear project, what is the length in feet? n/a

Is the project on or intersecting to a State maintained highway? Yes ☐ No ☒

- Note: If yes, be sure to include documentation that you have notified the VTTrans District Transportation Administrator of the intent to apply for TA funding and have provided them with a brief (one paragraph) description of the proposed project.*

Project type being applied for: ☐ **Scoping** ☒ **Design/Construction**

The municipality understands that a typical construction project utilizing TAP or MHSMP Program funds will take roughly three years (min.) in the Design and ROW phases prior to going to construction (as pointed out in the TAP and MHSMP Application Guides)? Yes ☒ No ☐

Does this project have a previously completed scoping or feasibility study? Yes ☒ No ☐

Note:

Attach a map(s) of the project area and clearly show the limits of the project as well as surrounding benefits from the proposed improvement. If the project is within or adjacent to a designated downtown, village or growth center, clearly indicate the relationship of the proposed project to the boundary of the designated area. Color photos of the area are also recommended.

Fiscal Information:

Accounting System Automated ☒ Manual ☐ Combination ☐

SAM Unique Identifier # 028790301

Fiscal Year End Month June

Property Ownership:

If the proposed project is on private property that will need to be acquired by the Municipality through purchase, easement, or eminent domain (includes temporary construction rights) in accordance with the "Uniform Act", then the municipality is committed to exercising its right of **eminent domain** to acquire the rights to construct the project if necessary. Yes ☒ No ☐

Funding:

Does this project already have existing funding? If so, please describe. Yes ☒ No ☐

This design/construction project was selected for funding during a prior grant round, receiving \$295,200 in federal funds with a local match of \$73,800 under project Colchester TAP TA 18(1). The project was also selected for receiving \$72,000 in federal funds with a local match of \$18,000 under project Colchester MM21(3). This totals \$459,000, with current actual design and estimated construction costs totaling \$608,000.

Please note that existing projects will not be considered for additional funding without a current NEPA clearance and ROW clearance. Please provide date of clearances below:

NEPA clearance: 8/18/2022, ROW clearance: 5/26/2022

Will you accept an award less than you applied for? Yes ☒ No ☐

- If yes, please indicate whether local funds will be used to make up the shortfall, or if the project scope will be reduced. If the project scope is to be reduced, describe what part of the project (please be specific) you would accept partial funding for.
Local funds from stormwater utility fees will be used to make up the shortfall if necessary.

A support letter from the governing body of the applicant municipality or organization and an acknowledgement and source of the local match and commitment to future maintenance responsibility for construction projects is required (must be dated within 1 year of the application). Is a letter of support attached?

Yes ☒ No ☐

Regional Planning Commission Letter of Support:

In order to apply, the project must have a letter of support from the regional planning commission. Is a letter of support attached?

Yes ☒ No ☐

PLEASE NOTE: If this application is for salt or sand shed funding, the applicant must read and understand the **Municipal Assistance Section Salt Shed Application Guide**. All of the following scoring questions below must thoroughly convey an understanding of the salt and sand guidance provided.

Application Scoring Criteria:

- 1. Please give a brief description of the project (be sure to indicate the primary facility type being applied for and be concise). (10 points max.)**

The Colchester Shore Acres Stormwater project is currently underway. This project includes the design and construction of a variety of stormwater BMPs within the Shore Acres neighborhood, including the installation of two gravel wetlands, one gravel wetland swale, upgrades to existing roadside ditches, outfall stabilization, and the replacement and/or upgrading of existing stormwater structures. 100% of the stormwater runoff being treated is from a town highway. This is also a project identified within the Town's Phosphorus Control Plan.

This design/construction project was selected for funding during a prior grant round, receiving \$295,200 in federal funds with a local match of \$73,800 under project Colchester TAP TA 18(1). The project was also selected for receiving \$72,000 in federal funds with a local match of \$18,000 under project Colchester MM21(3).

After putting the project out to bid in late Spring of 2023, the lowest bid price was \$108,753 higher than the engineer's cost estimate. This, in combination with higher-than-expected costs of construction inspection, resulted in the total cost of the project exceeding the available funds by approximately \$316,500. The Town does not have the funding available from our stormwater utility revenues to support a price gap of that magnitude, so the bids were rejected and the project's feasibility re-evaluated. To ensure that this project has a viable path forward, we have reduced the scope by eliminating some project areas that were providing limited phosphorous reduction in comparison to the overall project. We have received Agency approval to reduce the scope for our existing grants, and the project plans have been revised and reviewed by VTrans. Construction cost estimates for the revised project area show that the reduced scope results in 89% of the phosphorous removal of the original project at approximately 77% of the expected cost of proceeding with the full scope.

The new construction estimate finalized in October 2023 (\$431,106) and inspection costs (\$83,908), when combined with design costs (\$93,400) totals approximately \$608,000, which is a shortfall in available funding of \$149,000. We are requesting this additional amount in funding so that we may move this project to construction.

- 2. What is the feasibility of this project? Feasibility (or Scoping) study applications will not be scored on this criterion. Also, please describe the extent of project development to date. (10 points max.)**

This project is fully designed and permitted. Final plans have been reviewed by VTrans and we are only waiting on receiving an updated final VTrans Authorization to Bid. The Town of Colchester has entered into a contract with Stantec for construction inspection services. If additional funding can be secured through this grant program, the project is on track to be advertised for bids this winter, to be constructed in spring/ summer of 2024.

- 3. Does this project address a need identified in a local or regional planning document? If so, please describe. (5 points max.)**

Yes. In 2017, the Town completed the Malletts Bay Scoping Study, which assessed 49 sub-watersheds of Malletts Bay to determine pollutant loading values and recommend stormwater BMPs that achieve compliance with state stormwater standards. The purpose and need statement for that project identifies the issues to be addressed by the recommended stormwater improvements (Attachment 3, Pgs. 1-2).

- 4. Does this project:**

- A. Benefit a State Designated Center per the link below (i.e., downtowns, villages, or neighborhood growth centers recognized by the Vermont Department of Economic, Housing and Community Development?**

Not applicable for Environmental Mitigation Categories (5 points max.)

<http://maps.vermont.gov/ACCD/PlanningAtlas/index.html?viewer=PlanningAtlas>

No

- B. Benefit mobility for disadvantaged populations to include elderly, disabled, minorities, and low-income residents. Please describe this impact (if applicable) in detail. Supporting documentation, including recent data must be included.**

Not applicable for Environmental Mitigation Categories (10 points max.)

No

- 5. Provide a project cost estimate below (project costs below include both federal dollars and local dollars). Projects will be scored based on whether the cost appears realistic for the size**

and scope of the project. For scoping studies, use PE and Local Project Management lines only.

Note: If you are applying for additional funds for an existing project, show the amount being requested for this grant in the PE, ROW, Construction, Construction Engineering, and Municipal Project Management rows below. Also, be clear regarding total project cost and other funding amounts and sources in the additional funding comments box below.

(10 points max.)

Right-of-way / Acquisition (ROW) (appraisals, land acquisition and legal fees)	\$ 0
Construction (construction costs with reasonable contingency)	\$ 103,300
Construction Engineering (cost to provide inspection during construction)	\$ 45,700
Municipal Project Management Costs (minimum of 10% of total PE, ROW and Construction Phases).	\$ 0
Total Project Cost	\$ 149,000

Addition Funding Comments: (ex. Total and additional funding for existing projects)

Total award requested for this application: \$149,000

Existing grant TAP TA18(1) Value: \$369,000

Existing Grant MM21(3) Value: \$90,000

Total Project Cost: \$608,000

6. Select the eligibility category below (A, B, C or D) that best fits your project and answer the corresponding questions for that category (choose only one category). 10 bonus points will be awarded to projects that are primarily Bicycle or Pedestrian facilities.

☐ **A. Bicycle and Pedestrian Facilities (includes Safe Routes for Non-Drivers and Conversion of abandoned railroad corridors.**

- (i) Will the project contribute to a system of pedestrian and/or bicycle facilities?

(10 points max.)

[Click here to enter text.](#)

- (ii) Will the project provide access to likely generators of pedestrian and/or bicyclist activity? **(10 points max.)**

[Click here to enter text.](#)

- (iii) Will the project address a known, documented safety concern? **(10 points max.)**

[Click here to enter text.](#)

☐ **B. Community Improvement Activities:**

- i. Explain how the project improves the economic wellbeing of the community and/or provide a benefit to state tourism? **(10 points max.)**

[Click here to enter text.](#)

- ii. Describe the anticipated impact to the public; degree of visibility, public exposure and/or public use. **(10 points max.)**

[Click here to enter text.](#)

- iii. Answer only one of the following based on the type of project:

- a) Construction of turnouts, overlooks, and viewing areas as related to scenic or historic sites. *To what extent will the project provide a view of a highly unique and scenic area?*

- b) **(10 points max.)**

[Click here to enter text.](#)

- c) Preservation or rehabilitation of historic transportation facilities. *Describe the historic significance of the historic transportation facility and the importance of the facility to the state.* **(10 points max.)**

[Click here to enter text.](#)

- d) Archeological planning and research related to impacts from a transportation project. *Describe the associated transportation project and benefit of the proposed activities.* **(10 points max.)**

[Click here to enter text.](#)

- e) Vegetation management in transportation rights of way to improve roadway safety, prevent invasive species, and provide erosion control. *Describe the extent of the current problem and the impact on the site and surrounding area.* **(10 points max.)**

[Click here to enter text.](#)

**☒ C. Environmental Mitigation Activity Related to Stormwater and Highways
(Including Salt and Sand Sheds)**

- i. Please describe how this application provides environmental mitigation relating to stormwater and highways. **(10 points max.)**

The Moorings Stream watershed is adjacent to Lake Champlain and consists of approximately 78 acres supporting a mix of development totaling 13.2 impervious acres (17% of watershed). The Shore Acres neighborhood only encompasses a portion of the overall Moorings Stream Watershed but is the location of much of the watershed's impervious cover and is directly adjacent to Lake Champlain via Malletts Bay. The current stormwater system in the neighborhood is generally limited to a network of open roadside ditches and culverts. Approximately 750 linear feet of roadway is served by seven catch basins and three associated outfalls that discharge directly to the Moorings stream or its tributaries, but the remainder of the neighborhood's roadways (approx. 1.2 miles) are served only by open roadside ditches and associated culverts. With clay soils underlying the development, there are recurring issues with ponding and bank erosion and instability. In addition, the existing catch basin, stormlines, and outfall network are approaching 30 years old and have been documented to be in poor condition with areas of localized outfall erosion and disintegrating corrugated metal piping.

Proposed for this neighborhood are two gravel wetlands, one gravel wetland swale, filter strips, upgrades to existing outfalls, improvements of existing stormwater structures and installation of new upgraded structures, stone lining of roadside ditches, and the retrofit of an existing town-owned gabion basket stormwater treatment area. These proposed improvements will improve the quality of water being directed to Lake Champlain via the Moorings Stream, reduce opportunities for erosion of the stream, reduce sheet flow onto private property, and replace aging corrugated metal pipes with newer industry materials. All of these various BMPs together are estimated to reduce the phosphorus loading to Lake Champlain by approximately 3.108 pounds a year.

- ii. What information or data is provided to substantiate the current stormwater problem and associated environmental impacts? **(10 points max.)**

In 2017, the Town completed the Malletts Bay Scoping Study, which assessed 49 sub-watersheds of Malletts Bay to determine pollutant loading values and recommend stormwater BMPs that achieve compliance with state stormwater standards. The purpose and need statement for that project identifies the issues to be addressed by the recommended stormwater improvements (Attachment 3, Pgs. 1-2).

During the conceptual plan phase of the project, there was a Public Information Meeting held where local residents expressed their concerns over the state of stormwater management in their neighborhood and recurring environmental damages on their sites. Please see Attachment 3, Pgs. 3-5 for the full minutes.

Some important excerpts:

"Mike Slack explained that the ditch in front of his home was full of ducks in spring and mosquitos in the summer .."

"Bill Eakin said there was tremendous erosion in the uplands and noted that the corner of Cedar Ridge Drive had slumped down."

"... He also pointed out another area where runoff is going across driveways."

"Roberta Pratt stated that the road in front of her house was frequently wet from the high volume of water flowing down from the hill behind her home."

- iii. What substantiating data or information is provided to show that the proposed application is an effective and maintainable solution to the problem? **(10 points max.)**

The recommended improvements from the Scoping Study were the result of assessments of current loading rates, existing land uses, existing stormwater BMPs, annual runoff volume anticipated to be captured by new BMPs, and pollutant removal efficiencies for the proposed BMP types (as modeled by Tetra Tech). The engineering team has come up with designs for each project area that are consistent with the VT Stormwater Management Manual. These improvements will achieve the following:

- Gravel wetlands and swales (Layout Sheets 1 and 2) – These will provide for treatment of stormwater runoff where there historically has been none before runoff is conveyed to the lake. In a neighborhood with very high seasonal groundwater tables (in some cases only a depth of 3 feet), these are a key piece of improving water quality.
- Roadside ditching (Layout Sheets 1 and 2) – there will be both re-grading of existing roadside ditches to better guide water to treatment options, and the installation of new rock-lined ditches to limit sheet flow and provide direct conveyance to stabilized conveyances. These improvements will reduce the possibility of erosion, limit opportunities for ponding on both public and private property, and provide additional water storage not available today.
- Improvements to existing stormwater structures and culverts (Layout Sheets 1 and 2) – Removal of deteriorating metal piping and aging catch basins and replacement with upgraded and in some cases upsized structures will improve system resiliency and bring infrastructure up to current industry standards.
- Outfall armoring and stabilization (Layout Sheet 1 and 2) – this project includes improvements to existing points of conveyance to local streams and tributaries, which can become points of erosion if unstable. These improvements will improve the health of these waterways and the securing of easements for this work will ensure the municipality can properly maintain these areas over time.
- Gabion Basket retrofits (Layout Sheet 2) – The town currently maintains a gabion basket structure in this neighborhood, and this project proposed to retrofit this system into a large gravel wetland. This will allow for water quality treatment to be provided where

currently the system is used to address water quantity/runoff only. Stone lined ditching will also be installed in this project area which will improve conveyance to this treatment area.

☐ **D. Environmental Mitigation Activity Related to Wildlife**

- i. Please describe how this application will reduce vehicle-caused wildlife mortality or will restore and maintain connectivity among terrestrial or aquatic habitats. **(10 points max.)**

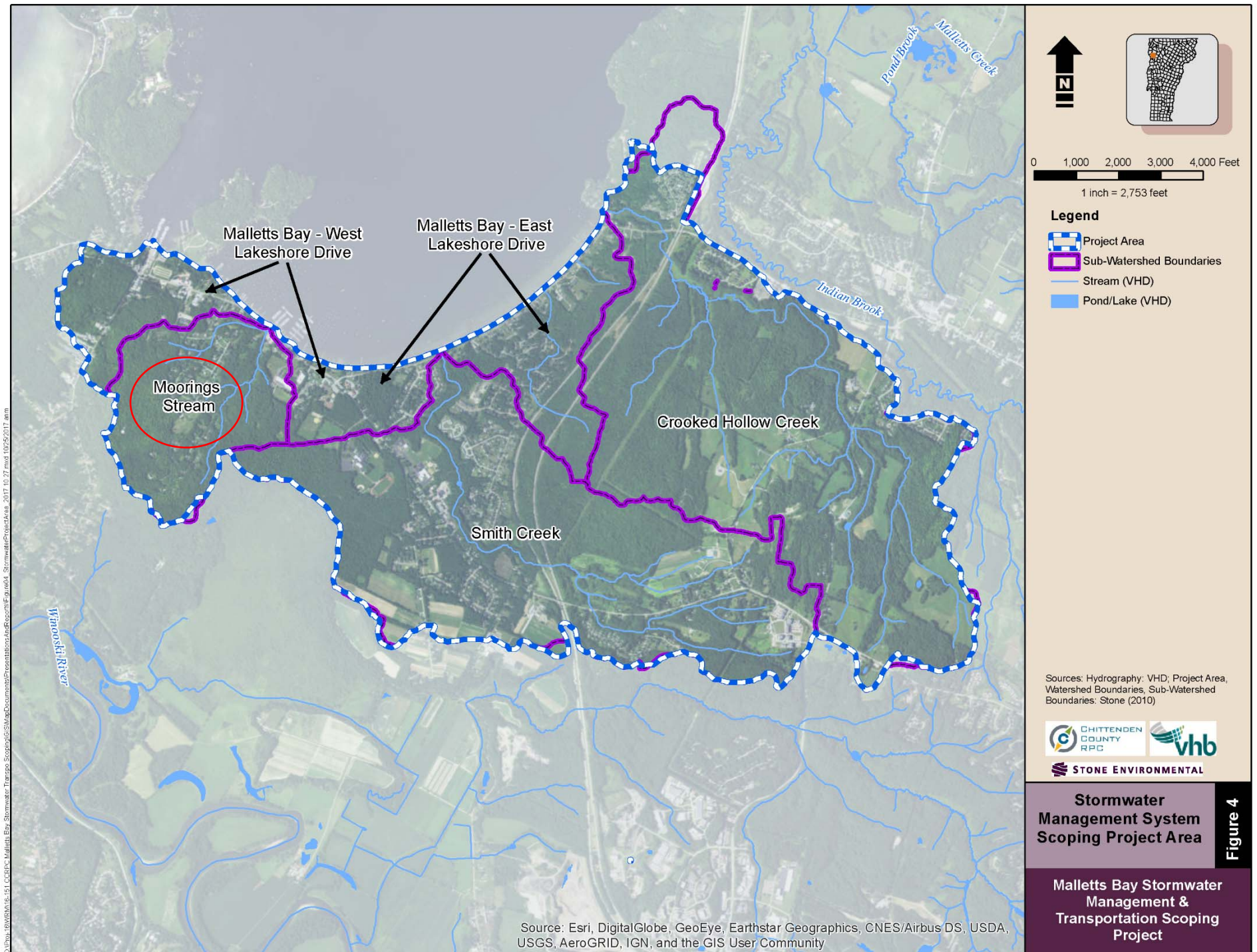
[Click here to enter text.](#)

- ii. What information or data is provided to substantiate the current problem and associated environmental impacts? **(10 points max.)**

[Click here to enter text.](#)

- iii. What substantiating data or information is provided to show that the proposed application is an effective and manageable solution to the problem? **(10 points max.)**

[Click here to enter text.](#)





Typical Driveway Culvert in Shore Acres Neighborhood

Attachment 2, Page 2 - Photos of Shore Acres Neighborhood



Typical Roadside Ditching with Standing Water in Shore Acres Neighborhood



1.2.3 Malletts Bay Stormwater Management System

Purpose

The purpose of the Malletts Bay Stormwater Management System project is to reduce public roadway and private property damage due to inadequate management of stormwater from town-owned roadways within watersheds draining to the easterly and southern shores of Inner Malletts Bay, and to reduce the volume of stormwater, sediment and phosphorus currently being discharged from roadways to Malletts Bay. The comprehensive suite of stormwater management strategies for Town-owned roadways will support Colchester's Clean Water and Malletts Bay Initiatives and will leverage future transportation and utility-related infrastructure projects to protect and enhance water quality.

Need

Project needs, as defined by the Town of Colchester, project team members, and the public at the Local Concerns Meeting include:

- **Insufficient roadway drainage infrastructure:**
 - Roadways and sidewalks have standing water following rain events or periods of snowmelt.
 - Significant roadway deterioration has occurred as a result of poor drainage.
 - Private properties in portions of the project area are negatively impacted by uncontrolled run-on from roadways during rain events.
- **Excessive loadings of stormwater volume, sediment, and nutrients:**
 - During rainfall events, insufficient, aging, or missing stormwater management measures in the project area result in delivery of untreated or insufficiently treated runoff from roadways to tributary streams and to Inner Malletts Bay.
 - Where runoff is channeled from roadways via ditches or closed drainage systems to streams without treatment, erosion and gullyng results in transport of sediment into streams, and creates channel and streambank instability with additional transport of sediment and nutrients to Malletts Bay.

3.1 Project Area Description

The Shore Acres Drive or Moorings Stream watershed area (approximately 350 acres) contains primarily low-density residential development dated to the late 1960s and 1970s. Much of this watershed is underlain by poorly drained soils with limited opportunity for infiltration. In the southern, upper portion of the watershed, stormwater runoff from roadways and developed land is conveyed by grass channels and culverts to overland flow, and then to the Moorings Stream itself. In the portion of the watershed closer to West Lakeshore Drive, two small closed drainage systems convey runoff directly to the stream near the intersection of Shore Acres Drive and Hillcrest Lane. The Moorings Stream itself is conveyed beneath East Lakeshore Drive via a large culvert at the Moorings Marina, where it passes through a series of sediment settling chambers before reaching Malletts Bay.

MOTION was made by Jeffrey Bartley and SECONDED by Jacki Murphy to approve the Colchester Board of Sewer Commissioners meeting minutes of March 26, 2019.
The MOTION carried 5-0.

5. Business Items

a. **Action:** Approval of Stormwater Utility Budget – K. Adams

MOTION was made by Jeffrey Bartley and SECONDED by Jacki Murphy to approve the FY20 Stormwater Utility Budget in the amount of \$959,686 and the proposed FY20 User Rate of \$52.00 per Equivalent Residential Unit (ERU), after a public hearing held April 23, 2019 and per the recommendation contained in a memo from Karen Adams, Technical Services Manager, dated April 9, 2019.
The MOTION carried 5-0.

b. **Action:** Review and Approval of Wastewater Budget – R. Alemy

Randy Alemy, Operations Manager, explained that only users pay for wastewater services, and that the agreement with the City of South Burlington allows us to send our wastewater to their plant, where it is treated. Town users pay through their wastewater fees for the cost of a plant expansion that was needed to accommodate our wastewater treatment. He reviewed revenues and expenses and indicated that due to reductions in the amount of debt service that for both the overall budget and user costs there would be no increase over FY 19 budgets and user costs.

MOTION was made and amount corrected by Jeffrey Bartley and SECONDED by Jacki Murphy to approve the FY20 Wastewater Budget in the amount of \$1,185,365; to set the FY20 User Rate of \$0.00997 per gallon; and the FY20 Debt Rate of \$0.56 per gallon, per a memo from Randy Alemy, Operations Manager.
The MOTION carried 5-0.

c. Presentation: Shore Acres – Moorings Stream Stormwater Project Update – K. Adams

Shore Acres public information meeting showing conceptual stormwater improvement plans to the Shore Acres neighborhood and the board. Projects came from the Malletts Bay Scoping study, which had goals of reducing property damages, reducing volume of stormwater, and reducing erosion and stream bank instability in upland watersheds.

John Canu explained that water accumulation only became an issue after a water line improvement project completed last summer. He also asked how private property would be acquired because it looks like his property may be needed. Ms. Adams explained that the fire district performed the project and is aware of the concerns but has tested the water confirmed the water was groundwater and not drinking water. She further explained that there would be temporary construction easements needed, and about 8-10 properties from which the town would be looking to obtain permanent easements.

Bruce Lindner expressed concern that stormwater and groundwater mix together to become surface water. He is also concerned about the recent improvements in the neighborhood. Mr. Lindner was encouraged by what he saw but was concerned

about the volume of water in the area and thinks this project will not solve groundwater issues.

Mike Slack explained that the ditch in front of his home was full of ducks in spring and mosquitos in the summer and that the ditch is trying unsuccessfully to drain uphill. Ms. Adams said she would speak to operations about what could be done to address this in the short term and would speak to project engineer about whether this area could be incorporated into project plans.

Denis Place agreed with Mr. Slack that the ditch in front of Mr. Slack's house needs to be graded differently. His concern is that he has more standing water than ever and that he cannot mow due to the wet areas. He wonders what the wetlands will look like and noted that there are many deer eating the cedar hedges there now.

Bill Eakin explained that the groundwater is worse than it ever was and that yards are unmowable due to the water and this is new in the last five years. He felt that there was more of a flow channel than in the last 30 years and was concerned about whether the wetlands would overflow. Ms. Adams explained that gravel wetlands are 4-6' deep with an overflow outlet and an underdrain to carry water away.

Jerry Senesac wondered if the water near the telephone pole near his property could be re-directed. He acknowledged that the Town had tried to redirect the water but the issue is not solved.

Alice Wheeler is worried about the aesthetics of the gravel wetland which will be in her yard and about loss of her property. She said that this area was not the worst in the neighborhood and asked whether there would be standing water.

Bill Eakin agreed with Ms. Wheeler's suggestion that the wetland in front of her home was not needed and suggested extending the ditching on the other side of the road. He also pointed out another area where runoff is going across driveways.

Gabrielle Hammond asked if the projects would be inspected and maintained. Ms. Adams said yes, at intervals recommended by the project engineer. Ms. Hammond noted that the area does not appear to be maintained currently. Ms. Adams said that area was proposed for improvement as part of the project and that the Town would be responsible for any needed maintenance.

Jerry Senesac asked if any of the roads would be repaved. Ms. Adams said that there were paving projects planned after the stormwater improvements are constructed.

Denis Place asked when the project would be constructed as it shows his driveway culvert would be replaced but it is causing problems now. Ms. Adams said best case would be summer 2021, but he could make upgrades on his own before then. Mr. Alamy suggested that operations could also look into whether there were short term solutions.

Susie Canu is concerned about water flowing from where the Fire District's water improvements were done and asked why there is so much water. Ms. Adams

explained that the water had been tested and confirmed that it was groundwater due to the high water table in the neighborhood. She indicated this project would unfortunately not address the sources of groundwater. Ms. Canu expressed concern that the area is a safety hazard in the winter.

Roberta Pratt stated that the road in front of her house was frequently wet from the high volume of water flowing down from the hill behind her home.

Tom Mulcahy asked Ms. Adams where the water was coming from. Ms. Adams explained that the water was likely both stormwater from rain runoff and groundwater from the high groundwater table. Mr. Mulcahy was interested in having staff investigate these sources further. Ms. Adams said she would speak to the Public Works Director about doing so.

Bill Eakin said there was tremendous erosion in the uplands and noted that the corner of Cedar Ridge had slumped down. He suggested there was a plug in the drainage in the system. Ms. Adams explained that the town was trying to limit improvements for this project to primarily within the Town right-of-way but there will be other improvements in the future that can look at solving issues in other areas. It was suggested that there be a site walk in the near future in the proposed project areas and Ms. Adams suggested late May.

Jerry Senesac asked about whether they would be notified by mail for future meetings. Ms. Adams said yes and that they would use mailing addresses on file with the Town assessor.

6. Adjournment

MOTION was made by Jeffrey Bartley and SECONDED by Jacki Murphy to adjourn the the Board of Sewer Commissioners meeting and reconvene the meeting of the Selectboard.

The MOTION carried 5-0.

The meeting was adjourned at 8:35 PM.

Colchester TAP TA18(1) & STP MM21(3)
Shore Acres - Cedar Ridge Stormwater Project

Opinion of Probable Construction Costs

October 26, 2023

source: Unit prices were taken from the four Project Bids received on May 16, 2023. The low and high unit prices were discarded for each item, and average unit prices calculated from the remaining two unit prices.

<u>1011 ROADWAY</u>						
Item #	Description	Unit	Quantity	Unit Price	Cost	
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	1	\$ 13,040	\$	13,040
203.15	COMMON EXCAVATION	CY	2,500	\$ 33	\$	82,500
203.16	SOLID ROCK EXCAVATION	CY	5	\$ 263	\$	1,315
203.28	EXCAVATION OF SURFACES AND PAVEMENTS	CY	10	\$ 47	\$	470
203.31	SAND BORROW	CY	20	\$ 58	\$	1,160
204.20	TRENCH EXCAVATION OF EARTH	CY	250	\$ 48	\$	12,000
204.21	TRENCH EXCAVATION OF ROCK	CY	5	\$ 318	\$	1,590
204.22	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	CY	1	\$ 75	\$	75
406.38	HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES	SY	30	\$ 90	\$	2,700
601.2610	15" CPEP(SL)	LF	40	\$ 77	\$	3,080
601.2620	24" CPEP(SL)	LF	80	\$ 151	\$	12,080
604.21	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	EACH	1	\$ 6,640	\$	6,640
608.30	POWER BROOM RENTAL, TYPE I	HR	4	\$ 200	\$	800
609.10	DUST CONTROL WITH WATER	MGAL	1	\$ 1,325	\$	1,325
613.10	STONE FILL, TYPE I	CY	150	\$ 60	\$	9,000
620.55	REMOVAL OF EXISTING FENCE	LF	20	\$ 16	\$	320
622.10	INSULATION BOARD	MFBM	1.6	\$ 2,650	\$	4,240
629.20	ADJUST ELEVATION OF VALVE BOX	EACH	1	\$ 270	\$	270
630.15	FLAGGERS	HR	240	\$ 54	\$	12,960
635.11	MOBILIZATION/DEMobilIZATION	LS	1	\$ 48,000	\$	48,000
641.10	TRAFFIC CONTROL	LS	1	\$ 11,000	\$	11,000
649.31	GEOTEXTILE UNDER STONE FILL	SY	420	\$ 5	\$	2,100
656.85	TREE PROTECTION	LS	1	\$ 1,750	\$	1,750
675.20	TRAFFIC SIGN, TYPE A	SF	2	\$ 100	\$	200
675.341	SQUARE TUBE SIGN POST AND ANCHOR	LF	15	\$ 18	\$	270
675.50	REMOVING SIGNS	EA	1	\$ 65	\$	65
676.10	DELINEATOR WITH STEEL POST	EA	10	\$ 84	\$	840
900.640	SPECIAL PROVISION (FILTER STRIP)	LF	240	\$ 24	\$	5,760
900.645	SPECIAL PROVISION (OUTLET STRUCTURE #1)	LS	1	\$ 11,000	\$	11,000
900.645	SPECIAL PROVISION (OUTLET STRUCTURE #2)	LS	1	\$ 15,000	\$	15,000
900.645	SPECIAL PROVISION (OUTLET STRUCTURE #3)	LS	1	\$ 10,600	\$	10,600
900.645	SPECIAL PROVISION (GRAVEL WETLAND #1)	LS	1	\$ 29,000	\$	29,000
900.645	SPECIAL PROVISION (GRAVEL WETLAND #2)	LS	1	\$ 61,000	\$	61,000
900.645	SPECIAL PROVISION (GRAVEL WETLAND SWALE #1)	LS	1	\$ 28,000	\$	28,000
Subtotal - Roadway				\$	\$	390,150

1051 EROSION CONTROL						
Item #	Description	Unit	Quantity	Unit Price	Cost	
651.15	SEED	LB	100	\$ 12	\$	1,200
651.18	FERTILIZER	LB	270	\$ 6	\$	1,620
651.20	AGRICULTURAL LIMESTONE	TON	0.15	\$ 1,250	\$	188
651.35	TOPSOIL	CY	300	\$ 68	\$	20,400
653.01	EPSC PLAN	LS	1	\$ 1,650	\$	1,650
653.02	MONITORING EPSC PLAN	HR	16	\$ 103	\$	1,648
653.03	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	LU	1	\$ 1,000	\$	1,000
653.10	HAY MULCH	TON	0.4	\$ 1,275	\$	510
653.20	ROLLED EROSION CONTROL PRODUCT, TYPE I	SY	1,100	\$ 3	\$	3,300
653.25	CHECK DAM, TYPE I	CY	32	\$ 70	\$	2,240
653.35	STABILIZED CONSTRUCTION ENTRANCE	CY	20	\$ 75	\$	1,500
653.45	FILTER BAG	EA	2	\$ 460	\$	920
653.475	SILT FENCE, TYPE I	LF	210	\$ 5	\$	1,050
653.476	SILT FENCE, TYPE II	LF	80	\$ 6	\$	480
653.50	BARRIER FENCE	LF	120	\$ 4	\$	480
653.55	PROJECT DEMARCATION FENCE	LF	1,210	\$ 2	\$	2,420
653.60	EROSION LOG	LF	100	\$ 5	\$	500
Subtotal - Erosion Control					\$	41,106
TOTAL					\$	431,256

By: Roger Dickinson, PE
Trudell Consulting Engineers (TCE)



Date: November 20, 2023

To: Karen Adams, Technical services Manager, Department of Public Works – Colchester, VT.
(kadams@colchestervt.gov)

Re: Town application VAOT Municipal Highway & Stormwater Mitigation Grant for the design and construction of stormwater BMPs in the Shore Acres neighborhood in Colchester, VT

Dear Ms. Adams,

The Chittenden County Regional Planning Commission is pleased to support your proposal for a Vermont AOT Municipal Highway & Stormwater Mitigation Grant for the design and construction of stormwater BMPs in the Shore Acres neighborhood in Colchester, VT. Colchester intends to stay proactive and integrate new stormwater solutions in needed areas. Correctly functioning stormwater designs are critical to addressing stormwater management and water pollution prevention. Executing this project as planned will mitigate the stormwater impact of our public roadway system on this waterway.

Further, this project helps implement the following specific sections of the *Chittenden County ECOS Plan*, the combined Regional Plan, Metropolitan Transportation Plan and Comprehensive Economic Development Strategy for the County:

- Transportation Goal (Section 2.5.3): Provide accessible, safe, efficient, interconnected, secure, equitable, and sustainable mobility choices for our region's businesses, residents and visitors
- Water Quality Strategy (Section 3.2.3): Improve the safety, water quality, and habitat of our rivers, streams, wetlands and lakes in each watershed; and
- Improves and maintains infrastructure to help support the Sustainable Growth Strategy (3.2.2): Strive for 80% of new development in areas planned for growth, which amounts to 15% of our land area.

Lastly, the project directly implements "Action B-2: Begin Implementation of Phosphorus Control Plan" from the Town's *2017 All-Hazards Mitigation Plan*. Implementation of this project as well as others by the Town will help to reduce overall loading of phosphorus from within municipal boundaries that is eventually discharged into Lake Champlain.

The Town of Colchester has been a leader in the region in systematically identifying and fixing water quality concerns. This project will add to the Town's achievements and improve water quality and prevent future damage to public and private infrastructure. Thank you for the opportunity to support this project and we look forward to working with you in the future!

Sincerely,

Chris Dubin – Senior Transportation Planner, Chittenden County RPC



Colchester
VERMONT

781 Blakely Road • Colchester, Vermont • 05446 • 802.264.5500

www.colchestervt.gov

October 24, 2023

Ross Gouin
Municipal Assistance Section
Vermont Agency of Transportation
219 N Main St
Barre, VT 05641

RE: Letter of Support from Colchester Select Board for Shore Acres Project

Hello Mr. Gouin,

This letter is written in support of the Colchester Department of Public Works application for additional grant funds for the Shore Acres Project, requested from the Municipal Highway and Stormwater Mitigation Program. The Town has diligently been working on advancing this project since receiving our first award in 2018, and we are excited to see it move to implementation. Match funds would come from our local stormwater program fees, and the Town is committed to performing needed maintenance of the stormwater treatment practices to be installed as a part of this shovel-ready project.

Thank you for your consideration and the Agency's commitment to funding local water quality projects.

Sincerely,

Pam Loranger, on behalf of the
The Colchester Select Board