## Sprague GeoScience, LLC

480 Salvas Road Huntington, Vermont 05462 Phone (802) 434-5522 Fax (802) 434-5677

September 16, 2023

Ms. Laura Ranker Vermont Department of Environmental Conservation Drinking Water & Groundwater Protection Division 1 National Life Drive, Main 2 Montpelier VT 05620-3521

RE: Town of Bristol, New Haven Spring SPPU 2023

WSID# 5002

Dear Laura,

Attached please find the 2023 Source Protection Plan Update for the Town of Bristol, New Haven Spring (WSID# 5002). Please feel free to contact me if you have any questions or comments regarding this submittal.

Sincerely,

Cindy Sprague Sprague GeoScience LLC

Enclosure

CC: Town of Bristol

Cyrus Marsano, Water System Operator, Vermont Utility Management Service

## **SOURCE PROTECTION PLAN**

## Town of Bristol, Vermont New Haven Spring, Source WL002 WSID # 5002

Updated September 2023

**Prepared For:** 

The Town of Bristol PO Box 249 Bristol, VT 05443

By

Sprague GeoScience LLC 480 Salvas Road Huntington, VT 05462 (802) 434-5522

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#### A. INTRODUCTION:

## 1. <u>Source Information and Source Protection Area</u>

The New Haven Spring (Source WL002) is located on the south bank of the New Haven River in the Town of Bristol, Vermont. The Spring emanates from a deltaic sand and gravel deposit which extends upgradient along the New Haven River to the east. Recharge to the New Haven Spring is thought to be from both the New Haven River itself, as well as the bedrock aquifer south of the river. According to information available from the State of Vermont Natural Resources Atlas, the New Haven Spring was constructed in 1994 and has a permitted yield of 568 gallons per minute. It is 9 feet deep, with a casing depth of 8 feet.

The only water treatment conducted on the New Haven Spring is chlorination for purpose of disinfection. The Town continues to make on-going improvements to the water system and is currently updating the portion of the distribution system installed in 1905.

The location of the New Haven Spring is presented on Figure 1. The Source Protection Area (SPA) is shown on Figures 1, 2 and 3.

## 2. <u>Inventory of Land Uses and Potential Threatening Activities</u>

Having good forest cover in the Source Protection Area (SPA) is considered one of the best ways for maintaining, or improving, both the quantity and the quality of groundwater and surface water. Maximizing tree coverage within the watershed increases groundwater infiltration, reduces erosion, and reduces the probability of contaminant releases into the watershed. The SPA for the New Haven Springs has excellent forest cover.

An inventory of land uses and associated potential sources of contamination (PSOC's) are presented on Figure 1 and parcels are shown on Figure 2. Figure 3 shows the site topography. Table 1 presents the list of the property owners within the SPA, along with present and future land use activities and their associated PSOC's. As indicated on Figure 1 and Table 1, land use activities within the SPA consist predominately of woodlands, along with a small undeveloped portion of a larger parcel (Lot 225062). This parcel was historically used to grow corn, and more recently, soybeans or hay. A solar farm is currently being constructed on the property, but not on the portion of the lot within the SPA. This area will remain undeveloped. Currently the portion of the land within the SPA is being used for storing materials for the solar farm. A plan showing the proposed solar farm is presented in **Appendix A**.

A Memorandum of Understanding between the Vermont Agency of Natural Resources and Bristol Solar, LLC, and Bristol Bess, LLC dated June 18, 2021 contains conditions to protect the Bristol Water Department Source Protection Area as listed in section II. E-H. (Case No. PUC 21-0975/74.)

#### B. ASSESSMENT OF THREATS

A site reconnaissance survey was conducted by Cindy Sprague of Sprague GeoScience LLC on September 12, 2023. Construction of the solar farm was underway on Lot 225062 but other than that, there were no new land uses observed. The only *potential* source of contamination within the SPA, is the northeastern portion of this field. The concern with this property was the historical use of pesticides used for growing corn. Ongoing water quality testing conducted on the New Haven Spring has been excellent. According to the State of Vermont database, the New Haven Spring has been tested for pesticides associated with corn production, which include atrazine, dicamba, and simazine, on at least nine (9) occasions from 1994 to 2021 and they have never been detected.

Mr. Brian Hill of Four Hills Farm used to lease a portion of this lot for growing soybeans or hay. However, the portion of the field within the SPA was left fallow, thus pesticides have not been used on this portion of the field since at least 1996. According to Mr. Hill, he did use Roundup® which contains Glyphosate on the remainder of the field when he was growing soybeans. No pesticides are used when he is growing hay.

Based on a hydrogeologic investigation of this property conducted by Sprague GeoScience LLC, it was determined that groundwater flow in this area is to the west, away from the New Haven Spring. Therefore, site activities associated with this field, both current and historic, are considered a low risk and are not likely to adversely impact the New Haven Spring.

## C. MANAGEMENT OF RISK

In order to reduce any potential risks, the Town of Bristol will conduct the following activities:

1. <u>Distribute Information to Local and Regional Boards</u>: An electronic copy of this Source Protection Plan will be sent to the following parties. A copy of the cover letter to be sent with the SPP is provided in **Appendix B**.

Cyrus Marsano, Water System Operator Vermont Utility Management Service, cymarsano@comcast.net

Bristol Town Clerk <u>clerk@bristolvt.org</u> (to be shared with the Health Officers, Bristol Selectboard, Zoning Administrator and Planning Commission Chair)

Addison County Regional Planning Commission

Visit their web site at: <a href="https://www.addisoncounty.com/list/member/addison-county-regional-planning-commission-1016">https://www.addisoncounty.com/list/member/addison-county-regional-planning-commission-1016</a>
Then select "send email"

- 2. A letter of notification is sent to all new property owners located within the SPA. However, there are no new property owners for this update, so no letters will be sent this time. A copy of this letter is provided in **Appendix B** along with the figure that shows the SPA.
- 3. The Town of Bristol will perform an annual inspection of the SPA to confirm that all parties are following best management practices. Annual updates indicating any changes in land uses/PSOCs will be submitted to the VTDEC, Drinking Water and Groundwater Protection Division.
- 4. This SPP will be updated every three years.

The following management activities have been conducted in the past:

- 1. The Source Protection Area was printed in the Addison Independent.
- 2. A copy of the SPA has been sent (Figures 1 and 2) to the State Agencies listed below. An example of the letter that was sent is presented in **Appendix B**.

Vermont Agency of Transportation 219 North Main Street Barre, VT 05641 Vermont Agency of Natural Resources Department of Environmental Conservation Waste Management and Prevention Division Davis Building - 1st Floor One National Life Drive Montpelier, VT 05620-3704

Vermont Agency of Natural Resources Department of Environmental Conservation Drinking Water and Groundwater Protection Division (DWGPD) 1 National Life Drive, Davis Building, 4<sup>th</sup> Floor Montpelier, VT 05620-3521

#### D. CONTINGENCY PLAN

## 1. <u>Emergency Response Procedures</u>

If an emergency such as a spill or other contamination event occurs within the SPA, or if a regulated compound is found to be above acceptable levels during a routine sampling event, the Town of Bristol may notify the following people/agencies. A copy of the Town of Bristol directory is also presented in **Appendix C** which has additional contact information.

State Police	(802) 388-4919
Bristol Fire Department – Fire Chief	(802) 798-2673, Emergency Dial 911
Bristol Town Clerk	(802) 453-2410 x5
Bristol Health Officers:	
Diane Cushman	(802) 453-4163
Ted Lylis	(802) 453-3751
Vermont DEC, DWGPD	(802) 828-1535
After Hours Emergency	After hours emergency Dial 911 or
	EM Duty Officer 800-347-0488
Vermont DEC, Hazardous Material Spills	(800) 641-5005
Vermont DH, Environmental Health Division	(800) 439-8550

If the New Haven Spring should become contaminated, the Bristol Water District will notify the water system customers to inform them of the nature of the problem and the expected duration. The notification will be mailed to each of the users and will include short term treatment options such as boiling, or use of bottled water for drinking purposes.

## 2. Short-term Contingency Options

The following is a list of short term contingency options which are available:

- System users could utilize bottled water for drinking water purposes, or bulk water could be delivered to the reservoir. A list of both bulk and bottled water suppliers is presented in **Appendix C**
- The Seth Hill Brook water system could be used as a backup source, with disinfection and a boil water notice.
- Use restrictions could be placed on the water system to conserve available water; and,
- A water treatment system could be installed.

1

## 3 Long-term Contingency Options

If the contamination requires that the existing source be abandoned or permanently modified, long term contingency options include:

- Drilling one or more new public community wells;
- Utilizing the Seth Hill Brook surface water system with filtration and disinfection; or
- Installing a permanent water treatment system on the Spring source.

## 4. <u>Water System Shut-Down/Startup Procedure:</u>

In the event the New Haven Spring Source must be shut down, if possible, make sure the reservoir is "full" prior to shutting down the water system. In the event the New Haven Spring must be shut down, go to the water treatment building, which is located just west of the New Haven Spring. Contact the water system operator, to unlock the door to the building. Turn all power supply switches to the "off" position (which is embossed on the control boxes) and turn the pump discharge valve levers to a position perpendicular to their respective discharge piping (this is the "closed" position). Photos of all the valves and power supply switches are presented in **Appendix D**. To turn the system back on, simply turn all the switches and valves back to the "on" position.

At the request of the Drinking Water and Groundwater Protection Division we have included the following language to our Contingency Plan which addresses the use and or connection of an unpermitted/unauthorized water source in the event of an emergency. An emergency may exist when there is malfunctioning equipment, punctured storage tanks, unacceptable levels of contaminants with acute effects, or other acts and factors that affect the functionality or capacity of the water system.

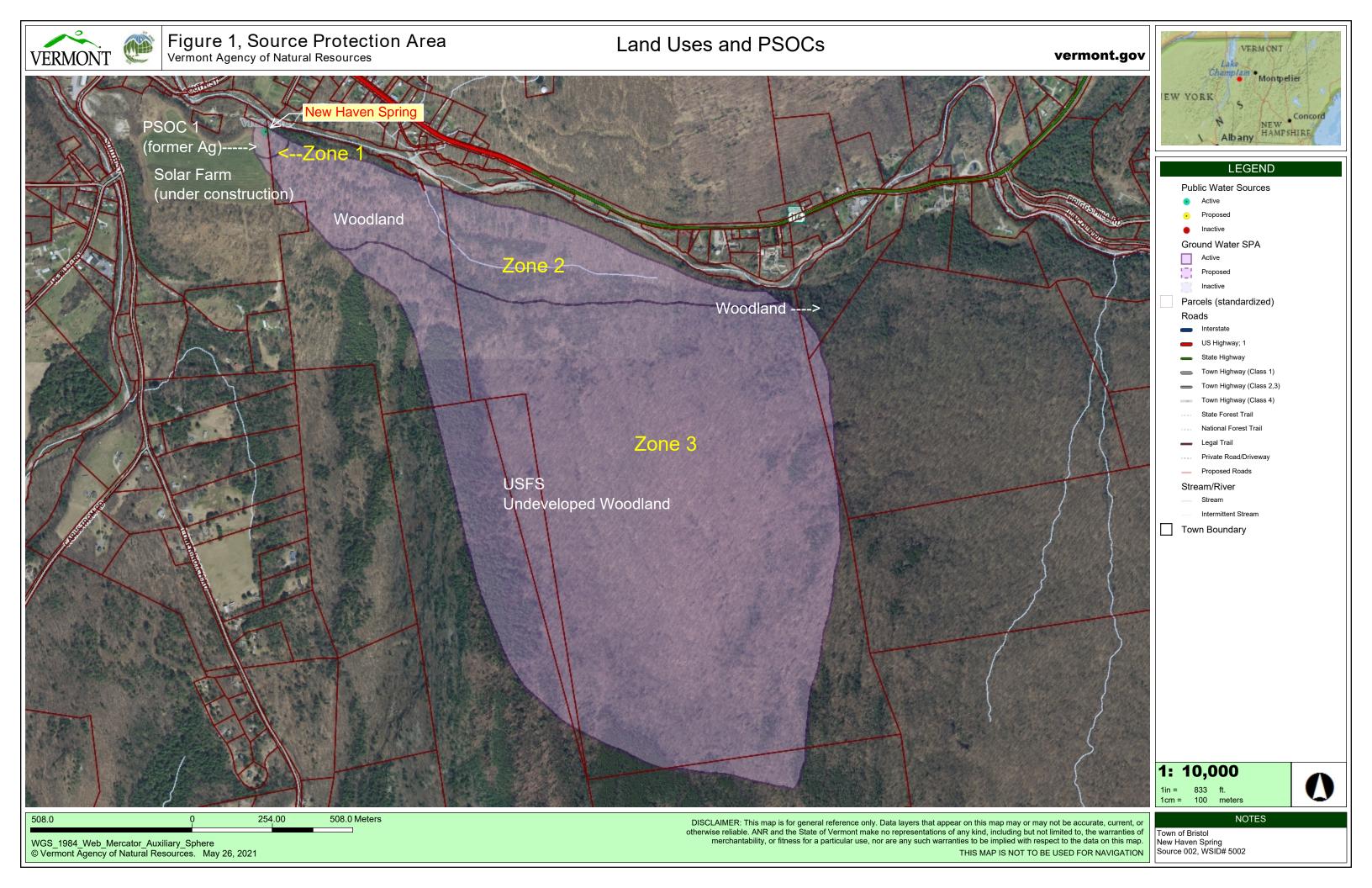
#### **Emergency Use of an unpermitted or unauthorized water source:**

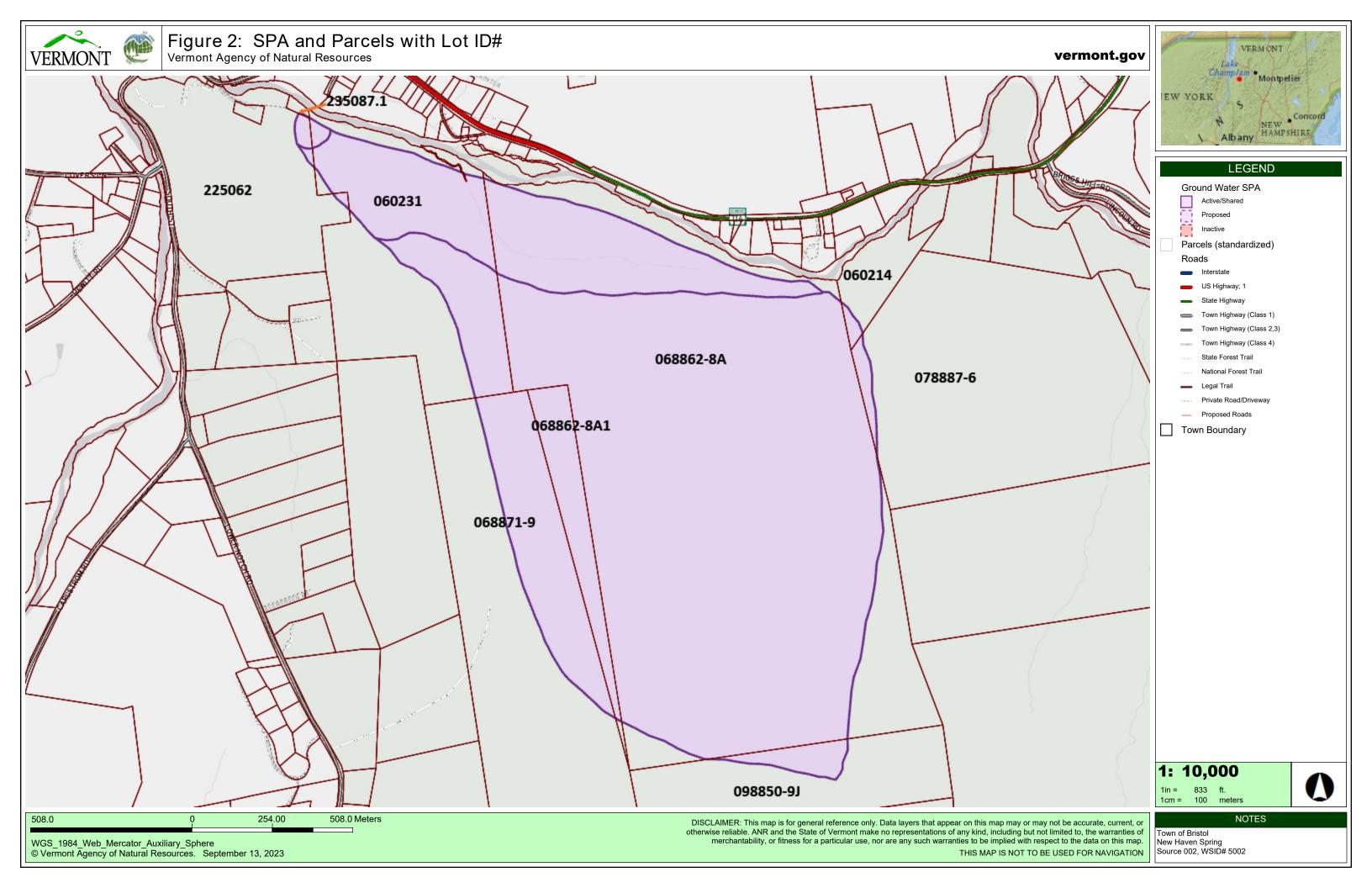
In the event of an emergency situation requiring the water system to use an unpermitted or unauthorized water source, including the emergency use of unpermitted wells, springs, surface water, designated emergency sources, hauled or bulk water, or bottled water, the water system must contact the Drinking Water and Groundwater Protection Division and follow these steps:

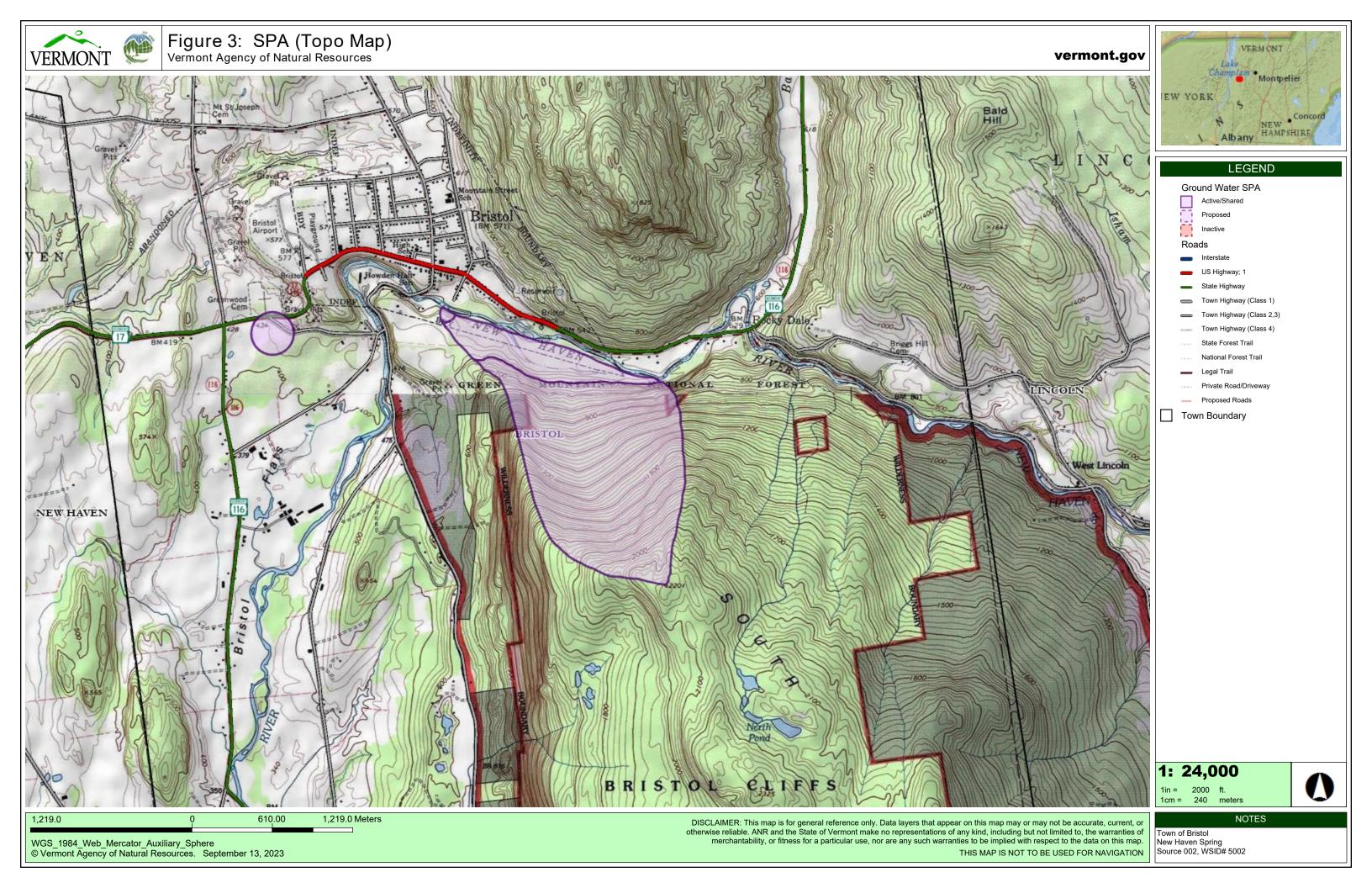
- 1. The Operator or designated representative will notify the Drinking Water and Groundwater Protection Division prior to utilizing the unpermitted or unauthorized source as soon as possible but no later than 12 hours of the connection/use.
- 2. The Operator or designated representative will provide all public notice as recommended by the Division, which may include issuing a Boil Water, Do Not Drink, or Do Not Use Notification to all users of the Water System. Notifications shall be provided within twelve hours of receiving the Division's recommendation or as otherwise directed by the Division in writing.

- 3. The water system will follow all actions and provide all documentation as requested by the Division.
- 4. The unpermitted and/or unauthorized source shall be used for no more than 90 cumulative days unless the water system has submitted a written request to the Secretary of the Agency of Natural Resources (Secretary) for an extension and the Secretary has determined that there is good cause for granting an extension.

## **Figures**







## **Table**

## Table 1

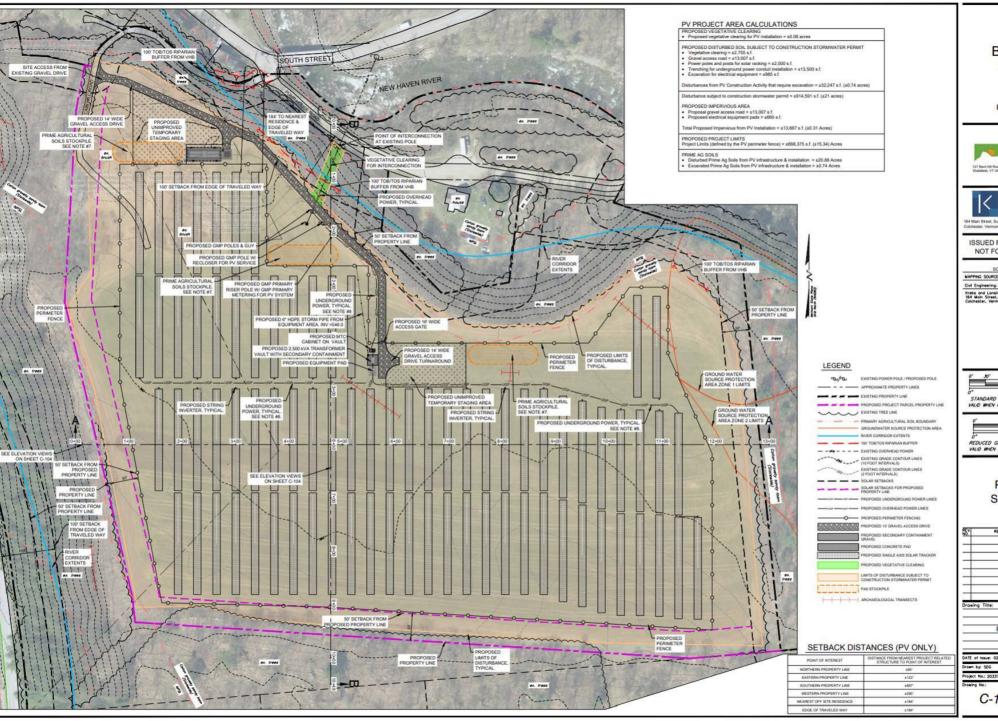
## New Haven Spring List of Property Owners within Source Protection Area WSID # 5002

## **Updated September 2023**

Span #	Lot ID	Owner Name and	<b>Existing and Future Land Use</b>	PSOC
_	Number	Address		#
093-029-	235087.1	Town of Bristol	New Haven Spring	
11528		PO Box 249	also Pump House (beyond Zone 1 of	
		Bristol, VT 05443	SPA)	
093-029-	225062	Lathrop Claire S, &	A solar farm is currently being built on	1
10938		James G.	this parcel, but not on the portion of the	
		201 Austin Drive	lot within the SPA. The portion of the	
		Rogersville, TN, 37857	property within the SPA is currently	
			being used for staging of the materials.	
			Previously, the solar farm portion of the	
			property was used for growing soybeans.	
093-029-	060231	The A Johnson Company	Currently used as woodland. Owner does	
10011		995 South 116 Road	not have any immediate plans to change	
		Bristol, Vermont 05443	the use of the property; however he	
		Attn: Mr. Bill Sayre	wishes to preserve his options for future	
		(802) 453-4884	residential development potential.	
093-029-	060214	Rebecca Mashak	Currently used as woodland. Owner	
10702		2211 North Road	plans to continue to use this lot as	
		Hinesburg, VT 05461	woodland.	
093-029-	068862-8A	USDA Forest Service,	Woodland	
11550		231 N. Main Street		
		Rutland VT, 05701		
093-029-	078887-6	Same as above	Woodland	
11556				
093-029-	068871-9	Same as above	Woodland	
11552				
093-029-	068862-	Same as above	Woodland	
11551	8A1			
093-029-	098850-9J	Same as above	Woodland	
11559				

Refer to Figure 2 for location of lots

## Appendix A Solar Farm Plan



## BRISTOL SOLAR

Cain Hill Road Bristol, Vermont





ochester, Vermont 05446 www.krebsandlansing.

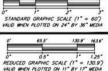
ISSUED FOR PERMIT REVIEW

NOT FOR CONSTRUCTION

SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPLATION Civil Engineering:

s and Lansing Consulting Engineers, Inc. Main Street, Suite. 201



## Proposed Solar Array

	REVISIONS/COMMENTS	DATE
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2		
		- 3.
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ving Title	9	
	PV SITE PLAN	

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en by: SDG	Checked by:	
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eing No.:	Rev No.:	

C-101

# Appendix B Example Letters

## Bristol Water District PO Box 249 Bristol, Vermont 05443

Date

## Dear Property Owner:

The Bristol Water District is working with the Vermont Department of Environmental Conservation, Drinking Water and Groundwater Protection Division to develop a program to protect our groundwater supply (the New Haven Spring). Groundwater as a drinking water supply source is generally of high quality; however, it is vulnerable to contamination from a wide range of activities which take place on the ground surface. Once the groundwater is contaminated, it is difficult and expensive to clean to a level which is suitable for drinking,

As part of our groundwater source protection program, we have identified those areas of land which directly contribute recharge to the New Haven Spring (attached Figure). This area is referred to as the Source Protection Area (SPA). The SPA needs protection from land use activities and potential sources of contamination which, by their existence within the SPA, present a risk of contamination to the public water supply source.

Your property, or at least part of it, has been identified as being located within the Source Protection Area for the New Haven Spring. We are asking you to do your best to minimize the release of contaminants on your property and to follow best management practices.

If you have any questions regarding this letter, please feel free to contact me at 377-2316. Thank you in advance for your cooperation.

Sincerely,

Mr. Cyrus Marsano, Vermont Utility Management Systems Water System Operator Town of Bristol

encl.



695.0

WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere

© Vermont Agency of Natural Resources

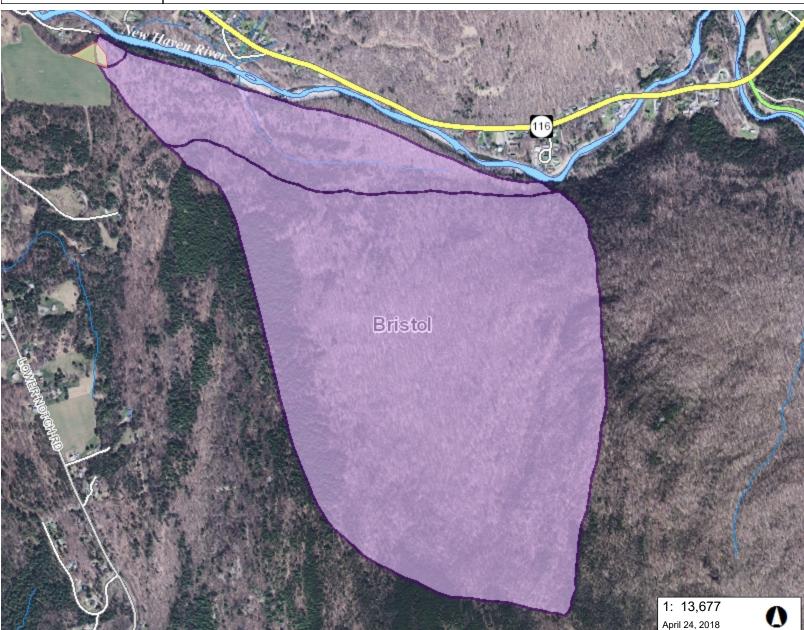
## Town of Bristol - New Haven Spring, SPA

Vermont Agency of Natural Resources

348.00

1" = 1140 Ft.

vermont.gov



695.0 Meters

137

1cm =

THIS MAP IS NOT TO BE USED FOR NAVIGATION



#### LEGEND

#### **Ground Water SPA**

Active

Proposed

Inactive

Roads

Interstate

Principal Arterial

Minor Arterial

Major Collector

Minor Collector

Local

Not part of function Classification S

Waterbody

Stream

**Town Boundary** 

Area of field left fallow (approx)

## NOTES

PSOC 5002

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not

limited to, the warranties of merchantability, or fitness for a particular use, nor

are any such warranties to be implied with respect to the data on this map.

(send this electronically with updated SPP)

## Bristol Water District PO Box 249 Bristol, Vermont 05443

Date

Dear Town and Regional Officials:

On behalf of the Bristol Water District, I have enclosed a copy of the Source Protection Plan (SPP) for the New Haven Spring, which is our public water supply source. This document identifies the land surface area which directly contributes recharge to the New Haven Spring. This area is referred to as the Source Protection Area (SPA). Activities which have the potential to release contaminants into the environment within this SPA could threaten the water quality of our Spring.

Since most of you are involved in making land use decisions at the local or regional level, we thought it was important that you receive a copy of this document. We are concerned about protecting the water quality of our source, and request that you notify us if any permit applications are filed which occur within the SPA, or if there are any violations of health ordinances within this area.

If you have any questions regarding this letter, please feel free to contact me at 377-2316. Thank you in advance for your cooperation.

Sincerely,

Mr. Cyrus Marsano, Vermont Utility Management Systems Water System Operator Town of Bristol

Attachment: SPP update

CC: Bristol Selectboard

Bristol Planning Commission Town of Bristol Health Officer Addison County Regional Planning Commission This letter was sent previously. Does not get sent this as part of this update.

## Bristol Water District PO Box 249 Bristol, Vermont 05443

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Dear State Officials:

As the Water System Operator for the Town of Bristol, I have attached a copy of the Source Protection Area (SPA) for our public water supply source, referred to as the New Haven Spring (Figure 1). This is the area which is thought to recharge our public water supply. This Figure also shows the current land uses and potential sources of contamination within the SPA. Figure 2 show the parcel information within the SPA.

Since you are involved in making land use decisions at the State level, I thought it was important that you receive a copy of these items. We are concerned about protecting the water quality of our source. We request that you notify us if any permit applications or other proposed activities/land uses are filed which occur within the SPA.

If you have any questions regarding this letter, please feel free to contact me at 377-2316. Thank you in advance for your cooperation.

Sincerely,

Mr. Cyrus Marsano, Vermont Utility Management Systems Water System Operator Town of Bristol

encl.(Figures 1,2)

CC: Vermont State Agency of Transportation, Maintenance Division
Department of Environmental Conservation, Waste Management and Prevention Division
State of Vermont Environmental Board
Vermont Agency of Natural Resources, DWGPD

## **Appendix C**

## Town Directory Bulk Water and Bottled Water Suppliers

## **Town Directory** 2023

Search:	
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Area	Name	Title	Phone	Email
ADMINISTRATION				
	General inquiries		(802) 453- 2410 x5	town@bristolvt.org
	Valerie Capels	Town Administrator	(802) 453- 2410 x1	townadmin@bristolvt.org
	Sharon Lucia	Town Clerk Assistant Treasurer	(802) 453- 2410 x5	clerk@bristolvt.org
	Anthony Delmonaco	Treasurer and Collector of Delinquent Taxes Assistant Town Clerk	(802) 453- 2410 x5	treasurer@bristolvt.org
	Kris Perlee	Assistant Town Clerk and Assistant Town Treasurer	(802) 453- 2410 x5	
	Mark Bouvier Patricia King Douglas Corkins	Listers Office	(802) 453- 2410 x3	lister@bristolvt.org
	Police Department	Dog Warden	(802) 453- 2533	
	Diane Cushman Ted Lylis	Town Health Officers	(802) 453- 4163 (802) 453- 3751	
FIRE DEPT				
	Brett LaRose	Fire Chief	(802) 798- 2673	bristolfiredepartment@gmail.com
	Eric Forand	Deputy Chief	(802) 585- 0633	bristolvtfire@gmail.com

Area	Name	Title	Phone	Email
	Kevin LaRose	Assistant Chief	(802) 989- 4330	kevinrlarose@gmail.com
PLANNING & ZONING				
	Kris Perlee	Zoning Administrator	(802) 453- 2410 x2	zoning@bristolvt.org
	Kevin Hanson	Planning Commission Chair	(802) 453- 4404	khanson.pc@gmail.com
	Kevin Brown	Development Review Board Chair	(802) 453- 5010	
POLICE DEPT				
	Bruce Nason	Police Chief	(802) 453- 2533	bruce.nason@vermont.gov
PUBLIC WORKS DEPT				
	Eric Cota	Public Works Department Foreman	(802) 453- 4707	bristolhighway@gmavt.net
WATER & SEWER DEPTS				
	General Inquiries and Billing Questions	Town Office	(802) 453- 2410 x5	town@bristolvt.org
	Cyrus Marsano, Vermont Utility Management Service	Water Operator	(802) 989- 6562	
RECREATION DEPT				
	Meridith McFarland	Recreation Department Director	(802) 453- 5885	recdirector@bristolvt.org
	Zac Farnham- Haskell	Recreation and Hub Assistant	(802) 453- 5885	recreation@bristolvt.org
	Taylor Welch	Hub Youth Center Director	(802) 453-	hubdirector@bristolvt.org

Area	Name	Title	Phone	Email
REVOLVING LOAN FUND				
	Fred Baser	Revolving Loan Fund Committee Chair	(802) 453- 2378	freddieb.fb@gmail.com
SELECTBOARD				
	Darla Senecal	Selectboard Member, Chair	(802) 377- 0119	heydarla712@gmail.com
	Joel Bouvier	Selectboard Member, Vice- Chair	(802) 453- 2445	joelbouvier@yahoo.com
	Ian Albinson	Selectboard Member	(802) 458- 5576	ianalbinson+sb@gmail.com
	John "Peeker" Heffernan	Selectboard Member	(802) 453- 2221	peeker@gmavt.net
	Michelle Perlee	Selectboard Member	(802) 453- 2645	bdysense@comcast.net
STATE LEGISLATORS				
	Christopher Bray	Senator	(802) 453- 3444	cbray@leg.state.vt.us
	Ruth Hardy	Senator	(802) 989- 5278	rhardy@leg.state.vt.us
	Mari Cordes	Representative	(802) 828- 2228 (802) 989- 9267 cell	mcordes@leg.state.vt.us
	Caleb Elder	Representative	(802) 622- 4296	celder@leg.state.vt.us

			Bulk Water Haulers		
Name	Phone #	Alternate	Website	Capacity	Water Source
Fresh Water Hauler					
(Underhill)	802-658-2223	802 355 4321	www.freshwaterhaulers.com	4600 gallon	Stowe Water District
Pristine					
Mountain	802-746-8186	802-236-3989	https://pristine-mountain-	8000 gallon	Colton Springs Water Supply
Springs	002-740-0100	cell	springs.business.site/	(4)	Colloit Springs Water Supply
(Stockbridge)					
A-1 Water					Purchase from Municipality
Delivery	802-355-4892	gwright@surfglob al.net	http://a1waterdeliveryvt.com/	4250 gallon	Furchase non-infunicipality
(St Albans)		ai.net			
H2O Express					
Transport, LLC	540 704 0404			0000 !!	O:t f T
(Schuylerville, NY)	518-791-2484		www.h2oexpress.com	6200 gallon	City of Troy

## November 2020

(Same Bulk Water Haulers for 2023)

Bottled Water Providers					
Misty Meadows	Rutland, VT	802 775 1172			
Vermont Heritage	Newport, VT	802 334 2528			
Crystal Rock	Williston, VT	800-201-6218			
JMJ Beverages/Vermont Pure	Sandwich, MA	508-833-7873			
Monadnock Mountain Spring Water	Wilton, NH	603-654-2728			
Reinhart Foods	Essex, VT	800-272-5302			
		802 288 5000			
Vermont Natural Water (PEPSI)	Brattleboro, VT	802-254-6093			

## **Appendix D**

## Photos of Valves (For Shut Down/Start Up Procedures)

