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Source Protection Plan Update
Grand Isle Consolidated Water District
Grand Isle, VT
WSID 20614

Prepared by SOS
With Help from
Grand Isle Consolidated Water District

April 2021

APPROVED
by DWGPD, 1/7/2026

UPDATE REVISIONS TRACKER **WSID #20614**

Reviewer	Date of Review	Comments, Changes, Revisions, Page #'s, Tables and Figures
Will Ebby, DWGPD	**12/31/25**	**Comments for Consideration:** - There are several agricultural fields within the SPA – the system may wish to add and assess these as an additional PSOC in the next SPPU (SOCs, Nitrates, sediment, bacteria, etc) - The system may also wish to add filter backwash discharge as an additional PSOC and assess whether this poses any risk to the sources.

1.0 Introduction

This Source Protection Plan (SPP) update has been prepared for the Grand Isle Consolidated Water District (GICWD), WSID #20614, in accordance with the Vermont Water Supply Rule (WSR) Chapter 21 Revised March 2020. SOS has prepared this update with assistance from the GICWD.

The purpose of this plan is to protect the quality of the water that supplies the GICWD by identifying actual or potential sources of contamination within the recharge area to the system's intake and to produce a risk management plan to address those threats. This SPP also contains a Contingency Plan that should be followed in the event of an emergency involving the water supply.

Water System Description

The system now contains 800 connections. There is an average daily demand of 120000 gpd. The Grand Isle Consolidated Water District Water System source is Lake Champlain with virtually an unlimited available volume. Raw water from the Lake is drawn into the Municipal Pump Room in the Fish Hatchery Intake Building through either a shallow intake or a deep intake. The raw water is then pumped to the treatment facility building where a cationic polymer is injected prior to pushing through the KINETICO filtration system (primary filters) and enters into a 44,000 gal, dual-celled water storage reservoir located underneath the GAC filter room. The water is pumped out of this reservoir, using one of three installed submersible pumps, through the Granular Activated Carbon Filtration System (secondary filtration) to the above ground 296,000 gallon storage reservoir on the top of Bell Hill. Prior to exiting the treatment facility and reaching the Bell Hill Tank, Sodium Hypo-chloride and Orthophosphate are injected to provide disinfection and corrosion protection.

Source Protection Area Delineation

The Source Protection Area (SPA) for this system was delineated using the methodology put forth in the Water Supply Rule for surface water.

> *Surface water systems with a 3000-foot radius circle Source Protection Area shall re-delineate their Source Protection Area(s) in accordance with Appendix A of this Rule, except for surface water systems using Lake Champlain as a source.*
>
> *Surface water systems using Lake Champlain as a source shall re-delineate their Source Protection Areas in accordance with Appendix A of this Rule or in accordance with the US EPA approved Assessment Protocol for Great Lakes Sources, dated August 8, 1999. The public water system shall choose which method to use.*

The intake location for the Grand Isle Consolidated Water System is located in Lake Champlain. GICWD, in collaboration with the Water Supply Division, applied the US EPA approved Assessment Protocol for Great Lakes to delineate their Source Protection Area. The GICWD did not identify large fluctuations in raw water quality, eliminating the need for an EPA designated Area of Concern. Instead, a Regional Investigation Area, consisting of a small drainage area surrounding the intake, has been delineated. This delineation is not part of the Source Protection Area, and will not be subject to the Water

Supply Rule regarding Source Protection Areas. A map showing the relationship between the Critical Assessment Zone (EPA Great Lakes Protocol) and the Regional Investigation Area is included in the appendix.

2.0 Potential Sources of Contamination

For the purpose of this investigation, only potential sources of contamination (PSOC) within the Critical Assessment Zone (CAZ) were considered and individually identified. The CAZ will be referred to as the Source Protection Area (SPA) for ease and consistency from here on out. Single-family residences dominate the area in the SPA, however some commercial properties exist. PSOCs within the SPA were identified through a GIS survey of the area and a site visit. For this 2021 update, a site reconnaissance survey was conducted in February 2021 by Mr. Warren Steadman and Joseph Danis GICWD WSO. Vermont environmental databases of USTs, hazardous waste sites, spills, hazardous waste generators and landfills were reviewed. All PSOCs have been evaluated and given a risk rating based on the nature of the contamination, proximity to the intake, etc. The PSOCs are summarized in a table below.

2.1 PSOC Inventory

PSOC #1- Lake Champlain Ferry Dock and Boat Traffic

The Lake Champlain Transit Company operates the Lake Champlain Ferry between Grand Isle, Vermont and Cumberland Head, New York. This ferry operates 24-hours a day, 365-days a year. The ferry frequently transports people, passenger and commercial vehicles. There is always the possibility that a major accident may occur while docking or traveling. A tanker truck supplies the ferry's fuel; therefore no fuel is stored at the ferry dock. However, fuel trucks are transported aboard and a large amount of fuel oil is contained within the ferry. There have been few reported spills occurring at or near the ferry launch. The only reported spill that occurred near the Ferry Dock since 2012 SPP update was a 5-gallon hydraulic oil spill on August 8, 2013. This was readily cleaned up and there was no impact to Lake Champlain. A list of spills reported for Grand Isle available from the State of Vermont DEC data base, is included in the Attachment.

Boat traffic on Lake Champlain is also of a concern, especially during summer months when traffic is at its height. Boats, as with automobiles, require a number of petroleum products to operate. If an accident was to occur and a release of fuel and/or motor oil occurred the quality of drinking water may be jeopardized. In addition, many watercrafts have onboard septic holding tanks. If these contents were released near the intake, it could negatively impact the water supply.

In the summer of 2011 major improvements were made to the Grand Isle Ferry Landing area. This includes construction of a new retaining wall, a redesigned dock, and expansion and repaving of the approach lanes, parking areas, and commuter parking lots. A new storm water collection and treatment system was also constructed. The storm water treatment facility is located just south of the approach lanes, adjacent to the lake in a covered, well- vented building. The treatment includes "calming chambers" where much of the turbidity settles out and a baffle system which helps prevent floatable

material, such as oil from being discharged into the lake. The storm water also flows through a sand filter as the final treatment.

One of the ticket collection buildings contains two public bathrooms as well as hand washing sinks. Waste from this facility flows to an on-site mound system. A second mound system was closed and removed after four employee trailers, as well as kitchen facilities were removed from the property.

Given the distance to the closest intake and the nature of contamination, the risk to the source is medium to high.

PSOC #2- Residential Land Uses

Many residential properties exist within the SPA. These residences were at one time used only seasonally. However, in recent years, these homes have become occupied year-round. Some of these homes have newly (within 10-15 years) engineered septic systems. As there is not sewer service in the area most homes have septic systems. Improper maintenance can lead to system failure and result in contamination of ground water.

Several types of potential sources of contamination may exist on these residential properties. For the purposes of this plan, it is assumed that most of these residences use onsite septic systems and have heating oil storage. Fertilizers and pesticides may be applied to lawns and gardens, potentially reaching the lake. In addition, petroleum and fluid spills are possible from vehicle parking and lawn care machine maintenance. Local landowners have identified land-clearing activities that destabilize soils and increase erosion. Run-off from these construction activities has locally impacted the area within the Source Protection Area. These properties have been assigned a medium risk rating based on proximity to the intake, probability of release and type of contamination.

West Side Village is a collection of nine two apartment buildings. While the majority of the buildings are on the edge of the SPP and the septic tanks for the buildings lie along the edge, the effluent from the tanks flow to a pumping station where it is pumped outside of the SPP to a mound system located East of the complex well off Bell Hill Road as per Waste Water permit WW-6-0395. This waste water system was designed by Green Mountain Engineering and installed to their specification. The risk rating for this system is considered low.

PSOC #3- Roads

Roadways can be a source of contamination from accidental spills or leaks from automobiles, and sodium and chloride from road salting. Hazardous substances can run off roads, driveways and parking areas flowing into culverts potentially reaching the lake.

These sources have been assigned a low risk rating, except the area located at the ferry dock. That area is grouped with PSOC #1 and carries the same risk rating.

PSOC #4- State of Vermont Fish Hatchery

The Ed Weed Fish Culture Station (the Hatchery) is located across from the Grand Isle Ferry Dock and intake for the Grand Isle Consolidated water system. The Hatchery and

GICWD share the intakes for their operations. The Hatchery has an outflow stream that flows directly into Lake Champlain. This outflow is a natural stream that discharges water used in hatchery operations. The water does not contain any hazardous substances; however it does contain phosphorus and nitrate levels above background, but within the levels allowed by their indirect discharge permit. Effluent from the Hatchery does not contain any pathogens, as the fish raised there are cold water species.

PSOC #5- Transmission Line

Located within the SPA is a substation owned by Vermont Electric Power Company (VELCO). This substation connects with an underwater electricity transmission line that runs along the bottom of Lake Champlain. This transmission line was cooled in the past by oil. The heat exchangers are no longer operational, however the oil is still contained in the cable. Oil in the cable is typical transmission oil and not PCB-laden. A very conservative figure estimates the amount of oil in each line to be 180 gallons and there are six lines. This information was obtained by a conversation with Jeff Wright with VELCO on Monday, July 11, 2005. The volume estimate was taken from approximate dimensions given by Jeff during that conversation. Low oil alarms are located at the substations on both the Vermont and New York side of the lake and would take approximately ½ hour for a crew to initially respond to the alarm.

Beginning in 2020 VELC began replacing the power poles passing near and though the SPP. Heavy equipment is being used for this project and there is the potential for oil spills or leaks from the equipment.

The likelihood of line failure is slim and the potential dilution factor is high, therefore this PSOC is given a low risk rating.

PSOC #6 New Residential Property (Former Golf Course)

The former golf course located just outside of the SPP has been divided into house lots. Currently four of the lots have been sold and are being developed. Each of the lots have approved septic designs which include mound systems.

Residential and commercial development can alter a landscape and generate the potential for pollution from runoff or accidental release to the environment.

Several types of potential sources of contamination may exist on these residential properties. For the purposes of this plan, it is assumed that all of these residences use onsite septic systems. Fertilizers and pesticides may be applied to lawns and gardens, potentially reaching the lake. In addition, petroleum and fluid spills are possible from vehicle parking and lawn care machine maintenance.

These properties have been assigned a moderate risk rating based on proximity to the lake, probability of release and type of contamination.

PSOC	Activity	Contaminant- Source	Risk Rating
1	LakeChamplain Ferry Dock	VOCs- motor oil and fuel spills Pathogens- on-board septic release	Medium to High
2	Residential Property Use	Pathogens- Septic VOCs- driveways, fuel oil storage SOCs- home fertilizers and pesticides	Medium
3	Roads	VOCs- accidents Sodium, Chloride- road salt application Sediment- runoff	Low
4	State of Vermont Fish Hatchery	Phosphorus and Nitrogen- hatchery discharge	Low
5	Transmission Line	VOCs- transmission oil	Low
6	New Residential Property Use	VOCs-driveways, fuel storage SOCs-home fertilizers and pesticides	Medium

2.2 Regional Investigation Area

Grand Isle Consolidated Water District did not identify any periods of the year when major fluctuations in raw water quality occur. Therefore, an Area of Concern, as defined in the EPA Great Lakes Protocol and adopted by the State of VT, is unnecessary. However, a Regional Investigation Area (RIA) has been considered. This is a very small drainage area immediately surrounding the water supply intake. This area includes PSOCs that do not fall within the SPA but are suspected to impact the intake at some point throughout the year.

Grand Isle Consolidated has identified a number of activities that exist outside of the SPA but are of potential concern to the quality of water near the intake. In a previous meeting with representatives from the GICWD, the Little Ausable River in New York, slight seasonal runoff and the Velco transmission line north and east of the SPA were identified as PSOCs. Unfortunately, not much can be done to mitigate contamination originating in New York except heighten awareness throughout the Lake Champlain region through basin-wide planning programs. The minimal seasonal fluctuation is also difficult to manage on the small scale and will require a larger scale spectrum of work.

The March 2020 VT Water Supply Rule states, "Water systems using Lake Champlain as a source shall include information about watershed protection in their management plan. The Secretary will prepare this information." Below is the link to the Northern Lake Champlain Basin Plan:

https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/mp_TacticalBasinPlan_Basin05_NothernLakeChamplain_Phase-II-Update_Final_2017-12-28.pdf

3.0 Management of Risk

The Grand Isle Consolidated water system will manage the potential risk to their water system in the following ways:

1. A letter will be sent to the owners of all properties within the SPA notifying them that they are located within the designated SPA for the GICWD intake.
2. An updated landowner list is attached. The Appendix contains an example of the letter. In addition, outreach information may be included in an quarterly water bill. This material will focus on septic care and maintenance, 'green' solutions to common commercial cleaning and fertilizing products, and/or 'Think Oil & Water'.
3. Grand Isle Consolidated will conduct semi-annual inspections of the SPA to identify potential land use changes or changes in the status of the PSOCs.
4. A copy of the SPA map will be provided to the local and regional officials listed below. These lists have been updated in 2021.
5. Many local regulations are in place to prevent future unwanted sources of contamination. Permitted uses are limited to activities that are a low risk to the quality of the source.
6. Household hazardous waste collection days are held. These are open to all residents of Grand Isle, and those living with the SPA are strongly encouraged to participate.
7. In 2005, VELCO was in the process of updating their emergency plans to include new information such as this drinking water intake. Contact information has been sent to VELCO in the event of an emergency. They have received the phone numbers of Grand Isle Consolidated Operators, Water Plant and Water Supply Division.
8. A publication concerning shoreline stabilization can be obtained free by contacting the Northwest Regional Planning Commission, 7 Lake St., Suite 201, St. Albans, VT 05478, nrpcvt@nrpcvt.com, 802-524-5958.
9. Management of land use activities within the Regional Investigation Area will be left up to the discretion of the operators of GICWD.

Health Officer	Town Clerk
Ronnie Bushway 174 East Shore S Grand Isle, VT 05458 802 372 4834	*Melissa Boutin* Town of Grand Isle Grand Isle, VT 05458 1-802-372-8830
Town Planning Commission	Zoning Administrator
Emily Clark Town of Grand Isle Grand Isle, VT 05458	Scott Brown Town of Grand Isle Grand Isle, VT 05458
Act 250 District Environmental Commission	Regional Planning Commission
Act 250 District Office 111 West St. Essex Junction, VT 05452-4695	Northwest Regional Planning Commission 7 Lake St St. Albans, VT 05478

4.0 Contingency Plan

This contingency plan outlines the steps that may be taken by the Grand Isle Consolidated Water District in the event the water supply becomes contaminated or, for other reasons, interrupted.

4.1 Emergency Response

In the event of a spill or other contamination event within the vicinity of the intake, or if a regulated substance is detected above acceptable levels during a routine sampling event, the Grand Isle Consolidated water system will carry out the steps outlined in the Short Term Contingency plan below.

The GICWD has a more detailed Emergency Response Plan in use. This plan should be referred to in any emergency situation. The plan is located at the water treatment plant site. Personnel involved with emergency situations are listed below for quick and easy reference.

Water System Personnel	VT Water Supply Division
Water System Operator: **Simon Operation Services(SOS*)*** 142 South Main Street Waterbury, VT 05671 802 244-7420 Also: Joe Danis (SOS) Warren Steadman (SOS) **Water System Responsible Person:** Janine Banks PO Box 9 Grand Isle, VT 05458 802 372 3865	Vermont Drinking Water and Groundwater Protection Division Jeff Girad 1-802 585-0314 David Love 1-802 585-4902 **Vt Emergency Management** **1-800-347-0488** **Vt Dept of Health** **1-800-464-4343** **1-892-863-7200**
Grand Isle Municipal Offices	**Grand Isle Health Officer**
Town Clerk/Treasurer: *Melissa Boutin* Town of Grand Isle Grand Isle, VT 05458 1-802-372-8830	Ronnie Bushway 174 East Shore S Grand Isle, VT 05458 802 372 4834
Emergency Services	**Service Personnel**
VT State Police: St. Albans, VT 802 372 4482 **Fire Department (Volunteer):** Grand Isle Volunteer Fire Dept. 802 372 4322 or 911	**Plumber:** Alliance Mechanical 802-864-4000 **Electrician:** Duane Cormier 802 372 9514 802 351 9514-pager

4.2 Short-term Contingency Options

In the event that the system's water supply and/or distribution system becomes contaminated and water is deemed unsuitable for drinking, or in the event of mechanical failures or power outages, the following short-term contingency options may be used, as appropriate:

- Request users to conserve available water to allow the maximum use of water contained in the storage tank, assuming the quality of that water has not been compromised. This will be accomplished through a door-to-door notification, radio, TV and/or paper.
- Water may be supplied by one of the other public community water systems in the area (Grand Isle #4, North Hero FD #1), provided the water issue is not on a lake-wide level.

- Provide drinking water through the following vendors:
    - Vermont Pure Springs, Inc. 1-800-848-4260
    - Crystal Rock 1-800-201-6218
    - Reinhart Foods 1-800-272-5302

- If plant conditions permit bulk water can be provided by a following bulk water hauler:
    - Fresh Water Hauler 1-802-658-2223 4000 gal capacity
    - A-1 Water Delivery 1-802-355-4892 4250 gal capacity

4.3 Long-term Contingency Options

If the water supply remains contaminated or repeatedly becomes contaminated, a long-term option may need to be discussed. The chances of a widespread long-term contaminant issue is very low, however options need to be discussed and considered. They include, but are not limited to:

- Installing appropriate treatment;
- Repair/replacement of select distribution system elements;
- Discuss drilling a well to provide more reliably clean water.

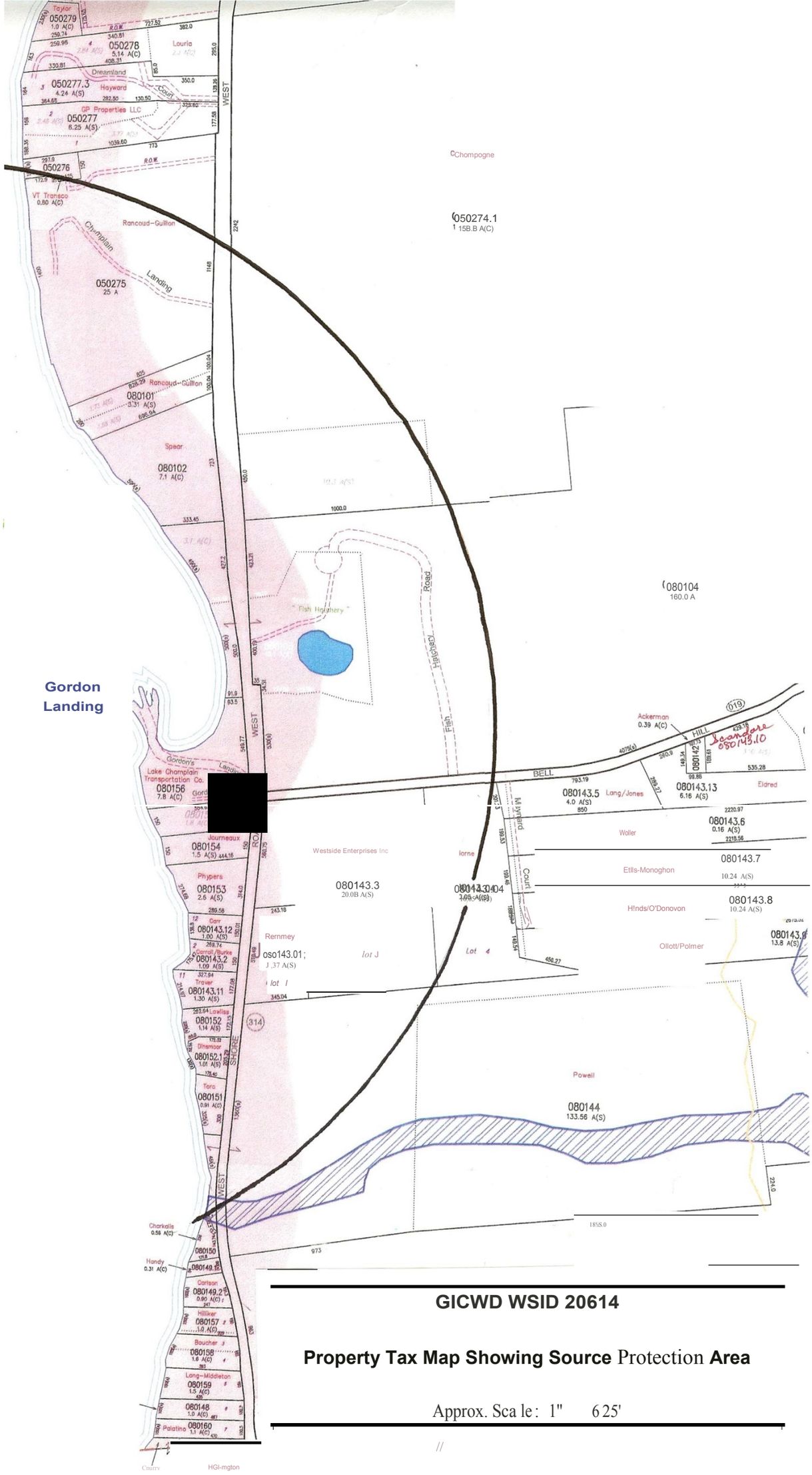
4.4 Water System Shut Down/Start Up Procedures

The system shut down/start up procedures is located in the appendix.

5.0 Future Plans

The GICWD will update this SPP every three years. A guideline for updating the SPP is included in the appendix. In addition, this plan will be used as a planning tool for the town of Grand Isle in their future development needs. There is also the goal that this plan, along with outreach material distributed throughout the SPA and usage area, will develop better environmental stewardship.

Appendix



GICWD WSID 20614

Property Tax Map Showing Source Protection **Area**

Approx. Sca le : 1" 6 25'

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Grand Isle Consolidated Water District SPP Update 2021 Land Owner List

Parcel #	Name	Location	City, State, Zip	Mailing Address (If different)
080154.00	Lake Champlain Transportation Co	39 West Shore Rd	Grand Isle, VT 05458	1268 Gordon's Landing Burlington, VT 05401
050274.10	William & Joanne Champagne	64 West Shore Rd	Grand Isle, VT 05458	
080102.00	Peter Spear	67 West Shore Rd	Grand Isle, VT 05458	PO Box 148 Swanton, VT 05488
080156.00	Lake Champlain Transportation Co	West Shore Road (Ferry Landing)	Grand Isle, VT 05458	1268 Gordon's Landing Burlington, VT 05401
080101.00	Rancoud-Guillon, JC & Emma	71 West Shore Rd	Grand Isle, VT 05458	
080144.00	David Powell	20 West Shore Rd	Grand Isle, VT 05458	
080143.30	West Side Enterprises, Inc.	10 West Side Village	Grand Isle, VT 05458	PO Box 162, Grand Isle, VT 05458
050275.00	Jean-Claude Rancoud-Guillon Rev. Trust	10 Champlain Landing 71 West Shore Road	Grand Isle, VT 05458	
080103.00	State of Vermont Buildings	61 West Shore Road	Grand Isle, VT 05458	
080153.00	Mauser and Lavera Heaberlin	37 West Shore Rd	Grand Isle, VT 05458	
080143.12	Allan Carr Rev. Trust Allan Carr, Trustee	35 West Shore Rd	Grand Isle, VT 05458	PO Box 173 Grand Isle, VT 05458
080143.20	Josephine Burke & Edward Carroll	33 West Shore Rd	Grand Isle, VT 05458	
080143.11	Gordon & Elizabeth Traver	31 West Shore Rd	Grand Isle, VT 05458	
080152.00	*Daniel & Susan Orr*	29 West Shore Rd	Grand Isle, VT 05458	
080143.01	Jesse & Jessica Remmey	36 West Shore Rd	Grand Isle, VT 05458	
080151.00	Louis III & Marie Toro	27 West Shore Rd	Grand Isle, VT 05458	
080143.04	Mark & Gail Horn	9 Bell Hill Rd	Grand Isle, VT 05458	500 Route 2 South Hero, VT 05486
080143.50	Deborah Lang & Robert Jones	10 Maynard Court	Grand Isle, VT 05458	
080104.00	Ed Weed Fish Culture Center	14 Fish Hatchery Road	Grand Isle, VT 05458	
080152.10	Ann Dinsmoor Living Trust Karla Baehr Brooks Living Tr.	29 West Shore Road	Grand Isle, VT 05458	9 Shephen Place Newton, MA 02461
050276.00	Vermont Transco, LLC	93 West Shore Ro	Grand Isle, VT 05458	366 Pinnacle Ridge Road Rutland, VT 05701
080149.34	John Feltz	1 Westside Village	Grand Isle, VT 05458	PO Box 1, Milton VT 05468
080143.32	Maureen & Lou Danielczyk	2 Westside Village	Grand Isle, VT 05458	
080143.31	Ronald & Fini Schutz	3 Westside Village	Grand Isle, VT 05458	
080143.33	Timothy J. Manahan	4 Westside Village	Grand Isle, VT 05458	

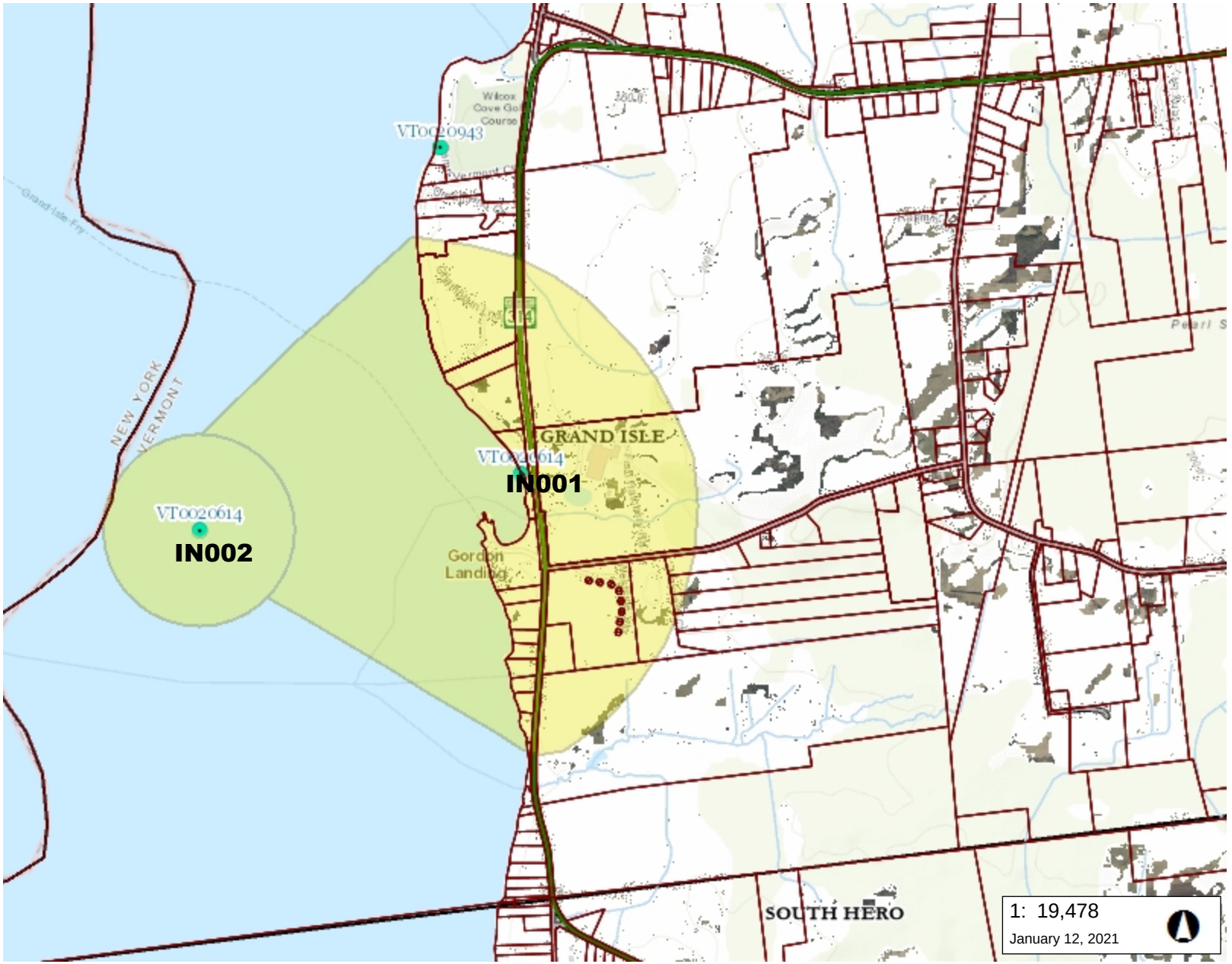
080143.35	Courland & Donna Perry	5 Westside Village	Grand Isle, VT 05458	
080143.36	Ben & Danielle Kneppers	6 Westside Village	Grand Isle, VT 05458	
080143,38	Sandra Green	7 Westside Village	Grand Isle, VT 05458	
080143.37	Thomas & Geraldine Jagel	8 Westside Village	Grand Isle, VT 05458	
080143.39	Cheryl Bradley-Valou	9 Westside Village	Grand Isle, VT 05458	
080143.30	Lawrence & Mishelle Veladota	10 Westside Village	Grand Isle, VT 05458	
080143.41	Tom & Marie Lyons	1 Village Court	Grand Isle, VT 05458	409 Nettles Blvd. Jensen Beach, FL 03497
080143.42	George Starbuck	2 Village Court	Grand Isle, VT 05458	
080143.43	Bettina & Tom Speyer	3 Village Court	Grand Isle, VT 05458	
080143.44	Edward Morin	4 Village Court	Grand Isle, VT 05458	
080143.45	Joseph Blais & Marsha Vetter	5 Village Court	Grand Isle, VT 05458	
080143.40	Barbara Banks	6 Village Court	Grand Isle, VT 05458	
080143.47	Theodore & Bonnie Kriss	7 Village Court	Grand Isle, VT 05458	
080143.48	Robert & Leslie Desrosiers	8 Village Court	Grand Isle, VT 05458	

VERMONT

GICWD

Vermont Agency of Natural Resources

vermont.gov



LEGEND

Public Water Sources
- Active
- Proposed
- Inactive

SurfaceWaterSPA
- Active
- Inactive

Parcels (standardized)

Roads
- Interstate
- US Highway; 1
- State Highway
- Town Highway (Class 1)
- Town Highway (Class 2,3)
- Town Highway (Class 4)
- State Forest Trail
- National Forest Trail
- Legal Trail
- Private Road/Driveway
- Proposed Roads

Stream/River
- Stream
- Intermittent Stream

Town Boundary

NOTES

20614

990.0 0 495.00 990.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 1623 Ft. 1cm = 195 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

VERMONT

GICWD

Vermont Agency of Natural Resources

vermont.gov

LEGEND

- Public Water Sources
  - Active
  - Proposed
  - Inactive
- SurfaceWaterSPA
  - Active
  - Inactive
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)
  - State Forest Trail
  - National Forest Trail
  - Legal Trail
  - Private Road/Driveway
  - Proposed Roads
- Stream/River
  - Stream
  - Intermittent Stream
- Town Boundary

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GRAND ISLE CONSOLIDATED WATER DISTRICT

P.O. Box 9
Grand Isle, VT 05458

Phone 802-372-3865

Dear Grand isle Officials:

Grand Isle Consolidated Water district draws water from Lake Champlain using the Ed Weed Fish Hatchery intakes. Since most of you are involved in making land use decisions at the local level, we thought it was very important that you receive a cop of out Source Protection Plan (SPP) and the Source Protection area (SPA). The SPP includes a map of the SPA. The SPA defines the area surrounding the intakes on Lake Champlain that directly contributes to our drinking water. Therefore activities which could release contaminates into the environment within this area could threaten our water supply.

We are very concerned about protecting the quality of Lake Champlain since many people depend on this water for drinking and recreating. We are not only interested in protecting the source today, but for the future as well. If you become aware of any proposed land development within our SPA that could pose a rick to our drinking water, please let us know.

A copy of our Sourc e Protection Plan will also be kept on file at the grand isle Town Clerk's office for review at any time. Thank you for your attention to this matter. Please call us as 802.372 3865 if you have any questions or if we can be of assistance.

Sincerely,

The Grand Isle Consolidated Water Dirtrict
Board of Commissioners.

GRAND ISLE CONSOLIDATED WATER DISRTRICT

PO Box 9
Grand Isle, VT 05458

Spring 2021

Dear Landowner,

The Grand Isle Consolidated Water District draws water from Lake Champlain, using the Fish Hatchery intakes. Working with the Vermont Department of Environmental Conservation's Drinking Water Division we have defined an area near the intakes which is called our Source Protection Area. Your property is within this Source Protection Area.

As part of our efforts to protect our water supply we are asking those of you in our Source Protection Area to do your best to prevent any release of contamination that might jeopardize our water supply. We would greatly appreciate it if you could be attentive in the following habits and practice them where applicable:

If you have a septic tank, please have it pumped every three years.
Refrain from dumping any drain cleaners, paint products and thinners, lawn chemicals or other household hazardous wastes down the drain.
Warn your fuel delivery person to be careful not to overfill your fuel tank.
If you do your own car or lawnmower maintenance, try not to spill any waste oil or hydraulic fluids on the ground surface and do not pour them down any drains.
Refrain from using pesticides on you lawns and gardens, and use fertilizers sparingly.

If you do inadvertently spill a chemical on your land, please let us know immediately. If a significand spill occurs, we may need to shut down our pumps so we do not draw the contamination towards or into our intakes.

If you have questions or comments please contact us at 802-372-3865. Please don't hesitate to leave a message if we don not answer immediately. The messages are checked frequently. If you have an emergency follow the instructions on the phone message.

Thank you for your attention

The GICWD Board of Directors.

STARTUP SEQUENCES AND NORMAL OPERATING PARAMETERS

1. Normal Automatic Plant Startup Sequence
   a. Pre-Requisites
      (1) Office computer on and HMI program running. Operator familiar with moving through different components on home screen. (See section A for explanation of menus.)
      (2) Kinetico Panel energized, manual valves aligned, raw water pumps in Auto awaiting signal from Kinetico panel.
      (3) Manual valves in GAC space properly aligned and wet well pumps in GAC room in auto. (pumps will alternate automatically)
      (4) System auto/off switch on settings subcreen in "off".
      (5) Actions are conducted on the office SCADA computer.
   b. Action

Operator toggles auto/off switch to auto. If Bell Hill tank level is calling forwater, the plant will come on automatically. No further operator action is required. (Plant can be forced to come on line by toggling the Auto/Override function on the Bell Hill Tank drop down menu. Once a wet well pump is on, it is important to toggle back to Auto. Otherwise system will not shut down when tank is full.)

c. Sequence of events when Bell Hill calls for water. (Level set point set depending on time of year-lower in winter to prevent icing)

<u>GAC filters.</u>

- One of the wet well pumps start. (Pumps alternate automatically and running pump is indicated on home screen)

- Water begins flowing through GAC filters to tank.

-Chlorine and PO4 chemical feed pumps start.

-When wet well level drops to a preset level system calls for Kinetico system to come on line. (5 Ft.)

Kinetico System

-First filter begins to rinse-up. Order of filters coming on line alternates automatically. Rinsing filter indicated on Home Screen.

-Selected Raw water pump starts.

- Filter rinses for at least a predetermined time (Settings drop down menu on HMI Computer) and until selected turbidity is reached. (Turbidty level is controlled on the Rinse Turbidimeter on the Kinetico Panel)

-Filter comes on line and second filter begins rinsing. Raw water pump ramps down while valves operate and then ramps up to a predetermined operating pressure.

-Water begins flowing in to wet wells.

-Five filters rinse up and come on line. The sixth filter stays in standby.

- When a filter requires backwash the 6th filter will rinse up and come on line. The filter needing backwash will begin backwash cycle.

2. Normal Automatic Operating Parameters.
   a. Pre Requisites
      (1) Operator familiar with drop down screens on Citek SCADA program. (HMI Computer)
      (2) System running in automatic.
   b. Normal Backwash Cycle-Kinetico BW
      (1) BW of a filter occurs automatically if one of three conditions are met: differential pressure, hi-turbidity, or 48 hours since last BW (Pressure and turbidity settings on Settings Drop Down Menu on HMI Computer.)
      (2) BW continues for at least 10 minutes or when BW Turbidity drops to pre-determined setting. (Time controlled on Settings Dropdown Menu on HMI Computer. Turbidity determined by Backwash Turbidimeter on Kinetico Panel)

(3) BW for a filter can also be initiated by clicking on "Backwash" on drop down filter menu.

c. Normal Rinse Cycle-Kinetico

(1) Filter Rinse occurs every time a filter comes on line.

(2) Rinse will last for at least the pre-determined time (Usually 3 min & adjusted in Settings Drop Down Menu on HMI Computer) and until the rinse turbidity drops to the pre-determined turbidity. (Rinse turbidity level controlled by Rinse Turbidimeter on Kinetico Panel)

d. Wet Well Levels/GAC & Kinetico flows

(1) A balance of flows is recommended to insure that the Kinetico system does not cycle during normal operation.

(2) Kinetico flow rate is determined by either adjusting raw water pump outlet pressure or adjusting the back pressure regulator on the inlet of the wet wells. (See III A 3 a&b)

(3) The flow rate of the Wet Well pumps can be adjusted by adjusting the Hertz rate on the wet will pump controllers (See III A 3 c)

(4) It is recommended to adjust the flow rates to keep the Kinetico system on line as all the filters have to rinse-up every time the system cycles. Only the wet well pumps have to turn off and on.

PREPARING A SOURCE PROTECTION PLAN UPDATE

Guidance for Public Community and Non-Transient-Non Community Water Systems

With the adoption of the new Water Supply Rule on December 29, 2000, all public community and non-transient, non-community water systems must update their approved Source Protection Plans *every three years*. Prior to this Rule, the updates were required annually. Source Protection Plan (SPP) Updates are also required for all water systems applying for Phase II/V monitoring waivers and waiver renewals. This information sheet gives guidance on how to prepare a Source Protection Plan Update.

Summary of Steps for Updating a Source Protection Plan

- ✓ Inspect the Source Protection Area and Update PSOC Maps and Inventory
- ✓ Weigh Risks from New PSOCs and Identify Risk Management Measures
- ✓ Update Landowner List
- ✓ Communicate with Relevant Landowners and Town/County/State Officials
- ✓ Make sure your Contingency Plan Information is Current
- ✓ Summarize Progress in Reducing Threats to your Source

Inspect the Source Protection Area and Update Your PSOC Maps and Inventory

Visually inspect the Source Protection Area and review the potential sources of contamination (PSOCs) identified in your original Source Protection Plan or most recent SPP Update. Note any key changes. Is the local farmer still using the same pesticides and fertilizers on crop land? Check for any evidence of new land uses or activities that may threaten the water source. Has a new residence been constructed? If so, does it have a septic system? What fuel is used for heating the home? Discuss any important changes you have discovered. Modify your PSOC Inventory and PSOC map to reflect your observations.

Weigh the Risks from New PSOCs and Identify Risk Management Measures

Determine the risk level posed by any new potential source of contamination you have found. Then outline the management measure you intend to use to reduce the risk. In many cases the management measure can be as simple as communicating with the landowner and asking for assistance in protecting the water supply. If you think of a new way to manage the risk from a previously identified PSOC, take the time to outline your ideas and plans in the update.

Update Your Landowner List

Visit your town clerk=s office to determine whether any land or land rights within your Source Protection Area have changed hands. Add any new landowners to your list and remove anyone that no longer owns property in your SPA.

Communicate with Relevant Landowners and Town/County/State Officials
Send out letters to regulatory agencies to remind them that you are concerned about land use activities in your SPA. Also, send letters to newly identified landowners who may not know about your water source. Although not required, it's a good idea to contact the other landowners within your SPA with a positive message about actions they can take to help protect your supply, and to thank them for any efforts they have made since your last letter.

Make Sure Your Contingency Plan Information is Current
Check the emergency contact information in your contingency plan and make sure all of the information is up-to-date. Make sure any new water system personnel have the information they need to make good decisions in an emergency situation.

Summarize Progress in Reducing Threats to Your Source
Look back over the last three years and think about what actions you have taken to make your source of water less vulnerable to contamination. Have you worked with a local farmer to reduce pesticide and fertilizer use in your SPA? Have you purchased development rights for land in your SPA? Have you posted signs at key locations to notify people when they enter your SPA? Have you responded swiftly and appropriately to an emergency situation? Use the SPP Update as an opportunity to boast about the progress you have made.

Source Protection Plan Update Checklist~

Your SPP Update may be as simple as a detailed short letter or it may be an elaborate revision of your original SPP. The format you choose will depend on what you discovered in following the steps outlined above. However, regardless of the format, please be sure you have included the relevant items from the following checklist when you submit the SPP Update:

_____ Text describing your PSOC inspection and any changes and additions you are making to the Source Protection Plan. If there are no changes, please state clearly that you have performed an SPA inspection and found no changes in land use, land ownership, risk levels, etc. Provide date of inspection.
_____ Text describing the progress you have made in implementing risk management measures since your original SPP (or last update) was prepared.
_____ Updated PSOC Inventory (if applicable)
_____ Updated PSOC Map (if applicable)
_____ Updated Management Plan (if applicable)
_____ Updated Landowner List (if applicable)
_____ Updated Contingency Plan information (if applicable)
_____ Copy of letter sent to ongoing SPA landowners (optional)
_____ Copy of letter sent to new SPA landowners (if applicable)
_____ Copy of letter to town/county/state officials

Please send your Source Protection Plan Update to:

Water Resources Section
VT-DEC, Drinking Water & Groundwater Protection Division
1 National Life Drive, Davis 4, Montpelier, VT 05620-3521