

The Utilities Committee will meet in a regularly scheduled monthly meeting on

Friday, March 21th, 2025 at 2:30PM.

The meeting will be held in Community Hall (downstairs) and online via Zoom.

The public is invited to attend.

The agenda for each meeting follows a standard structure:

- 1. CALL TO ORDER
- 2. APPROVE MINUTES
- 3. CONTINUED RCAP PRESENTATION ON RATE SETTING FOR SEWER DEPT
- 4. SUPERINTENDENT'S REPORT
- 5. DISCUSSION OF MEETING START TIME
- 6. DISCUSSION OF EDUCATIONAL LETTER TO BE MAILED POSSIBLY MAILED IN THE CCR MAILING.
- 7. DISCUSSION OF THE ENDING OF THE SEWER MORATORIUM.
- 8. DISCUSSION ON MODIFICATION OF SEWER ORDINANCE TO CHARGE FEES FOR INACTIVE SEWER HOOKUPS
- 9. FINANCIAL REVIEW
- 10. OTHER BUSINESS.

The Utilities Department monthly reports and other materials provided to the committee in advance of the meeting are included with this agenda.

To join a Utilities Committee meeting via Zoom please click here.

Meeting ID: 829 6150 8196

Passcode: 912998

To dial-in via audio: Find your local number: https://us02web.zoom.us/u/kkH7fyLYG

NOTE: The Utilities Committee meets on the third Friday of each month – generally the Friday after the regularly scheduled monthly meeting of the Board of Overseers.

NVC Utilities Committee Trustee Meeting Community Hall and by Zoom link Friday, February 21, 2025, 2:30 P.M. DRAFT

Trustees Present: Chairman Jeffrey Wilt, David Crofoot Member Emeritus **Trustees Via Zoom:** Overseer Kris Mix, Overseer Elaine Moss, Judy Metcalf

Staff: Bill Paige, Trish Parker, Superintendent Chuck Applebee

Other: RCAP Rep Laurie Stevens, Rachel Rosa

The February 2025 meeting of the NVC Utilities Trustees convened at 2:30 p.m., Utilities chair, Jeffrey Wilt called the meeting to order.

Community Comments: None

Approval of Minutes: Motion to approve the minutes of December 2024 by Judy Metcalf, 2nd by Elaine Moss. Approved Unanimously

Report from Laurie Stevens at RCAP

Laurie gave a presentation of how and why a department would do a rate analysis. She shared a comprehensive presentation (attached)

Superintendent Report: No exceedances in December 2024 or January 2025.

- 1. In December 2024 we experienced the lowest BOD Concentrations for 2024 and the highest BOD percent removal for 2024.
- 2. Jan 2025 we experienced a 121 BOD avg mgl and a 68.5 percent BOD removal.
- 3. The flow average for November of 4201 gpd is unrealistically low and probably not accurate.
- 4. PLC was replaced and daily readings restored on 1-7-25. Pricing is being obtained to replace or fix the flow recorder.
- 5. Moore's Septage pumped first 2 tanks on each train Feb 14, 2024, Mar. 27th, 2024, all tanks on June 28, 2024 and first two tanks on each train on Oct. 25, 2024.
- 6. We have scheduled the 3 pump outs for 2025 as recommended in the recently completed Crowley Loading Study for the village. April 4, June 27 and Oct. 3.
- 7. Draft Permit received from EPA on 10-24-24. Jim Crowley has submitted comments to EPA and MDEP regarding the draft permit. These are all minor in nature spelling etc and factual corrections. There is also a public education required of primary waivers.
- 8. The required certification complying with the Maine Coastal Program has been processed.
- 9. Work is in progress on upgrading the Wet Weather Plan and Operations & Maintenance Plans as required by the new EPA Permit.
- 10. There was a single day flow recorded at 440,660 gallons on 6-29-24 when we received 1.07 inches of rain in very short period, resulting in a June 2024 daily average of 40,632 gallons with a 63,000 gpd permit limit.
- 11. I am working with Dirigo Engineering to schedule Cctv work under the FSP and CAP Program.
- 12. RCAP is scheduled to continue the rate discussion for billing alternatives.

Chuck had an informal discussion with the PUC about the Fire Suppression Fee that the NVC Water department is required to charge the Town. The thought was floated that there could possibly be a waiver for the Town. He will report when we get more clarity on this.

Financial Review:

The trustees were notified that the 2025 Budget that was approved by the Overseers was slightly altered to allow for a wage increase for a department employee. This alteration did not change the bottom line, but instead changed the contingency line. This is announced in this meeting in an effort of transparency.

Written materials were provided with a brief explanation.

Other Business:

The Sewer License was received by the office on February 19th, 2025. The license is in effect as of January 27th, 2025 and is good for 5 years.

Moratorium: For the next meeting, we need to have a modification to the sewer ordinance that can be voted on at the March 21, 2025 meeting.

Community Comments:

Rachel asked Chuck a clarification question about his report, explaining the CCTV that goes into the sewer system.

Meeting Adjourns: at 3:55pm

Respectfully Submitted Trish Parker NVC Office Manager

Utility Department Monthly Operating Report Sewer Department

February 2025 Effluent Monitoring Data

During the operating period of February 2025 there were no exceedances. See performance table below for further details of the regulatory monitoring data, for the month of February 2025.

See updated Flow, TSS and BOD Trend Charts at the end of this report.

WWTP Monthly Performance Table

Parameters	Feb.	Jan	Dec	YTD Low	YTD Hi	YTD	2024	DEP Limit	YTD Exceed-ac nes
Flow GPD Avg	5927	5977	21650	5927	5977	5952	1899 5	63,00	0
Precip inches	0.9 – 22 in snow	1.20	6.04	1.20	1.20	1.20	3.50	n/a	0
TSS lbs/min	0.3	1	1	0.3	1	0.7	1.41	<76	0
TSS lbs max	1	1	8	1	1	1	3.56	repor t	0
TSS mg/l ave	14	11	13	11	14	13	16.0	<145	0
TSS mg/l max	15	12	18	12	15	14	24.0	repor t	0
TSS % removal	95.1	99.7	97.8	95.1	99.7	99.7	93.8	>50	0
BOD lbs/min	2	4	4	2	4	3	9.5	<107	0
BOD lbs max	5	6	61	5	6	6	43.6	repor t	0
BOD mg/l ave	87	94	92	87	94	91	164.1	<203	0
BOD mg/l max	114	121	125	114	121	118	232.9	repor t	0
BOD % removal	70	68.5	68.2	68.5	70	69	43.5	>30	0
pH low	6.7	6.7	6.7	6.7	6.7	6.7	6.7	>6.0	0
pH high	7.0	7.0	6.9	7.0	7.0	7.0	6.9	<9.0	0
St solids ml/l av	0.1	0.1	0.1	0.1	0.1	0.1	0.1	repor t	0
TRC mg/l max	0.03	0.02	0.02	0.02	0.03	0.03	0.03	<0.3	0
Fecal cfu ave	<4	<4	<4	<4	<4	<4	<4	<14	0
Fecal cfu max	<4	<4	<4	<4	<4	<4	<4	<31	0
Entero cfu ave	n/a	n/a	n/a	n/a	n/a	n/a	<5	<8	0
Entero cfu max	n/a	n/a	n/a	n/a	n/a	n/a	211	<54	0
Hg ng/l ave	n/a	n/a	3.5	n/a	n/a	n/a	3.5	33.4	0
Hg ng/l max	n/a	n/a	3.5	n/a	n/a	n/a	3.5	50.1	0

- 1. In Feb 2025 we experienced the lowest BOD Concentrations for some time including all of 2024.
- 2. Feb 2025 we experienced a 87 BOD avg mgl and a 70 percent BOD removal.
- 3. PLC was repaired and daily readings restored on 1-7-25. Pricing is being obtained to replace or fix the flow recorder.
- 4. Moore's Septage pumped first 2 tanks on each train Feb 14, 2024, Mar. 27th, 2024, all tanks on June 28, 2024 and first two tanks on each train on Oct. 25, 2024.
- 5. We have scheduled the 3 pump outs for 2025 as recommended in the recently completed Crowley Loading Study for the village. April 4, June 27 and Oct. 3.
- 6. Draft Permit received from EPA on 10-24-24. Jim Crowley has submitted comments to EPA and MDEP regarding the draft permit. These are all minor in nature spelling etc and factual corrections. There is also a public education required of primary waivers.
- 7. The required certification complying with the Maine Coastal Program has been processed.
- 8. Work is in progress on upgrading the Wet Weather Plan and Operations & Maintenance Plans as required by the new EPA Permit.
- 9. There was a single day flow recorded at 440,660 gallons on 6-29-24 when we received 1.07 inches of rain in very short period, resulting in a June 2024 daily average of 40,632 gallons with a 63,000 gpd permit limit.
- 10. I am working with Dirigo Engineering to schedule Cctv work under the FSP and CAP Program.

Drinking Water Department

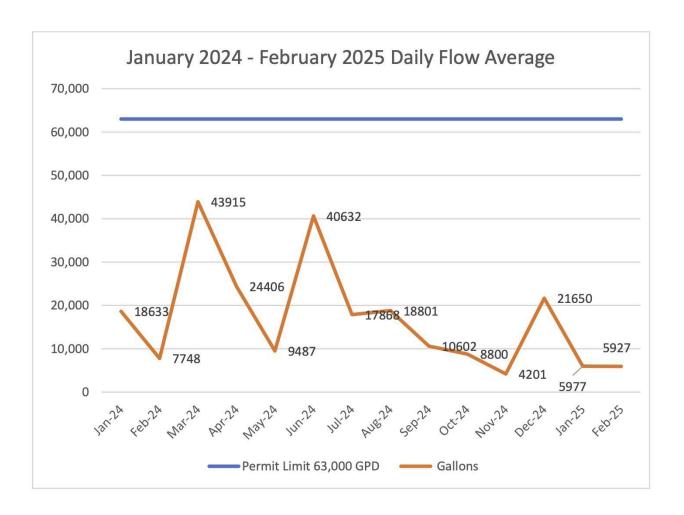
February 2025 Production and Water Quality.

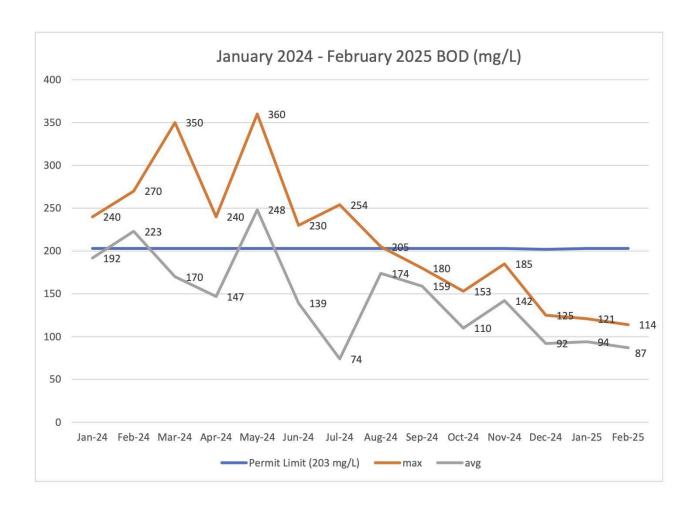
Purchased water for the month averaged 17,978 gpd (leak) compared to 7660 gpd (water meter down) for the same month in 2024. The weekly free chlorine residual in the drinking water ranged from 0.33 - 0.47 ppm/Cl² compared to the recommended goal of >.20 to <1.0 ppm/Cl² at the entry point to the distribution system and a detectable residual at the tap. The EPA maximum concentration level (MCL) not to be exceeded for chlorine residual related to human health is 4.0 ppm. The monthly total coliform and e-coli water sample test results were negative.

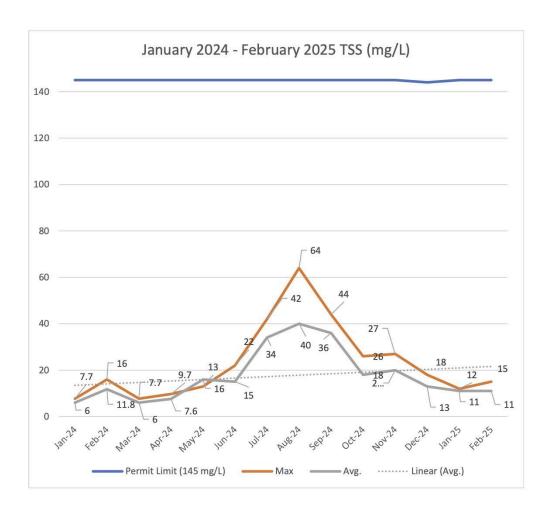
- 1. Some of the difference in usage readings between 2024 and 2025 are likely due to the leak discovered in January by Bill Paige.
- 2. The new 6 inch meter was installed on Feb. 29th. 2024.
- 3. Two Rates structures have been approved by the Maine PUC 1.5 percent annual, one-time 25 percent increase.
- 4. At this time and the one-time meter replacement fee is on hold until we can experience revenues produced by the rate increases.
- 5. Lead service line work concluded on Oct. 16, 2024.

January 24 - February 2025 Northport Village Flow Bod TSS Data

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25
Flow Avg										•	•			•
Gals	18633	7748	43915	24406	9487	40632	17868	18801	10602	8800	4201	21650	5977	5927
BOD mg/l														
max	240	270	350	240	360	230	254	205	180	153	185	125	121	114
avg	192	223	170	147	248	139	74	174	159	110	142	92	94	87
TSS mg/l						141								
max	7.7	16	7.7	9.7	13	22	42	64	44	26	27	18	12	15
avg	6	11.8	6	7.6	16	15	34	40	36	18	20	13	11	11









Dear Friend of Bayside,

Northport Village (Bayside) operates a small wastewater treatment system that serves just several hundred homes. It's important that we, as a community, do our part to reduce or eliminate any strain on the system in order to keep it in good functioning order, and to protect Maine's environment. It is a Primary-only system, entailing solids settling and disinfection of the effluent produced prior to discharge 600 feet offshore into Penobscot Bay. The Bayside wastewater treatment system was designed to deal with sewage and wastewater from toilets, sinks, showers and tubs only — *nothing else!* Bayside has one of the few remaining municipal primary treatment systems still operating in Maine, which is of great economic advantage to the community. Though simpler than the typical municipal secondary treatment systems, Bayside's system is less robust, and more susceptible to disruption from unauthorized inputs. The discharge license is periodically reviewed by the U. S. Environmental Protection Agency and the Maine Department of Environmental Protection, and if still appropriate, renewed for additional five year cycles; The most recent renewal by the DEP and EPA has been on February 18th (DEP) and February 19th (EPA), 2025.

<u>For Northport Village Corporation to retain this conditional privilege, it is imperative that the wastewater</u> treatment system operate in strict compliance with its discharge licenses!

Here are some simple helpful reminders for the users on the Bayside wastewater treatment system:

- 1. Only Flush Toilet Paper: Only toilet paper should be flushed down the toilet. Everything else including extinguished cigarette butts, cleaning wipes, baby wipes, facial tissue, paper towels, and feminine hygiene products (even if they are labeled flushable) should be tossed in the garbage.
- 2. Reduce Water Usage: The less water and waste that goes into the sewer system, the better. Help us reduce consumption and support treatment capacity by doing things like turning off water while brushing and shaving, and limiting the duration of showers. Constantly leaking toilet tank float-controlled fill risers or tank drain flap valves can result in substantial discharges over time. At the discretion of the homeowner, residents may consider not flushing after every #1 use If you are going to leave your residence unoccupied for an extended length of time and your water supply is not connected to a heating/air conditioning or fire suppression system, consider shutting off your town water main line or well pump.
- 3. Avoid Using the Garbage Disposal: Use of garbage disposals adds organic matter and solids that increase strain on the sewer and treatment system, leading to discharge violations. Even though they are designed for the homeowner's convenience, they should not be used to dispose of food waste into small community treatment systems or in private septic systems. Garbage should always be thrown out, or food waste composted, not washed down the drain. Dry scrape pots and dishes into a compost bin or trash container, as appropriate, prior to washing. Place a strainer in the sink drain to catch small food scraps, then empty into the trash or compost, as appropriate.

- 4. Don't Wash Oils, Grease, Dairy Products, Grains, or Coffee Grounds Down the Drain: Fatty foods and cooking by-products harden inside pipes and create sewage backup. Don't run water over dishes or cookware to wash oil or grease down the sink. Instead, wipe them with a paper towel and throw the towel into compost. Never pour cooking oil, pan drippings, gravy, bacon grease, lard, shortening, butter, margarine, salad dressings, mayonnaise, creams, or sauces down the sink or toilet; again, please place this into compost. Dairy products contain fats that can congeal in pipes, and they add excess bacteria into our wastewater they should never be dumped down the drain. The same goes for grains (like pasta, noodles and rice), bones, and coffee grounds! In general, plant-based waste, fats, and oils are compostable, while animal-based wastes, fats, and oils are not.
- 5. Never Pour Chemicals Down the Drain! Paints (including latex-based), fuels, chemicals, solvents, herbicides/pesticides, fertilizer, and other similar compounds should never be flushed down the drain or toilet. They should always be safely disposed of in the trash, at the transfer station or at a designated hazardous waste disposal site. Local communities such as Belfast, Camden, and Rockland may hold annual household hazardous waste days.
- 6. Roof, foundation and cellar drains should not be connected to the sanitary sewer system; existing connections of this kind should be removed and re-routed. If the homeowner has connected washing machine drains or any other gray or blackwater discharges into a groundwater or stormwater conveyance, they need to be removed.
- 7. Fuel oil storage tanks and appurtenances, indoors and outside: In a basement, fuel oil tanks, fuel lines, valves, and filter housings can leak, sometimes catastrophically. If fuel oil can reach a sump, drain or even cracks in the floor, and from there contaminate either the ground, a storm drain or a sanitary wastewater line, the environment, treatment plant, or both will be impacted. If placed close enough to the residence foundation, an outdoor tank leak or an over-fill event can permeate the foundation drainage.

It is possible that some permanent (or even temporary) residents might undertake a hobby or cottage industry producing a discharge that could potentially impact the sanitary sewer or wastewater treatment plant more substantially than normal residential wastewater. Examples of such sources of "problem" wastewater include but are not limited to beer & wine making, bakeries, confectioners, dairy hobbies (ice cream, cheese, or yogurt making), fish, shellfish, or crustacean processing, commercial-scale food preparation, silk-screening, vehicle maintenance, and others. Residents who partake in these or other wastewater generating activities outside of the residential norm should contact Northport Village Corporation Utility management for a consultation on preferred disposal practices.

NORTHPORT VILLAGE CORPORATION SEWER DEPARTMENT



WET WEATHER MANAGEMENT PLAN
WASTEWATER TREATMENT FACLIITIES
NORTHPORT, MAINE

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General: It is the goal of the Northport Village Corp to maintain compliance with the effluent discharge limits of its MEPDES permit, reduce the impacts of high loadings on the treatment process, and maximize the collection and treatment of all wastewater at the treatment plant during all wet weather events. The Utility Superintendent will insure that its employees have the knowledge and training to meet this goal.

Collection System: The treatment plant and collection system went online in August of 1989. Upgrades to the 2.83 miles of collection system piping has been ongoing since that time. The collection system is composed of sanitary sewers made up of mostly modern 8 inch PVC pipe, HDPE and some ceramic clay pipe along with 3 small pump stations dedicated to four households and a main pump station located on the Shore Road. The pump stations handle all wastewater flows from the southern region of the village. Wastewaters from the core and the northern region of the Village flow by gravity to the treatment plant. There are no Combined Sewer Overflows (CSOs) in the collection system. Accordingly there has been no discharge of untreated wastewater or sanitary sewer overflows from the collection system for decades.

Sewer lines are inspected and cleaned or flushed depending on need. Need is based on the routine inspections of manholes or rarely, the complaints from households of slow draining service connections. Occasionally it has been necessary to vacuum or flush out the grit in the wet wells of the pump stations. However, normally this has not been a problem.

Infiltration and Inflow (III): The Village Sewer Department has an I&I mitigation funding program in place whereby developers or household owners are charged a sewer system development charge (SSDC) to alter an existing sewer service or to establish a new one from the few remaining lots of record in the Village within reach of the sewer main. The fee helps to defray the cost to investigate and abate current I&I. There is also an ordinance in effect which prohibits and allows for fines if, upon discovery, roof drains, cellar drains and/or sump pumps are connected to the sewer collection system.

The effort to minimize inflow and infiltration into the collection system by replacing leaking sewer mains with new PVC or HDPE pipe and/or to rehabilitate or replace deteriorating manholes has been ongoing since 1985.

Areas of the system are monitored periodically to locate trouble spots to plan for the replacement of pipe or the elimination of leaks. The replacement of about 200 feet of clay pipe with HDPE pipe on Bay Street was scheduled for the fall of 2016. Bay Street is one of the last known remaining problem areas in the system for solids deposition and infiltration. The current annual daily average of I&I entering the collection system is about 200 gpd/inch-mile. This rate compares favorably to the less than 500 gpd/inch-mile of I&I professional engineers consider as acceptable for new pipe. The entire collection system was smoke tested and videoed for leaks in 2006-2008. Since then most all of the identified infiltration of clean water into the collection system has been removed. However, as is still evident during periods of heavy down pours and/or snow melt, some inflow remains, and if coupled with astronomically hides or storm surges, back-ups of effluent into the flow measuring manhole and the settling tanks of the treatment plant can occur.

Wastewater Flow Data: The treatment plant is licensed to handle a monthly average flow of 63,000 gpd. The designed instantaneous capacity of the plant is 116,500 gpd. The average monthly flow currently runs at about 14,000 to 18,000 gpd, with significant seasonal variation. Wet weather peak monthly flows of 30,000 to 35,000 gpd or more, and peak hourly flows of 250 gpm during heavy rainstorms in the spring, summer, or fall are typical. The plant has not exceeded its licensed monthly average daily flow limit since 2005. This is directly the result of successfully identifying and eliminating egregious sources of I&I and moreover, accurately measuring it. This work has significantly reduced wet weather flows to volumes the treatment facilities can today easily handle.

Shore Road Lift Stations: As previously mentioned, there are four pump stations in the collection system. The main South Shore Road Pump Station has duplex shredder pumps that are programmed to alternate automatically between the lead and lag pumps with each pumping cycle. The three smaller dedicated household lift stations are simplex stations with one grinder pump at each station. PS #1 and PS #3 both service only one household each. PS #2 has two household service connections. All pump stations have more than ample capacity. The simplex stations servicing the four dedicated households only pump for a few minutes every other day or so. The main duplex pump station operates about one hour per day during dry weather and during wet weather two to three hours per day.

All pump stations have visible and audible alarms for high water levels in the wet wells which are tested weekly to ensure that they are functioning properly. The pump station is inspected daily. Each station is also posted

with an operator's pager number for residents or people passing by to call in the event a high water alarm has been activated.

Standby Generator: An automatic propane 15 KW standby generator is located in the Control Building at the South Shore Road Pump Station to continue operations of the four pump stations in the event of a power failure. The generator is exercised weekly for 30 minutes under load conditions to confirm that it is operational. The propane tank holds up to 400 gallons of liquid propane. The generator burns about 0.5 to 1.0 gallons of propane per hour under normal load conditions.

Primary Treatment Plant: At the headworks of the treatment plant, the wastewater flows into a flow distribution manhole where flow can be split evenly into three trains of settling tanks that operate independently of one another in parallel. Keeping the channel weirs free of obstructions is critical to the controlled operation of the settling tanks. Under most operational conditions, all three treatment trains are on-line at the same time, but any combination of one, two, or all three trains may be active Following the settling tanks, the wastewater then flows into a chlorine contact chamber and de-chlorination manhole where it is disinfected with liquid sodium hypochlorite and de-chlorinated with sodium bisulfite tablets prior to being discharged to the receiving waters of the West Penobscot Bay. The discharge area of the bay is closed to the harvesting of shellfish.

There is no bypass around the treatment plant and all flows pass through the below-ground settling tanks by gravity even during a maximum flow event and/or power outage. In the event of a power failure, a visible and audible alarm system is activated to alert plant personnel and swimmers that flow recording and chlorination/ de-chlorination has been interrupted. Under these conditions, a dedicated generator will automatically start to service the treatment plant until public power is restored.

Wet Weather Treatment Plant Changes: The operating personnel of the wastewater facilities are acutely aware of the impact wet weather flows can have on the collection system, treatment plant and the quality of the effluent. Moreover, it is customary for operating personnel to monitor weather reports daily for expected rainfall amounts as well as any unusual high tides and storm surges that would also trigger the implementation of this wet weather management plan and checklist.

During periods of high flow resulting from wet weather, all three trains will be placed in service to provide full solids settling capacity. Chlorine contact time (detention) should be sufficient even under the most extreme wet weather flows. Total Residual Chlorine levels must be adjusted as necessary to maintain residual chlorine concentrations (before de-chlorination) of between 15.0 and 25.0 mg/L during wet weather events to fully inactivate fecal coliform and Enterococci bacteria and below 0.05 mg/L after the de- chlorination manhole to protect aquatic life in the receiving waters. Prior to leaving for the day, weather reports must be updated to determine if any further adjustments to the facilities should be made.

Finally, any changes that were made to the number of settling trains in service and/or in the dosage of disinfection chemicals, prior to or during the wet weather event, should be restored back to their normal dry weather operating modes after the wet weather event is over.

Emergency response, resource contact information and wet weather action plans and checklists are included herewith below.

Police, Fire and Ambulance: 911

NVC Community Hall, Paul Bartels: 338-0751

Dick McElhaney, NVC Utility Supt: 242-0529

Fernie Barton, WTP Operator: 338-2065 or 338-1744 or 322-7382

Bill Paige, CSO Operator: 322-2250

Gordon Fuller, Wharf Master: 338-5387

Operator Pager nos: 580-5533 or 471-6150

Dr. David Crofoot, Board Chairman: 338-4661

Harcros, Disinfection Chemical Provider: 856-6756
Central Maine Power, No Power: 800-321-9995
Moore's Septic, Local Septage Hauler: 338-4586
Roto Rooter: 990-1234

Steven's Pump and Electric, Lift Stations: 933-9638 CMD Power Systems: 848-7702

Town of Northport: 338-3819

Northport Fire Chief, Paul Rooney 322-2435 Northport Harbor Master, Lora Mills 323-1962

Belfast Water District, Mutual aid: 338-1200

Belfast Treatment Plant, Mutual aid 338-1744

Waldo County Emergency Management: 338-3870

Waldo Regional Hospital: 338-2500

Waldo County Sheriff: 800-337-0565

Maine State Police: 800-452-4664

Maine DEP, Hazardous Material Spill: 800-452-4664
Ben Pendleton, DEP Compliance Inspector: 592-6871
Dept. of Marine Resources: 633-9500

Local Weather Forecast: wunderground.com
Tide Charts: me.usharbors.com

Pre-Wet Weather Event Checklist

Action Responsible Frequency Staff

1-06

Insure sewer lines are free flowing and open	Ongoing	CSO
Monitor collection system pipe lines for 1/1 and remove	Ongoing	cso
Check pump station operation for proper functioning	daily	WTP
Insure solids in WTP tanks are pumped out as required	May and Oct	Supt
Clean plant flow distribution manhole	weekly	CSO
Check pump station generator and high water alarms	Weekly	WTP
Check that oenerator propane level is adequate	Weekly	WTP
Check for adequate amounts of hypo and sulfite	weekly	WTP
Schedule annual service for generator	Annually	Supt
Service wet well, floats, inspect lift station pumps, etc.	Annually	Supt
Maintain adequate financial resources	Annually	Supt
Train plant staff on wet weather event procedures	Ongoing	Supt
Supt = Utility Department Superintendent		
CSO = Collection System Operator		
WTP = Waste Treatment Plant Operator WWMP = Wet Weather Management Plan		

Action Responsible Operating Staff

Action	Kesponsibi	e Operai
Monitor weather reports	CSO	WTP
Disconnect power at plant if flooding could cause safety concern	CSO	WTP
Check main lift station wet well	cso	WTP
Monitor street and plant manhole covers for flooding	cso	WTP
Check flow distribution manhole for even splitting	cso	WTP
Check Effluent for settleable solids more frequently		WTP
Monitor high tide impacts on plant flow measuring manhole	cso	WTP
Monitor total chlorine residuals more frequently as neede	d	WTP
Adjust hypochlorite and bisulfite dosages as often as needed		WTP
Update weather reports to take further measures before leaving	CSO	WTP
Return to normal operational mode and chemical dosage	s CSO	WTP
Review procedures to suggest modification to the WWMF	o cso	WTP
Supt = Utility Department Superintendent CSO = Collection System Operator		
WTP = Waste Treatment Plant Operator		

I WWMP = Wet Weather Management Plan	
Revised 3/XX/25 JC	

Northport Village Corporation

Wastewater Collection and Treatment System "Owner's Manual"

What you need to know about your wastewater treatment system to maintain environmental compliance with optimal operational, maintenance, and economic efficiency

NVC MEPDES 301(h) discharge Permit ME0100901, issued 02/19/2025

- "301(h) waiver" discharge permits require primary settling and disinfection only.
 They do not require secondary or more advanced treatment processes.
 Compared to secondary treatment systems, "primary-only" systems are simpler and far less expensive to operate. There are only a handful of these systems still licensed in Maine.
- 301(h) permits are issued by the U.S. EPA, and are subject to federal review each time they are renewed. In the 21st century most wastewater treatment systems are at least as advanced as to provide secondary treatment, so EPA scrutinizes the performance of each 301(h) permit renewal application carefully before deciding to re-authorize the waiver. U.S. EPA's willingness to re-issue a 301(h) waiver to a wastewater treatment facility is discretionary, and very much subject to a facility's ability to consistently demonstrate compliance with its discharge permit.
- As primary-only wastewater treatment facilities represent the 20th century's lowest potentially acceptable level of performance, 301(h) waivers will not be issued to any new facilities requiring discharge permits.

NVC MEPDES 301(h) discharge Permit ME0100901, issued 02/19/2025

- Flow Limited to a maximum of 63,000 gallons per day. Flow is recorded daily
- BOD Biological Oxygen Demand is limited to a monthly average daily limit of 107# and 203 mg/l and a minimum of 30% removal. BOD is sampled once a week
- TSS Total Suspended Solids are limited to a monthly average daily limit of 76# and 145 mg/l and a minimum of 50% removal. TSS is sampled once a week
- Fecal coliform bacteria are limited year-round to a monthly geomean of 14 cfu and a daily maximum of 31 cfu. Fecal coliform are sampled once a week
- Enterococci bacteria are limited April 15th October 31st to a monthly geomean of 8 cfu and a daily maximum of 54 cfu. Enterococci are sampled once a week in season
- TRC Total Residual Chlorine is limited to 0.3 mg/l. TRC is measured on-site daily

NVC MEPDES 301(h) discharge Permit ME0100901, issued 02/19/2025

- pH pH is a measure of the acidity/alkalinity of the wastewater. pH is limited to a range of 6.0 – 9.0 s.u., and is measured on-site daily
- Low Level Mercury is limited to a lifetime average of 33.4 ng/l and a daily maximum of 50.1 ng/l. Low level mercury is sampled once annually
- Due to the limitations of the design of the NVC treatment system, BOD and TSS
 % removal <u>is not</u> derived by comparing effluent composite samples to influent
 composite samples, as is typically the case. Instead, engineering table values are
 substituted for the influent concentrations. As currently constructed it would be
 very difficult to take a valid composite sample from the influent manhole structure.
 The default influent value for both BOD and TSS is 290 mg/l.

NVC MEPDES 301(h) discharge Permit ME0100901, issued 02/19/2025

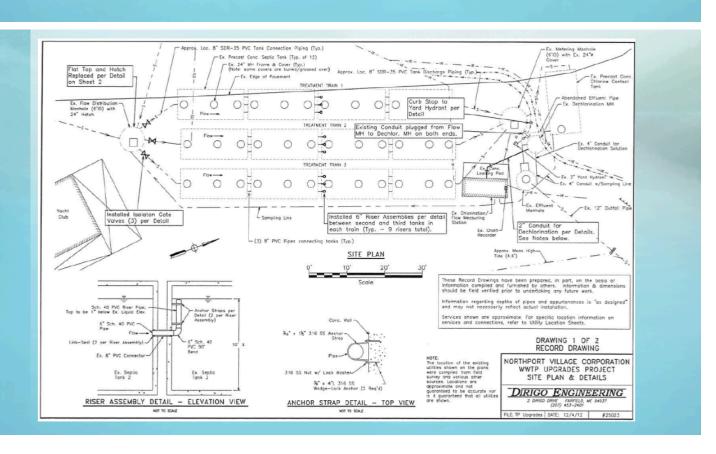
- The NVC primary treatment system consists of three lines "trains" of 4 x 8,000 gallon in-ground settling tanks, in parallel. There is a distribution chamber ahead of the settling tanks that contains weirs to the three trains; each channel has a shut-off valve that allows any combination of 0 3 trains to be operating at one time.
- Disinfection. Effluent from the trains flows over a weir (flow is measured and sodium hypochlorite is added here) in the chlorination chamber and into the 8,000 gallon chlorine contact tank. The dwell time in this tank allows the disinfectant to achieve or better the permit bacteria limits. Being a primary-only system requires a substantial addition of disinfectant to achieve the necessary "kill", typically 4 6 times per gallon more than what is normally required at a secondary plant.

NVC MEPDES 301(h) discharge Permit ME0100901, issued 02/19/2025

- Effluent Flow exits the chlorine contact tank and enters the "de-chlorination" manhole. Here it comes in contact with sodium bisulfite tablets, which chemically consume virtually all of the residual active hypochlorite. This is necessary to meet the permit Total Residual Chlorine limit.
- From here the effluent flows through one more manhole, and then out into Belfast Bay through a 760' 12" diameter HDPE pipe.
- Due to the sea level-related hydraulic discharge head, high tides often result in effluent backing up in the final manhole and the de-chlorination manhole. King tides and storm surges may further restrict the effluent flow, backing it up as far as the chlorine contact tank.

Four Critical Process Control Procedures!

- The three weirs and channels in the Influent chamber must be kept clear of obstructions, otherwise influent will not be effectively distributed across the three treatment trains. This is currently a manual task.
- Under most operating conditions, flow should be distributed evenly across the three trains to allow for maximum settling efficiency.
- Accumulated solids must be removed from the treatment train settling tanks before they have a chance to re-suspend during high flows, solubilize BOD or TSS back into suspension, or become septic.
- "Super" chlorination must be maintained to provide the necessary bacterial "kill" effect.





NVC Wastewater Treatment System





Headworks and Treatment Trains

Distribution chamber hatch in foreground, three parallel trains of 4 x 8,000 gallon in-ground settling tanks

Distribution Chamber Hatch Open





Interior of the Distribution Chamber

One weir plate, v-notched for each of the three channels to the treatment train settling tanks.

The weirs are prone to blockage!

Utility Building, Flow Measurement, Disinfection, Dechlorination

- Chemical storage, effluent sampler, flow meter readout, electronics and power distribution
- Effluent weir and hypochlorite addition chamber, square hatch
- Tablet dichlorination chamber, round hatch
- Emergency generator



Interior of the Effluent Flow Measurement and Hypochlorite Addition Chamber



- Hypochlorite solution added upstream of the v-notch weir
- Ultrasonic transducer continuously measures flow at the weir
- Disinfected effluent flows into the 8,000 gallon chlorine contact tank, then through the tablet dechlorinator and out to Belfast Bay

Interior of the Utility Building





Wastewater Treatment System User's "Code of Conduct"

- Only Flush Toilet Paper: Only toilet paper should be flushed down the toilet. Everything
 else including extinguished cigarette butts, cleaning wipes, baby wipes, facial tissue,
 paper towels, and feminine hygiene products (even if they are labeled flushable) should
 be tossed in the garbage.
- Reduce Water Usage: The less water and waste that goes into the sewer system, the better. Help us reduce consumption and support treatment capacity by doing things like turning off water while brushing and shaving, and limiting the duration of showers. Constantly leaking toilet tank float-controlled fill risers or tank drain flap valves can result in substantial discharges over time. At the discretion of the homeowner, residents may consider not flushing after every #1 use If you are going to leave your residence unoccupied for an extended length of time and your water supply is not connected to a heating/air conditioning or fire suppression system, consider shutting off your town water main line or well pump.
- Avoid Using the Garbage Disposal: Use of garbage disposals adds organic matter and solids that increase strain on the sewer and treatment system, leading to discharge violations. Even though they are designed for the homeowner's convenience, they should not be used to dispose of food waste into small community treatment systems or in private septic systems. Garbage should always be thrown out, or food waste composted, not washed down the drain. Dry scrape pots and dishes into a compost bin or trash container, as appropriate, prior to washing. Place a strainer in the sink drain to catch small food scraps, then empty into the trash or compost, as appropriate.

Wastewater Treatment System User's "Code of Conduct"

- Don't Wash Oils, Grease, Dairy Products, Grains, or Coffee Grounds Down the Drain: Fatty foods and cooking by-products harden inside pipes and create sewage backup. Don't run water over dishes or cookware to wash oil or grease down the sink. Instead, wipe them with a paper towel and throw the towel into compost. Never pour cooking oil, pan drippings, gravy, bacon grease, lard, shortening, butter, margarine, salad dressings, mayonnaise, creams, or sauces down the sink or toilet; again, please place this into compost. Dairy products contain fats that can congeal in pipes, and they add excess bacteria into our wastewater they should never be dumped down the drain. The same goes for grains (like pasta, noodles and rice), bones, and coffee grounds! In general, plant-based waste, fats, and oils are compostable, while animal-based wastes, fats, and oils are not.
- Never Pour Chemicals Down the Drain! Paints (including latex-based), fuels, chemicals, solvents, herbicides/pesticides, fertilizer, and other similar compounds should never be flushed down the drain or toilet. They should always be safely disposed of in the trash, at the transfer station or at a designated hazardous waste disposal site. Local communities such as Belfast, Camden, and Rockland may hold annual household hazardous waste days.

Wastewater Treatment System User's "Code of Conduct"

- Roof, foundation and cellar drains should not be connected to the sanitary sewer system; existing connections of this kind should be removed and re-routed. If the homeowner has connected washing machine drains or any other gray or blackwater discharges into a groundwater or stormwater conveyance, they need to be removed.
- Fuel oil storage tanks and appurtenances, indoors and outside: In a basement, fuel oil tanks, fuel lines, valves, and filter housings can leak, sometimes catastrophically. If fuel oil can reach a sump, drain or even cracks in the floor, and from there contaminate either the ground, a storm drain or a sanitary wastewater line, the environment, treatment plant, or both will be impacted. If placed close enough to the residence foundation, an outdoor tank leak or an over-fill event can permeate the foundation drainage.
- It is possible that some permanent (or even temporary) residents might undertake a hobby or cottage industry producing a discharge that could potentially impact the sanitary sewer or wastewater treatment plant more substantially than normal residential wastewater. Examples of such sources of "problem" wastewater include but are not limited to beer & wine making, bakeries, confectioners, dairy hobbies (ice cream, cheese, or yogurt making), fish, shellfish, or crustacean processing, commercial-scale food preparation, silk-screening, vehicle maintenance, and others. Residents who partake in these or other wastewater generating activities outside of the residential norm should contact Northport Village Corporation Utility management for a consultation on preferred disposal practices.

Your best economic and environmental strategy is

100 % Compliance 100% of the time!

NVC-WATER

Budget vs. Actuals

		TOTAL	
	ACTUAL	BUDGET	OVER BUDGET
Revenue			
4100 Water Revenue			
4200 Water Operating Revenue			
4210 Water Sales		40,250.01	-40,250.01
4220 Rate Increase		10,666.26	-10,666.26
4230 Water Service Fee Revenue		2,000.01	-2,000.01
4240 Hydrant Rental Revenue		1,569.75	-1,569.75
Total 4200 Water Operating Revenue		54,486.03	-54,486.03
4300 Water Non-operating Revenue			
4310 Interest Income		750.00	-750.00
4320 Interest on Loan Receivable Sewer		699.57	-699.57
Total 4300 Water Non-operating Revenue		1,449.57	-1,449.57
Total 4100 Water Revenue		55,935.60	-55,935.60
Total Revenue	\$0.00	\$55,935.60	\$ -55,935.60
Cost of Goods Sold			
5000 Cost of Goods Sold			
5100 Water Purchases	1,830.55	7,897.50	-6,066.95
Total 5000 Cost of Goods Sold	1,830.55	7,897.50	-6,066.95
Total Cost of Goods Sold	\$1,830.55	\$7,897.50	\$ -6,066.95
GROSS PROFIT	\$ -1,830.55	\$48,038.10	\$ -49,868.65
Expenditures			
6000 1099 Contractors			
6010 Casual Labor		750.00	-750.00
6036 Bookkeeping	728.31	2,210.01	-1,481.70
6047 Water Utilities Superintendent	1,561.76	4,884.99	-3,323.23
Total 6000 1099 Contractors	2,290.07	7,845.00	-5,554.93
6050 Auto Expenses			
6051 Auto Fuel Expense			
6053 Truck Fuel	76.85	249.99	-173.14
Total 6051 Auto Fuel Expense	76.85	249.99	-173.14
6055 Auto Repairs & Maintenance			
6057 Truck Maintenance	63.40	249.99	-186.59
Total 6055 Auto Repairs & Maintenance	63.40	249.99	-186.59
Total 6050 Auto Expenses	140.25	499.98	-359.73
6070 Employee Wages & Benefits			
6075 Employee Benefits			
6076 Company Paid Benefits	49.50	999.99	-950.49
6077 Income Protection Plan	106.18	249.99	-143.81
Total 6075 Employee Benefits	155.68	1,249.98	-1,094.30
6080 Employees Salaries & Wages			
6082 Distribution Officer Wages	1,877.00	9,999.99	-8,122.99

NVC-WATER

Budget vs. Actuals

		TOTAL	
	ACTUAL	BUDGET	OVER BUDGET
6082.5 Assistant DO Wages		1,875.00	-1,875.00
6084 Office Personnel Wages	2,091.47	4,524.99	-2,433.5
6084.50 Finance Manager		1,287.00	-1,287.00
6087 Utility Billing Wages	314.36	1,250.01	-935.65
Total 6080 Employees Salaries & Wages	4,282.83	18,936.99	-14,654.16
6095 Payroll Processing Fees	63.75	275.01	-211.26
6096 Payroll Tax Expense	349.29	1,353.75	-1,004.46
Total 6070 Employee Wages & Benefits	4,851.55	21,815.73	-16,964.18
6160 Insurance Paid			
6161 Property & Casualty Insurance		412.50	-412.50
6162 Workers Comp Insurance		249.99	-249.99
Total 6160 Insurance Paid		662.49	-662.49
6190 Legal & Professional Services			
6191 Auditing Services	5,197.95	2,750.01	2,447.94
Total 6190 Legal & Professional Services	5,197.95	2,750.01	2,447.94
6210 Licenses, Permits, & Fees		450.00	-450.00
6240 Membership Dues	234.30	75.00	159.30
6260 Office Supplies	196.10	425.01	-228.9
6285 Postage		375.00	-375.00
6305 Regulatory Fees		225.00	-225.00
6330 Repairs & Maintenance			
6331 Building Repairs & Maintenance	33.66	125.01	-91.35
6332 Cleaning	74.25	212.49	-138.24
6342 General Repairs & Maintenance	3.00	1,250.01	-1,247.0°
Total 6330 Repairs & Maintenance	110.91	1,587.51	-1,476.60
6345 Software	272.58	1,250.01	-977.43
6350 Supplies	62.94	1,250.01	-1,187.07
6400 Utilities			
6401 Electricity Expense	413.37	999.99	-586.62
6402 Oil/Propane	104.28	150.00	-45.72
6406 Telephone & Internet Expenses	50.40	150.00	-99.60
6407 Water & Sewer		300.00	-300.00
Total 6400 Utilities	568.05	1,599.99	-1,031.94
6500 Water Testing	30.00	200.01	-170.01
6700 Reserve Accrual - Loan from Sewer Interest		699.57	-699.57
6800 Bond Expenses			
6816 2013 MMBB Refinance Bond Principal		5,561.49	-5,561.49
6817 2013 MMBB Refinance Bond Interest		1,251.87	-1,251.87
Total 6800 Bond Expenses		6,813.36	-6,813.36
otal Expenditures	\$13,954.70	\$48,523.68	\$ -34,568.98
IET OPERATING REVENUE	\$ -15,785.25	\$ -485.58	\$ -15,299.67
Other Expenditures			

NVC-WATER

Budget vs. Actuals

		TOTAL	
	ACTUAL	BUDGET	OVER BUDGET
7100 Contingency Expenses		1,477.74	-1,477.74
Total Other Expenditures	\$0.00	\$1,477.74	\$ -1,477.74
NET OTHER REVENUE	\$0.00	\$ -1,477.74	\$1,477.74
NET REVENUE	\$ -15,785.25	\$ -1,963.32	\$ -13,821.93

NVC-Sewer

Budget vs. Actuals

	TOTAL				
	ACTUAL	BUDGET	OVER BUDGE		
Revenue					
4000 Revenue					
4400 Sewer Operating Revenue					
4410 Sewer Fees		316,050.00	-316,050.00		
Total 4400 Sewer Operating Revenue		316,050.00	-316,050.00		
4600 Sewer Non-operating Revenue					
4610 Interest Income		2,000.00	-2,000.0		
4620 Grants		45,000.00	-45,000.00		
Total 4600 Sewer Non-operating Revenue		47,000.00	-47,000.00		
Total 4000 Revenue		363,050.00	-363,050.00		
Total Revenue	\$0.00	\$363,050.00	\$ -363,050.00		
GROSS PROFIT	\$0.00	\$363,050.00	\$ -363,050.00		
Expenditures					
6000 1099 Contractors					
6010 Casual Labor		2,000.00	-2,000.00		
6036 Bookkeeping	728.31	8,840.00	-8,111.69		
6047 Sewer Utilities Superintendent	2,393.19	28,060.00	-25,666.8		
Total 6000 1099 Contractors	3,121.50	38,900.00	-35,778.5		
6050 Auto Expenses					
6051 Auto Fuel Expense					
6053 Truck Fuel	76.85	1,000.00	-923.1		
Total 6051 Auto Fuel Expense	76.85	1,000.00	-923.1		
6055 Auto Repairs & Maintenance					
6057 Truck Maintenance	22.49	1,000.00	-977.5		
Total 6055 Auto Repairs & Maintenance	22.49	1,000.00	-977.5		
6059 Accrue for Truck Replacement		2,000.00	-2,000.00		
Total 6050 Auto Expenses	99.34	4,000.00	-3,900.6		
6070 Employee Wages & Benefits					
6075 Employee Benefits					
6076 Company Paid Benefits	230.39	4,000.00	-3,769.61		
6077 Income Protection Plan	106.20	1,508.00	-1,401.80		
Total 6075 Employee Benefits	336.59	5,508.00	-5,171.4		
6080 Employees Salaries & Wages					
6081 Collection System Operator	1,084.60	10,400.00	-9,315.40		
6081.5 Assistant CSO		5,000.00	-5,000.0		
6084 Office Personnel Wages	2,091.47	18,100.00	-16,008.5		
6084.5 Finance Manager		5,150.00	-5,150.0		
6086 Treatment Plant Operator	4,348.70	34,500.00	-30,151.3		
6087 Utility Billing Wages	314.37	5,000.00	-4,685.63		
Total 6080 Employees Salaries & Wages	7,839.14	78,150.00	-70,310.86		
6095 Payroll Processing Fees	63.75	1,100.00	-1,036.25		

NVC-Sewer

Budget vs. Actuals

		TOTAL	
	ACTUAL	BUDGET	OVER BUDGET
6096 Payroll Tax Expense	746.28	6,370.00	-5,623.72
Total 6070 Employee Wages & Benefits	8,985.76	91,128.00	-82,142.24
S160 Insurance Paid			
6161 Property & Casualty Insurance		2,500.00	-2,500.00
6162 Workers Comp Insurance		1,300.00	-1,300.00
Total 6160 Insurance Paid		3,800.00	-3,800.00
6190 Legal & Professional Services			
6191 Auditing Services	4,526.68	9,000.00	-4,473.32
6192 Engineering Fees	\$1000000000000000000000000000000000000	45,000.00	-45,000.00
Total 6190 Legal & Professional Services	4,526.68	54,000.00	-49,473.32
S210 Licenses, Permits, & Fees		2,500.00	-2,500.00
5240 Membership Dues	234.30	300.00	-65.70
5260 Office Supplies	196.10	1,700.00	-1,503.90
6285 Postage		1,500.00	-1,500.00
6305 Regulatory Fees	1,293.84	1,500.00	-206.16
6330 Repairs & Maintenance			
6331 Building Repairs & Maintenance	33.66	500.00	-466.34
6332 Cleaning	74.25	850.00	-775.75
6335 Sludge Removal		50,000.00	-50,000.00
6337 Wharf & Floats Maintenance		2,500.00	-2,500.00
6342 General Repairs & Maintenance	4,747.20	17,000.00	-12,252.80
Total 6330 Repairs & Maintenance	4,855.11	70,850.00	-65,994.89
6345 Software	272.58	5,000.00	-4,727.42
6350 Supplies & Chemicals	519.42	12,000.00	-11,480.58
6400 Utilities			
6401 Electricity Expense	573.44	5,300.00	-4,726.56
6402 Oil	104.28	600.00	-495.72
6403 Hydrant Rental		150.00	-150.00
6404 Propane		500.00	-500.00
6406 Telephone & Internet Expenses	50.40	1,200.00	-1,149.60
6407 Water & Sewer		1,600.00	-1,600.00
Total 6400 Utilities	728.12	9,350.00	-8,621.88
6500 Water Testing	342.00	7,600.00	-7,258.00
6800 Bond Expenses			
6810 2008 MMBB Bond Principal		6,658.32	-6,658.32
6811 2008 MMBB Bond Interest		534.20	-534.20
6814 2012 MMBB Refinance Bond Principal		5,473.12	-5,473.12
6815 2012 MMBB Refinance Bond Interest		2,039.88	-2,039.88
6816 2013 BHBT Bond Principal		12,134.16	-12,134.16
6817 2013 BHBT Bond Interest		2,731.33	-2,731.33
6821 Loan Payment to Water - Principal		18,037.84	-18,037.84
6822 Loan Payment to Water - Interest		2,798.32	-2,798.32

NVC-Sewer

Budget vs. Actuals

	TOTAL		
	ACTUAL	BUDGET	OVER BUDGET
Total 6800 Bond Expenses		50,407.17	-50,407.17
Total Expenditures	\$25,174.75	\$354,535.17	\$ -329,360.42
NET OPERATING REVENUE	\$ -25,174.75	\$8,514.83	\$ -33,689.58
Other Expenditures			
7100 Contingency Expenses		4,054.00	-4,054.00
7300 Sewer Reserve Fund		7,200.00	-7,200.00
Total Other Expenditures	\$0.00	\$11,254.00	\$ -11,254.00
NET OTHER REVENUE	\$0.00	\$ -11,254.00	\$11,254.00
NET REVENUE	\$ -25,174.75	\$ -2,739.17	\$ -22,435.58