May Meeting of the NVC Utilities Committee

May 13, 2017

The meeting convened at 9 a.m. in the Community Hall

Present:
David Crofoot, Chairman; Richard Brockway, Judy Metcalf, Wendy Huntoon (by phone), Richard McElhaney, Superintendant.

The Minutes of the April 7th meeting were approved unanimously.

Financials: Wendy assured us that the error in reporting on line 6922 of the water budget has been corrected.

SUPERINTENDENT'S REPORT
NORTHPORT VILLAGE CORPORATION - UTILITIES DEPARTMENT

May 13, 2017

Sewer Department

March 2017 Effluent Monitoring Data

The NVC Wastewater Treatment Plant (WTP) was in full compliance with its wastewater discharge license in March. There were no license exceedances.

March flow averaged 9,016 gpd compared to 21,584 gpd in 2016. Daily flow ranged from a low of 3,700 gpd to a high of 32,100 gpd during the month. Precipitation for the month was 2.07" versus 4.04" in 2016.

TSS and BOD^5 averaged 1.2 lbs/day (12.4 mg/l) and 3.4 lbs/day (34.6 mg/l), respectively compared to 2.0 lbs /day (7.5 mg/l) and 5.4 lbs /day (21 mg/l) in March of 2016.

See performance table below for this month's comparisons, averages, year-to-date highs and lows, permit limits, and year-to-date (YTD) exceedances. Testing frequency is continuous for flow, weekly for TSS, BOD^5 and fecal coliform (May thru Sept), daily for pH and settleable solids (ss), and twice per day for total residual chlorine (May thru Sept).

Monthly Performance Table

Parameters	**March**	February	January	YTD Lo	YTD Hi	**YTD Ave**	2016 Ave	**DEP Monthly Limit**	**Exceed-ances**
Flow GPD	**9016**	9025	21174	9016	21174	**13071**	14713	**<63000**	0
Precip Inches	**2.07**	3.17	5.06	2.07	5.06	**3.44**	3.53	**n/a**	0
TSS lbs/day	**1.2**	0.6	2.0	0.6	2.0	**0.98**	2.7	**<76**	0
TSS mg/l	**12.4**	17.8	5.7	5.7	17.8	**12**	26.8	**<145**	0
BOD^5 lbs/day	**3.4**	1.1	5.1	1.1	5.1	**3.2**	7.6	**<107**	0
BOD^5 mg/l	**34.6**	37.3	16.4	16.4	37.3	**29.4**	77.1	**<203**	0
TSS% Removal	**95.7**	93.9	98.0	93.9	98.0	**95.9**	90.5	**>50**	0
BOD% Removal	**88.1**	87.2	94.4	87.2	94.4	**89.9**	73.8	**>30**	0
pH lo	**6.6**	6.7	6.6	6.6	6.7	**6.63**	6.75	**>6.0**	0
pH Hi	**6.9**	7.0	7.1	6.9	7.1	**7**	6.98	**<9.0**	0
S.S. ml/l	**<0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**Report**	0
TRC mg/l	**n/a**	n/a	n/a	n/a	n/a	n/a	0.02	**<.052**	0

F Col/100 ml	n/a	n/a	n/a	n/a	n/a	n/a	<1	**<15-ave**	0
F Col/100 ml	**n/a**	n/a	n/a	n/a	n/a	n/a	<1	**<50-max**	0

Note: The last exceedance for flow was ***131 months ago (2/2006).*** The last exceedance for fecal coliform was 52 ***months ago (8/2012).*** The last exceedance for BOD ***was 29 months ago (9/2014).***

April 2017 Snapshot

The NVC WTP will be in full compliance with its license limits in April pending the DEP's completed review of the NVC's discharge monitoring report. Flow during the month averaged 18,900 gpd. The report for precipitation as measured by the Belfast Water District (BWD) at their Little River Station was ~~2.07~~ inches.

Settling Tanks

Moore's Septic has pumped out the settled solids in the first two chambers of the No. 3 treatment train that was in service over the winter months. Moore's also vacuumed out the grit that had accumulated over the winter inside the headworks and cleaned the chlorine contact chamber and de-chlorination manhole. No issues with any of the tanks or chambers were noted. The tanks are pumped out twice per year in the spring and fall. The No. 1 and No. 2 treatment trains are now in service for the more-heavily-populated, summer season and preparations are under way to bring the chlorination and de-chlorination system on line for the May 15 start-up. The effluent is disinfected in the summer months to protect the public from contracting waterborne diseases.

Drinking Water

March 2017 Usage and Water Quality

Water consumption for March averaged 10,604 gpd compared to 11,905 gpd in 2016.

The average weekly chlorine residual in the drinking water was .21 ppm/Cl^2 compared to the recommended goal of >.20 to <1.0 ppm/Cl^2. The EPA maximum concentration level (MCL) is 4.0 ppm. The monthly total and e-coliform water sample test results were negative.

The annual test result for nitrate nitrogen on a drinking water sample taken at the Belfast interconnection on April 21, 2017 was 0.51 mg/l. The EPA MCL is less than 10.0 mg/l for nitrate nitrogen.

Dirigo Engineering – Fire Hydrant Flow Analysis

As a result of the construction work that was completed a few years ago by the Belfast Water District (BWD) to replace and increase the pipe size of their Route #1 water main, the original 1998 NVC hydraulic analysis that was used to predict existing and future fire hydrant flows in the Village, is no longer valid. Therefore, a new analysis should be conducted. The BWD's Route #1 water main is the source of water for the NVC water distribution network.

In the original 1998 analysis, the expected hydrant flow at the school was 300-500 gpm. This compares to an actual 2016 flow test result of 995 gpm for this same hydrant. Obviously something in the hydraulics of the NVC water system had changed and was exposed with the results of this hydrant flow test. This test was performed by engineers in order to design the school's new sprinkler system. Clearly the upgrade to the BWD water main has more than doubled the flow capacity of the NVC water distribution system.

Accordingly, in order to more accurately calculate potential flows at a couple of "key points" in the core of the Village, a new hydraulic analysis of the water distribution system should be performed before the Village commits to purchasing and installing any new hydrants on the public water system in the core of the Village. A copy of Dirigo Engineering's cost proposal to conduct this study has been submitted to the Utility Trustees and Board of Overseers under separate cover. While the cost of this engineering was not anticipated in the 2017 water budget, there should be a sufficient amount of money in the contingencies account to more than cover this cost.

Discussion:

The performance of the sewer treatment plant continues to be excellent and allows us to operate within the parameters and limits of our license. The settling tanks of the treatment plant have been pumped and the seasonal chlorination has begun with no problems to report.

Dick McElhaney reported that all but a few of the seasonal water services and water meters have been installed and turned on.
An application for water connection has been received from the former Dos Amigos restaurant that is currently undergoing rehabilitation. This will make our 324th customer and the fourth commercial customer. They will have a two-inch line installed.
There have been several conversions from seasonal to year-round deep water. Three more customers are anticipated on Bluff Road, Cobe Road, and Shore Road for new houses that are under construction.

Chairman Crofoot enquired whether the current hours and availability of Amy are sufficient to meet the requirements of the job. Her hours have been variable due to her second job. When she is here, constant phone ringing may make it difficult to fulfill some of her duties. All members were very complimentary of her abilities. She has moved from a winter schedule of 12 hours a week to a summer schedule of 24 hours a week as of May 1. Demands on her time ramp up significantly at the beginning of April as customers start to enquire about water turn on. The Trustees requested that the Overseers enquire of Amy whether 24 hours per week is adequate for the jobs at hand, and whether the move to summer hours should begin 2-4 weeks earlier. They would also like to be able to guarantee a regular schedule of availability and a means to publish the hours when the Village office is open.

The issue of installation of a fire hydrant in the central village has become an area of consideration because recent testing during installation of the school's sprinkler system showed that the gallons per minute (gpm) flow was considerably higher than it had been in the past. This is due to upgrades by the Belfast Water District to their transmission lines down to Little River. Instead of flows in the range of 300-500 gpm, flow was measured at 995 gpm while maintaining a residual internal pressure of 35 PSI.

This encouraged Supt. McElhaney to consider the possibility of installation of one or more fire hydrants in the core village. The water mains from the 1998 water upgrade project foresaw this possible need and there are available stubs for hydrant installation at the corner of Broadway and Park Row and at Blaisdell Park.

Supt. McElhaney suggested that the Utilities Committee engage Dirigo Engineering to perform an engineering study to confirm the feasibility of hydrant installation at an estimated cost of $2000. Although this item is not included in our budget, there are contingency funds available both for the study and for installation of one (or two) hydrants if appropriate.

Moved by Metcalf and seconded by Crofoot: To approve expenditure of @$2000 for the Dirigo engineering study. Passed 4:0.

Moved by Brockway and seconded by Metcalf: To investigate and pursue installation of at least one fire hydrant at the corner of Broadway and Park Row based on the findings of the engineering study. The cost of purchase and installation of one hydrant is estimated at $7000 or less. This would be installed at the expense of the Water Utility. Payment of the hydrant rental fee would be by the NVC General Government. The annual hydrant rental is $897.00 annually. Installation of at least one hydrant could be completed this year. Hydrant rental would need to be included in the general government budget for 2018. Whether to install a second hydrant at Blaisdell Park would be at the discretion of the Utilities Committee and the NVC Overseers.

Selection of an At-large Trustee of the Utilities Committee to replace Denis Wang:

The Trustees recommend to the NVC that Gordon Fuller be appointed to fill this post. He is a year-round residence with extensive experience in NVC who has indicated his willingness to accept this post.

The next meeting of the Utilities Committee will be on June 16 at 2:30 pm.

The meeting adjourned at 10:15 am.

Respectfully submitted,

David D. Crofoot