

## **REPORT OF THE KENNEBUNK SEWER DISTRICT**

The Kennebunk Sewer District (KSD) is a quasi-municipal entity that was incorporated by an act of the Maine State Legislature in 1955. Office hours are between 7:30 a.m. and 4:00 p.m. Monday through Friday. The District is governed by an elected five person Board of Trustees serving staggered three-year terms. The Board normally meets at 7:00 p.m. on the first Tuesday of each month at the District offices located at 71 Water Street in Kennebunk. For more information on the District, please visit our website at [www.ksdistrict.org](http://www.ksdistrict.org).

The following report briefly summarizes several areas of the District's administrative and operational accomplishments over the past year based on information collected over the course of 2012. For some of these categories, the goals and projections for the year 2013 and beyond are included.

### **ADMINISTRATION**

#### **Billing**

For the four quarters of 2012 the following amounts were billed to the customers of the KSD:

<b>Quarter</b>	<b>Billed</b>	<b>Collected</b>	<b>% Collected</b>
1st Quarter	534,777	502,373	94 %
2nd Quarter	534,835	582,794	109 %
3rd Quarter	534,171	530,420	100 %
4th Quarter	537,013	511,736	95 %
<b>TOTALS</b>	<b>2,140,796</b>	<b>2,127,323</b>	<b>99.5 %</b>

#### **Liens**

55 liens for a total of \$ 41,614.33 were filed for delinquent customers on their 2011 charges. The number of delinquent accounts with 2010 and prior liens presently stands at 14 with a total outstanding balance of \$5,556.80.

#### **Impact Fees**

In April 2010, the District moved to an Equity Buy In Fee from the Facility Impact Fee. For 2012, 23 Equity Buy In Fees have been collected by KSD for a total of \$ 93,659.41. This compares with 22 Equity Buy In and Impact fees collected in 2011 and a total of \$ 92,103.87 received for the same period. Currently the District has a balance of \$1,459,971.76 in

various impact fee accounts. The Equity Buy In Fee (EBIF) account balance is presently \$175,407.00. Below is a summary of impact fees (and EBIF) collected in the past 10 years.

<b>Year</b>	<b>EBIF/Impact Fees</b>	<b>Total Collected</b>
2012	23	\$ 93,659.41
2011	22	\$ 92,103.57
2010	27	\$ 77,256.63
2009	29	\$ 133,785.69
2008	19	\$ 39,673.05
2007	45	\$ 241,635.93
2006	31	\$ 120,457.18
2005	31	\$ 122,843.30
2004	31	\$ 91,784.12
2003	71	\$ 212,128.51
<b>10 Year Totals</b>	<b>329</b>	<b>\$ 1,225,327.39</b>

**Reserve Accounts** - balances as of 12/31/12

- Capital Reserve Account - \$ 1,171,810.28

#### **Sewer Permits and New Customers**

In 2012, 19 sewer connection permits have been issued and approximately 19 accounts have been added to our customer base. This compares with 10 and 14 respectively for the same period in 2011.

#### **2013 Budget**

The 2013 budget is expected to increase approximately 8.5% over the 2012 budget of \$2,157,030. The majority of the projected increase will be due to the additional funding of the Capital Reserve account by \$150,000. The reason for the increase to the Capital Reserve account is to meet our short term capital investment needs (5 year) at the facility and the collection systems. In the short term, debt payments for the next few years should hold steady while operating and administrative expense will rise to keep pace with annual inflation costs.

### **OPERATIONS**

#### **Biosolids Production and Disposal**

In 2012 the Kennebunk Sewer District has produced approximately 925 cubic yards of de-watered sludge. A new contract with Soil Preparation Inc. (SPI) for the handling of all KSD biosolids began in July 2012 and

will extend for the next 5 years. In 2013, KSD expects to produce between 900 and 1000 yds<sup>3</sup> of sludge. This projects a slight increase due to the chemicals being added to the system to enhance the plant's treatment performance. In 2012, KSD did not receive any septage.

**I&I Program**

For more than 20 years, the District has focused on removing as much clean water that enters its collection system as is economically feasible. Technically known as infiltration and inflow or I&I, this excess clean water robs capacity from the collection systems and treatment facility. Annually, KSD targets areas within its collection system that will be repaired or replaced to remove additional I&I. As part of our regular maintenance program, KSD continues to televise old sewer lines to assess their condition. Several of the old vitrified clay lines and asbestos cement pipes were televised prior to the Town's improvement projects. The lines that were determined to be in poor condition were in the Lower Village, Brown Street, and High Street. KSD is working in conjunction with the Town on these infrastructure upgrade projects and will be replacing the failing lines ahead of the Town's project.

The reduction efforts have decreased the number of bypass events at the treatment facility. For 2012, KSD bypassed high storm water flows to the storm bypass clarifier 4 times. During extreme storm events the stormwater receives primary treatment, is disinfected and dechlorinated prior to discharge to the Mousam River. Below is a table of KSD bypasses over the past several years. The rainfall of 41.5 inches for 2012 is wetter than the average of 37.1 inches. Below is the stormwater bypass frequency for the past 10 years.

Year	Number of Bypasses
2012	4
2011	2
2010	19
2009	3
2008	6
2007	5
2006	6
2005	20
2004	1
2003	0

### **Treatment Plant**

For 2012, KSD treated 243 million gallons of water for a daily average of .665 million gallons per day (mgd) compared to 278 million gallons of water for a daily average of .762 million gallons per day (mgd) for the same time period last year. In order to meet our nutrient discharge limits, the facility modified the treatment process through process changes and chemical addition. While the modified process has allowed the plant to treat the wastewater to a higher level, the plant is now limited on the organic loadings that it is capable of treating. Functionally, the plant is currently operating at 85% of its capacity with the organic loadings being the limiting factor. The district will need to work closely with the town and the Maine DEP to look at additional capacity to meet new effluent discharge limits and to accommodate growth within the town.

### **Design Review and Inspection Monitoring of Developments**

The Kennebunk Sewer District customer base growth has slowed during 2011 and 2012 to less than 1%. This represents a decrease from the historical growth rate of 2% per year. For the upcoming year, a 1% growth for rate is projected. Large scale commercial development and multiple housing projects have slowed as compared with previous years. However, there has been a spike of smaller commercial projects being proposed, mainly in the lower Village area. Those developments/projects reviewed and/or inspected in 2012 were:

1. **Norway Savings Bank** – This bank built a new branch on a lot across Route 1 from the Shops at Longbank (Hannaford, Sebago Brewing, etc.). KSD inspected the construction of the sewer line across Route 1 and on the property.
2. **Chamberlain Commons** – KSD reviewed revised plans for this development. The first set of condominiums was built a few years ago and the developer submitted plans for a second set to be built in 2012 and 2013.
3. **Cedarwood Farms, Phase 2** – KSD has reviewed the developer's plans for phase 2, which extends the development to High Street. Construction of phase 2 is slated for 2013.

### **2012 Capital Improvement Projects**

The following summary of the capital improvement projects that were started and/or completed in 2012 are listed below:

1. **Western Avenue/Lower Village Improvement Project -**

This project was a collaborative effort between the Town of Kennebunk and KSD. KSD and the Town agreed to put the combined project out to bid so that one contractor would do both the sewer rehabilitation and the infrastructure improvements. By using one contractor to do both activities, the Town and KSD compressed the overall project schedule.

Gorham Sand & Gravel (GSG) started sewer rehabilitation work in April at the Shipyard. Because of this high traffic area, KSD and GSG worked overnight to minimize impacts to the businesses at the Shipyard during the first week. There were many challenges faced and overcome in this tight business corridor. Despite these challenges, GSG successfully completed the sewer main portion of the project by the end of May. KSD's portion of the project cost \$256,000.

2. **Berry Court Pump Station Upgrade Summary -** This pump station was built in 1960 as one of the original seven pump stations. The pump station included two pumps in an 8-foot diameter wetwell at the end of Berry Court by the Mousam River. Berry Court Pump Station has joined the 21<sup>st</sup> century. Until now, when a clogged pump needed to be pulled for cleaning, KSD had to mobilize the confined space entry equipment, enter the wetwell, and retrieve the pump. From now on, KSD can easily remove the pumps from ground level for maintenance.

KSD hired *Stevens Electric and Pump Service* and *Brex Corporation* to remove and replace the old pumps and piping, replace the controls, connect the pump station to KSD's new alarm system, and install a valve pit. The valve pit is a dry underground tank that allows KSD operators to isolate the pumps for maintenance without having to enter the wetwell. Stevens Electric, Brex, and A-1 completed the week-long upgrade project in August 2012. This is another successful

project that BREX, Stevens Electric and KSD have collaborated upon. Total cost for the upgrade was \$83,000.

3. **Deertrees Pump Station Upgrade** – KSD completed this upgrade in December using in-house personnel only. Because this pump station already had a valve pit, KSD decided to tackle the project using our crew. By using in-house personnel, KSD minimized capital outlay at the end of the year foregoing mechanical and electrical contracting costs. KSD personnel replaced the pumps and rail system and installed new controls. The process took a bit longer than the Berry Court upgrade, because KSD had to work the project around regular operations and maintenance. However, the reduced cost made the effort worthwhile. Final electrical work will be done in the spring of 2013. Project cost was \$41,740.
4. **Grit Screw** – KSD had to replace this 27-year old piece of equipment. The original grit screw was installed during the 1985 plant upgrade. This screw conveyor removes grit, such as sand and eggshell, which settles out at the beginning of treatment process. After the original grit screw broke, KSD hired Johnson and Jordan to install the replacement. The final cost of this pop-up project was \$20,023.
5. **Manhole at Hillcrest** – KSD hired Brex Corporation to install a new manhole in the sewer main that runs through the Hillcrest condominiums development. KSD installed the manhole in this long sewer run to facilitate maintenance and cleaning of the pipe. Project cost was \$8,800.
6. **Miscellaneous Plant Projects** – KSD undertook several projects to update equipment and buildings at the wastewater treatment plant. These updates included replacing the upper roof on the Control Building, replacing inside and outside doors, replacing piping, valves, and controls to improve process flow and process control.
7. **HVAC Upgrade** KSD has replaced a heating and ventilation unit atop the electrical room in the Process Building. We are working with Harriman Associates to improve HVAC in the RBC Building and in the Front Office. Harriman has completed the design for new coils and duct modifications in

the RBC Building. They are also working with KSD on designing a new system for the Front Office. Over the years the Front Office has been plagued with odors from adjacent process areas. The HVAC system in the Control Building has been upgraded several times and there have been improvements in the Front Office. However, odors still persist and the AC unit is too small to properly ventilate and cool the space. HVAC construction in these areas is slated for spring of 2013.

**2013 PROPOSED CAPITAL IMPROVEMENTS**

The following table lists capital improvements proposed for 2013:

<b>Project</b>	<b>Location</b>	<b>Cost</b>
Office and Lab Improvements	Water Street Office	\$2,850
Communications & Plant Improvements	Water Street Facility	\$242,980
Vehicle Replacement	Utility Body	\$40,000
High and Brown Street Sewer Rehabilitation	High & Brown	\$650,000
Collection System Investigation	Various Locations	\$15,000
Pump Station Improvements	Various Locations	\$128,000
<b>TOTAL</b>		<b>\$1,078,830</b>

**ON-GOING ISSUES/PROJECTS**

**HVAC ISSUES**

In 2012, KSD continued to work with Harriman & Associates to correct longstanding HVAC issues. We are currently in the design phase to correct deficiencies with two systems. The first is for the office areas of the Control Building. Odor control and comfort are the goals for this project. Plans are not final, but our understanding is that the project will include eliminating odor infiltration by blocking paths between office and process areas, increasing air supply and the replacement of the existing AC-1 unit with a larger HVAC unit. The

second system is dedicated for the RBC Building. New heat recapture coils will be installed and modifications to the ducting will be made to increase air flow volume and the overall performance of the air handling unit.

#### **District MEPDES License for the Water Street Facility**

In 2011, the District's discharge license was renewed with the State of Maine. It was a relatively easy and smooth process that resulted in KSD's new permit being issued on September 12, 2011. The 5 year license will be up for renewal in 2016.

In the near future, regulatory agencies are planning to implement permits that will have more stringent nutrient discharge limits for all permit holders that discharge to fresh and marine waters. Based on a recent report from the District's consultant, Underwood Engineering, the Wastewater Treatment Facility is approaching the organic loading capacity of the facility and is currently operating at 85% of design. The District will begin planning for the next upgrade in 2014 after the ME DEP develops new effluent nutrient limits. KSD will develop plans that will consider an increase in hydraulic capacity and the capability to meet more stringent nutrient limits that will be part of its next license.

#### **Conclusion**

In 2012, the district completed significant capital improvements at the plant and collection system. In particular the sewer replacement along Western Avenue that was part of the Town's beautification project. The project had many coordination challenges but successfully upgraded the sewers in the area and the Town's roads and sidewalks.

Next year, the KSD will be working with the Town to upgrade infrastructure on High Street and Brown Streets. The project will be a continuation of the Town's downtown infrastructure improvement project and the district will be replacing century old clay lines ahead of the road and sidewalk work by the town.

For the second consecutive year, ammonia limits were attained throughout the seasonal permit period of 2012. This was preceded by 5 years of being in violation for a month or more during the seasonal discharge limit period. Meeting those standards has been a major



accomplishment for the District and credit should be given to the Staff for their diligent oversight.

Respectfully submitted,

**Board of Trustees of the Kennebunk Sewer District**

John E. Price III, **Chair**  
Mark K. Allenwood, **Vice Chair**  
Robert J. DiCarlo, **Treasurer**  
Nicholas C. Branchina, **Clerk**  
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