OFFICE OF COMMUNITY DEVELOPMENT
TOWN OF BELMONT
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December 13, 2017

Todd Borci
US EPA Region 1 – New England
5 Post Office Square – Suite 100
Boston, MA 02109-3912

Re: Town of Belmont Capacity, Management, Operation, and Maintenance (CMOM) Program Self-Assessment - CWA-AO-R01-FY17-11

Dear Mr. Borci:

Section IV, part 10 of the Order for Compliance on Consent signed by the Town of Belmont and the U.S. Environmental Protection Agency, CWA-AO-R01-FY17-11, requires the submittal of a Capacity, Management, Operation, and Maintenance (CMOM) Program Self-Assessment by December 31, 2017.

The following is specifically required:

Item a – An inventory of the Collection System that characterizes the age, condition, type of construction, and operation of each element where such information exists and provides for further assessment where warranted;

Attached as Appendix A is a section of the 2016 Town of Belmont Asset Management Plan prepared by Stantec. Age, condition, and type of construction are provided for both the sanitary sewer and the storm drain systems. There have been no obvious operational issues with the system. Investment in Infiltration and Inflow (I/I) removal has resulted in no surcharging of sewer mains for at least the past 6 years. In 2011 a $6 Million sewer overflow mitigation project was completed in the Winn Brook area of Belmont. This project mitigates I/I impacts to this neighborhood by rerouting sewer flow around the neighborhood during certain, monitored rain events. An I/I removal component was also included in the project.

Item b – An assessment of the capacity of critical elements of the Collection System:

A narrative addressing the assessment of the capacity of critical elements is attached as Appendix B

Item c – An assessment of the Town's current operation and maintenance practices, all of which shall comprise the "CMOM Program Self-Assessment." Also, the Town shall complete and

submit EPA Region 1's "Wastewater Collection System CMOM Program Self-Assessment Checklist."

A CMOM Program Self-Assessment narrative and checklist are attached as Appendix C.

The CMOM Program Self-Assessment shall include an assessment of the Town's Fats, Oils, and Grease ("FOG") Program.

The Town of Belmont Board of Health Rules and Regulations Regarding Grease Interceptor Requirements and the Management of Fats, Oils, And Grease in Food Service Establishments (FOG Program) are presented in Appendix D.

Please feel free to contact me if you require additional information regarding this matter.

Sincerely,

Glenn R. Clancy, P.E.
Director

APPENDIX A

3.2 SANITARY SEWER CONDITIONS

Material and Current PCI:

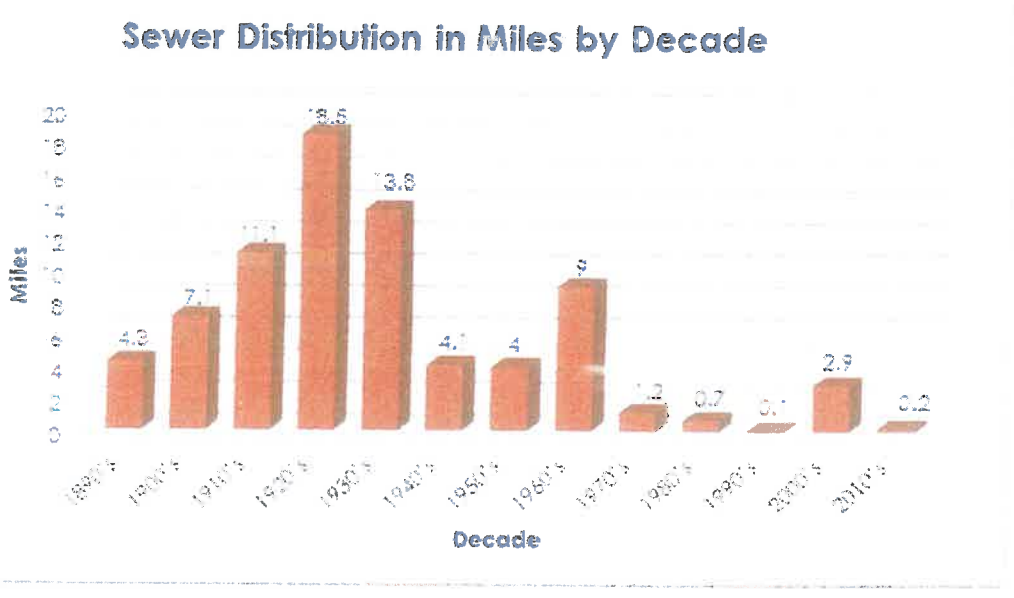
There are 2,430 sewer main segments in Belmont that span roughly 77 miles. The Town's sewer system is approximately 95% vitrified clay (VCP). The remainder of the system comprises of 3.6% polyvinyl chloride (PVC), 0.7% reinforced concrete (RC), 0.4% AC and 0.4% CI.

To date, only 52% of the entire sewer system has been inspected, leaving 48% of the remainder without a rating. As was discussed previously, sewer age and pipe material were used to decide the condition rating of these segments based on the deterioration curves constructed. The calculated weighted average PCI for the overall sewer system is 61.5.

Distribution of Pipes by Age:

Based on the fact that the dominant material (VCP) is an older pipe material, it's unsurprising that the average age of construction of all sewer main segments is 83 years old (average construction year of 1933). A breakdown of sewer original construction date can be seen in the table below.

Figure 5
Sewer Distribution in Miles by Decade



Several of these pipes have regained life over the years through rehabilitation. Since 1994, approximately 22% of all current existing sewers have been lined, while 3.4% have been tested & sealed, 2.2% have been replaced, and 0.7% have had point repairs. Rehabilitated pipes were given an improved PCI score relative to the repair, as shown in Table 6 below.

Current Sewer Main Backlog:

The table below depicts the basis for the current sewer system backlog.

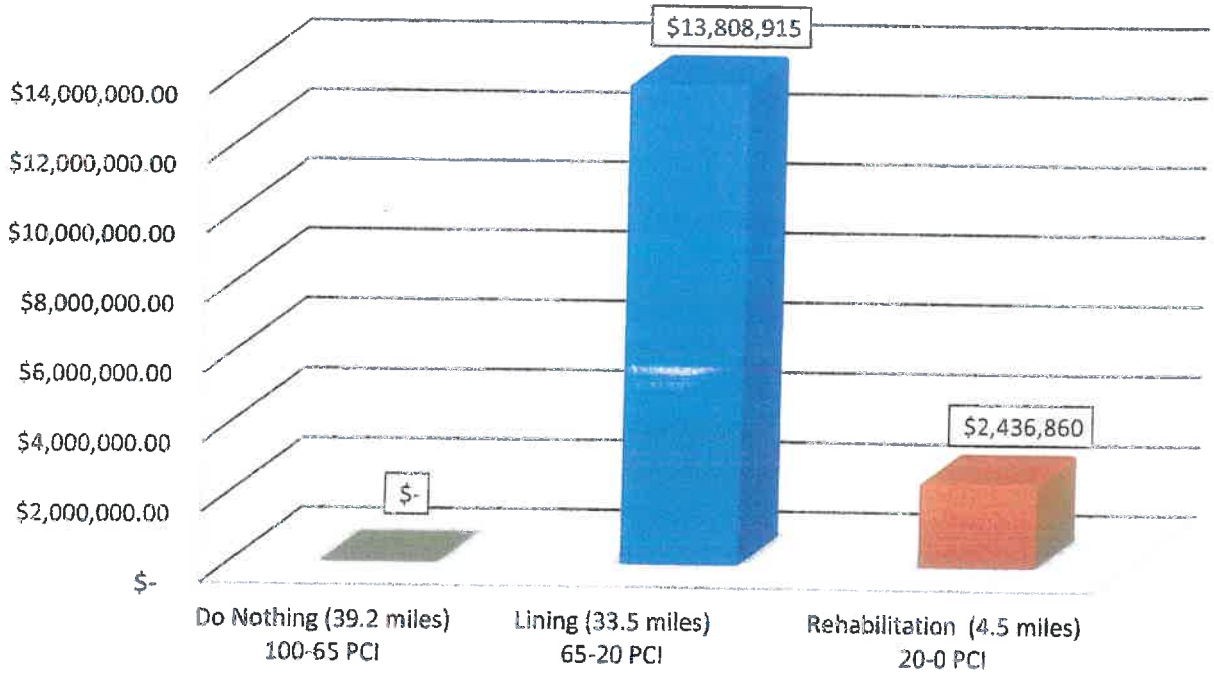
Table 6
Belmont Sanitary Sewer Backlog Costs

	6" – 12"	15" – 21"	24" – 48"	Improved PCI
Replacement/Lining (per LF)*	$100	$130	$255	95
Lining (per LF)	$60	$80	$175	90
Nothing	N/A	N/A	N/A	

* The exact method of replacement/lining will be determined upon inspection of the pipe segment. Base on Stantec's knowledge of Belmont's sewer system the LF cost for Replacement/Lining was prorated with 75% lining and 25% replacement.

As of June 2016, the current backlog for Belmont's sewer system is **$16,245,775.** See Appendix B for the map of backlog conditions within the Town.

Figure 6
Sanitary Sewer Backlog by Treatment Band



3.3 STORM DRAIN CONDITIONS

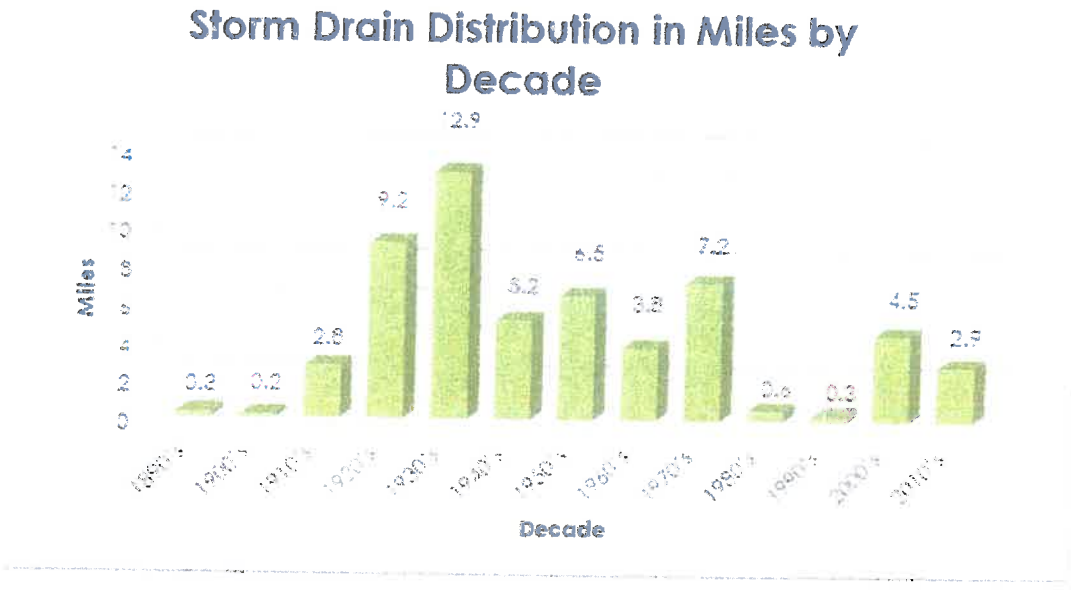
Material and Current PCI:

Belmont's has 1,350 storm drain mainline segments totaling nearly 56 miles, of which approximately 93% is VCP. The remainder of the system comprises of 2.8% RC, 1.6% PVC, 1.2% asphalt coated corrugated metal (ACCM), 0.2% stone, and less than 0.1% of both DI and high density polyethylene (HDPE). The calculated weighted average PCI for the overall storm drain system is 58.5.

Distribution of Pipes by Age:

Similar to its sewer system, Belmont's storm drain system is older than most other community's systems. However, its average pipe age (since date of original construction) of 64 years is noticeably less than that of the sewer system. A breakdown by decade of storm drain pipe age since original construction can be seen below.

Figure 7
Storm Drain Distribution in Miles by Decade



Belmont's storm drain has also been rehabilitated over the years, but at a noticeably lesser frequency than the sewer system's rehabilitation. Since 1994, approximately 6.6% of all current existing sewers have been lined, 0.8% have been replaced and 4.6% have had point repairs. Similar to the sanitary sewer system, any repair completed resulted in an improved PCI.

Current Drain Line Backlog:

The table below depicts the basis for the current storm drain system backlog.

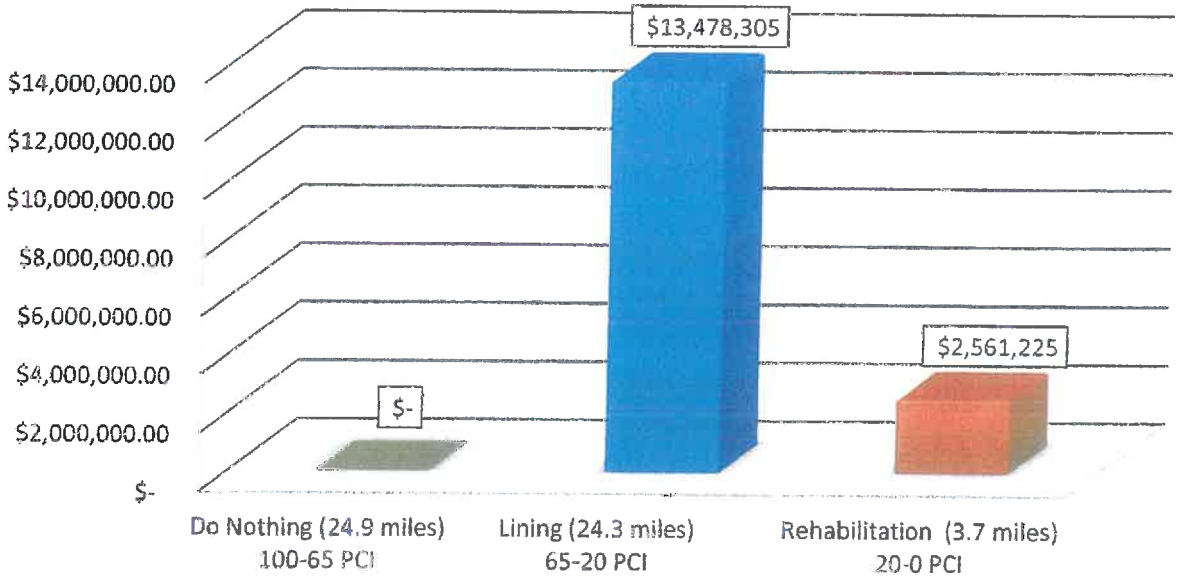
Table 7
Belmont Storm Drain Backlog Costs

	6" – 12"	15" – 21"	24" – 48"	Improved PCI
Replacement/Lining (per LF)*	$90	$140	$275	95
Lining (per LF)	$55	$90	$200	90
Nothing	N/A	N/A	N/A	

* The exact method of replacement/lining will be determined upon inspection of the pipe segment. Base on Stantec's knowledge of Belmont's storm drain system the LF cost for Replacement/Lining was prorated with 75% lining and 25% replacement.

As of June 2016, the current backlog for Belmont's storm drain system is **$16,039,530.** See Appendix C for the map of backlog conditions within the Town.

Figure 8
Storm Drain Backlog by Treatment Band



APPENDIX B

Appendix B

Assessment of Critical Elements

An InfoWorks sewer system model was developed in 2006 by importing GIS data. Subcatchment areas tributary to manholes were identified in the sanitary sewer network. Using InfoWorks and the Massachusetts GIS website population database (2000 US Census), wastewater flow was proportioned to each subcatchment area.

A comprehensive continuous flow monitoring program was conducted in 2007. Twenty (20) flow monitors were utilized in accordance with DEP's "Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Survey", revised January 1993. The continuous flow monitoring data was imported into the sanitary sewer model to individually calibrate model predicted flow from each major area under multiple flow conditions.

The May 2006 "Mother's Day" storm data was used to predict flooding during a large storm event. The model predicted flooding under surcharged conditions occurred at 17 locations, with 4.0 MG of total overflow. With free discharge from MWRA interceptors, the model predicted flooding occurred at 5 locations with 2.4 MG of overflow. These results indicated that extraneous flow from within Belmont and the backwater effect from the MWRA system were relatively equal contributors to potential sanitary sewer backups in the sewer system.

The "Winn's Brook Area Sewer Overflow Mitigation" project was completed in 2011 and eliminated 6 of the potential flooding locations. Additionally, the town has completed numerous sewer rehabilitation and infiltration/inflow reduction projects throughout the town, which have significantly reduced potential sanitary sewer overflows.

APPENDIX C

APPENDIX C

Town of Belmont
Capacity, Management, Operation, and Maintenance (CMOM)
Program Assessment

Budgeting

All costs associated with the operation and maintenance of the sanitary sewer system, including three sewer pump stations, are contained in the Department of Public Works (DPW) Sewer Enterprise Fund. This operating budget includes funding for the labor, equipment, and materials required to operate and maintain the system.

The budget includes capital funds used by the Office of Community Development for major sewer rehabilitation including replacement and relining of mains and services. Capital funding for the replacement of DPW trucks as well as debt service payments for borrowings made for large rehabilitation projects is also included in the budget. A five year capital plan is prepared annually and resented to the Capital Budget Committee for review and comment.

The budget is reviewed annually by DPW and adjusted as needed to ensure there is adequate funding to meet the needs of the system. Monthly monitoring of the budget occurs in order to confirm that adequate funds remain available throughout the budget year.

The Sewer Enterprise Fund is funded through sewer and water user fees established annually by the Board of Selectmen and approved by Annual Town Meeting. Annual user fees are determined by a consulting firm utilizing system and user data. The current fiscal year budget can be found in Attachment A.

System Monitoring

The Office of Community Development performs periodic storm water quality monitoring in order to:

- Monitor discharges into the sewer collection system from industrial users
- Determine the effects of Sanitary Sewer Overflows on receiving waters
- Meet requirements as part of an NPDES permit, a 308 letter, administrative order, or consent decree

Sampling is performed under an Illicit Discharge and Elimination Plan (IDDE) approved by the Environmental Protection Agency (EPA). The IDDE plan is implemented by an engineering consultant experienced with sampling monitoring sewer systems. A copy of a recent IDDE Plan is included in Appendix B.

Hydrogen Sulfide Monitoring and Control

The Department of Public Works performs regular routine maintenance on the sanitary sewer system. The system has never exhibited evidence of the presence of Hydrogen Sulfide. Manholes do not exhibit the effects of hydrogen sulfide and hydrogen sulfide related odors are not present.

Areas of the system with low slope are flushed regularly. Sewer pump stations are inspected monthly and any operational issues are immediately addressed or referred to an independent contractor for service.

Of the 77 miles of sanitary sewer main there is approximately .54 miles of reinforced concrete sewer main. These segments exhibit no signs of the presence of hydrogen sulfide

Safety

All Department of Public Works employees attend the MWRA confined space training. In addition, Supervisory employees attend Bay State Roads training programs when applicable. A DPW vehicle is fully stocked with safety equipment. The following equipment is available to all personnel maintaining the sewer system:

- Atmospheric gas testing equipment
- Full body harness
- Tripods or non-entry rescue equipment
- Hard hats
- Safety glasses
- Rubber boots
- Rubber and/or disposable gloves
- Antibacterial soap
- First aid kit
- Protective clothing
- Confined space ventilation equipment
- Traffic and/or public access control equipment
- Fiberglass and/or wooden ladders
- Hazardous gas meter

Emergency Preparedness and Response

Emergency calls that occur off hours are taken by the Belmont Police Department who then notifies the DPW on-call supervisor. The supervisor then assembles a response crew that may include a mechanic if a sewer pump station is in need of attention.

The supervisor is experienced with resolving collection system issues. Support crews are directed by supervisory staff on how to resolve issues

System Modeling

The Office of Community Development – Engineering Division utilizes the InfoWorks modeling software. The software is administered by Stantec Consulting Services, Inc. The InfoWorks software was chosen because the City of Cambridge and the MWRA both use the same application.

Modeling is used to evaluate system capacity during the permitting process for new construction. Modeling is also used to evaluate existing conditions and to anticipate infiltration and inflow impacts on the sanitary sewer system.

System Mapping

The Office of Community Development – Engineering Division utilizes Geographic Information System mapping. The map is maintained by Stantec Consulting Services, Inc.

The sanitary sewer collection system map contains the following information:

- The location, depth, diameter and elevation of main, trunk and interceptor sewers
- Manholes
- Cleanouts
- Force mains
- Pump stations
- Service area boundaries
- Other landmarks (roads, water bodies, etc.)

Maps and plans are available to DPW personnel office and field personnel as well as contractors involved in all maintenance and engineering endeavors.

New Construction

The Town of Belmont has adopted a Stormwater Management and Erosion Control Bylaw. The bylaw includes rules and regulations specific to sanitary sewer connections. All sewer services are reviewed and approved by Town engineering staff for compliance with regulations. The regulations contain specific design guidelines and requirements for the full replacement or lining of existing services to be reused. New services are filed inspected and approved prior to backfilling.

Proposals for new sanitary sewer mains are required to be designed by a Registered Professional Engineer.

Pump Stations

The Town of Belmont has three public sewer pump stations. The pump stations in Woodbine Road and Stony Brook Road were replaced in 2011. A pump station was installed in the Winn Brook area of Belmont in 2009.

Pump stations are inspected monthly by a private contractor. Eighteen items are inspected and attended to as required. A sample inspection report is presented as Attachment B. Each station has a dual pump configuration and pumps alternate automatically after each pump cycle. Wet well operating levels are set to minimize stops and starts of each pump. Each pump station has functioned as designed and to date there have been no capacity or maintenance related overflows. There are high water alarms in all wet wells. DPW has an emergency generator in case of loss of power. The Town of Belmont has its own municipal light department which helps to limit prolonged power outages.

Equipment and Collection System Maintenance

The Office of Community Development – Engineering Division performs regular maintenance on the collection system. Annually all sewers in all roads to be reconstructed are CCTV'd and cleaned. Any

identified problem areas (cracked pipe, collapsed pipe, etc.) are repaired before the road is reconstructed. Typically approximately 1.5 miles of road are reconstructed annually.

The collection system has specific locations that have been identified as "trouble spots" and maintenance crews routinely flush these areas, typically on a monthly basis.

Office staff logs requests for routine maintenance and supervisory staff programs the work.

The need for emergency repairs is very infrequent. In general the collection system is in excellent working condition. Pipe collapses, overflows or blockages are extremely rare.

Maintenance Budgeting

All costs associated with the maintenance of the sanitary sewer system, including three sewer pump stations, are contained in the Department of Public Works (DPW) Sewer Enterprise Fund. This operating budget includes funding for the labor, equipment, and materials required to maintain the system.

The budget is reviewed annually by DPW and adjusted as needed to ensure there is adequate funding to meet the needs of the system. Monthly monitoring of the budget occurs in order to confirm that adequate funds remain available throughout the budget year.

The Sewer Enterprise Fund is funded through sewer and water user fees established annually by the Board of Selectmen and approved by Annual Town Meeting. Annual user fees are determined by a consulting firm utilizing system and user data.

The Town has had an aggressive sewer rehabilitation program since 2004. To date 37.7 miles of sewer 48.8% of the total system) have been inspected and 20 miles (26%) have been rehabilitated by lining or replacement. This work helps the Town avoid major maintenance issues and keeps routine maintenance manageable.

In FY 18 the total sewer enterprise budget is $3,322,717 (not including the MWRA assessment of $5,004,022 and other intergovernmental administrative items, but including $479,535 for stormwater maintenance). $1,201,205 is earmarked for capital projects. Of this $1,201,205, $500,000 is for the replacement of meters and $210,205 is for the replacement of trucks. $500,000 is dedicated to investigating, evaluating and repairing/replacing sanitary sewers and storm drains. The total net budget for operation and maintenance is $2,112,512.

Planned and Unplanned Maintenance

DPW has an onsite fleet maintenance staff to service vehicles and equipment. Equipment and supplies are monitored regularly and repaired and/or replaced as needed. Funding for repair and maintenance is available through the annual operating budget.

The three sewer pump stations are inspected each month and maintenance is provides as needed. Inspection reports are submitted by the maintenance contractor and filed in the DPW office.

Sewer Cleaning

Locations within the collection system where roots, fat, oil and grease can be troublesome are documented and receive preventative maintenance at regular intervals. Mechanical devices such as cutting tools will be utilized as well chemical treatments such as Root X.

DPW has a jet truck, Vactor truck and hand rods for use in servicing the collection system. Preventative root control is administered using chemical treatments such as Root X. DPW crews will also perform maintenance on service connections to the collection system. Residents can contact DPW and schedule a maintenance visit. Maintenance crews will flush and rod services.

Over the last three fiscal years the average number of calls for sewer service back-ups was 215. Over the same three year period there was an average of 20 main line blockages.

Parts and Equipment Inventory

DPW maintains a stockroom, chemical room and pipe room. Each contains materials and equipment for maintenance staff. Stock is monitored periodically and replaced as required. Maintenance staff utilizes a truck fully equipped with materials and equipment needed to maintain the collection system.

Town of Belmont
SEWER ENTERPRISE EXPENDITURES
Fiscal Year 2018

Org & Object #	Account Title	FY16 ACTUAL	FY17 BUDGET	FY17 EST EXPENSES	FY18 PROPOSED BUDGET	% Chg FY17 to FY18
6604401	**SANITARY SEWER MAINT (R)**					
511000	FULL TIME WAGE	418,767	435,228	437,828	445,310	2.3%
513000	OVERTIME	59,326	73,255	73,255	75,455	3.0%
514000	ON CALL	11,366	14,440	14,440	14,875	3.0%
514001	PAID PERSONAL DAYS	895	1,225	425	1,225	0.0%
514400	MEAL ALLOWANCE	20	200	200	200	0.0%
514800	LONGEVITY	2,400	2,450	2,450	2,450	0.0%
515500	CDL STIPEND	6,835	10,479	10,479	10,480	0.0%
517000	HEALTH INSURANCE	103,720	103,720	103,720	132,915	28.1%
517101	RETIREMENT - HEALTH INS.	58,013	48,484	48,484	50,250	3.6%
517200	WORKERS COMP.	1,901	23,050	23,050	23,050	0.0%
517800	MEDICARE	6,427	6,593	6,593	6,695	1.5%
517900	LIFE INSURANCE	-	200	200	200	0.0%
518000	RETIREMENT	356,580	379,497	379,497	405,845	6.9%
519001	WORKING OUT OF GRADE	2,121	1,400	1,400	1,600	14.3%
519900	CLOTHING ALLOWANCE	6,560	6,560	6,560	6,560	0.0%
	PERSONAL SERVICES	**1,034,930**	**1,106,781**	**1,108,581**	**1,177,110**	**6.4%**
6604402						
522900	ELECTRICITY	2,320	6,075	6,075	6,075	0.0%
524200	REPAIR & MAINT S.S.	-				#DIV/0!
524502	MUNIS-TYLER TECH	11,758	19,080	19,080	19,080	0.0%
527300	RENTAL EQUIP.	40,359	41,245	41,245	42,485	3.0%
	SOIL REMOVAL	-	10,000	10,000	10,000	0.0%
530000	PROF SERVICES	-	4,245	4,245	4,375	3.1%
530800	METER READING/BILLING SERVIC	80,000	97,500	97,500	101,850	4.5%
530800	BILLING SERVICES	-				#DIV/0!
530801	BILLING SOFTWARE UPGRADE	91,850	20,000	20,000	20,000	0.0%
530600	BILLING SOFTWARE MAINT	-				#DIV/0!
530900	CONTRACT PATCH	47,740	49,175	49,175	50,650	3.0%
531600	POLICE DETAILS	3,754	7,045	7,045	7,255	3.0%
534100	TELEPHONE	1,247	1,545	1,545	1,622	5.0%
534800	GIS MAINTENANCE	14,200	30,000	30,000	30,000	0.0%
538200	OUTSIDE LABOR	3,270	5,985	5,985	6,165	3.0%
553100	PUBLIC WORKS SUPPLIES	64,995	66,945	66,945	68,955	3.0%
553500	METER MODERNIZATION	-				#DIV/0!
569400	MWRA ASSESSMENT (R)	4,624,861	4,854,094	4,825,479	5,004,022	3.1%
573400	STREET OPENING PERMITS	-	6,000	6,000	6,000	0.0%
578500	SEWER RESERVE	63,037	78,985	78,985	81,355	3.0%
	TOTAL OTHER EXPENSES	**5,049,391**	**5,297,919**	**5,269,304**	**5,459,889**	**3.1%**

Attachment A

Town of Belmont
SEWER ENTERPRISE EXPENDITURES
Fiscal Year 2018

Org & Object #	Account Title	FY16 ACTUAL	FY17 BUDGET	FY17 EST EXPENSES	FY18 PROPOSED BUDGET	% Chg FY17 to FY18
6607102						
591208	Sewer Prin to FY16	125,000	-	-		#DIV/0!
	Old MWRA Issues					#DIV/0!
591216	Sewer MWRA to FY 11					#DIV/0!
591217	Sewer MWRA to FY19	111,881	111,881	111,881	-	-100.0%
591221	Sewer MWPAT, 2012, #2, 7 of 20	321,551	446,669	446,669	446,172	-0.1%
591218	Sewer Prin - new debt					#DIV/0!
6607512						
591208	Sewer Int to FY16	63,575				#DIV/0!
591221	Sewer MWPAT, 2015, 3 of 20	222,776	176,823	176,823	170,427	-3.6%
	DEP CWSRF pt 1					#DIV/0!
	DEP CWSRF pt 2					#DIV/0!
	MWRA I/I 2012					#DIV/0!
558900	Sewer Int - new debt					#DIV/0!
591221	MWPAT Origination Fee 2014, 3 of 20	63,199	142,509	142,509	142,531	0.0%
591218	Sewer Int - new debt, 2013, 5 of 20	93,037	97,171	97,171	97,171	0.0%
	TOTAL DEBT SERVICE	**1,001,019**	**975,053**	**975,053**	**856,301**	**-12.2%**
	ADMINISTRATION COST					
	INTERGOVERNMENTAL					#DIV/0!
6604						#DIV/0!
596000	INDIRECT COST REIMB TO TOWN	**126,875**	**133,000**	**133,000**	**136,325**	2.5%
596608	TRANSFER TO OPEB TRUST	**5,294**	**7,335**	**7,335**	**7,515**	2.5%
	TRANSFER TO PAY DOWN DEBT PRIN					#DIV/0!
		132,169	**140,335**	**140,335**	**143,840**	**2.5%**
66550233						
	RADIO Conversion					
589500	FY00 SEWER I & I CONSTRUCTION					#DIV/0!
66550683						#DIV/0!
587000	TRUCKS	119,600	179,370	179,370	210,205	17.2%
66550703						
585000	GIS ENGINEERING AND HARDWARE					
66550663						#DIV/0!
589500	SEWER & DRAIN REPLACEMENT	300,000	500,000	500,000	500,000	0.0%
589500	Phase I & II Smart Meter Program		500,000	500,000	500,000	0.0%
66550673						
589500	SEWER BOND					
	CAPITAL OUTLAY	**419,600**	**1,179,370**	**1,179,370**	**1,210,205**	**2.6%**
	TOTAL SANITARY SEWER MAINT	**7,637,109**	**8,699,458**	**8,672,643**	**8,847,345**	**1.7%**

Town of Belmont
SEWER ENTERPRISE EXPENDITURES
Fiscal Year 2018

Org & Object #	Account Title	FY16 ACTUAL	FY17 BUDGET	FY17 EST EXPENSES	FY18 PROPOSED BUDGET	% Chg FY17 to FY18
6604441	**STORMWATER MAINT. (R)**					
511000	FULL TIME WAGE	182,896	209,482	210,682	209,100	#DIV/0!
514800	LONGEVITY	729	1,150	1,150	700	-0.2%
515500	CDL STIPEND	3,820	5,200	5,200	5,200	-39.1%
517000	HEALTH INSURANCE	42,115	48,855	48,855	45,700	0.0%
517200	WORKERS COMP.	-				-6.5%
517800	MEDICARE	3,100	3,177	3,177	3,145	#DIV/0!
519003	CLOTHING ALLOWANCE	2,187	3,280	3,280	3,280	-1.0%
	PERSONAL SERVICES	**234,847**	**271,144**	**272,344**	**267,125**	0.0%
6604442						**-1.5%**
522900	ELECTRICITY	265	630	630	630	0.0%
527300	RENTAL EQUIPMENT	10,430	13,725	13,725	14,135	3.0%
529700	SOIL REMOVAL	8,000	10,000	10,000	10,000	0.0%
530002	ABC STORMWATER GAUGE	8,000	8,665	8,665	8,665	0.0%
530006	STORMWATER REGULATION	50,000	50,000	50,000	50,000	0.0%
530900	CONTR PERM PATCH	18,810	19,375	19,375	19,955	3.0%
538200	OUTSIDE LABOR	73,180	77,960	77,960	84,290	8.1%
553100	PUB. WKS. SUPP.	19,545	20,130	20,130	20,735	3.0%
573400	STREET OPENING PERMITS	-	4,000	1,000	4,000	0.0%
591208	MWRA LOAN REPAYMENT	-				#DIV/0!
	TOTAL OTHER EXPENSES	**188,230**	**204,485**	**201,485**	**212,410**	**3.9%**
6604443						
587000	**REPLACE OFFICE EQUIPMENT**					#DIV/0!
	TOTAL STORMWATER MAINT.	**423,077**	**475,629**	**473,829**	**479,535**	**0.8%**
	TOTAL SEWER ENTERPRISE	**8,060,187**	**9,175,087**	**9,146,472**	**9,326,880**	**1.7%**
	SANITARY SEWER MAINTENANC	2,885,373	3,712,364	3,714,164	3,706,998	-0.1%
	MWRA SEWER ASSESSMENT	4,624,861	4,854,094	4,825,479	5,004,022	3.1%
	INDIRECT COST REIMBURSEMEN	126,875	133,000	133,000	136,325	2.5%
	STORMWATER MAINT	423,077	475,629	473,829	479,535	0.8%
	TOTAL SEWER ENTERPRISE	**8,060,187**	**9,175,087**	**9,146,472**	**9,326,880**	**1.7%**
	Budgeted Enterprise Revenue					
	Total Revenue to be raised	7,785,187	8,400,087	8,871,472	8,551,880	1.8%
	Planned use of Retained earnings	275,000	275,000	275,000	275,000	0.0%
	Phase I and II Smart Meter Program	-	500,000	500,000	500,000	0.0%
	Total Revenues	8,060,187	9,175,087	9,146,472	9,326,880	1.7%

FY18 Budgets are estimates and further final information expected for MWRA assessments and capital as well as Retained Earnings use.

CHECK OUT LIST
SMITH & LOVELESS PUMP STATION

Attachment B

MODEL NO. Custom SERIAL NO. 04-08-713 LOCATION Woodson

		NO. 1	NO. 2
1	Pump Operation In General And Discharge Check Valves	OK	OK
2	Pump Filters	Replaced	Replaced
3	Pump Seals	OK	OK
4	Bubbler Compressors Float & Transducer	Clean - OK	
5	Sump Pump	OK	
6	Vent Fan	OK - Oiled	
7	Dehumidifier	OK - Adjusted	
8	Heater	—	
9	Lights & Ladder Sw.	OK	
10	High Water Alarm Wet Well	OK	
11	Whigh Water Alram Press. Sw.	OK	
12	High Water Alarm In Station	OK	
13	Power Failure Alram Relay, Light, Horn	OK	
14	Electrical Panel In General	OK	OK
15	Station Cleanliness - Paint Condition - Etc.	OK	
16	Reading On Elapsed Time Meters 6/9/17	9945	1351
17	Total Elapsed Time Since Last Visit 7/25/16	143 Hrs	555 Hrs
18	Mortor Amp Reading	7.2-7.4-7.2	7.3-7.4-7.3

REMARKS: Pulled float & transducer and DI well well cleaned & tested operation of both system. Exercised & tested operation of both & diagnosed gate valves. Degreased & cleaned pellet chains & installed new elements in guides. Oiled vent fan motor. Adjusted settings on dehumidifier. Checked settings on transducer. Reset all controls & station checked ok.

DATE: 6/9/17

INSPECTED BY: Tim Pitt

Attachment
United States Environmental Protection Agency, EPA New England

Wastewater Collection System CMOM Program Self-Assessment Checklist Oct 2010

Name of your system Town of Belmont Date **12/4/2017**

Put an "A" in the final column for an issue you intend to address with future action, or leave blank if you have evaluated your program as sufficient.

I. General Information – Collection System Description

I	Question	Response	*Act
1	How many people are served by your wastewater collection system?	24,729 (2010 census)	
2	What is the number of service connections to your collection system? How many: Manholes? Pump stations? Feet (or miles) of sewer? Force mains? Siphons?	Service connections - 6959 Siphons - 0 Manholes – 2363 Pump Stations 3 Miles of sewer – 77 Force mains - 3	
3	What is the age of your system (e.g., 30% over 30 years, 20% over 50 years, etc.)?	1890's – 5.6% 1940's – 5.3% 1990's – 0.1% 1900's – 9.2% 1950's – 5.2% 2000's – 3.8% 1910's – 14.4 % 1960's – 11.7% 2010's – 0.3% 1920's – 24.0% 1970's – 1.6% 1930's – 17.9% 1980's – 0.9%	
4	What type(s) of collection system map is/are available and what percent of the system is mapped by each method (e.g., paper only, paper scanned into electronic, digitized, interactive GIS, etc.)? When was the map(s) last updated?	Plan and Profile drawings for 100% of the system are available electronically. GIS mapping is available for 100% of the system. Maps are updated annually or as necessary	
5	If you have a systematic numbering and identification method/system established to identify sewer system manhole, sewer lines, and other items (pump stations, etc.), please describe.	Through the GIS system, all manholes have a unique identifying number.	
6	Are "as-built" plans (record drawings) or maps available and used by field crews in the office and in the field?	Yes, field and office staff has access to electronic plan and profile drawings.	
7	Describe the type of asset management (AM) system you use (e.g. card catalog, spreadsheets, AM software program, etc.)	An asset management plan was prepared by Stantec in 2016. It has yet to be used. Currently all system information is stored in GIS including updates on repairs and rehabilitation work	

* Put an "A" in the final column if this is an issue you intend to address with future action.

II. Continuing Sewer Assessment Plan

II	Question	Response	*Act
1	Under what conditions, if any, does the collection system overflow? Does it overflow during wet and/or dry weather? Has your system had problems with: □ hydraulic issues, □ debris, □ roots, □ Fats, Oils & Grease (FOG), □ vandalism blockages resulting in manhole overflows, □ basement backups, □ other (specify)?	The system has not overflowed in several years. I/I removal work in 2011 and 2013 and sewer main relining projects has greatly improved system performance. Wet weather can cause limited backups to private property. Hydraulic issues – surcharging during heavy rain. No dry weather issues. Debris – No Roots – Mostly services, minor main issues FOG – Yes, in isolated areas Vandalism – No Basement backups – Yes, wet weather and from roots	
	Describe your system's history of structural collapses, and PS or force main failures.	Structural collapse - Perhaps 2 in 30 years No records of PS or force main failures.	
2	How many SSOs have occurred in each of the last three calendar years? What is the most frequent cause?	Note: Fiscal Year. FY 14 – 229; FY 15 – 230; FY 16; 245 Most frequent cause is roots	
3	Of those SSOs, how many basement backups occurred in each of the last three calendar years? How are they documented?	Note: Fiscal Year. FY 14 – 210; FY 15 – 211; FY 16; 224 DPW staff documents each call for service.	
4	What is the ratio of peak wet-weather flow to average dry-weather flow at the wastewater treatment plant (or municipal boundary for satellite collection systems)?	At Deer Island: 2.55 MGD (MWRA 3 year ave) Total flow (Peak) 1.46 MGD (MWRA 3 year ave) Sanitary flow (Dry) 1.75 Ratio	
5	What short-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?	There is a monthly preventive maintenance of trouble services and main line locations.	
6	What long-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?	None	
7	Describe your preventive maintenance program; how do you track it (e.g., card files, electronically, with specific software)?	Monthly preventive maintenance of trouble services and main line locations. A service log is maintained by DPW.	
8	How do you prioritize investigations, repairs and rehabilitation? What critical and priority problem areas are addressed more frequently than the remainder of your system? How frequently are these areas evaluated?	The illicit discharge program is the top priority. Locations are determined from water quality sampling. Areas are evaluated an average of every 3-4 years.	
9	Are septage haulers required to declare the origin of their "load"? Are records of these declarations maintained? Do any of the declarations provide evidence of SSOs?	Load origin is by street only, no house number is provided. Records are maintained by DPW Service is provided for onsite septic systems. There is no evidence of SSO's provided.	A

* Put an "A" in the final column if this is an issue you intend to address with future action.

III.A. Collection System Management Organizational Structure

IIIA	Question	Response	*Act
1	Do you have an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff? Please attach your chart.	Yes, chart is attached.	
2	For which jobs do you have up-to-date job descriptions that delineate responsibilities and authority for each position?	All positions have up to date job descriptions. Responsibilities address several tasks as they pertain to the DPW department as a whole.	
3	How many staff members are dedicated to collection system maintenance? Of those, how many are responsible for any other duties, (e.g., road repair or maintenance, O&M of the storm water collection system)? If so, describe other duties.	All DPW staff is cross trained to perform a variety of DPW related work. There are two staff members assigned to sewer work on a given day along with an operations manager. Staffing for sewer backups include 1 working foremen and 3 laborers	
4	Are there any collection system maintenance position vacancies? How long has the position(s) been vacant?	No	
5	For which, if any, maintenance activities do you use an outside contractor?	Pump stations are maintained by a private contractor Major rehabilitation (lining, replacement) is done by private contractor.	
6	Describe any group purchase contracts you participate in.	None	

III.B. Collection System Management: Training

IIIB	Question	Response	*Act
1	What types of training are provided to staff?	General job task training. Confined space training.	
2	Is training provided in the following areas: general safety, routine line maintenance, confined space entry, MSDS, lockout/tagout, biologic hazards, traffic control, record keeping, electrical and instrumentation, pipe repair, public relations, SSO/emergency response, pump station operations and maintenance, trench/shoring, other (describe)?	General safety – Yes Line maintenance – Yes Confined space – Yes All others - No	A
3	Which training requirements are mandatory for key employees?	MWRA confined space training	
4	How many collection system employees are certified (e.g, NEWEA certification program) and at what grade are they certified?	None	

* Put an "A" in the final column if this is an issue you intend to address with future action.

III.C. Collection System Management: Communication and Customer Service

IIIC	Question	Response	*Act
1	Describe your public education/outreach programs (e.g., for user rates, FOG, extraneous flow, SSOs etc.)	Sewer rates and are posted on the web site. FOG requirements are available through the Health Department. I/I information is available on line and posted on bulletin boards in Town Hall. No other public outreach.	
2	What are the most common collection system complaints? How many complaints have you received in each of the past three calendar years?	Most common complaints are service backups. FY 14 – 210; FY 15 – 211; FY 16; 224	
3	Are formal procedures in place to evaluate and respond to complaints?	DPW administrative staff notifies operations staff of each complaint. Operations evaluates and assigns a crew to respond.	
4	How are complaint records maintained (i.e., computerized)? How are complaints tied to emergency response and operations and maintenance programs?	Records of each call are documented in a spreadsheet. There is no connection made to emergency response and operations and maintenance programs.	

III.D. Collection System Management: Management Information Systems

IIID	Question	Response	*Act
1	How do you manage collection system information? (Commercial software package, spreadsheets, data bases, SCADA, etc). What information and functions are managed electronically?	System attributes are loaded into a GIS database and updated annually or after each rehabilitation project is completed. Infoworks modelling software is used to evaluate the sewer system. This application is compatible with the City of Cambridge and the MWRA.	
2	What procedures are used to track and plan collection system maintenance activities?	No written procedures. Routine maintenance is scheduled by DPW operations staff.	
3	Who is responsible for establishing maintenance priorities? What records are maintained for each piece of mechanical equipment within the collection system?	The Town Engineer and DPW director work together to prioritize maintenance. DPW maintains repair/service records for the three sewer pump stations.	
4	What is the backlog for various types of work orders?	No current backlog exists.	
5	How do you track emergencies and your response to emergencies? How do you link emergency responses to your maintenance activities?	Emergencies are tracked by DPW and logged into a spreadsheet. There is no link, emergencies are infrequent and typically isolated.	

* Put an "A" in the final column if this is an issue you intend to address with future action.

6	What written policies/protocols do you have for managing and tracking the following information: complaint work orders, scheduled work orders, customer service, scheduled preventative maintenance, scheduled inspections, sewer system inventory, safety incidents, emergency responses, scheduled monitoring/sampling, compliance/overflow tracking,	None	
	equipment/tools tracking, parts inventory?		

III.E. Collection System Management: SSO Notification Program

IIIE	Question	Response	*Act
1	What are your procedures, including time frames, for notifying state agencies, health agencies, regulatory authorities, and the drinking water authorities of overflow events?	There are no established procedures. Overflows are typically contained in private basements.	A
2	Do you use the state standard form for recording/reporting overflow events? If not, provide a sample copy of the form that is used.	No N/A.	A

III.F. Collection System Management: Legal Authority

IIIF	Question	Response	*Act
1	Are discharges to the sewer regulated by a sewer use ordinance (SUO)? Does the SUO contain procedures for controlling and enforcing the following: □ FOG; □ Infiltration/ Inflow (I/I); □ building structures over the sewer lines; □ storm water connections to sanitary lines; □ defects in service laterals located on private property; □ sump pumps?	There are Sewer Use Rules and Regulations adopted by annual Town Meeting in May, 1981. All but "defects in service laterals" are addressed in the document.	
2	Who is responsible for enforcing various aspects of the SUO? Does this party communicate with your department on a regular basis?	The Director of DPW is responsible for enforcing the regulations.	
3	Summarize any SUO enforcement actions/activities that have occurred in the last three calendar years.	None.	
4	Do you have a program to control FOG entering the collection system? If so, which of the following does it include: □ permits, □ inspection □ enforcement? Are commercial grease traps inspected regularly and who is responsible for conducting inspections?	Yes, enforced by the Board of Health. Permits, inspections and enforcement are included in the regulations. Owners are required to inspect grease traps. Reports are filed with the Health Department.	

* Put an "A" in the final column if this is an issue you intend to address with future action.

5	Is there an ordinance dealing with storm water connections or requirements to remove storm water connections?	The Sewer Use Rules and Regulations prohibit stormwater connections.	
6	Does the collection system receive flow from satellite communities? Which communities? How are flows from these satellite communities regulated? Are satellite flow capacity issues periodically reviewed?	No	
7	Does the collection system receive flow from private collection systems? If yes, how is flow from these private sources regulated? How are overflows dealt with? Provide details, including contact information for these private systems.	No	

IV.A. Collection System Operation: Financing

IV A	Question	Response	*Act
1	Has an enterprise (or other) fund been established and what does it include: wastewater collection and treatment operations; collection system maintenance; long-term infrastructure improvements; etc.? Are the funds sufficient to properly fund future system needs?	There is a sewer enterprise fund for the maintenance and rehabilitation of the wastewater collection system. The funds are sufficient to fund future system needs.	
2	How are rates calculated (have you done a rate analysis)? What is the current sewer charge rate? When was it last increased? How much was the increase?	DPW hires a rate consultant each year to develop the new sewer user rate. The current rate is $12.91/HCF volume charge + $18.25 flat quarterly meter charge. The last increase was for the current fiscal year, FY 18. The increase was 1.8%	
3	What is your O&M budget?	$1,632,977 annually	
4	If an enterprise fund has not been established, how are collection system maintenance operations funded?	N/A	
5	Does a Capital Improvement Plan (CIP) that provides for system repair/replacement on a prioritized basis exist? What is the collection system's average annual CIP budget?	The sewer enterprise fund has money for capital projects. Currently the funding level is $500,000 annually. Funds are used to repair/replace sewer mains in roads to be reconstructed. Funds are also used to investigate system wide conditions. Larger rehabilitation projects are funded through borrowing and the debt service is paid though another line item in the sewer enterprise fund.	
6	How do you account for the value of your system infrastructure for the Government Accounting Standards Board standard 34 (GASB 34)?	Per the Town Accountant: Infrastructure is assigned an estimated historical cost, assigned an estimated useful life, and depreciated over a period of 60+ years	

* Put an "A" in the final column if this is an issue you intend to address with future action.

IV.B. Collection System Operation: Hydrogen Sulfide Monitoring and Control

IV B	Question	Response	*Act
1	Are odors a frequent source of complaints? How many have been received in the last calendar year?	No	
2	Do you have a hydrogen sulfide problem, and if so, do you have corrosion control programs? What are the major elements of the program?	No	
3	Does your system contain air relief valves at the high points of the force main system? How often are they inspected? How often are they exercised?	No	

IV.C. Collection System Operation: Safety

IV C	Question	Response	*Act
1	Do you have a formal Safety Training Program? How do you maintain safety training records?	No, other than MWRA confined space training	A
2	Which of the following equipment items are available and in adequate supply: □ rubber/disposable gloves; □ confined space ventilation equipment; □ hard hats, □ safety glasses, □ rubber boots; □ antibacterial soap and first aid kit; □ tripods or non-entry rescue equipment; □ fire extinguishers; □ equipment to enter manholes; □ portable crane/hoist; □ atmospheric testing equipment and gas detectors; □ oxygen sensors; □ H2S monitors; □ full body harness; □ protective clothing; □ traffic/public access control equipment; □ 5-minute escape breathing devices; □ life preservers for lagoons; □ safety buoy at activated sludge plants; □ fiberglass or wooden ladders for electrical work; □ respirators and/or self-contained breathing apparatus; □ methane gas or OVA analyzer; □ LEL metering?	**Yes:** rubber/disposable gloves confined space ventilation equipment hard hats safety glasses rubber boots antibacterial soap and first aid kit tripods or non-entry rescue equipment fire extinguishers equipment to enter manholes portable crane/hoist atmospheric testing equipment and gas detectors and oxygen sensors H2S monitors full body harness protective clothing traffic/public access control equipment fiberglass or wooden ladders for electrical work methane gas or OVA analyzer LEL metering **No:** 5-minute escape breathing devices life preservers for lagoons respirators and/or self-contained breathing apparatus **N/A:** safety buoy at activated sludge plants	

* Put an "A" in the final column if this is an issue you intend to address with future action.

IV.D. Collection System Operation: Emergency Preparedness and Response

IV D	Question	Response	*Act
1	Do you have a written collection system emergency response plan? When was the plan last updated? What departments are included in your emergency planning?	No. Emergency response calls come in to the Police Department. The police notify the DPW on call person who assembles a crew for response.	
2	Which of the following issues are considered: □ vulnerable points in the system, □ severe natural events, □ failure of critical system components, □ vandalism or other third party events (specify), □ other types of incidents (specify)?	N/A	
3	How do you train staff to respond to emergency situations? Where are responsibilities detailed for personnel who respond to emergencies?	N/A	A
4	How many emergency calls have you had in the past calendar year?	0	

IV.E. Collection System Operation: Engineering – Capacity

IV E	Question	Response	*Act
1	How do you evaluate the capacity of your system and what capacity issues have you identified, if any? What is your plan to remedy the identified capacity issues?	Capacity is evaluated using the Infoworks modeling software. No capacity issues have been found.	
2	What procedures do you use to determine whether the capacity of existing gravity sewer system, pump stations and force mains are adequate for new connections? Who does this evaluation?	Capacity is evaluated using the Infoworks modeling software. Stantec is retained to run modeling scenarios when required.	
3	Do you charge hook up fees for new development and if so, how are they calculated?	No, there are no hookup fees charged. A design review and inspection fee is charged. Residential fee is $100.	
4	Do you have a hydraulic model of your collection system? Is it used to predict the effects of system remediation and new connections?	Yes, there is a hydraulic model. Yes, it is used to predict impacts from new developments.	

IV.F. Collection System Operation: Pump Stations - Inspection

IV F	Question	Response	*Act
1	How many pump stations are in the system? How often are pump stations inspected? How many are privately owned, and how are they inspected? Do you use an inspection checklist?	There are three publically owned pump stations, no privately owned stations. Each station is inspected monthly by a private contractor. A checklist is used by the inspector.	
2	Is there sufficient redundancy of equipment at all pump stations?	Each station has a dual pump configuration and pumps alternate automatically after each pump cycle.	
3	How are pump stations monitored? If a SCADA system is used, what parameters are monitored?	Each station is visited weekly by DPW staff. Emergency alarms automatically notify the police who then contact DPW.	

* Put an "A" in the final column if this is an issue you intend to address with future action.

4	How many pump station/force main failures have you had in each of the last three years? Who responds to pump station/force main failures and overflows? How are the responders notified?	None	
5	How many pump stations are equipped with backup power sources? How many require portable generators? How many portable generators does your system own? Explain how the portable generators will be deployed during a system-wide electrical outage.	Backup power – None Portable generators – All require There is one portable generator The pump station at Stoney Brook Road services the most homes and gets priority. The other two stations would be bypass pumped using a 3" pump.	
6	Are operation logs maintained for all pump stations? Are the lead, lag, and backup pumps rotated regularly?	No operations log. Each station has a dual pump configuration and pumps alternate automatically after each pump cycle.	
7	Is there a procedure to modify pump operations (manually, or automatically), during wet weather to increase in-line storage of wet weather flows? If so, describe.	No.	

V.A. Equipment and Collection System Maintenance: Sewer Cleaning

V A	Question	Response	*Act
1	What is your schedule for cleaning sewer lines on a system-wide basis? At this frequency, how long will it take to clean the system? How are sewer cleaning efforts documented?	There is no system wide schedule. Approximately 1.5 miles of roads to be reconstructed annually are tv'd and cleaned as necessary. Repairs are made as required. Stantec documents all information and reports to the Town.	
2	How many linear miles of the collection system were cleaned in each of the past 3 calendar years?	Approximately 4.5 miles under the road projects. There is also currently work ongoing related to IDDE work.	
3	How do you identify sewer line segments that have chronic problems and should be cleaned more frequently? Is a list of these areas maintained and cleaning frequencies established?	Multiple backup complaints from residents of the same road. Yes, a list of trouble spots is maintained and cleaning is performed regularly.	
4	Approximately, how many collection system blockages have occurred during the last calendar year, and what were the causes?	59. Cause is mostly roots.	
5	Has the number of blockages increased, decreased, or stayed the same over the past five years?	The number has stayed about the same.	
6	What equipment is available to clean sewers? Is any type of cleaning contracted to other parties? If yes, under what circumstances?	Jet truck, Vactor truck, hand rods and cutters. General system cleaning related to road reconstruction or IDDE is contracted out.	
7	Do you have a root control program? Describe its critical components.	Yes. Preventative root treatment (Root X) is done approximately evety 4-6 weeks by DPW on private services and mains that have been previously identified.	

* Put an "A" in the final column if this is an issue you intend to address with future action.

V.B. Equipment and Collection System Maintenance: Maintenance Right-of-Way

V B	Question	Response	*Act
1	Is scheduled maintenance performed on Rights-of-Way and Easements? At what frequency? How many manholes in easement areas cannot be located?	No	
2	Are road paving projects coordinated with the collection system operators? Have manholes been paved over? How many manholes in paved areas cannot be located? Describe any systems in place for locating and raising manholes that have been paved over.	Yes, road projects are coordinated. Manholes do not get paved over. Manholes are occasionally added during construction to help with access to the system. There are no known manholes that cannot be located. N/A	

V.C. Equipment and Collection System Maintenance: Parts Inventory

V C	Question	Response	*Act
1	Do you have a central location for the storage of spare parts?	Yes. There is a stockroom, chemical room and pipe room on site at the DPW yard.	
2	How have critical spare parts been identified?	Critical parts are identified based on frequency of use.	
3	How to you determine if adequate supplies on hand? Has an inventory tracking system been implemented?	Adequate supply levels are determined based on manual monitoring and staff experience. There is no inventory tracking system.	

VI A. SSES: System Assessment

VI A	Question	Response	*Act
1	Do POTW flow records or prior I/I or SSES programs indicate the presence of public/private inflow sources or sump pumps? Please Explain.	Yes, a comprehensive flow monitoring was done in 2007 for the 2009 SSES. Results indicated a source of private inflow, likely sump pumps.	
2	If problems are related to I/I, has a Sewer System Evaluation Survey (SSES) been conducted? When? What is the status of the recommendations?	A SSES was done in 2009. A mitigation project was done in 2013 using MWRA grant/loan funds. Other work is on hold while IDDE work is being done.	
3	Do you have a program to identify and eliminate sources of I/I into the system including private service laterals and illegal connections? If so, describe.	Stantec perfumes house to house inspections inspection and smoke testing. Results are documented and mitigation projects are scoped based on the results.	
4	Have private residences been inspected for sump pumps and roof leader connections?	Yes	
5	Are inspections to identify illicit connections conducted during the property transfer process?	No	
6	How many sump pumps and roof leaders have been identified? How many have been removed?	47 sump pumps and 24 roof leaders/driveway drains. A project for removal is on hold pending completion of IDDE work.	

* Put an "A" in the final column if this is an issue you intend to address with future action.

7	Have follow-up homeowner inspections been conducted?	No	
8	What incentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. matching funds, etc.)	None. However historically the Town has funded all mitigation work including new sump pumps and service connections.	
9	What disincentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. fines, surcharges)	Fines are possible through the Town's Sewer use Rules and Regulations.	

VI.B. SSES: Manhole Inspection

VI B	Question	Response	*Act
1	Do you have a manhole inspection and assessment program?	No. However, manholes are inspected during I/I investigations.	
2	Has a formal manhole inspection checklist been developed?	N/A	
3	How many manholes were inspected during the past calendar year?	N/A	

VII. Energy Use

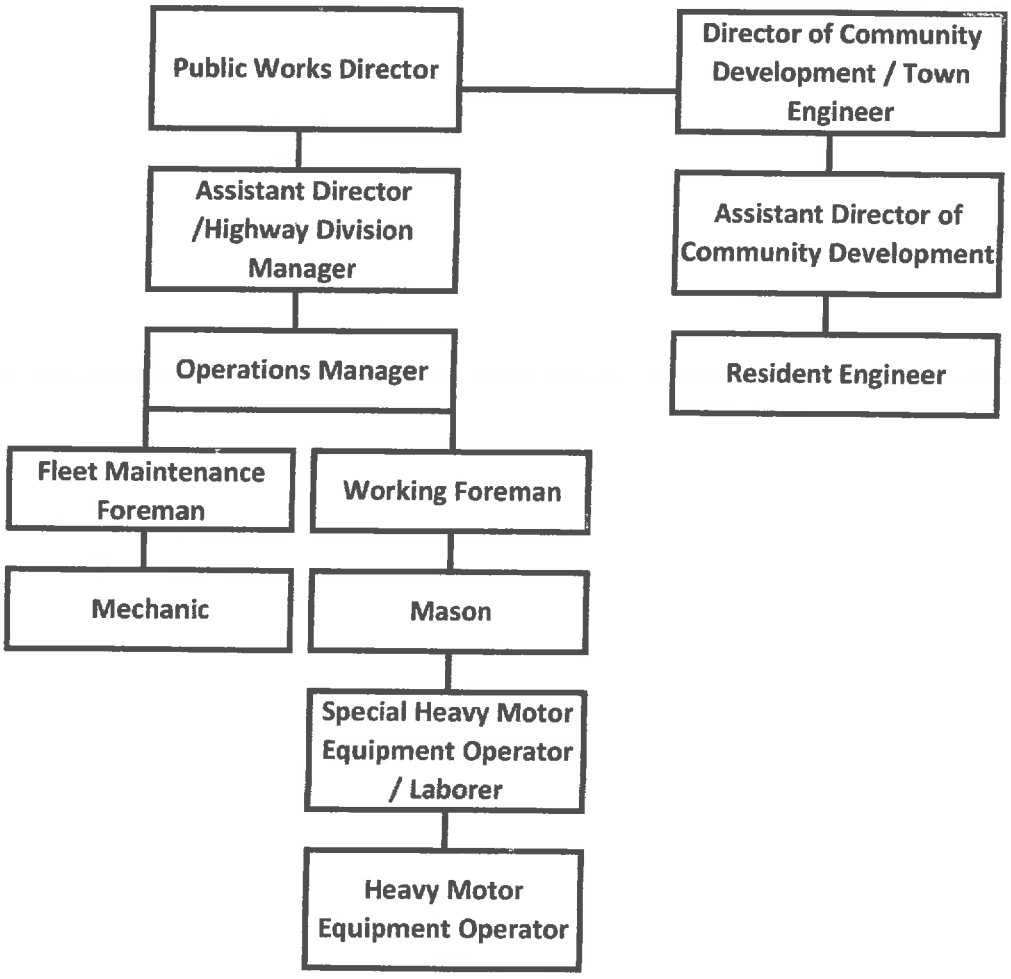
VII	Question	Response	*Act
1	What is your annual energy cost for operating your system? For which pieces of equipment do you track energy use?	$6,075 for electricity There is no tracking of energy costs.	
2	Have you upgraded any of your pumps and motors to more energy efficient models? If so, please describe.	The two pump station were upgraded in 2009 (Stoney Brook Road and Woodbine Road) and one was newly constructed in 2011 (Winn Brook).	
3	Have you performed an energy audit in the past three years?	No	
4	Where do you use the most energy (fuel, electricity) in operating your collection system?	Electricity for the pump stations.	
5	If you have a treatment plant, would you be interested in participating in EnergyStar benchmarking of your treatment plant?	N/A	

VIII. Other Actions

VIII	Question	Response	*Act
1	Describe any other actions that you plan to take to improve your CMOM Program that are not discussed above.	N/A	

* Put an "A" in the final column if this is an issue you intend to address with future action.

Town of Belmont - Sewer Maintenance



APPENDIX D

Appendix D

Town of Belmont Fats, Oils, and Grease (FOG) Program Self-Assessment

Section IV, part 10 of the Order for Compliance on Consent signed by the Town of Belmont and the U.S. Environmental Protection Agency requires a Fats, Oils, and Grease (FOG) Program Self-Assessment. Specifically, the FOG Program shall, at a minimum, include the following, to the extent permitted by law:

i. Specific requirements for the installation or upgrade of FOG control equipment at all food preparation establishments;
ii. Provisions for periodic and random FOG equipment inspections by the Town;
iii. Enforcement procedures for non-compliant facilities including, unless otherwise prohibited by law, the ability to assess fines for violations of the Town's FOG Program and the Town's sewer use ordinances;
iv. A public education program targeted at FOG facilities;
v. All necessary modification to local regulations, including the Town's sewer use ordinances, to allow full enforcement of the FOG Program including standard operating procedures for escalating enforcement from warnings through penalties;
vi. An explanation of which department(s) within the Town has (have) the authority and will be responsible for (a) managing, (b) inspecting, and (c) enforcing the FOG Program; and
vii. A list of all food preparation establishments that includes average daily discharge volume.

The Town of Belmont FOG program is attached. The program is in compliance with all requirements except item vii.

BOARD OF HEALTH
Town of Belmont

RULES AND REGULATIONS REGARDING GREASE INTERCEPTOR REQUIREMENTS and the MANAGEMENT OF FATS, OILS, AND GREASE IN FOOD SERVICE ESTABLISHMENTS

Section I Authority

These regulations were adopted by the Belmont Board of Health on June 25, 2012 in accordance with Massachusetts General Laws Chapter 111, Section 31, and 40 Code of Federal Regulations (CFR) 403.

Section II Purpose

The Purpose of this regulation is to reduce or eliminate the discharge of fats, kitchen oils, and grease (FOG), from food service establishments into the Town of Belmont's sanitary sewer system. FOG discharge into the public sewer system poses a nuisance and a threat to public health and the environment through sewerage blockages and backups into homes and businesses, pollution into municipal treatment plants, and very costly emergency maintenance incidents for the Town's Public Works Department. FOG interference with the public sewer systems may be avoided by the requirement of properly installed and maintained grease interceptors in applicable food service establishments and the implementation of best management practices to maintain said systems.

Section III Definitions

Agent – any duly authorized agent of the Belmont Board of Health as specified under Massachusetts General Laws, c. 111, sec 30, including but not limited to the Director of Health and the Assistant Director of Health.

Building Sewer – A pipe or pipes maintained and controlled by private persons for the purpose of conveying wastewater and sewage from the waste producing location to the sanitary sewer collection system.

Food Establishment – Any establishment issued a permit to operate a food establishment by the Belmont Health Department under 105 CMR 590.000.

Food or Garbage Grinder – A device which shreds or grinds up solid or semisolid waste materials into small particles for discharge into the sanitary sewer collection system.

Grease – A material composed of fatty matter from animal or vegetable sources or hydrocarbons of petroleum origins used or produced in the preparation of food. The terms "oil and grease" or "oil and grease substance" shall be deemed grease by definition.

Grease Interceptor – A water-tight device constructed to separate and trap or hold grease from the wastewater discharged from a food establishment in order to prevent grease from entering the sanitary sewer system, also referred to as a "grease trap" or "grease recovery device." The grease interceptor may be an internal grease interceptor located within the facility an external grease interceptor located outside the facility, or both, depending on sizing requirements of the food establishment.

Septage or Waste Hauler – Any person or company that has been issued a permit from the Town of Belmont Board of Health to transport waste or offal within the Town of Belmont.

Sewage – liquids and solids discharged from toilets, urinals, and similar plumbing fixtures. Sewage is a different discharge than wastewater.

Wastewater – the liquid and water carrying domestic or industrial wastes from dwellings, commercial establishments, industrial facilities, institutions, restaurants, or any other facility which is deemed to produce liquid and water waste. Wastes may include, but are not limited to, discharges from all kitchen sinks and equipment: mop sinks, pot and pan sinks, warewashing sinks, compartment sinks, food sinks, soup kettles, woks, floor drains, and dishwashing machines. Wastewater does not include sewage discharge.

Section IV Requirements

1) Grease interceptors shall be required at all applicable food service establishments or any other facilities from which grease can be expected to be discharged, in order to maintain any portion of a building sewer pipe or attached sewer main pipe free from liquid wastes containing FOG or any flammable wastes, sand or other harmful ingredients. Grease interceptors shall not be required for private living quarters or dwelling units. *Nonconforming systems must be compliant with these regulations within three hundred sixty-five (365) days after the effective date of these Rules and Regulations.*
2) All newly constructed or renovated food service facilities that generate FOG waste must install an industrial type exterior grease interceptor. The Board of Health may require the installation, replacement and/or relocation of an internal grease interceptor at existing food establishment if necessary to maintain any particular pipe or sewer main free from grease build-up that could lead to a back-up. Said grease interceptors will be required wherever waste which contains grease may be discharged such as on sinks, wok lines, fryolators, and other cooking equipment that use the wastewater drainage system.
3) Grease interceptor installation, upgrade, modification or repair shall conform to the specifications, design and sizing approved by the Director of Public Health and the Town of Belmont Plumbing Inspector. In addition, if a grease interceptor is required to be installed external to the facility, design approval from the Town of Belmont Engineer and Director of Public Works is required.

4) Exterior grease interceptors shall be designed and properly located on the facility(s) property by a registered Massachusetts professional engineer. and a certified as-built drawing shall be submitted to the Health Department. If a new connection to the sewer system has occurred as a result of the installation of an exterior grease interceptor, as-built drawings shall also be submitted to the Director of Community Development.

5) All warewashing sinks must have a properly sized and installed internal grease interceptor which shall be located so as to be readily and easily accessible for cleaning and inspection. No sewage facilities shall be connected to the grease interceptor. The Town of Belmont plumbing inspector will determine whether waste from floor drains, food grinders (if allowed), and dishwashers is required to pass through a solids interceptor and/or a grease interceptor.

Section V Maintenance

1) The owner(s) shall be responsible for the regular maintenance and inspection of the grease interceptor. Inspections shall be conducted at least monthly and the interceptors cleaned prior to the level of grease reaching 25% of the effective depth or at least once every month for internal grease traps and once every three months for external grease interceptors, whichever is earlier.
2) No User shall allow wastewater discharge to the sewer line leaving the property to exceed 100 milligrams per liter of FOG. The Director of Public Works or his designee may have access to food service establishments in order to sample the discharge from grease interceptors. A suitable sampling port or valve may be required by the Public Works Department.
3) The owner shall maintain records of the dates of cleaning and means of disposal, subject to review by the Health Department and the Department of Public Works. The written records of inspections, cleaning, pumping and removing shall be maintained at the establishment in a file, notebook, or posting and readily available to the Board of Health and the Director of Public Works.
4) All waste grease shall be collected and stored in appropriate containers in an approved location at the food establishment. Grease collection containers shall be stored on an impervious surface such as concrete, sealed with a tight fitting cover or in a sheltered area and maintained to prevent entry of precipitation and of animals.
5) Only permitted septage haulers shall be allowed to remove grease from the food establishment.

Section VI Best Management Practices

In addition to the proper installation and maintenance of grease interceptors, food service establishments are required to incorporate the following standard operating procedures in their management plan in order to minimize the discharge of FOG into the sewer lines.

1. Practice dry cleanup. Remove food waste with "dry" methods such as scraping, wiping, or sweeping before using "wet" methods that use water. Use paper towels to soak up oil and grease from under equipment such as fryer baskets.
2. Do not pour grease, fats, oils, or any similar substances into drains and do not use sinks to dispose of food scraps. Used grease and oil must be collected by a licensed septage hauler who is required to forward disposal records to the Board of Health monthly.
3. Avoid grease spills. Empty containers before they are full and use a cover to transport interceptor contents and food equipment used grease to the rendering barrels.
4. Capture the grease and oil in well maintained ventilation and exhaust hoods.
5. Always use liquid oil (and less oil) instead of solid grease or lard.

Section VIII Enforcement

1. Enforcement of this regulation shall be by the Health Department or its designated agent(s). The Health Department or its designated agent(s) may conduct unannounced inspections of a food establishment to ensure compliance with these regulations.

2. Written notice of a violation of this Regulation shall be given to the owner and operator of a food establishment by the Health Department, specifying the nature, time, and date of the violation, and any preventative measure required to avoid future violations.

3. The Health Department may deny, suspend, or refuse to renew a permit to operate a food establishment pursuant to 105 CMR 590.000 for failure to comply with any provision of these regulations within thirty (30) days of being ordered to do so by the Health Department.

4. Any person who violates any provision of this regulation, order or permit issued thereunder, may be fined or sanctioned, under Chapter 40, Section 21D of the Massachusetts General Laws as a non-criminal disposition. Sanctions may include the following:

   First offense: Written warning
   Second offense: $100 fine
   Third offense: $200 fine
   Fourth offense: $300 fine

Each day or portion thereof during which a violation continues may constitute a separate offense.

Section VIII Variances

A variance may be granted if in the opinion of the Board, a health hazard, or nuisance will not exist as the result of the variance and the prevention of FOG into the Belmont Sewer system can be achieved with alternative methods. All variance applications shall be in writing and shall describe how the public health hazards and nuisances addressed by this Regulation will be alternatively addressed by the applicant. No variance request will be granted unless the applicant shows that: (1) enforcement of this Regulation would be manifestly unjust; and (2) the applicant has established that a level of public health protection at least equivalent to that provided under this Regulation can be achieved without strict application of the Regulation.

Section IX Severability

The provisions of this regulation are hereby declared to be severable. If any provision, paragraph, sentence, or clause, of this by-law or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this regulation.

Section X Effective Date: **August 1, 2012**

By its Board of Health

David. B. Alper, D.P.M., Chair

Donna S. David

Donna S. David, R.N., M.N., Vice Chair

Robert M. Eisendrath, M.D., Member

Public Hearing 6/25/12

Advertised in the Belmont Citizen Herald 5/17/12

Approved by Town Counsel April 13, 2012