



CITY OF DULUTH

**Public Works & Utilities Department
2017 Annual Report**

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Front cover photo:
Lester River - photo by Todd Carlson

OFFICERS OF THE DEPARTMENT

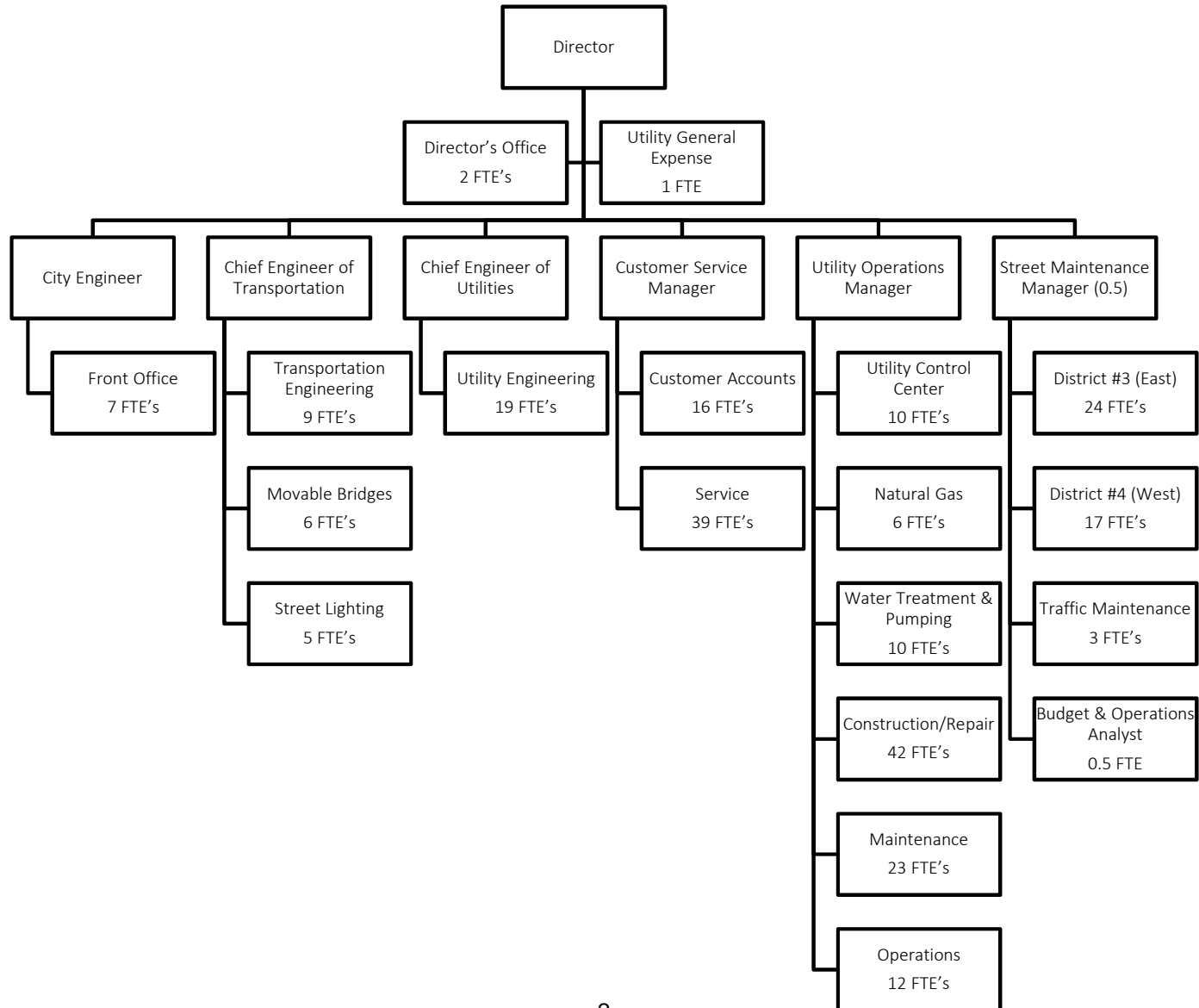
Mayor	.....	Emily Larson
Chief Administrative Officer	.....	Dave Montgomery
City Council Public Works & Utilities Committee		
Councilor Noah Hobbs		
Duluth Public Utilities Commission		
Rob Prusak, President	Councilor Zack Filipovich	
Jen Julsrud, Vice President	Councilor Joel Sipress	
Jim Lewis	Councilor Em Westerlund	
Chris McIntosh		

DEPARTMENT OF PUBLIC WORKS & UTILITIES

Director	.....	Jim Benning
City Engineer	.....	Cindy Voigt
Chief Engineer, Transportation	.....	Cari Pedersen
Chief Engineer, Utilities	.....	Eric Shaffer
Manager, Customer Service	.....	Elizabeth Bieter
Manager, Street Maintenance	.....	Greg Guerrero
Manager, Utility Operations	.....	Howard Jacobson
Executive Assistant	.....	Leanna Gilbert
Public Works & Utilities Analyst	.....	Glenn Strid
Budget & Operations Analyst	.....	Kerry Venier
Financial Analyst	.....	Ken Taylor

City of Duluth Public Works & Utilities Department 2017

Total Budgeted FTE's: 213 & 45 Street Maintenance



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Water Utility
Statement of Net Income
For The Year Ended December 31, 2016 and 2017
(Unaudited)

	2016		2017
<u>Operating Revenue</u>			
Metered Water Sales	\$ 14,350,552		\$ 14,292,925
Other	138,204		152,459
Total Operating Revenue	\$ 14,488,756		\$ 14,445,384
<u>Operating Expense</u>			
Director's Office	69,129		77,703
Capital Related Expenses	1,895,520		1,864,595
Utility General Expense	1,096,859		1,118,427
Engineering	463,975		416,869
Utility Operations	3,299,809		3,436,142
Water Treatment and Pumping	2,742,355		2,946,163
Customer Service	1,217,502		1,252,982
Total Operating Expense	(10,785,149)		(11,112,881)
Operating Income	3,703,607		3,332,503
<u>Other Revenue</u>			
Grants Non-Capital	2,335		0
Contributed Capital	12,047		33,866
Gain or Loss on the Sale of Fixed Assets	(4,390)		15,762
Transfer from Other Funds			
Administrative Billing Fee	135,000		135,000
Street Maintenance	9,300		0
Street Lighting	9,300		9,300
Intergovernmental	16,919		16,919
Interest Income	5,640		(2,067)
Total Other Revenue	186,151		208,780
<u>Other Expenses and Transfers</u>			
Transfer to Other Funds			
Non-Capital Improvements	120,342		77,534
Reimbursement for MIS Programmer	33,750		50,450
Reimbursement for Janitors	25,294		0
Interest on Long Term Debt	213,800		182,025
Total Other Expenses and Transfers	(393,186)		(310,009)
Net Income or Loss	\$ 3,496,572		\$ 3,231,274

Water Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)

	Assets & Deferred Outflows	
	2016	2017
<u>Current Assets</u>		
Cash	\$ 0	\$ 0
Restricted Cash and Equivalents:		
Minnesota Water Connection Fees	89,466	89,818
Accounts Receivable (Net)	1,355,009	1,431,621
Special Assessments	31,383	32,959
Due from Other Funds	135,400	21,295
Due from Other Governments	2,566	131
Inventory	1,195,609	1,188,683
Prepays	<u>617,339</u>	<u>950,780</u>
Total Current Assets	\$ 3,426,772	\$ 3,715,287
<u>Utility Plant</u>		
In Service	95,476,261	97,713,431
Construction	<u>4,715,938</u>	<u>5,140,204</u>
Less Accumulated Depreciation	<u>(38,483,963)</u>	<u>(40,218,580)</u>
Total Utility Plant Assets	<u>61,708,236</u>	<u>62,635,055</u>
<u>Other Assets</u>		
Special Assessments Receivable	<u>110,748</u>	<u>101,694</u>
Total Other Assets	<u>110,748</u>	<u>101,694</u>
Total Assets	<u>65,245,756</u>	<u>66,452,036</u>
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	8,840	714
Deferred Pension Obligation Outflows	<u>1,852,430</u>	<u>1,636,294</u>
Total Deferred Outflows	<u>1,861,270</u>	<u>1,637,008</u>
Total Assets and Deferred Outflows	\$ <u>67,107,026</u>	\$ <u>68,089,044</u>

Water Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)

	Liabilities & Net Assets	
	2016	2017
<u>Current Liabilities</u>		
Accounts Payable	\$ 185,911	\$ 234,224
Contracts Payable	222,447	69,135
Notes Payable	1,070,062	1,085,856
Leases Payable	228,061	236,786
Due to Other Funds	29,781	19,105
Interfund Loan Payable	855,033	376,543
Due to Other Governments	89,849	90,251
Accrued Interest Payable	79,825	66,986
Accrued Salaries Payable	75,735	77,970
Vacations Payable	232,149	239,195
Unearned Revenue	54,819	42,894
Customer Deposits	10,000	10,000
Bonds Payable	336,473	348,851
Total Current Liabilities (Payable from Current Assets)	\$ 3,470,145	\$ 2,897,796
<u>Long Term Liabilities</u>		
Notes Payable	7,647,856	6,562,000
Leases Payable	1,710,656	1,473,869
Pension Liability	4,409,395	3,673,795
Bonds Payable	788,851	440,000
Less Unamortized Bond Discount or Premium	32,264	19,481
Total Long Term Liabilities	14,589,022	12,169,145
Total Liabilities	18,059,167	15,066,941
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	622,043	1,365,013
Total Deferred Inflows	622,043	1,365,013
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	49,902,853	52,468,926
Unrestricted	(1,477,037)	(811,836)
Total Net Assets	48,425,816	51,657,090
Total Liabilities and Net Assets	\$ 67,107,026	\$ 68,089,044

City of Duluth
Water Utility Bonds, Notes and Capital Leases Payable
December 31, 2017

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2016</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2017</u>
Water Utility								
Bonds								
Revenue and General Obligation	\$ 196,000	2/19/2009	2/1/2024	\$ 116,000	\$ 0	\$ 0	\$ 13,000	\$ 103,000
Revenue and General Obligation Refunding	1,625,000	11/23/2010	2/1/2018	494,325	0	0	243,474	250,851
Revenue and General Obligation Refunding	515,000	11/5/2015	2/1/2022	515,000	0	0	80,000	435,000
Bond Total				<u>\$ 1,125,325</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 336,474</u>	<u>\$ 788,851</u>
Notes								
Public Facilities Authority	\$ 870,000	8/25/2003	8/20/2018	\$ 139,918	\$ 0	\$ 0	\$ 69,062	\$ 70,856
Public Facilities Authority	1,971,532	7/2/2004	8/20/2018	312,000	0	0	154,000	158,000
Public Facilities Authority	1,668,813	10/28/2009	8/20/2019	516,000	0	0	170,000	346,000
Public Facilities Authority	1,293,200	8/31/2010	8/20/2025	793,000	0	0	84,000	709,000
Public Facilities Authority	3,344,131	8/31/2010	8/20/2025	2,128,000	0	0	226,000	1,902,000
Public Facilities Authority	1,221,631	11/18/2011	8/20/2026	807,000	0	0	76,000	731,000
Public Facilities Authority	4,778,806	3/24/2014	8/20/2029	4,022,000	0	0	291,000	3,731,000
Note Total				<u>\$ 8,717,918</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 1,070,062</u>	<u>\$ 7,647,856</u>
Capital Leases								
AMR System	\$ 3,375,986	7/12/2007	2/1/2024	\$ 1,938,716	\$ 0	\$ 0	\$ 228,060	\$ 1,710,656
Capital Lease Total				<u>\$ 1,938,716</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 228,060</u>	<u>\$ 1,710,656</u>
Total Water Utility Bonds, Notes and Capital Leases				<u><u>\$ 11,781,959</u></u>	<u><u>\$ 0</u></u>	<u><u>\$ 0</u></u>	<u><u>\$ 1,634,596</u></u>	<u><u>\$ 10,147,363</u></u>

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 1,671,493	\$ 165,786	\$ 1,837,279
2019	1,210,846	135,535	1,346,381
2020	1,054,251	114,151	1,168,402
2021	1,077,017	93,676	1,170,693
2022	1,095,156	72,639	1,167,795
2023	1,024,684	52,421	1,077,105
2024	893,916	33,023	926,939
2025	740,000	22,005	762,005
2026	405,000	13,993	418,993
2027	322,000	9,750	331,750
2028	325,000	6,530	331,530
2029	328,000	3,280	331,280
	<u>\$ 10,147,363</u>	<u>\$ 722,789</u>	<u>\$ 10,870,152</u>

Water Fund
Schedule of Fixed Assets
Year Ending December 31, 2017

	<u>Balance Jan.</u> <u>1, 2017</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec.</u> <u>31, 2017</u>	<u>Accumulated</u> <u>Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 203,700	\$ 5,263	\$ 0	\$ 208,963	\$ 0	\$ 208,963
Infrastructure	64,561,586	2,012,581	0	66,574,167	19,360,215	47,213,952
Buildings and Structures	22,338,952	0	0	22,338,952	14,669,890	7,669,062
Equipment and Tools	8,372,023	349,631	130,305	8,591,349	6,188,475	2,402,874
Work in Progress	<u>4,715,938</u>	<u>2,495,526</u>	<u>2,071,260</u>	<u>5,140,204</u>	<u>0</u>	<u>5,140,204</u>
Total	<u>\$ 100,192,199</u>	<u>\$ 4,863,001</u>	<u>\$ 2,201,565</u>	<u>\$ 102,853,635</u>	<u>\$ 40,218,580</u>	<u>\$ 62,635,055</u>

COMPARATIVE STATEMENT, OPERATING EXPENSE OF ALL STATIONS

Station	Year	Daily Average Gallons Pumped, Initial Supply	Gallons Pumped	K.W.H. Consumed	Electricity
Lakewood	2017	13,427,973	4,901,210,000	8,054,500	\$ 695,357
	2016	13,664,958	4,987,710,000	8,181,600	\$ 685,927
Middle	2017	2,477,093	904,139,000	1,202,400	\$ 106,044
	2016	2,285,208	834,101,000	1,199,200	\$ 103,424
Woodland	2017	2,002,266	730,827,000	1,412,400	\$ 127,082
	2016	1,321,479	482,340,000	1,567,800	\$ 133,151
West Duluth	2017	4,527,227	1,652,438,000	454,464	\$ 45,517
	2016	4,409,172	1,609,348,000	477,504	\$ 45,697
Orphanage	2017	202,526	73,922,000	51,840	\$ 6,902
	2016	192,619	70,306,000	52,160	\$ 6,609
Highland	2017	1,154,427	421,366,000	445,632	\$ 45,179
	2016	1,144,978	417,917,000	499,584	\$ 45,995
Arlington	2017	1,328,395	484,864,000	747,456	\$ 83,615
	2016	1,189,139	434,036,000	694,656	\$ 69,169
Lakeside	2017	172,419	62,933,000	77,040	\$ 11,725
	2016	95,016	34,681,000	78,160	\$ 11,265
Bay View	2017	376,863	137,555,000	194,560	\$ 24,745
	2016	419,167	152,996,000	232,640	\$ 26,663
Proctor	2017	355,466	129,745,000	187,520	\$ 24,149
	2016	391,753	142,990,000	219,520	\$ 25,674
Airport	2017	-	unmetered	20,544	\$ 2,287
	2016	-	unmetered	24,384	\$ 3,295
TOTALS	2017			12,848,356	\$ 1,172,602
	2016			13,227,208	\$ 1,156,869

WATER PLANT STATISTICS

	2017	2016	2015	2014	2013	2012	2011
Water Pumped							
Million Cubic Feet	655.20	666.81	692.43	695.74	695.88	751.10	739.80
Water Sold							
Million Cubic Feet	568.41	565.57	589.84	591.00	605.95	644.40	592.60
General & Distribution Operating							
Costs including Maintenance (*)	\$ 9,285,999	\$ 9,008,318	\$ 8,528,252	\$ 9,529,831	\$ 9,394,544	\$ 8,897,762	\$ 9,395,019
Cost per 100 Cubic Feet	\$ 1.6337	\$ 1.5928	\$ 1.4459	\$ 1.6125	\$ 1.5504	\$ 1.3808	\$ 1.5854
Interest charges	\$ 182,025	\$ 213,800	\$ 269,225	\$ 274,990	\$ 274,206	\$ 296,162	\$ 297,135
Cost per 100 Cubic Feet	\$ 0.0320	\$ 0.0378	\$ 0.0456	\$ 0.0465	\$ 0.0453	\$ 0.0460	\$ 0.0501
Depreciation charge	\$ 1,826,882	\$ 1,776,832	\$ 1,709,522	\$ 1,635,319	\$ 1,576,417	\$ 1,487,132	\$ 1,414,602
Cost per 100 Cubic Feet	\$ 0.3214	\$ 0.3142	\$ 0.2898	\$ 0.2767	\$ 0.2602	\$ 0.2308	\$ 0.2387
Total Cost per 100 Cubic Feet	\$ 1.9871	\$ 1.9448	\$ 1.7813	\$ 1.9357	\$ 1.8558	\$ 1.6575	\$ 1.8742
Operating revenue	\$ 14,445,384	\$ 14,488,756	\$ 14,435,412	\$ 14,539,396	\$ 14,878,380	\$ 13,911,617	\$ 11,743,510
Revenue per 100 Cubic Feet Sold	\$ 2.5414	\$ 2.5618	\$ 2.4473	\$ 2.4601	\$ 2.4554	\$ 2.1588	\$ 1.9817
Water meters in service	28,329	28,253	28,208	28,131	28,069	28,050	29,069
Water main miles	428.40	428.30	433.40	430.70	428.30	426.70	427.50
Water meters per mile of main	66.13	65.97	65.09	65.31	65.54	65.74	68.00
Hydrants on system	2,708	2,699	2,688	2,659	2,671	2,594	2,577

(*) Depreciation not included

WATER PURIFICATION 2017 LAKEWOOD STATION

Month	Total Number of Gallons Treated	Average Water Temperature at Treatment Bldg, Degrees F	Ammonia Lbs. Used	Chlorine Lbs. Used	Alum Gal. Used	Fluoride Gal. Used	Turbidity of Effluent NTU
January	381,920,000	35.8	1,820	6,575	8,181	1,313	0.027
February	348,690,000	33.8	1,658	5,967	8,123	1,197	0.028
March	384,660,000	34.8	1,817	6,739	16,573	1,326	0.029
April	371,170,000	37.0	1,767	6,589	17,018	1,264	0.030
May	393,110,000	38.4	1,857	6,840	16,716	1,366	0.029
June	426,730,000	42.8	1,918	7,750	24,810	1,487	0.033
July	458,410,000	49.8	2,025	8,895	25,016	1,600	0.028
August	489,720,000	59.0	2,126	10,005	16,800	1,694	0.028
September	466,430,000	57.4	2,056	9,256	25,200	1,643	0.026
October	438,170,000	49.9	2,006	10,057	24,966	1,577	0.061
November	360,870,000	41.0	1,757	7,844	25,348	1,338	0.027
December	381,330,000	38.0	1,846	7,405	16,600	1,387	0.030
TOTAL	4,901,210,000		22,653	93,922	225,351	17,192	
Average/Month	408,434,167	43.1	1,888	7,827	18,779	1,433	0.031

2017
LAKE SUPERIOR RAW WATER
AND DULUTH FINISHED WATER (LABORATORY ANALYSES)

Milligrams per Liter (except pH, Specific Conductance, and Turbidity)

	RAW	FINISHED
	Average	Average
Dissolved Oxygen	12.3	12.4
pH	7.7	9.2
Monthly Specific Conductance, Micromhos/cm	103.9	137.9
Alkalinity	43.2	47.1
Sulfates	2.6	8.5
Fluorides	0.08	0.76
Turbidity, NTU	1.00	0.031
Chlorine	N/A	1.3

BACTERIOLOGICAL DATA 2017

Average for	RAW WATER INTAKE		TREATED WATER		DISTRIBUTION	
	Number Samples	Coliform per 100 ml	Number Samples	Number Samples Positive	Number Samples	Number Samples Positive
January	16	1.06	203	0	91	0
February	15	1.27	168	0	91	0
March	17	0.76	182	0	92	0
April	16	1.00	175	0	90	0
May	16	1.00	204	0	91	0
June	17	0.71	198	0	91	0
July	15	5.90	195	0	91	0
August	18	4.60	179	0	90	0
September	13	3.60	178	0	91	0
October	18	6.10	214	0	92	2
November	15	2.50	158	0	91	0
December	12	0.75	135	0	91	0
TOTAL	188	N/A	2,189	0	1,092	2
Average for Month	15.7	2.44	182	0	91.0	0.17

LENGTH OF WATER MAINS IN FEET

Diameter Inches	Cast Iron	Ductile Iron	Steel	Copper	Polyvinyl Chloride	High Density Polyethylene	Total	Valves	Vaults
1				886			886	5	
2	33		182	2,337		10,293	12,845	32	
3	1,391					619	2,010	11	
4	9,879	2,792				7	12,678	54	
6	966,307	146,613	569		1,729	11,152	1,126,370	2,468	
8	78,550	101,496	458		294	167,502	348,300	821	5
10	154,974	52,378	6,512			35,367	249,231	450	7
12	156,724	43,615	1,904			18,045	220,288	382	11
14						2,399	2,399		
16	79,053	23,944	10,970			9	113,976	146	1
18	1,389	434				2,096	3,919	5	
20	13,927	1,789	29,242			1,393	46,351	47	4
24	8,439	6,421	54			7,654	22,568	33	1
30			2,671				2,671	2	
36	25,057	11,717	11,379				48,153	34	3
42	182		49,211				49,393	6	
48							0		
TOTALS	1,495,905	391,199	113,152	3,223	2,023	256,536	2,262,038	4,496	32
Total Miles -							428.4		
Change from 2016 -							0.1	43	-7

Notes: Pipe and valves in hydrant branches are not included in the above table.
 Air valves, valves without gates and valves inside pump stations are not included.
 All Main and Hydrant information provided from Geographic Information System.

HYDRANTS AND BRANCHES

	Total Hydrants	Valves on Branches	Lineal Feet Main to Hydt.
TOTAL IN SERVICE 12/31/2016	2,699	2,641	55,166
TOTAL IN SERVICE 12/31/2017	2,708	2,661	56,374
Changes from 2016:	9	20	1,208

DATA, RESERVOIRS AND TANKS

Location	Capacity (Gallons)	Overflow Elevation (Feet)	Greatest Depth (Feet)	Dimension (Feet)	Remarks
Lakeside Tank	100,000	500.00	23.75	Diameter 27	Built in 1961
34th Avenue East "Reservoir A"	16,320,000	294.00	30.00	284 x 391	Built 1898, Rebuilt 1938
Endion Reservoir	14,140,000	290.00	28.00	240 x 320	Built by G & W Company Rebuilt 1922 New Roof 1966 Lined 1988
West End Reservoirs #1-6	10,200,000	290.00	33.00	Diameter 100	Built 1953
West Duluth Reservoir	10,000,000	290.00	21.00	327.3 x 263.3	Built 1906 Remodeled 1925 New Roof 2014
Middle System - Reservoir #1	5,171,000	560.00	28.00	Diameter 187.38	Built 1913 New Roof 1928 Lined 1988
Middle System - Reservoir #2	5,131,000	560.00	25.00	Diameter 190	Built in 1951
Woodland Reservoir #1	1,021,000	806.00	22.00	Diameter 91.5	Built in 1915 Lined 1939 Refaced 2002
Woodland Reservoir #2	2,015,000	806.00	35.50	Diameter 100	Built in 1950 Lined 2000 Refaced 2002
Arlington Reservoir #1	240,490	806.00	27.00	Diameter 40	Built in 1925
Arlington Reservoir #2	1,534,000	806.00	27.50	Diameter 100	Built in 1950
Orphanage Tank #1	400,000	916.00	129.40	Diameter 51.5	Built 1994
Highland Water Tower	1,000,000	141.60	40.00	Diameter 74.8 1/4	Built 2011
Bay View Heights Steel Tank	100,000	550.00	26.00	Diameter 26	Built 1972
Proctor Tank	400,000	825.00	142.00	Diameter 51.5	Built 1989
TOTAL	67,772,490				

PUMPING STATIONS - WATER PUMPING EQUIPMENT

Station	Source of Supply	Reservoirs Discharged Into	No. Units and Year Installed	Make of Pump	Type of Pump	Unit No.	Pumps Driven By	R.P.M.	Average Capacity G.P.M. Each Unit
Lakewood Low Lift	Lake Superior	Lakewood	1 -- 1992	Patterson	Single Stage Centrifugal	2	1 Unit direct connected to 300 hp, 2300 volt, 60 cycle, GE Induction motor	900	17,400
			1 -- 1949	DeLaval		4	1 Unit direct connected to 350 hp, 2300 volt, 60 cycle, GE Induction motor	440	20,800
			1 -- 1981	Worthington	Single Stage	1	1 Unit direct connected to 200 hp, 2300 volt, 60 cycle, GE Induction motor	500	11,389
Lakewood High Lift	Lakewood (Detention Basin)	Reservoir A Endion, West End, & West Duluth	1 -- 1992	Patterson	Single Stage Centrifugal	2	2 Unit direct connected to 1500 hp, 2300 volt, 60 cycle GE Induction motor with VFD and fixed controller	1,200	17,400
			1 -- 1949	DeLaval	Two Stage Centrifugal	4	2 Unit direct connected to 2000 hp, 2300 volt, 60 cycle, GE synchronous motor, with direct exciter	720	20,800
			1 -- 1981	Worthington	Single Stage	1	1 Unit direct connected to 1000 hp, 2300 volt, 60 cycle GE capacitor induction motor	1,185	11,389
Middle	Reservoir A and Endion	Middle Service	1 -- 1950	Allis-Chalmers	Single Stage, Two Unit, Centrifugal	3	Direct connected to 400 hp, 2300 volt, 60 cycle, Allis-Chalmers synchronous motor, with direct connected exciter	1,800	4,000
			1 -- 1969	Aurora	Single Stage, One Unit, Centrifugal	4	Direct connected to 250 hp, 2300 volt, 60 cycle, 3-phase Louis Allis Induction motor	1,750	2,500
			1 -- 1986	Fairbanks-Morse	Single Stage, One Unit, Centrifugal	5	Direct connected to 250 hp, 2300 volt, 60 cycle, 3-phase Siemens-Allis motor	1,785	2,600
Woodland	Reservoir A	Woodland & Arlington Reservoir	1 -- 1950	Allis-Chalmers	All Units Single Stage, Two Unit, Centrifugal	3	Direct connected to 500 hp, 2300 volt, 60 cycle, Allis-Chalmers synchronous motor, with direct connected exciter	1,800	2,050
			1 -- 1986	Fairbanks Morse Co.		4	Direct connected to 300 hp, 2300 volt, 60 cycle, Siemens-Allis Induction motor	1,775	1,720
			1 -- 1975	Aurora #421	Two Stage, Centrifugal	5	Direct connected to 240 hp, 2300 volt, 60 cycle, 3-phase Marathon Induction motor	1,750	1,250

PUMPING STATIONS - WATER PUMPING EQUIPMENT

Station	Source of Supply	Reservoirs Discharged Into	No. Units and Year Installed	Make of Pump	Type of Pump	Unit No.	Pumps Driven By	R.P.M.	Average Capacity G.P.M. Each Unit
West Duluth	Reservoir A, Endion & West	West Duluth Reservoir & West Duluth System	2 -- 2009	Fairbanks-Morse	All Units Single Stage	2	200 hp, 460 volt, 60 cycle 3-phase WEG NEMA Premium Induction motor, with VFD drive	1,200	6,000
Orphanage	Woodland Reservoirs	Orphanage Tanks	1 -- 1961	Worthington Type L-2	Single Stage Centrifugal	5	Direct connected to 40 hp, 440 volt, 60 cycle, U.S. Induction motor	1,750	1,000
			1 -- 1961		Single Stage Centrifugal	6	Direct connected to 40 hp, 440 volt, 60 cycle, U.S. Induction motor	1,750	1,000
Highland	Arlington Reservoirs	Highland Tanks	2 -- 2012	Aurora	Single Stage, Single Suction Centrifugal	3	2-Unit Direct connected to 150 hp, 460 volt, 60 HZ, 3-phase Marathon Electric XRI high efficiency motor	1,800	1,200
Arlington	Middle Reservoirs	Arlington Reservoirs	3 -- 2010	Aurora Type 411 BF Size 6x8x20	Single Stage Centrifugal	3	250 hp, 460 volt, 60 cycle 3-phase Baldor Induction motor with VFD drive	1,750	1,700
Lakeside	Two 10" Mains	Lakeside Tank	2 -- 1961	Worthington Type L-3	Single Stage Centrifugal	1	Each unit direct connected to 100 hp, 440 volt, 60 cycle, 3-phase U.S. Induction motor	1,750	1,000
					Single Stage Centrifugal	2			
Bay View	West Duluth Reservoir	Bay View Tank	2 -- 1973	Aurora	Single Stage Centrifugal	1	Each unit direct connected to 125 hp, 440 volt, 60 cycle, 3-phase U.S. Induction motor	3,500	1,200
			2 -- 2002		Single Stage Centrifugal	2			
Proctor	Bay View Tank	Proctor Standpipe	2 -- 1973	Aurora	Single Stage Centrifugal	1	Each unit direct connected to 125 hp, 440 volt, 60 cycle, 3-phase Louis Allis motor	3,500	1,200
					Single Stage Centrifugal	2			

WATER UTILITY ACTIVITIES 2017

UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
Repair of water services	40
Repair of valves	255
Repair of main breaks	70
Install services	22
Fire Hydrants	
Replaced hydrants	23
Repaired hydrants	84
New hydrants	9
Inspection	All fire hydrants in the City are inspected by the Fire Department and Utility Operations as part of a preventative maintenance program.

CUSTOMER SERVICE

ACTIVITY	WORK COMPLETED
Meter Truck	
Gauge water service	78
Applications (water & gas)	9,568
Delinquent account service shut off/restore (water & gas)	1,993
Emergency (water & gas)	946
General (water & gas)	2,041
Meter Shop	
Water meters repaired	78
Water meters tested	512
Plumbing truck orders (water & gas)	991

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**Gas Utility
Statement of Net Income
For The Year Ended December 31, 2016 and 2017
(Unaudited)**

	2016	2017
<u>Operating Revenue</u>		
Residential Sales	\$ 20,294,557	\$ 22,329,445
Commercial & Industrial - Firm	7,380,462	8,480,881
Commercial & Industrial - Interruptible	1,988,945	3,518,781
Servicing Appliances	809,965	826,499
Other	734,030	964,584
Total Operating Revenue	\$ 31,207,959	\$ 36,120,190
<u>Operating Expense</u>		
Director's Office	438,044	549,724
Capital Related Expenses	1,545,735	1,481,706
Utility General Expense	1,271,198	1,246,718
Engineering	671,367	906,951
Utility Operations	2,292,860	2,480,581
Natural Gas	16,332,147	19,712,979
Customer Service	4,028,811	4,551,309
Total Operating Expense	(26,580,162)	(30,929,968)
Operating Income	4,627,797	5,190,222
<u>Other Revenue</u>		
Grants Non-Capital	131,062	5,584
Contributed Assets	61,627	70,901
Other Revenue	480,350	345,994
Other Expense	(480,350)	(345,994)
Gain or Loss on Sale of Fixed Assets	(10,410)	24,416
Transfer from Other Funds		
Street Maintenance	14,900	0
Street Lighting	14,900	14,900
Intergovernmental	23,365	23,365
Interest Income	(12,912)	6,724
Total Other Revenue	222,532	145,890
<u>Other Expenses and Transfers</u>		
Interest Expense	122,540	86,980
Transfers to Other Funds		
Payment to City in Lieu of Taxes	2,484,583	2,184,557
Non-Capital Improvements	75,214	48,459
Reimbursement for MIS Programmer	33,750	50,450
Reimbursement for Janitors	25,294	0
Other Transfers	65,954	0
Total Other Expenses and Transfers	(2,807,335)	(2,370,446)
Net Income or Loss	\$ 2,042,994	\$ 2,965,666

Gas Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)

	Assets & Deferred Outflows	
	2016	2017
<u>Current Assets</u>		
Cash	\$ 3,107,462	\$ 331,866
Restricted Cash and Equivalents:		
Customer Deposits	2,394,282	2,530,585
Accounts Receivable (Net)	5,020,658	6,896,258
Special Assessments	2,530	2,037
Due from Other Funds	0	6,720
Interfund Loan Receivable	1,222,050	1,495,783
Due from Other Governments	131,139	5,628
Inventory	1,037,998	1,176,261
Prepaid Expenses	1,272,351	1,830,403
Prepaid Gas	1,231,195	1,200,366
	<u>\$ 15,419,665</u>	<u>\$ 15,475,907</u>
<u>Utility Plant</u>		
In Service	72,743,721	77,617,886
Construction	5,472,626	4,231,462
	<u>78,216,347</u>	<u>81,849,348</u>
Less Accumulated Depreciation	(25,855,088)	(27,108,544)
	<u>52,361,259</u>	<u>54,740,804</u>
Total Utility Plant Assets	<u>52,361,259</u>	<u>54,740,804</u>
<u>Other Assets</u>		
Special Assessments Receivable	6,331	5,604
Advance to Other Funds	900,000	750,000
	<u>906,331</u>	<u>755,604</u>
Total Other Assets	<u>906,331</u>	<u>755,604</u>
Total Assets	<u>68,687,255</u>	<u>70,972,315</u>
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	33,306	17,084
Deferred Pension Obligation Outflows	2,349,297	2,152,947
	<u>2,382,603</u>	<u>2,170,031</u>
Total Deferred Outflows	<u>2,382,603</u>	<u>2,170,031</u>
Total Assets and Deferred Outflows	<u>\$ 71,069,858</u>	<u>\$ 73,142,346</u>

Gas Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)

	Liabilities & Net Assets	
	2016	2017
<u>Current Liabilities</u>		
Accounts Payable	\$ 2,656,294	\$ 2,604,498
Contracts Payable	172,225	451,339
Leases Payable	209,056	217,054
Due to Other Funds	14,136	19,323
Due to Other Governments	65,688	86,896
Accrued Interest Payable	57,224	40,822
Accrued Salaries Payable	101,671	108,366
Accrued Vacations Payable	339,978	369,540
Unearned Revenue	1,083,618	677,908
Customer Deposits	2,394,282	2,530,585
Bonds Payable	902,931	480,000
Total Current Liabilities (Payable from Current Assets)	\$ 7,997,103	\$ 7,586,331
<u>Long Term Liabilities</u>		
Leases Payable	1,568,101	1,351,047
Pension Liability	5,592,100	4,833,785
Bonds Payable	985,000	505,000
Less Unamortized Bond Discount	70,403	36,245
Total Long Term Liabilities	8,215,604	6,726,077
Total Liabilities	16,212,707	14,312,408
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	788,889	1,796,010
Total Deferred Inflows	788,889	1,796,010
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	48,659,074	52,168,542
Unrestricted	5,409,188	4,865,386
Total Net Assets	54,068,262	57,033,928
Total Liabilities and Net Assets	\$ 71,069,858	\$ 73,142,346

**City of Duluth
Gas Utility Bonds and Capital Leases Payable
December 31, 2017**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2016</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2017</u>
Gas Utility								
Bonds								
Revenue and General Obligation Refunding	\$ 2,846,814	12/17/2009	2/1/2017	\$ 432,931	\$ 0	\$ 0	\$ 432,931	\$ 0
Revenue and General Obligation Refunding	3,125,000	11/29/2011	2/1/2019	1,455,000	0	0	470,000	985,000
Bond Total				\$ 1,887,931	\$ 0	\$ 0	\$ 902,931	\$ 985,000
Capital Leases								
AMR System	\$ 3,094,654	7/12/2007	2/1/2024	\$ 1,777,157	\$ 0	\$ 0	\$ 209,056	\$ 1,568,101
Capital Lease Total				\$ 1,777,157	\$ 0	\$ 0	\$ 209,056	\$ 1,568,101
Total Gas Utility Bonds and Capital Leases				<u>\$ 3,665,088</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 1,111,987</u>	<u>\$ 2,553,101</u>

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 697,054	\$ 87,194	\$ 784,248
2019	730,359	59,189	789,548
2020	233,980	40,468	274,448
2021	242,933	31,515	274,448
2022	252,226	22,221	274,447
2023	261,877	12,572	274,449
2024	134,672	2,552	137,224
	<u>\$ 2,553,101</u>	<u>\$ 255,711</u>	<u>\$ 2,808,812</u>

Gas Fund
Schedule of Fixed Assets
Year Ending December 31, 2017

	<u>Balance Jan. 1, 2017</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2017</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 420,815	\$ 5,263	\$ 0	\$ 426,078	\$ 0	\$ 426,078
Infrastructure	61,529,582	4,680,258	0	66,209,840	20,050,782	46,159,058
Buildings and Structures	2,592,124	0	0	2,592,124	968,900	1,623,224
Equipment and Tools	8,201,200	358,494	169,850	8,389,844	6,088,862	2,300,982
Work in Progress	<u>5,472,626</u>	<u>3,591,374</u>	<u>4,832,538</u>	<u>4,231,462</u>	<u>0</u>	<u>4,231,462</u>
Total	<u>\$ 78,216,347</u>	<u>\$ 8,635,389</u>	<u>\$ 5,002,388</u>	<u>\$ 81,849,348</u>	<u>\$ 27,108,544</u>	<u>\$ 54,740,804</u>

GAS STATISTICS

	2017	2016	2015	2014	2013	2012	2011
Gas sold MCF	5,218,978	4,770,804	4,766,168	5,224,178	5,225,302	4,089,209	4,745,574
Cost of gas sold	\$ 18,991,411	\$ 15,794,076	\$ 18,713,748	\$ 38,271,381	\$ 24,132,568	\$ 19,376,845	\$ 25,207,873
Cost per MCF sold	\$ 3.6389	\$ 3.3106	\$ 3.9264	\$ 7.3258	\$ 4.6184	\$ 4.7385	\$ 5.3119
Other operating costs, including maintenance(*)	\$ 10,528,802	\$ 9,409,848	\$ 9,543,411	\$ 9,364,188	\$ 9,506,116	\$ 9,314,644	\$ 9,168,387
Cost per MCF sold	\$ 2.0174	\$ 1.9724	\$ 2.0023	\$ 1.7925	\$ 1.8192	\$ 2.2779	\$ 1.9320
Interest charges	\$ 86,980	\$ 122,540	\$ 179,433	\$ 215,201	\$ 246,635	\$ 274,210	\$ 295,311
Cost per MCF sold	\$ 0.0167	\$ 0.0257	\$ 0.0376	\$ 0.0412	\$ 0.0472	\$ 0.0671	\$ 0.0622
Depreciation charge(**)	\$ 1,409,755	\$ 1,376,239	\$ 1,374,853	\$ 1,354,779	\$ 1,313,680	\$ 1,272,122	\$ 1,240,613
Cost per MCF sold	\$ 0.2701	\$ 0.2885	\$ 0.2885	\$ 0.2593	\$ 0.2514	\$ 0.3111	\$ 0.2614
Total cost per MCF sold	\$ 5.9431	\$ 5.5971	\$ 6.2548	\$ 9.4188	\$ 6.7363	\$ 7.3945	\$ 7.5675
Operating revenue	\$ 36,120,190	\$ 31,207,959	\$ 35,494,037	\$ 58,290,408	\$ 40,461,365	\$ 33,941,529	\$ 41,281,426
per MCF	\$ 6.9209	\$ 6.5414	\$ 7.4471	\$ 11.1578	\$ 7.7434	\$ 8.3003	\$ 8.6989
Gas meters in service	28,617	28,313	27,873	27,682	27,435	27,075	26,592
Gas main miles	549.40	543.80	539.40	534.90	527.10	520.00	510.10
Gas transmission miles	5.30	5.30	5.30	5.30	5.30	5.30	5.30
Gas meters per mile of main	52.09	52.07	51.67	51.75	52.05	52.07	52.13

(*) Does not include depreciation for the cost of natural gas

(**) Does not include depreciation due to change in Capital Policy

GAS UTILITY ACTIVITIES 2017

UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
Services and Mains	
Installations	185
Cutoffs	50
Valves inspected and operated	367
Hits	41

CUSTOMER SERVICE

ACTIVITY	WORK COMPLETED
Service Workorders Completed	
Appliance service	4,111
Furnace cleaning	3,357
Tin shop/venting	319
Meter Truck	
Applications (water & gas)	9,568
Delinquent account service shut off/restore (water & gas)	1,993
Emergency (water & gas)	946
General (water & gas)	2,041
Meter Shop	
Gas meters repaired	43
Gas meters tested	210
Plumbing truck orders (water & gas)	991
Other	
Gas leak detection surveys	16,618
Inspect and paint gas meters and risers	3,005

SEWER

**Sewer Utility
Statement of Net Income
For The Year Ended December 31, 2016 and 2017
(Unaudited)**

	2016	2017
<u>Operating Revenue</u>		
General Sewage Revenue	\$ 17,688,633	\$ 17,712,950
Other	226,379	210,976
Total Operating Revenue	\$ 17,915,012	\$ 17,923,926
<u>Operating Expense</u>		
Director's Office	64,985	73,754
Capital Related Expenses	1,453,072	1,410,539
Utility General Expense	686,435	508,259
Engineering	564,534	516,277
Utility Operations	2,026,078	2,128,689
Wastewater Treatment	9,008,155	9,202,889
Inflow and Infiltration	780,465	854,705
Customer Service	336,441	354,352
Total Operating Expense	(14,920,165)	(15,049,464)
Operating Income	2,994,847	2,874,462
<u>Other Revenue</u>		
Grants Non-Capital	1,868	0
Contributed Assets	1,309,855	692,202
Gain or Loss on Sale of Fixed Assets	0	17,735
Transfer from Clean Water Fund to Cover Restricted Cash	255,466	70,265
Transfer from Other Funds		
Street Maintenance	7,450	0
Street Lighting	7,450	7,450
Intergovernmental	8,283	8,283
Interest Income	(2,481)	(6,321)
Total Other Revenue	1,587,891	789,614
<u>Other Expenses and Transfers</u>		
Transfer to Other Funds		
Non-Capital Improvements	75,214	48,459
Reimbursement for MIS Programmer	33,750	50,450
Reimbursement for Janitors	25,294	0
Interest on Long Term Debt	266,631	223,971
Total Other Expenses and Transfers	(400,889)	(322,880)
Net Income or Loss	\$ 4,181,849	\$ 3,341,196

**Sewer Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)**

	Assets & Deferred Outflows	
	2016	2017
<u>Current Assets</u>		
Cash	\$ 1,571,255	\$ 279,605
Restricted Cash and Equivalents:		
Construction	368,536	488,525
Accounts Receivable (Net)	1,770,020	1,905,446
Special Assessments	36,585	40,479
Due from Other Funds	12,844	15,662
Interfund Loan Receivable	0	1,495,782
Due from Other Governments	27,085	636,500
Inventory	73,004	80,667
Prepays	255,184	321,303
	<u>\$ 4,114,513</u>	<u>\$ 5,263,969</u>
<u>Utility Plant</u>		
In Service	70,761,740	76,241,588
Construction	6,941,820	2,229,726
	<u>77,703,560</u>	<u>78,471,314</u>
Less Accumulated Depreciation	(18,669,606)	(19,845,486)
	<u>59,033,954</u>	<u>58,625,828</u>
<u>Other Assets</u>		
Special Assessments Receivable	184,197	137,390
	<u>184,197</u>	<u>137,390</u>
Total Current Assets	<u>\$ 4,114,513</u>	<u>\$ 5,263,969</u>
Total Utility Plant Assets	<u>59,033,954</u>	<u>58,625,828</u>
Total Other Assets	<u>184,197</u>	<u>137,390</u>
Total Assets	<u>63,332,664</u>	<u>64,027,187</u>
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	131,876	87,357
Deferred Pension Obligation Outflows	1,112,279	911,412
	<u>1,244,155</u>	<u>998,769</u>
Total Deferred Outflows	<u>1,244,155</u>	<u>998,769</u>
Total Assets and Deferred Outflows	<u>\$ 64,576,819</u>	<u>\$ 65,025,956</u>

Sewer Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)

	Liabilities & Net Assets	
	2016	2017
<u>Current Liabilities</u>		
Accounts Payable	\$ 38,995	\$ 56,279
Contracts Payable	140,122	94,964
Notes Payable	398,938	403,144
Leases Payable	196,386	203,899
Due to Other Funds	16,104	15,170
Due to Other Governments	1,500,904	750,055
Interest Payable	104,204	86,133
Accrued Salaries Payable	38,656	46,477
Vacations Payable	132,750	137,839
Unearned Revenue	81,196	46,611
Bonds Payable	1,344,039	1,276,164
Total Current Liabilities (Payable from Current Assets)	\$ 3,992,294	\$ 3,116,735
<u>Long Term Liabilities</u>		
Notes Payable	1,365,213	1,084,383
Leases Payable	1,473,064	1,269,165
Pension Liability	2,647,589	2,046,295
Bonds Payable	4,959,752	3,683,587
Less Unamortized Bond Discount or Premium	162,440	121,320
Total Long Term Liabilities	10,608,058	8,204,750
Total Liabilities	14,600,352	11,321,485
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	373,501	760,309
Total Deferred Inflows	373,501	760,309
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	49,265,998	50,671,523
Legal Restricted Assets	368,536	488,525
Unrestricted	(31,568)	1,784,114
Total Net Assets	49,602,966	52,944,162
Total Liabilities and Net Assets	\$ 64,576,819	\$ 65,025,956

City of Duluth
Sewer Utility Bonds, Notes and Capital Leases Payable
December 31, 2017

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2016</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2017</u>
Sewer Utility Bonds								
Revenue and General Obligation	\$ 1,244,000	2/19/2009	2/1/2024	\$ 735,717	\$ 0	\$ 0	\$ 83,565	\$ 652,152
Revenue and General Obligation Refunding	713,186	12/17/2009	2/1/2017	107,069	0	0	107,069	0
Revenue and General Obligation	905,000	12/17/2009	2/1/2025	595,000	0	0	55,000	540,000
Revenue and General Obligation Refunding	2,025,000	11/23/2010	2/1/2018	616,005	0	0	303,406	312,599
Revenue and General Obligation Refunding	2,265,000	11/29/2011	2/1/2020	1,325,000	0	0	320,000	1,005,000
Revenue and General Obligation Refunding	2,000,000	11/27/2012	2/1/2021	1,465,000	0	0	280,000	1,185,000
Revenue and General Obligation Refunding	1,110,000	11/5/2015	2/1/2023	1,110,000	0	0	140,000	970,000
Revenue and General Obligation Refunding	350,000	11/5/2015	2/1/2022	350,000	0	0	55,000	295,000
Bond Total				\$ 6,303,791	\$ 0	\$ 0	\$ 1,344,040	\$ 4,959,751
Notes								
Public Facilities Authority	\$ 100,000	8/25/2003	8/20/2018	\$ 16,082	\$ 0	\$ 0	\$ 7,938	\$ 8,144
Public Facilities Authority	1,179,115	10/17/2003	8/20/2018	185,000	0	0	92,000	93,000
Public Facilities Authority (Note 1)	1,973,033	7/12/2007	8/20/2022	914,000	0	0	148,000	766,000
Public Facilities Authority (Note 3)	279,117	11/18/2011	8/20/2021	134,000	0	0	26,000	108,000
Public Facilities Authority	1,255,464	9/4/2014	8/20/2024	515,069	0	122,314	125,000	512,383
Note Total				\$ 1,764,151	\$ 0	\$ 122,314	\$ 398,938	\$ 1,487,527
Capital Leases								
AMR System	\$ 2,907,099	7/12/2007	2/1/2024	\$ 1,669,450	\$ 0	\$ 0	\$ 196,386	\$ 1,473,064
Capital Lease Total				\$ 1,669,450	\$ 0	\$ 0	\$ 196,386	\$ 1,473,064
Total Sewer Utility Bonds, Notes, and Capital Leases				\$ 9,737,392	\$ 0	\$ 122,314	\$ 1,939,364	\$ 7,920,342

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 1,883,208	\$ 193,896	\$ 2,077,104
2019	1,503,712	157,322	1,661,034
2020	1,549,118	118,775	1,667,893
2021	1,230,974	83,299	1,314,273
2022	914,705	55,271	969,976
2023	721,216	30,549	751,765
2024	437,027	10,278	447,305
2025	75,000	1,500	76,500
	\$ 8,314,960	\$ 650,890	\$ 8,965,850

**Sewer Fund
Schedule of Fixed Assets
Year Ending December 31, 2017**

	<u>Balance Jan. 1, 2017</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2017</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 156,349	\$ 5,263	\$ 0	\$ 161,612	\$ 0	\$ 161,612
Infrastructure	57,116,465	5,531,268	0	62,647,733	11,828,062	50,819,671
Buildings and Structures	7,101,150	0	0	7,101,150	3,483,939	3,617,211
Equipment and Tools	6,387,776	144,769	201,452	6,331,093	4,533,485	1,797,608
Work in Progress	<u>6,941,820</u>	<u>832,425</u>	<u>5,544,519</u>	<u>2,229,726</u>	<u>0</u>	<u>2,229,726</u>
Total	<u>\$ 77,703,560</u>	<u>\$ 6,513,725</u>	<u>\$ 5,745,971</u>	<u>\$ 78,471,314</u>	<u>\$ 19,845,486</u>	<u>\$ 58,625,828</u>

PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
1	PS0880001	Triplex Submersible 6/16/2006	305,280 gal. 1	301,397 gal.	1 - 1700 2 - 1700 3 - 1700	KSB	1 - 83 hp 2 - 83 hp 3 - 83 hp	480 3	105	10"	SA0880119	Permanent Onsite 2779-150kW
2	PS0880002	Duplex Submersible 3/18/2009	2,160 gal. 1	927.6 gal.	1 - 23 2 - 23 1 & 2 - 35	Barnes	1 - 2 hp 2 - 2 hp	230 3	1 - 8 2 - 8	3"	SA0880117	All 60 Amp
3	PD0830003	Triplex Submersible 10/19/1999	397,872 gal. 4	N/A	1 - 265 2 - 1200 3 - 1200	KSB	1 - 10 hp 2 - 34 hp 3 - 34 hp	480 3	1 - 15.1 2 - 47.5 3 - 47.5	16"	SD1210001	Permanent Onsite 125kW
4	PS043004	Duplex Submersible 1/20/2006	3,024 gal. 6	927.52 gal.	1 - 100 2 - 100	KSB	1 - 5 hp 2 - 5 hp	208 3	1 - 15.4 2 - 15.4	4"	SW0430011	All 60 Amp
5	PS043005	Simplex Submersible 1970	720 gal. 6	97.3 gal.	1 - 67.42	Myers	1.9 hp	230 1	5.3	3"	SW0430012	
6	PS0410006	Duplex Submersible 8/12/2012	1,106,064 gal. 16	9,313.8 gal.	1 - 3000 2 - 3000 3 - 3000	RJB	50 hp 50 hp 50 hp C/G 5 hp	480 3	1 - 66.7 2 - 66.7 3 - 66.7 6	24"	CH0460269	Permanent #2772 gen set
6SF	PS0410049	Duplex Submersible		8 mg		KSB	1 - 50 hp 2 - 50 hp	480 3	69.4 69.4	24"		Permanent
7	PS1090007	Duplex Submersible 2006	78,048 gal. 16	N/A	1 - 400 2 - 400	KSB	6.5 hp 6.5 hp	208 3	23 23	6"	SA1090003	All 60 Amp
8	PS1090008	Triplex Submersible 2016	228,960 gal. 15	8,863.8 gal.	1 - 808 2 - 808	KSB	83 hp 83 hp 83 hp	480 3	105 105 105	8"	SA109003	Permanent SG 250kW
9	PS1090009	Duplex Submersible New motors 2011	165,888 gal. 15	3,941 gal.	1 - 800 2 - 800 3 - 800	KSB Grinder	1 - 7.5 hp 2 - 7.5 hp	208 3	26.3 26.3 17	10"	SA1090015	All 60 Amp
10	PS1100010	Duplex Submersible 1996	N/A 15	N/A	1 - 208 2 - 247.1	KSB	1 - 2.4 hp 2 - 2.4 hp	208 3	8.7	4"	SA0009	All 60 Amp

PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
11	PS1110011	Duplex Submersible 1996	N/A 15	N/A	1 - 164.4 2 - 161.4	KSB	1 - 2.4 hp 2 - 2.4 hp	208 3	1 - 8.4 2 - 8.4	4"	SA1110002	All 60 Amp
12	PS1110012	Duplex Submersible 1996	80,640 gal. 15		1 - 170 2 - 170 (approx.)	KSB	1 - 2.4 hp 2 - 2.4 hp	208 3	1 - 6.9 2 - 6.9	4"	SA1110013	All 60 Amp
13	PS0400013	Duplex Submersible 1995	N/A 16	N/A	1 - 650 2 - 650 1 & 2 - 710	KSB	1 - 12.8 hp 2 - 12.8 hp	480 3	1 - 29 2 - 29	12"	SW0400031	2765 2767 200 Amp
14	PS0320014	Duplex Submersible 2013	50,976 gal. 18	1,008 gal.	1 - 230 2 - 230	Flygt	1 - 10 hp 2 - 10 hp	208 3	1 - 9.5 2 - 18.5	8"	SA0310022	2766 2770
15	PS0310015	Triplex Wet well Dry well ~1975	248,688 gal. 18	N/A	1 - 2400 2 - 2400 3 - 2400	Chicago	1 - 40 hp 2 - 40 hp 3 - 40 hp	480 3	54	10"	SW0310030	2765 2767 200 Amp
16	PS0300016	Duplex Submersible 2013	 23		1 - 1400 2 - 1400 1 & 2 - 2300	KSB	32 hp 32 hp	480 3	38.9 38.9	10"	SW0300016	2765 2766 200 Amp
17	PS0290017	Duplex Submersible ~1975 2001	243,072 gal. 23	N/A	1 - 1000 2 - 1000 1 & 2 - 1500	KSB	1 - 10 hp 2 - 10 hp	240 3	1 - 32.5 2 - 32.5	8"	SW0290038	2767 2765 200 Amp
18	PS0180018	Duplex Submersible 1996	N/A 26	N/A	1 - 58.56 2 - 54.92 1 & 2 - 85	KSB	1 - 1.75 hp 2 - 1.75 hp	208 3	1 - 6.9 2 - 6.9	6"	SA0180041	All 60 Amp
19	PS1230019	Duplex Submersible 2012	2,880 gal. 28	409 gal.	1 - 124 2 - 104 1 & 2 - 169	Meyers	1 - 2 hp 2 - 2 hp	240 3	1 - 9.0 2 - 9.0	4"	SW1230034	All 60 Amp
20	PS0090020	Duplex Submersible 2004			1 - 360 2 - 360 1 & 2 - 540	KSB	1 - 5 hp 2 - 5 hp	208 30	1 - 17.7		SA0090036	2765 2767 200 Amp
21	PS0020021	Duplex Submersible 2007	3,600 gal. 30	480 gal.	1 - 125 2 - 125	KSB	1 - 10 hp 2 - 10 hp	208 3	1 - 33.4 2 - 30.1	4"	SA0030035	All 60 Amp

PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
22	PS0730022	Duplex Submersible 2002	43,344 gal. 33		1 - 180 2 - 135.3 1-2:337.6	KSB	1 - 10 hp 2 - 3.4 hp	240 3	1 - 29.2 2 - 10.1	4"	SA0730023	2765 2767 200 Amp
23	PS0960023	Duplex Submersible 2014	3,168 gal. 11	295.5 gal.	1 - 100 2 - 100 1 & 2 - 118	KSB	1 - 5 hp 2 - 5 hp	240 1	15.4 15.4	4"	SA0960002	All 60 Amp
24	NEW PIER B	Duplex Submersible 2016			1 - 150 2 - 150 1 & 2 - 165	KSB	1 - 5 hp 2 - 5 hp	208 3	17.7 17.7		SA0400052	60 Amp
25	PS1030025	Duplex Submersible 2001	8,352 gal. 11		1 - 200 2 - 200 1 & 2 - 300	KSB	1 - 15 hp 2 - 15 hp	240 3	1 - 52 2 - 52		SA1000001	2767 2765 200 Amp
26	PS0920026	Duplex Submersible 1999	49,680 gal. 5		1 - 200 2 - 200 1 & 2 - 300	KSB	1 - 16.5 2 - 16.5	240 3	1 - 52 2 - 52	4"	SA0860115	2767 2765
27	PS0420027	Duplex Submersible 1984	4,320 gal. 13	145.9 gal.	1 - 46.8 2 - 49.4 1 & 2 - 73	Myers	1 - 2 hp 2 - 2 hp	240 3	1 - 7.5 2 - 7.5	3"	SA0420086	All 60 Amp
28	PS1170028	Duplex Submersible 1998	17,136 gal. 22	N/A	1 - 159 2 - 159	KSB	1 - 3.4 hp 2 - 3.4 hp	240 3	1 - 10.2 2 - 10.2	4"	SA1170006	All 60 Amp
29	PS0470029	Duplex Submersible 2008	5,184 gal. 13	456.3 gal.	1 - 159 2 - 159 1 & 2 - 238	Barnes	1 - 2 hp 2 - 2 hp	240 3	1 - 9 2 - 9	1.25"	SA0470148	All 60 Amp
30	PS0580030	Duplex Submersible 1989	14,112 gal. 20	377.8 gal.	1 - 120.6 2 - 124.6 1 & 2 - 200	Flygt CP3102	1 - 5 hp 2 - 5 hp	208 3	1 - 9.2 2 - 9.2	6"	SA0580129	All 60 Amp
31	PS0600031	Duplex Submersible 1989	13,104 gal. 21	658.3 gal.	1 - 200.5 2 - 154.3 1 & 2 - 300	Flygt CP3102	1 - 5 hp 2 - 5 hp	240 3	1 - 13 2 - 13	6"	SA0600032	All 60 Amp
32	PS0600032	Duplex Submersible 1989	5,472 gal. 21	613.4 gal.	1 - 139 2 - 155 1 & 2 - 300	Flygt CP3102	1 - 5 hp 2 - 5 hp	240 3	1 - 13 2 - 13	4"	SA0600093	All 60 Amp

PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.	
33	PS1280033	Duplex Submersible 1995	NA	420 gal.	1 - 140 2 - 140 1 & 2 - 210	KSB	1 - 3.25 hp 2 - 3.25 hp	208	1 - 9.8 2 - 9.8	4"	SA0030061	All 60 Amp	
34	PS0560034	Duplex Submersible 1993	20	433.9 gal.	1 - 166 2 - 156 1 & 2 - 249	Flygt CP3127	1 - 10 hp 2 - 10 hp	480 3	1 - 13 1 - 13	4"	SA0560093	2767 2765 200 Amp	
35	PS0630035	Duplex Submersible 2007			1 - 200 2 - 200 1 & 2 - 300	KSB	1 - 7.5 2 - 7.5	208 3	1 - 26.7 2 - 26.7	4"	SA0610012	All 60 Amp	
36	PS0900036	Duplex Submersible 1992	1,152 gal. 11	980 gal.	1 - 195.4 2 - 196.7	Flygt CP3127X	1 - 10 hp 2 - 10 hp	240 3	1 - 26 2 - 26	Twin 4"	SA0900005	2767 2765 200 Amp	
37	PS0420037	Duplex Submersible 1984	3,888 gal. 13	441.4 gal.	1 - 186.5 2 - 191.9	Flygt CP3085	1 - 3 hp 2 - 3 hp	208 3	1 - 10 2 - 10	4"	SA0420080	All 60 Amp	
38	PS1120038	Duplex Submersible	Operated by Facilities Management										
39	PS0150039	Duplex Submersible 2013	20,880 gal. 23	643.2 gal.	1 - 282 2 - 280 1 & 2 - 359	KSB	1 - 5 hp 2 - 5 hp	208 3	1 - 17.7 2 - 17.7	6"	SA0180001	All 60 Amp	
40	PS0330040	Steel shell dry well with 6' concrete wet well	36,864 gal. 18	534.9 gal.	1 - 286.6 2 - 281.5	Fairbanks Morse	1 - 7.5 hp 2 - 7.5 hp	240 3	1 - 22.6 2 - 22.6	8"	SA0320008	All 60 Amp	
41	PS0680041	Duplex Submersible 2002	8,928 gal. 22		1 - 400 2 - 400	KSB	1 - 15 hp 2 - 15 hp	240 3	1 - 43.5 2 - 43.5	6"	SA0680029	2767 2765 200 Amp	
42	PS1320042	Duplex Submersible 1996	22	NA	NA	KSB	1 - 5 hp 2 - 5 hp	480 3	1 - 7.8 2 - 7.8	4" 6"	SD1180032	2767 2765 200 Amp	
43	PS1280143	Duplex Submersible 2000			1 - 187 2 - 189 3 - 200	KSB	1 - 15 hp 2 - 15 hp	240 3	1 - 43.5 2 - 43.5	6"	SA1280001	2767 2765 200 Amp	

PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
44	PS0010144	Duplex Submersible 2000			1 - 179 2 - 173 3 - 200	KSB	1 - 10 hp 2 - 10 hp	208 3	29 29	6"	PS1280143	2767 2765 200 Amp
45	PS0880045	Triplex Submersible 2012		2 MG	1 - 2200 2 - 2200 3 - 2200	KSB	1 - 50 hp 2 - 50 hp 3 - 50 hp	480 3	69 69 69	12"	SW0830136	Permanent on site 2778 100kW
46	PS0090046	Duplex Submersible Grinder ~2005				Barnes	1 - 2 hp 2 - 2 hp	240 3	16 16	1.25"	SA0090132	
47	PS0090047	(in Bethany Crisis Shelter) ~2005				Barnes	1 - 1 hp 2 - 1 hp	240 1	9.2 9.2	1.25"	SA0090083	
48	PS0080048	 ~2005				Barnes	1 - 2 hp 2 - 2 hp	208 3	9.2 9.2		SW0080024	60 Amp
49	PS0410049	Duplex Submersible		8 MG		KSB	1 - 50 hp 2 - 50 hp	480 3	69.4 69.4	24"		Permanent 2772
50	PW042001	Storage Basin 2007		1 MG	No Pumps	Gravity In Gravity Out						
51	PS0430001	Storage Basin Oct. 2010		3 MG		KSB	1 - 10 hp 2 - 10 hp	208 3	32.7 32.7		SA0930190	Permanent on site 2777
53	PS0060001	Duplex Submersible 2012			1 - 525 2 - 525 1 & 2 - 1100	KSB	1 - 10 hp 2 - 10 hp	208 3	23.2 23.2	6"	SW00800024	2765 2767

LENGTH OF SANITARY SEWER PIPE IN FEET

PIPE MATERIAL

Dia. Inches	Force Main	ABS	ACP	BRA	CBR	CI/DI	CIPP	CMP	HDPE	PVC	RCP	UNK	VCP	Totals
1	113													113
1 1/4	192													192
1 1/2	1,803													1,803
2	27,256									651				27,907
3	12,969													12,969
4	25,127					272								25,399
6	12,607		48				55			1,183		176	5,985	20,054
8	9,207	7,043	6,957			11,530	194,414		820	464,541	305	1,938	826,541	1,523,296
9							5,159						21,238	26,397
10	6,136		15,023			3,606	16,568		45	34,016	3,299	637	65,447	144,777
12	4,401		2,162			1,491	12,700		513	21,107	43,711		41,776	127,861
14						163								163
15							5,412			11,867	33,182		27,379	77,840
16	5,297					363			999		48			6,707
18				1,282			9,412	1,064		626	12,907		18,303	43,594
20				118		12	1,113				466		2,110	3,819
21				439		111	439			1,094	6,519	7	654	9,263
22				2,571			1,339						1,224	5,134
24	1,270			1,016		747	2,426			693	10,266		4,078	20,496
26				598							983			1,581
27				456			456				720		530	2,162
28				1,386										1,386
30				499		119	1,284				3,442			5,344
32				1,403			1,884				403			3,690
34				496			561							1,057
36				1,425		3,057	1,007				2,038			7,527
42					466				386				122	974
45				7	460									467
48	90			191	157	35			1,166		707			2,346
54														0
55					80									80
UNK	38									345		337	342	1,062
Total	106,506	7,043	24,190	11,887	1,163	21,506	254,229	1,064	3,929	536,123	118,996	3,095	1,015,729	2,105,460

Note: The City of Duluth Sanitary Sewer system includes 8,635 manholes.

Miles of Pipe- 398.8

ABS - Acrylonitrile Butadiene Styrene
 ACP - Asbestos Cement Pipe
 BRA - Brick Arch
 CBR - Circular Brick Pipe

CI/DI - Cast or Ductile Iron
 CIPP - Cured in Place Pipe
 CMP - Corrugated Metal Pipe
 HDPE - High Density Polyethylene

PVC - Polyvinyl Chloride
 RCP - Reinforced Concrete Pipe
 UNK - Unknown
 VCP - Vitrified Clay Pipe

Note: Pipe quantities are derived from Geographic Information System.

SANITARY SEWER ACTIVITIES 2017

ACTIVITY	WORK COMPLETED
Sewer calls	182
Cleaning sanitary sewer pipe	532,262 ft
Televising sanitary sewer pipe	139,616 ft
I & I inspections (Inflow and Infiltration Grant Program)	
Homes inspected	1,949
Point of Sale certificates	1,206
Point of Sale waivers	7
Laterals rehabilitated	13
Inspections for connections and disconnections	
Connections	34 services
Disconnections	26 services

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**Clean Water Utility
Statement of Net Income
For The Year Ended December 31, 2016 and 2017
(Unaudited)**

	2016	2017
<u>Operating Revenue</u>		
Charges for Services	\$ <u>1,626,376</u>	\$ <u>1,625,730</u>
Total Operating Revenue	\$ <u>1,626,376</u>	\$ <u>1,625,730</u>
<u>Operating Expense</u>		
Clean Water Expense	<u>563,912</u>	<u>603,281</u>
Total Operating Expense	<u>(563,912)</u>	<u>(603,281)</u>
Operating Income	<u>1,062,464</u>	<u>1,022,449</u>
<u>Other Revenue</u>		
Interest Income	<u>(3,675)</u>	<u>(240)</u>
Total Other Revenue	<u>(3,675)</u>	<u>(240)</u>
<u>Other Expenses and Transfers</u>		
Transfer to Sewer Fund to Cover Restricted Cash	255,466	70,265
Interest on Long Term Debt	<u>153,089</u>	<u>137,301</u>
Total Other Expenses and Transfers	<u>(408,555)</u>	<u>(207,566)</u>
Net Income or Loss	\$ <u><u>650,234</u></u>	\$ <u><u>814,643</u></u>

**Clean Water Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)**

	Assets	
	2016	2017
<u>Current Assets</u>		
Cash	\$ 542,808	\$ 759,616
Accounts Receivable (Net)	<u>167,198</u>	<u>165,290</u>
Total Current Assets	\$ <u>710,006</u>	\$ <u>924,906</u>
<u>Utility Plant</u>		
In Service	39,685,143	39,800,499
Construction	<u>681,189</u>	<u>577,601</u>
Less Accumulated Depreciation	<u>(2,311,633)</u>	<u>(2,869,428)</u>
Total Utility Plant Assets	<u>38,054,699</u>	<u>37,508,672</u>
Total Assets	\$ <u><u>38,764,705</u></u>	\$ <u><u>38,433,578</u></u>

**Clean Water Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)**

	Liabilities & Net Assets	
	2016	2017
<u>Current Liabilities</u>		
Notes Payable	\$ 1,124,000	\$ 1,140,000
Interest Payable	52,003	46,223
Unearned Revenue	6,540	3,984
Bonds Payable	13,435	13,435
Total Current Liabilities (Payable from Current Assets)	\$ 1,195,978	\$ 1,203,642
<u>Long Term Liabilities</u>		
Notes Payable	8,913,000	7,773,000
Bonds Payable	104,847	91,413
Total Long Term Liabilities	9,017,847	7,864,413
Total Liabilities	10,213,825	9,068,055
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	27,899,417	28,490,824
Unrestricted	651,463	874,699
Total Net Assets	28,550,880	29,365,523
Total Liabilities and Net Assets	\$ 38,764,705	\$ 38,433,578

**City of Duluth
Clean Water Utility Bonds and Notes Payable
December 31, 2017**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2016</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2017</u>
Clean Water Utility								
Bonds								
Revenue and General Obligation	\$ 200,000	2/19/2009	2/1/2024	\$ 118,283	\$ 0	\$ 0	\$ 13,435	\$ 104,848
Bond Total				\$ 118,283	\$ 0	\$ 0	\$ 13,435	\$ 104,848
Notes								
Public Facilities Authority	\$ 796,835	6/17/2009	8/20/2024	\$ 463,000	\$ 0	\$ 0	\$ 54,000	\$ 409,000
Public Facilities Authority	2,414,150	12/10/2009	8/20/2024	1,446,000	0	0	168,000	1,278,000
Public Facilities Authority	3,753,059	8/31/2010	8/20/2025	2,337,000	0	0	247,000	2,090,000
Public Facilities Authority	8,504,224	8/31/2010	8/20/2025	5,214,000	0	0	551,000	4,663,000
Public Facilities Authority	278,149	11/18/2011	8/20/2021	151,000	0	0	30,000	121,000
Public Facilities Authority	265,418	11/30/2011	8/20/2021	141,000	0	0	28,000	113,000
Public Facilities Authority	476,537	9/10/2012	8/20/2022	285,000	0	0	46,000	239,000
Note Total				\$ 10,037,000	\$ 0	\$ 0	\$ 1,124,000	\$ 8,913,000
Total Clean Water Utility Bonds and Notes				<u>\$ 10,155,283</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 1,124,000</u>	<u>\$ 9,017,848</u>

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 1,153,435	\$ 127,130	\$ 1,280,565
2019	1,167,989	110,901	1,278,890
2020	1,185,681	94,426	1,280,107
2021	1,201,236	77,683	1,278,919
2022	1,159,235	60,694	1,219,929
2023	1,125,790	43,988	1,169,778
2024	1,142,482	27,504	1,169,986
2025	882,000	11,095	893,095
	<u>\$ 9,017,848</u>	<u>\$ 553,421</u>	<u>\$ 9,571,269</u>

**Clean Water Fund
Schedule of Fixed Assets
Year Ending December 31, 2017**

	<u>Balance Jan. 1, 2017</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2017</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 525,000	\$ 0	\$ 0	\$ 525,000	\$ 0	\$ 525,000
Infrastructure	38,988,025	115,356	0	39,103,381	2,697,310	36,406,071
Equipment and Tools	172,118	0	0	172,118	172,118	0
Work in Progress	<u>681,189</u>	<u>11,767</u>	<u>115,355</u>	<u>577,601</u>	<u>0</u>	<u>577,601</u>
Total	<u><u>\$ 40,366,332</u></u>	<u><u>\$ 127,123</u></u>	<u><u>\$ 115,355</u></u>	<u><u>\$ 40,378,100</u></u>	<u><u>\$ 2,869,428</u></u>	<u><u>\$ 37,508,672</u></u>

STORMWATER

Stormwater Utility
Statement of Net Income
For The Year Ended December 31, 2016 and 2017
(Unaudited)

	2016	2017
<u>Operating Revenue</u>		
Stormwater Charges	\$ 5,213,783	\$ 5,254,972
Other	35,219	43,300
Total Operating Revenue	\$ 5,249,002	\$ 5,298,272
<u>Operating Expense</u>		
Director's Office	214,012	89,934
Capital Related Expenses	650,850	502,200
Utility General Expense	366,655	391,040
Engineering	668,425	748,782
Utility Operations	1,976,195	1,588,749
Customer Service	216,687	239,271
Total Operating Expense	(4,092,824)	(3,559,976)
Operating Income	1,156,178	1,738,296
<u>Other Revenue</u>		
Grants Non-Capital	1,401	0
Capital Contributions	196	0
Gain or Loss on Sale of Fixed Assets	1,850	0
Transfer from Other Funds		
Street Maintenance	5,600	0
Street Lighting	5,600	5,600
Interest Income	4,322	(5,212)
Total Other Revenue	18,969	388
<u>Other Expenses and Transfers</u>		
Bond Interest	20,594	15,061
Transfer to Other Funds		
Non-Capital Improvements	30,086	19,383
Street Sweeping	433,804	450,000
Reimbursement for MIS Programmer	33,750	50,450
Reimbursement for Janitors	25,294	0
Total Other Expenses and Transfers	(543,528)	(534,894)
Net Income or Loss	\$ 631,619	\$ 1,203,790

Stormwater Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)

	Assets & Deferred Outflows	
	2016	2017
<u>Current Assets</u>		
Cash	\$ 94,781	\$ 889,030
Accounts Receivable	491,830	539,700
Special Assessments	34,238	27,987
Due from Other Funds	9,628	12,325
Due from Other Governments	1,401	0
Inventory	71,332	87,563
Prepays	74,337	41,653
Total Current Assets	\$ 777,547	\$ 1,598,258
<u>Utility Plant</u>		
In Service	19,365,397	21,381,274
Construction	2,143,569	554,303
Less Accumulated Depreciation	(4,208,088)	(4,587,829)
Total Utility Plant Assets	17,300,878	17,347,748
<u>Other Assets</u>		
Special Assessments Receivable	982	79
Total Other Assets	982	79
Total Assets	18,079,407	18,946,085
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	3,895	315
Deferred Pension Obligation Outflows	864,197	721,003
Total Deferred Outflows	868,092	721,318
Total Assets and Deferred Outflows	\$ 18,947,499	\$ 19,667,403

Stormwater Utility
Statement of Net Assets
For The Year Ending December 31, 2016 and 2017
(Unaudited)

	Liabilities & Net Assets	
	2016	2017
<u>Current Liabilities</u>		
Accounts Payable	\$ 33,295	\$ 49,584
Contracts Payable	135,692	10,151
Due to Other Funds	14,847	20,602
Due to Other Governments	5,442	1,787
Accrued Interest Payable	11,084	8,743
Accrued Salaries Payable	32,466	30,245
Vacations Payable	109,809	104,622
Unearned Revenue	13,816	12,361
Bonds Payable	228,121	241,549
Total Current Liabilities (Payable from Current Assets)	\$ 584,572	\$ 479,644
<u>Long Term Liabilities</u>		
Pension Liability	2,057,072	1,618,790
Bonds Payable	791,549	550,000
Less Unamortized Bond Discount or Premium	37,414	27,015
Total Long Term Liabilities	2,886,035	2,195,805
Total Liabilities	3,470,607	2,675,449
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	290,196	601,468
Total Deferred Inflows	290,196	601,468
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	16,247,689	16,529,499
Unrestricted	(1,060,993)	(139,013)
Total Net Assets	15,186,696	16,390,486
Total Liabilities and Net Assets	\$ 18,947,499	\$ 19,667,403

**City of Duluth
Stormwater Utility Bonds Payable
December 31, 2017**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2016</u>	<u>Issued</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2017</u>
Stormwater Utility							
Bonds							
Revenue and General Obligation Refunding	\$ 755,000	11/23/2010	2/1/2018	\$ 229,671	\$ 0	\$ 113,122	\$ 116,549
Revenue and General Obligation Refunding	790,000	11/5/2015	2/1/2022	<u>790,000</u>	<u>0</u>	<u>115,000</u>	<u>675,000</u>
Bond Total				<u>\$ 1,019,671</u>	<u>\$ 0</u>	<u>\$ 228,122</u>	<u>\$ 791,549</u>
Total Stormwater Utility Bonds				<u>\$ 1,019,671</u>	<u>\$ 0</u>	<u>\$ 228,122</u>	<u>\$ 791,549</u>

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 241,549	\$ 18,184	\$ 259,733
2019	130,000	13,900	143,900
2020	135,000	10,575	145,575
2021	140,000	6,450	146,450
2022	145,000	2,175	147,175
	<u>\$ 791,549</u>	<u>\$ 51,284</u>	<u>\$ 842,833</u>

**Stormwater Fund
Schedule of Fixed Assets
Year Ending December 31, 2017**

	<u>Balance Jan. 1, 2017</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2017</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 8,481	\$ 5,262	\$ 0	\$ 13,743	\$ 0	\$ 13,743
Infrastructure	15,253,510	1,891,511	0	17,145,021	1,895,564	15,249,457
Buildings and Structures	1,401,897	0	0	1,401,897	378,512	1,023,385
Equipment and Tools	2,701,509	158,162	39,058	2,820,613	2,313,753	506,860
Work in Progress	<u>2,143,569</u>	<u>331,094</u>	<u>1,920,360</u>	<u>554,303</u>	<u>0</u>	<u>554,303</u>
Total	<u>\$ 21,508,966</u>	<u>\$ 2,386,029</u>	<u>\$ 1,959,418</u>	<u>\$ 21,935,577</u>	<u>\$ 4,587,829</u>	<u>\$ 17,347,748</u>

LENGTH OF STORM SEWERS IN FEET

Dia. Inch.	BR	CMP	CPD	CI/DI	HDPE	NCP	PPC	PVC	RCP	STN	TMP	TP	VCP	UNK	Totals
3					5			5				840			850
4			33,327					508,175	1,033			237		134,614	677,386
6		2,859	42	172	9			19,436	76			245	3,120	17,596	43,555
8		262	50	153	33	48		14,757	583			117	794	4,740	21,537
10		1,542	21	304	39		64	4,524	12,586				3,127	17,148	39,355
12		41,546	13,217	1,622	29,534	780		22,111	390,351				1,888	59,522	560,571
13									47						47
14		59		38					232					301	630
15		5,571	191	25	8,901	169		2,455	168,999				1,114	34,911	222,336
16		89		803	589				212					781	2,474
17														91	91
18		6,741	839		4,826	50		1,971	109,741				616	24,213	148,997
20		50		90					1,079					3,545	4,764
21		337		84				49	36,908				1,719	3,597	42,694
22								207	747						954
24	277	2,929	46	184	2,692			612	73,224	160			396	14,718	95,238
26	2,031				160			48	3,843					12,047	18,129
27		50			28		44		14,481					936	15,539
28	662								3,530					2,122	6,314
29									335						335
30	155	898	51		2,481				36,765		143			5,332	45,825
31									320						320
32	372				24				2,730					387	3,513
33									711						711
34									665					319	984
36		1,863	232		1,089	460	513		30,501					7,951	42,609
38							43		85						128
40									627	659				56	1,342
42		134		304	46		95		10,713				85	444	11,821
44		139							3,642					383	4,164
45							111		331					455	897
46														77	77
48	69	1,237		99	154		517	22	17,403	504	78			3,912	23,995
50	240								284					36	560

LENGTH OF STORM SEWERS IN FEET

Dia. Inch.	BR	CMP	CPD	CI/DI	HDPE	NCP	PPC	PVC	RCP	STN	TMP	TP	VCP	UNK	Totals
51									996						996
52									393						393
54							117		10,588					3,000	13,705
56									89	61				65	215
58									413						413
60	36	639				28	362		4,071	178				1,899	7,213
62									112					58	170
66		110							631	70				265	1,076
72		332					483		2,286	1,533				589	5,223
73														79	79
78									398						398
84	203	356					112	138	616	1,218					2,643
88									128						128
96		106							754	129				224	1,213
108									609						609
120									747	354				258	1,359
122									54						54
128	105	58							63	726				552	1,504
132									170						170
144									127						127
156															0
192									49						49
UNK	715	227	83		109		1,351	2,080	6,019	193				89,471	100,248
Totals	4,865	68,134	48,099	3,878	50,719	1,535	3,812	576,590	952,097	5,785	221	1,439	12,859	446,694	2,176,727

Note: The Storm Sewer system also includes 10,887 catch basins and 5,119 manholes.

Miles of Pipe 412

Pipe quantities are derived from Geographic Information System.

BR - Brick
 CMP - Corrugated Metal
 CPD - Corrugated Polyethylene Drainage Pipe
 CI/DI - Cast or Ductile Iron
 HDPE - High Density Polyethylene

NCP - Non-Reinforced Concrete Perforated Pipe
 PPC - Pour-in-Place Concrete
 PVC - Polyvinyl Chloride
 RCP - Reinforced Concrete
 STN - Stone

TMP - Timber Pipe
 TP - Thermoplastic
 VCP - Vitrified Clay Pipe
 UNK - Unknown

DULUTH CREEKS AND STREAMS

Creek or Stream	Drainage Area (square miles)
Amity	16.60
58th Ave E	0.59
50th Ave E	0.63
47th Ave E	0.36
43rd Ave E	0.59
40th Ave E	0.45
38th Ave E	0.03
37th Ave E	0.13
34th Ave E	0.53
Tischer	7.30
Chester	7.30
Oregon	0.85
Brewery	1.66
Greys	0.63
Clarkhouse	1.00
Buckingham	1.10
Miller	9.70
Coffee	1.76
Merritt	2.30
32nd Ave W	0.73
41st Ave W	0.36
Keene	6.40

Creek or Stream	Drainage Area (square miles)
44th Ave W	0.78
49th Ave W	0.80
62nd Ave W	0.90
Kingsbury	8.60
68th Ave W	0.15
79th Ave W	0.14
82nd Ave W	0.26
Knowlton	1.56
84th Ave W	0.23
86th Ave W	0.08
Gogebic Street	0.34
Lenroot Street	0.61
Stewart Street	1.97
Morgan Park	1.31
U. S. Steel	2.70
Gary Street	0.33
Bowser Street	0.08
Heard Street	0.06
Sargent	3.30
Fond du Lac	0.58
Mission	10.30
Lester River	35.60

MPCA MS4 CREEK DATA

MS4 Discharge Waterbodies	Water Quality Status	Cause of Impairment	TMDL Development Status	Other
Lake Superior	ORVW Impaired	Mercury (fish tissue) PCB (fish tissue)	Not started	Restricted Discharge Area
St Louis River	Impaired	Mercury (fish tissue and water column) PCB (fish tissue and water column) DDT Dieldrin Dioxin Toxaphene Fecal Coliform Aquatic Macroinvertebrate Bioassessments	Not started*	Area of Concern & Protected Water
Amity Creek	Impaired	Turbidity	Underway	Trout stream
E Br Amity	Impaired	Turbidity	Underway	Trout stream
Lester River	Impaired	Turbidity & Mercury (water column)	Underway (Turbidity)	Trout stream
Twin Ponds- Buckingham Creek	Impaired (Upper Twin Ponds)	PCB (fish tissue)- Upper Twin Mercury (fish tissue)- South Twin	Not started	Trout stream
Miller Creek	Impaired	Temperature Lack of coldwater assemblage Aquatic Macroinvertebrates E. coli Chloride	Study started for temp. and Lack of coldwater assemblage TMDL started	Trout stream
Chester Creek		Mercury		Trout stream
E Br Chester		E. coli		Trout stream
Keene Creek		E. coli		Trout stream
Kingsbury Creek		Fish Bioassessment Aquatic Macroinvertebrates		Trout stream
Mission Creek	No impairments			Trout stream
Sergeant Creek		E. coli		Trout stream
Stewart Creek		E. coli		Trout stream
Tischer Creek		E. coli		Trout stream
58th Ave E				
50th Ave E				
47th Ave E				

MPCA MS4 CREEK DATA

MS4 Discharge Waterbodies	Water Quality Status	Cause of Impairment	TMDL Development Status	Other
43rd Ave E				
38th Ave E				
37th Ave E				
34th Ave E				
Oregon				
Brewery				
Greys				
Clarkhouse				
Coffee				Trout stream
Merritt				Trout stream
32nd Ave W				
41st Ave W				
44th Ave W				
49th Ave W				
62nd Ave W				
68th Ave W				
79th Ave W				
82nd Ave W				
Knowlton				Trout stream
84th Ave W				
85th Ave W				
Gogebic St				
Lenroot St				
Morgan Park				
U.S. Steel				
Gary St				
Bowser				
Heard St				

*Not listed as underway in the MPCA status file:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/impaired-waters-list.html>

STORMWATER UTILITY ACTIVITIES 2017

ACTIVITY	WORK COMPLETED
Catch basin repair or rehab	96
Culverts repaired or replaced	100
Ditch line (dug or repaired and seeded or sodded)	10,945 ft
Illicit discharges detected and removed	2
Line flushing/cleaning	107,965 ft
Manhole repair or rehab	28
Outfalls inspected	0%
Sediment trap cleaning	1 cubic yd
Stream restoration	0 project sites
Structural sedimentation basins inspected	1%
Televising storm sewer pipe	107,411 ft
Presentations	69
Radio, television and newspaper articles	465