

CITY OF DULUTH

Public Works & Utilities Department
2016 Annual Report

CONTENTS

Officers and Staff	1
Organizational Chart	2
Water Utility:	
Statement of Net Income	3
Statement of Net Assets	4-5
Bonds, Notes, and Capital Leases Payable	6
Schedule of Fixed Assets	7
Water Pumping Station Expense	8
Water Plant Statistics	9
Water Purification and Analysis	10-12
Water Distribution Properties	13-16
Water Activities	17
Gas Utility:	
Statement of Net Income	18
Statement of Net Assets	19-20
Bonds and Capital Leases Payable	21
Schedule of Fixed Assets	22
Gas Statistics	23
Gas Mains in Service	24
Gas Activities	25
Sewer Utility:	
Statement of Net Income	26
Statement of Net Assets	27-28
Bonds, Notes and Capital Leases Payable	29
Schedule of Fixed Assets	30
Sewer Pumping Stations - Sewage Pumping Equipment	31-35
Sewer Lines	36
Sewer Activities	37
Clean Water Utility:	
Statement of Net Income	38
Statement of Net Assets	39-40
Bonds and Notes Payable	41
Schedule of Fixed Assets	42
Stormwater Utility:	
Statement of Net Income	43
Statement of Net Assets	44-45
Bonds Payable	46
Schedule of Fixed Assets	47
Stormwater Pipes	48-49
Creeks and Streams	50-52
Stormwater Activities	53

Front cover photo:
Amity Creek bridge - photo by Todd Carlson

OFFICERS OF THE DEPARTMENT

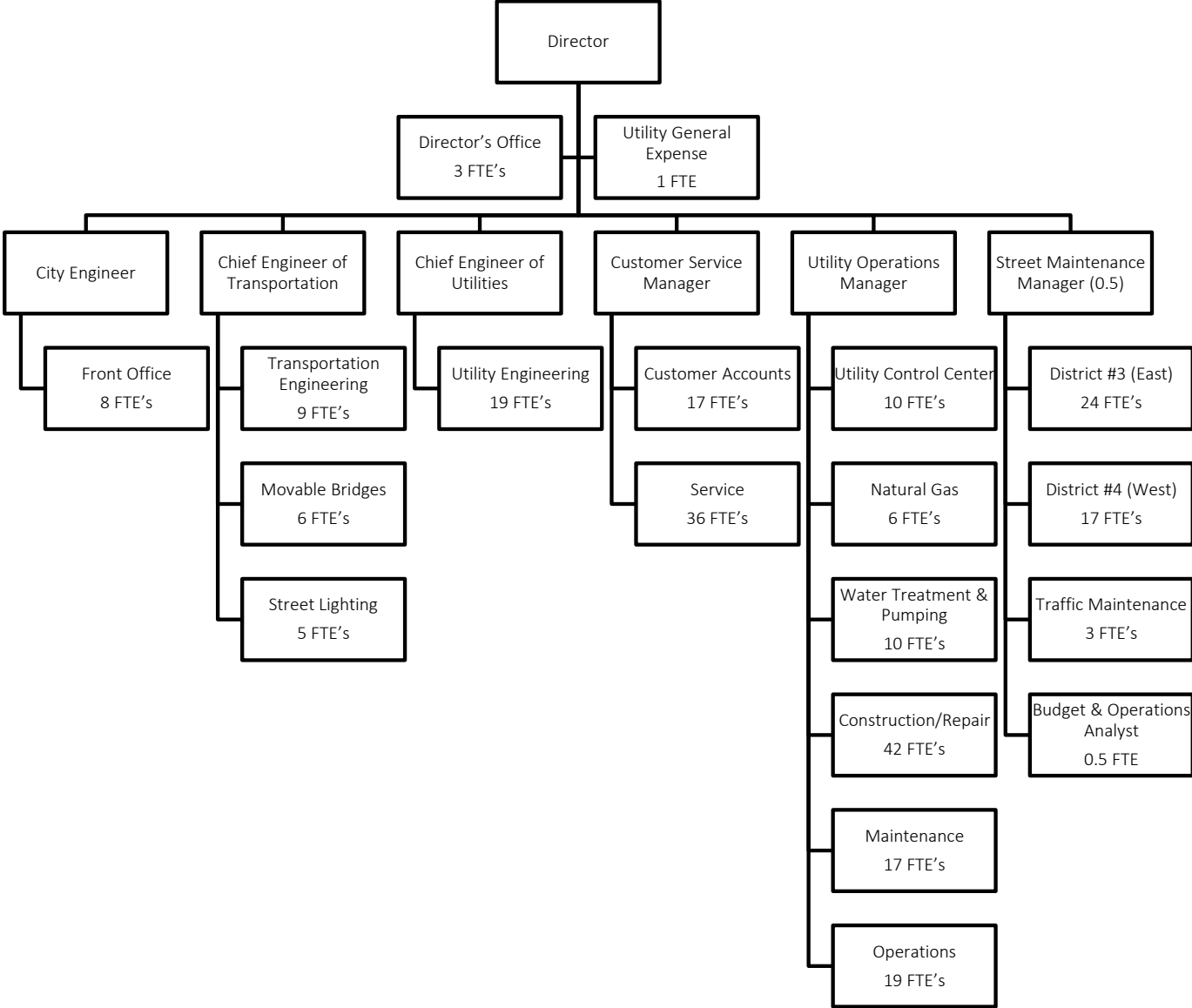
Mayor	.....	Emily Larson
Chief Administrative Officer	.....	Dave Montgomery
City Council Public Works & Utilities Committee		
Councilor Em Westerlund		
Duluth Public Utilities Commission		
Rob Prusak, President	Councilor Zack Filipovich	
Jason Thorsell, Vice President	Councilor Joel Sipress	
Jen Julsrud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

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, Maintenance Operations (Provisional)	.....	Greg Guerrero
Manager, Utility Operations	.....	Howard Jacobson
Public Works & Utilities Analyst	.....	Glenn Strid
Executive Assistant	.....	Leanna Gilbert
Financial Analyst	.....	Ken Taylor

City of Duluth Public Works & Utilities Department 2016

Total Budgeted FTE's: 214 & 45 Street Maintenance (added to PWU Nov. 7, 2016)



**W
A
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**Water Utility
Statement of Net Income
For The Year Ended December 31, 2015 and 2016
(Unaudited)**

	2015		2016
<u>Operating Revenue</u>			
Metered Water Sales	\$ 14,275,924		\$ 14,350,552
Other	159,488		138,204
Total Operating Revenue	\$ 14,435,412		\$ 14,488,756
<u>Operating Expense</u>			
Director's Office	66,034		69,129
Capital Related Expenses	1,761,309		1,895,520
Utility General Expense	968,448		1,096,859
Engineering	347,398		463,975
Utility Operations	3,009,286		3,299,809
Water Treatment and Pumping	2,811,113		2,742,355
Customer Service	1,274,186		1,217,502
Total Operating Expense	(10,237,774)		(10,785,149)
Operating Income	4,197,638		3,703,607
<u>Other Revenue</u>			
Grants Non-Capital	0		2,335
Contributed Capital	161,465		12,047
Gain or Loss on the Sale of Fixed Assets	14,847		(4,390)
Transfer from Other Funds			
Administrative Billing Fee	97,537		135,000
Street Maintenance	10,660		9,300
Street Lighting	10,660		9,300
Intergovernmental	16,919		16,919
Interest Income	4,640		5,640
Total Other Revenue	316,728		186,151
<u>Other Expenses and Transfers</u>			
Transfer to Other Funds			
Non-Capital Improvements	114,313		120,342
Reimbursement for MIS Programmer	21,700		33,750
Reimbursement for Janitors	38,500		25,294
Interest on Long Term Debt	269,225		213,800
Total Other Expenses and Transfers	(443,738)		(393,186)
Net Income or Loss	\$ 4,070,628		\$ 3,496,572

Water Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

	Assets & Deferred Outflows	
	2015	2016
<u>Current Assets</u>		
Cash	\$ 483,951	\$ 0
Restricted Cash and Equivalents:		
Minnesota Water Connection Fees	89,466	89,466
Accounts Receivable (Net)	1,352,486	1,355,009
Special Assessments	159,872	31,383
Due from Other Funds	115,828	135,400
Due from Other Governments	31,969	2,566
Inventory	1,102,069	1,195,609
Prepays	200,678	617,339
Total Current Assets	\$ 3,536,319	\$ 3,426,772
<u>Utility Plant</u>		
In Service	91,988,100	95,476,261
Construction	3,869,976	4,715,938
Less Accumulated Depreciation	(36,850,951)	(38,483,963)
Total Utility Plant Assets	59,007,125	61,708,236
<u>Other Assets</u>		
Special Assessments Receivable	3,924	110,748
Total Other Assets	3,924	110,748
Total Assets	62,547,368	65,245,756
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	17,161	8,840
Deferred Pension Obligation Outflows	422,134	1,852,430
Total Deferred Outflows	439,295	1,861,270
Total Assets and Deferred Outflows	\$ 62,986,663	\$ 67,107,026

Water Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

	Liabilities & Net Assets	
	2015	2016
<u>Current Liabilities</u>		
Accounts Payable	\$ 186,638	\$ 185,911
Contracts Payable	365,632	222,447
Notes Payable	1,057,139	1,070,062
Leases Payable	219,657	228,061
Due to Other Funds	17,891	29,781
Interfund Loan Payable	0	855,033
Due to Other Governments	136,333	89,849
Accrued Interest Payable	89,770	79,825
Accrued Salaries Payable	63,323	75,735
Vacations Payable	223,158	232,149
Unearned Revenue	61,801	54,819
Customer Deposits	10,000	10,000
Bonds Payable	388,095	336,473
Total Current Liabilities (Payable from Current Assets)	\$ 2,819,437	\$ 3,470,145
<u>Long Term Liabilities</u>		
Notes Payable	8,717,918	7,647,856
Leases Payable	1,938,717	1,710,656
Pension Liability	3,009,997	4,409,395
Bonds Payable	1,125,325	853,379
Less Unamortized Bond Discount or Premium	45,327	(32,264)
Total Long Term Liabilities	14,837,284	14,589,022
Total Liabilities	17,656,721	18,059,167
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	400,698	622,043
Total Deferred Inflows	400,698	622,043
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	45,532,108	49,902,853
Unrestricted	(602,864)	(1,477,037)
Total Net Assets	44,929,244	48,425,816
Total Liabilities and Net Assets	\$ 62,986,663	\$ 67,107,026

City of Duluth
Water Utility Bonds, Notes and Capital Leases Payable
December 31, 2016

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2015</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2016</u>
Water Utility								
Bonds								
Revenue and General Obligation Refunding	\$ 950,000	12/13/2007	2/1/2016	\$ 140,000	\$	\$	\$ 140,000	\$ 0
Revenue and General Obligation	196,000	2/19/2009	2/1/2024	128,000			12,000	116,000
Revenue and General Obligation Refunding	1,625,000	11/23/2010	2/1/2018	730,420			236,095	494,325
Revenue and General Obligation Refunding	515,000	11/5/2015	2/1/2022	515,000				515,000
Bond Total				\$ 1,513,420	\$ 0	\$ 0	\$ 388,095	\$ 1,125,325
Notes								
Public Facilities Authority	\$ 870,000	8/25/2003	8/20/2018	\$ 207,185	\$	\$	\$ 67,267	\$ 139,918
Public Facilities Authority	1,971,532	7/2/2004	8/20/2018	462,000			150,000	312,000
Public Facilities Authority	1,668,813	10/28/2009	8/20/2019	684,000			168,000	516,000
Public Facilities Authority	1,293,200	8/31/2010	8/20/2025	876,000			83,000	793,000
Public Facilities Authority	3,344,131	8/31/2010	8/20/2025	2,352,000			224,000	2,128,000
Public Facilities Authority	1,221,631	11/18/2011	8/20/2026	882,976			75,976	807,000
Public Facilities Authority	4,778,806	3/24/2014	8/20/2029	4,310,896			288,896	4,022,000
Note Total				\$ 9,775,057	\$ 0	\$ 0	\$ 1,057,139	\$ 8,717,918
Capital Leases								
AMR System	\$ 3,375,986	7/12/2007	2/1/2024	\$ 2,158,373	\$	\$	\$ 219,657	\$ 1,938,716
Capital Lease Total				\$ 2,158,373	\$ 0	\$ 0	\$ 219,657	\$ 1,938,716
Total Water Utility Bonds, Notes and Capital Leases				\$ 13,446,850	\$ 0	\$ 0	\$ 1,664,891	\$ 11,781,959

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2017	\$ 1,634,596	\$ 199,005	\$ 1,833,601
2018	1,671,493	165,785	1,837,278
2019	1,210,846	135,536	1,346,382
2020	1,054,252	114,150	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	893,915	33,023	926,938
2025	740,000	22,006	762,006
2026	405,000	13,992	418,992
2027	322,000	9,750	331,750
2028	325,000	6,530	331,530
2029	328,000	3,280	331,280
	\$ 11,781,959	\$ 921,793	\$ 12,703,752

Water Fund
Schedule of Fixed Assets
Year Ending December 31, 2016

	<u>Balance Jan.</u> <u>1, 2016</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec.</u> <u>31, 2016</u>	<u>Accumulated</u> <u>Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 203,700	\$	\$	\$ 203,700	\$	\$ 203,700
Infrastructure	61,254,997	3,306,589		64,561,586	18,499,608	46,061,978
Buildings and Structures	22,338,952			22,338,952	14,190,155	8,148,797
Equipment and Tools	8,190,451	368,109	186,537	8,372,023	5,794,200	2,577,823
Work in Progress	<u>3,869,976</u>	<u>4,187,019</u>	<u>3,341,057</u>	<u>4,715,938</u>		<u>4,715,938</u>
Total	<u>\$ 95,858,076</u>	<u>\$ 7,861,717</u>	<u>\$ 3,527,594</u>	<u>\$ 100,192,199</u>	<u>\$ 38,483,963</u>	<u>\$ 61,708,236</u>

COMPARATIVE STATEMENT, OPERATING EXPENSE OF ALL STATIONS

Station	Year	Daily Average Gallons Pumped, Initial Supply	Gallons Pumped	K.W.H. Consumed	Electricity
Lakewood	2016	13,664,958	4,987,710,000	8,181,600	\$ 685,927
	2015	14,190,000	5,179,400,000	8,563,350	\$ 683,251
Middle	2016	2,285,208	834,101,000	1,199,200	\$ 103,424
	2015	2,463,197	899,067,000	1,196,800	\$ 103,422
Woodland	2016	1,321,479	482,340,000	1,567,800	\$ 133,151
	2015	1,501,917	548,200,000	1,617,600	\$ 138,332
West Duluth	2016	4,409,172	1,609,348,000	477,504	\$ 45,697
	2015	5,139,879	1,876,056,000	537,984	\$ 49,450
Orphanage	2016	192,619	70,306,000	52,160	\$ 6,609
	2015	242,832	88,634,000	61,440	\$ 7,214
Highland	2016	1,144,978	417,917,000	499,584	\$ 45,995
	2015	1,265,183	461,792,000	491,328	\$ 44,926
Arlington	2016	1,189,139	434,036,000	694,656	\$ 69,169
	2015	1,287,079	469,784,000	704,448	\$ 68,099
Lakeside	2016	95,016	34,681,000	78,160	\$ 11,265
	2015	130,301	47,560,000	75,920	\$ 10,792
Bay View	2016	419,167	152,996,000	232,640	\$ 26,663
	2015	460,789	168,188,000	239,680	\$ 26,597
Proctor	2016	391,753	142,990,000	219,520	\$ 25,674
	2015	431,386	157,456,000	225,600	\$ 25,480
Airport	2016	-	unmetered	24,384	\$ 3,295
	2015	-	unmetered	11,136	\$ 1,365
TOTALS	2016			13,227,208	\$ 1,156,869
	2015			13,725,286	\$ 1,158,928

WATER PLANT STATISTICS

	2016	2015	2014	2013	2012	2011	2010
Water Pumped							
Million Cubic Feet	666.81	692.43	695.74	695.88	751.10	739.80	773.20
Water Sold							
Million Cubic Feet	565.57	589.84	591.00	605.95	644.40	592.60	665.70
General & Distribution Operating							
Costs including Maintenance (*)	\$ 9,008,318	\$ 8,528,252	\$ 9,529,831	\$ 9,394,544	\$ 8,897,762	\$ 9,395,019	\$ 9,275,099
Cost per 100 Cubic Feet	\$ 1.5928	\$ 1.4459	\$ 1.6125	\$ 1.5504	\$ 1.3808	\$ 1.5854	\$ 1.3933
Interest charges	\$ 213,800	\$ 269,225	\$ 274,990	\$ 274,206	\$ 296,162	\$ 297,135	\$ 304,164
Cost per 100 Cubic Feet	\$ 0.0378	\$ 0.0456	\$ 0.0465	\$ 0.0453	\$ 0.0460	\$ 0.0501	\$ 0.0457
Depreciation charge	\$ 1,776,832	\$ 1,709,522	\$ 1,635,319	\$ 1,576,417	\$ 1,487,132	\$ 1,414,602	\$ 1,414,807
Cost per 100 Cubic Feet	\$ 0.3142	\$ 0.2898	\$ 0.2767	\$ 0.2602	\$ 0.2308	\$ 0.2387	\$ 0.2125
Total Cost per 100 Cubic Feet	\$ 1.9448	\$ 1.7813	\$ 1.9357	\$ 1.8558	\$ 1.6575	\$ 1.8742	\$ 1.6515
Operating revenue	\$ 14,488,756	\$ 14,435,412	\$ 14,539,396	\$ 14,878,380	\$ 13,911,617	\$ 11,743,510	\$ 12,006,506
Revenue per 100 Cubic Feet Sold	\$ 2.5618	\$ 2.4473	\$ 2.4601	\$ 2.4554	\$ 2.1588	\$ 1.9817	\$ 1.8036
Water meters in service	28,253	28,208	28,131	28,069	28,050	29,069	30,317
Water main miles	428.30	433.40	430.70	428.30	426.70	427.50	427.30
Water meters per mile of main	65.97	65.09	65.31	65.54	65.74	68.00	70.95
Hydrants on system	2,699	2,688	2,659	2,671	2,594	2,577	2,535

(*) Depreciation not included

WATER PURIFICATION 2016 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	382,260,000	36.3	1,878	6,659	8,000	1,334	0.027
February	356,380,000	33.9	1,724	6,540	8,000	1,269	0.027
March	384,780,000	34.4	1,875	6,826	4,000	1,342	0.024
April	398,100,000	35.5	1,842	6,707	8,000	1,373	0.029
May	426,320,000	38.5	1,978	7,301	8,000	1,481	0.028
June	420,780,000	42.0	1,932	7,270	12,000	1,455	0.035
July	479,310,000	49.4	2,107	9,292	8,000	1,645	0.037
August	532,640,000	52.7	2,292	9,743	12,000	1,812	0.037
September	448,470,000	50.3	1,991	8,165	12,000	1,549	0.029
October	405,420,000	49.2	1,880	7,522	8,000	1,388	0.028
November	372,410,000	45.2	1,809	7,165	8,000	1,297	0.041
December	380,840,000	39.3	1,796	6,868	8,000	1,300	0.030
TOTAL	4,987,710,000		23,104	90,058	104,000	17,245	
Average/Month	415,642,500	42.2	1,925	7,505	8,667	1,437	0.031

2016
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	12.44	12.65
pH	7.72	8.98
Monthly Specific Conductance, Micromhos/cm	102.3	134.5
Alkalinity	42	45
Sulfates	3	9
Fluorides	0.07	0.75
Turbidity, NTU	2.52	0.06
Chlorine	0.00	1.31

BACTERIOLOGICAL DATA 2016

	RAW WATER INTAKE		TREATED WATER		DISTRIBUTION	
Average for	Number Samples	Coliform per 100 ml	Number Samples	Number Samples Positive	Number Samples	Number Samples Positive
January	15	1.20	200	0	91	0
February	14	0.57	189	0	95	0
March	19	1.53	231	0	94	0
April	15	0.13	195	0	91	0
May	17	0.29	221	0	92	0
June	18	3.00	221	0	93	0
July	12	3.00	158	0	91	0
August	17	0.88	194	0	99	0
September	14	0.79	167	0	91	0
October	17	0.94	222	0	90	0
November	15	1.27	182	0	91	0
December	14	1.64	173	0	91	0
TOTAL	187	N/A	2,353	0	1,109	0
Average for Month	15.6	1.27	196	0	92.4	0.00

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			2,051		10,757	12,841	32	
3	1,391					619	2,010	9	
4	9,816	2,792				7	12,615	55	
6	974,579	147,767	569		1,729	10,967	1,135,611	2,457	2
8	78,946	99,982	458		293	160,225	339,904	801	5
10	153,005	52,380	6,917			34,731	247,033	447	6
12	158,343	43,600	1,904			18,042	221,889	378	7
14						2,399	2,399		
16	80,569	23,931	10,354			3	114,857	145	2
18	1,389	434				2,095	3,918	5	
20	13,927	1,802	29,242			1,403	46,374	44	4
24	8,439	6,420	54			5,950	20,863	33	
30			2,671				2,671	2	
36	25,057	11,732	11,379				48,168	33	13
42	182		49,211				49,393	7	
48							0		
TOTALS	1,505,676	390,840	112,759	2,937	2,022	247,198	2,261,432	4,453	39
Total Miles -							428.3		
Change from 2015 -							-5.1	-103	0

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 12/31/2015	2,688	2,609	55,045
TOTAL IN SERVICE 12/31/2016	2,699	2,641	55,166
Changes from 2015:	11	32	121

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 2	Each unit direct connected to 100 hp, 440 volt, 60 cycle, 3-phase U.S. Induction motor	1,750	1,000
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			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
						2			

WATER UTILITY ACTIVITIES 2016

UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
Repair of water services and mains	52
Repair of valves	213
Repair of main breaks	126
Install services	32
Fire Hydrants	
Replaced hydrants	34
Repaired hydrants	102
New hydrants	51
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	93
Applications (water & gas)	9,821
Delinquent account service shut off/restore (water & gas)	1,849
Emergency (water & gas)	910
General (water & gas)	2,092
Meter Shop	
Water meters repaired	104
Water meters tested	375
Plumbing truck orders (water & gas)	364

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**Gas Utility
Statement of Net Income
For The Year Ended December 31, 2015 and 2016
(Unaudited)**

	2015	2016
<u>Operating Revenue</u>		
Residential Sales	\$ 22,744,503	\$ 20,294,557
Commercial & Industrial - Firm	8,620,493	7,380,462
Commercial & Industrial - Interruptible	2,715,389	1,988,945
Servicing Appliances	780,174	809,965
Other	633,478	734,030
Total Operating Revenue	\$ 35,494,037	\$ 31,207,959
<u>Operating Expense</u>		
Director's Office	142,336	438,044
Capital Related Expenses	1,490,651	1,545,735
Utility General Expense	1,256,230	1,271,198
Engineering	566,448	671,367
Utility Operations	2,006,810	2,292,860
Natural Gas	19,258,983	16,332,147
Customer Service	4,293,508	4,028,811
Total Operating Expense	(29,014,966)	(26,580,162)
Operating Income	6,479,071	4,627,797
<u>Other Revenue</u>		
Grants Non-Capital	0	131,062
Contributed Assets	57,399	61,627
Other Revenue	0	480,350
Other Expense	0	(480,350)
Gain or Loss on Sale of Fixed Assets	26,680	(10,410)
Transfer from Other Funds		
Street Maintenance	15,990	14,900
Street Lighting	15,990	14,900
Intergovernmental	23,365	23,365
Interest Income	(19,384)	(12,912)
Total Other Revenue	120,040	222,532
<u>Other Expenses and Transfers</u>		
Interest Expense	179,433	122,540
Transfers to Other Funds		
Payment to City in Lieu of Taxes	4,080,329	2,484,583
Non-Capital Improvements	71,445	75,214
Reimbursement for MIS Programmer	21,700	33,750
Reimbursement for Janitors	27,300	25,294
Other Transfers	5,401	65,954
Total Other Expenses and Transfers	(4,385,608)	(2,807,335)
Net Income or Loss	\$ 2,213,503	\$ 2,042,994

Gas Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

	Assets & Deferred Outflows	
	2015	2016
<u>Current Assets</u>		
Cash	\$ 5,292,734	\$ 3,107,462
Restricted Cash and Equivalents:		
Customer Deposits	2,109,072	2,394,282
Accounts Receivable (Net)	3,936,502	5,020,658
Special Assessments	10,334	2,530
Due from Other Funds	29,794	0
Interfund Loan Receivable	0	1,222,050
Due from Other Governments	80	131,139
Inventory	973,851	1,037,998
Prepaid Expenses	693,615	1,272,351
Prepaid Gas	1,575,036	1,231,195
	<u>\$ 14,621,018</u>	<u>\$ 15,419,665</u>
<u>Utility Plant</u>		
In Service	69,352,417	72,743,721
Construction	6,014,449	5,472,626
	<u>75,366,866</u>	<u>78,216,347</u>
Less Accumulated Depreciation	(24,671,567)	(25,855,088)
	<u>50,695,299</u>	<u>52,361,259</u>
<u>Other Assets</u>		
Special Assessments Receivable	0	6,331
Advance to Other Funds	1,050,000	900,000
	<u>1,050,000</u>	<u>906,331</u>
<u>Total Assets</u>	<u>66,366,317</u>	<u>68,687,255</u>
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	55,076	33,306
Deferred Pension Obligation Outflows	519,688	2,349,297
	<u>574,764</u>	<u>2,382,603</u>
<u>Total Assets and Deferred Outflows</u>	<u>\$ 66,941,081</u>	<u>\$ 71,069,858</u>

Gas Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

Liabilities & Net Assets		
	2015	2016
<u>Current Liabilities</u>		
Accounts Payable	\$ 1,646,573	\$ 2,656,294
Contracts Payable	296,240	172,225
Leases Payable	201,352	209,056
Due to Other Funds	36,379	14,136
Due to Other Governments	69,925	65,688
Due to Component Units	22,493	0
Accrued Interest Payable	71,156	57,224
Accrued Salaries Payable	77,863	101,671
Accrued Vacations Payable	319,641	339,978
Unearned Revenue	1,217,603	1,083,618
Customer Deposits	2,109,072	2,394,282
Bonds Payable	869,955	902,931
Total Current Liabilities (Payable from Current Assets)	\$ 6,938,252	\$ 7,997,103
<u>Long Term Liabilities</u>		
Leases Payable	1,777,157	1,568,101
Pension Liability	3,705,569	5,592,100
Bonds Payable	1,887,931	985,000
Less Unamortized Bond Discount	113,613	70,403
Total Long Term Liabilities	7,484,270	8,215,604
Total Liabilities	14,422,522	16,212,707
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	493,291	788,889
Total Deferred Inflows	493,291	788,889
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	45,900,367	48,659,074
Unrestricted	6,124,901	5,409,188
Total Net Assets	52,025,268	54,068,262
Total Liabilities and Net Assets	\$ 66,941,081	\$ 71,069,858

**City of Duluth
Gas Utility Bonds and Capital Leases Payable
December 31, 2016**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2015</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2016</u>
Gas Utility								
Bonds								
Revenue and General Obligation Refunding \$	2,846,814	12/17/2009	2/1/2017	\$ 857,886	\$		\$ 424,955	\$ 432,931
Revenue and General Obligation Refunding	3,125,000	11/29/2011	2/1/2019	<u>1,900,000</u>			<u>445,000</u>	<u>1,455,000</u>
Bond Total				<u>\$ 2,757,886</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 869,955</u>	<u>\$ 1,887,931</u>
Capital Leases								
AMR System	\$ 3,094,654	7/12/2007	2/1/2024	<u>\$ 1,978,509</u>	<u>\$</u>	<u>\$</u>	<u>\$ 201,352</u>	<u>\$ 1,777,157</u>
Capital Lease Total				<u>\$ 1,978,509</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 201,352</u>	<u>\$ 1,777,157</u>
Total Gas Utility Bonds and Capital Leases				<u><u>\$ 4,736,395</u></u>	<u><u>\$ 0</u></u>	<u><u>\$ 0</u></u>	<u><u>\$ 1,071,307</u></u>	<u><u>\$ 3,665,088</u></u>

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2017	\$ 1,111,987	\$ 120,686	\$ 1,232,673
2018	697,054	87,194	784,248
2019	730,359	59,189	789,548
2020	233,980	40,468	274,448
2021	242,932	31,515	274,447
2022	252,227	22,221	274,448
2023	261,877	12,572	274,449
2024	134,672	2,552	137,224
	<u>\$ 3,665,088</u>	<u>\$ 376,397</u>	<u>\$ 4,041,485</u>

Gas Fund
Schedule of Fixed Assets
Year Ending December 31, 2016

	<u>Balance Jan. 1, 2016</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2016</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 420,815	\$	\$	\$ 420,815	\$	\$ 420,815
Infrastructure	58,109,274	3,420,308		61,529,582	19,220,144	42,309,438
Buildings and Structures	2,592,124			2,592,124	924,428	1,667,696
Equipment and Tools	8,230,204	196,114	225,118	8,201,200	5,710,516	2,490,684
Work in Progress	<u>6,014,449</u>	<u>3,492,373</u>	<u>3,553,846</u>	<u>5,952,976</u>		<u>5,952,976</u>
Total	<u>\$ 75,366,866</u>	<u>\$ 7,108,795</u>	<u>\$ 3,778,964</u>	<u>\$ 78,696,697</u>	<u>\$ 25,855,088</u>	<u>\$ 52,841,609</u>

GAS STATISTICS

	2016	2015	2014	2013	2012	2011	2010
Gas sold MCF	4,770,804	4,766,168	5,224,178	5,225,302	4,089,209	4,745,574	4,505,246
Cost of gas sold	\$ 15,794,076	\$ 18,713,748	\$ 38,271,381	\$ 24,132,568	\$ 19,376,845	\$ 25,207,873	\$ 25,014,748
Cost per MCF sold	\$ 3.3106	\$ 3.9264	\$ 7.3258	\$ 4.6184	\$ 4.7385	\$ 5.3119	\$ 5.5524
Other operating costs, including maintenance(*)	\$ 9,409,848	\$ 9,543,411	\$ 9,364,188	\$ 9,506,116	\$ 9,314,644	\$ 9,168,387	\$ 9,238,887
Cost per MCF sold	\$ 1.9724	\$ 2.0023	\$ 1.7925	\$ 1.8192	\$ 2.2779	\$ 1.9320	\$ 2.0507
Interest charges	\$ 122,540	\$ 179,433	\$ 215,201	\$ 246,635	\$ 274,210	\$ 295,311	\$ 503,288
Cost per MCF sold	\$ 0.0257	\$ 0.0376	\$ 0.0412	\$ 0.0472	\$ 0.0671	\$ 0.0622	\$ 0.1117
Depreciation charge(**)	\$ 1,376,239	\$ 1,374,853	\$ 1,354,779	\$ 1,313,680	\$ 1,272,122	\$ 1,240,613	\$ 1,219,538
Cost per MCF sold	\$ 0.2885	\$ 0.2885	\$ 0.2593	\$ 0.2514	\$ 0.3111	\$ 0.2614	\$ 0.2707
Total cost per MCF sold	\$ 5.5971	\$ 6.2548	\$ 9.4188	\$ 6.7363	\$ 7.3945	\$ 7.5675	\$ 7.9855
Operating revenue per MCF	\$ 6.5414	\$ 7.4471	\$ 11.1578	\$ 7.7434	\$ 8.3003	\$ 8.6989	\$ 8.8117
Gas meters in service	28,313	27,873	27,682	27,435	27,075	26,592	26,668
Gas main miles	543.80	539.40	534.90	527.10	520.00	510.10	512.40
Gas transmission miles	5.30	5.30	5.30	5.30	5.30	5.30	5.30
Gas meters per mile of main	52.07	51.67	51.75	52.05	52.07	52.13	52.05

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

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

LENGTH OF GAS MAINS IN FEET

Diameter - Inches	Polyethylene	Steel	Total	Valves
1/2	1,563		1,563	
1	50,721		50,721	70
1 1/4		3,297	3,297	26
2	1,812,662	24,928	1,837,590	919
3	383,804	6,763	390,567	253
4	2,744	39,285	42,029	23
6	61,569	75,450	137,019	97
8	25,306	142,607	167,913	72
10	5	120,988	120,993	29
12	13,041	10,423	23,464	14
14		4,115	4,115	
16		92,008	92,008	9
Totals	2,351,415	519,864	2,871,279	1,512

Total Miles Gas Main 543.8

Added in 2016 4.4

Pressure Regulators 23

Gas Valves added in 2016 26

Note: Valves used only as plugs on end of mains are not included in the above table.
 Gas main quantities are derived from Geographic Information System.

GAS UTILITY ACTIVITIES 2016

UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
Services and Mains	
Installations	96
Cutoffs	75
Valves inspected and operated	400
Hits	32

CUSTOMER SERVICE

ACTIVITY	WORK COMPLETED
Service Workorders Completed	
Appliance service	3,856
Furnace cleaning	3,135
Tin shop/venting	400
Meter Truck	
Applications (water & gas)	9,821
Delinquent account service shut off/restore (water & gas)	1,849
Emergency (water & gas)	910
General (water & gas)	2,092
Meter Shop	
Gas meters repaired	224
Gas meters tested	494
Plumbing truck orders (water & gas)	364
Other	
Gas leak detection surveys	17,568
Inspect and paint gas meters and risers	2,790

SEWER

**Sewer Utility
Statement of Net Income
For The Year Ended December 31, 2015 and 2016
(Unaudited)**

	2015	2016
<u>Operating Revenue</u>		
General Sewage Revenue	\$ 17,926,756	\$ 17,688,633
Other	223,696	226,379
Total Operating Revenue	\$ 18,150,452	\$ 17,915,012
<u>Operating Expense</u>		
Director's Office	62,676	64,985
Capital Related Expenses	1,522,096	1,453,072
Utility General Expense	646,614	686,435
Engineering	568,598	564,534
Utility Operations	1,999,564	2,026,078
Wastewater Treatment	9,021,705	9,008,155
Inflow and Infiltration	843,837	780,465
Customer Service	445,940	336,441
Total Operating Expense	(15,111,030)	(14,920,165)
Operating Income	3,039,422	2,994,847
<u>Other Revenue</u>		
Grants Non-Capital	0	1,868
Contributed Assets	2,623,767	1,309,855
Gain or Loss on Sale of Fixed Assets	31,977	0
Transfer from Clean Water Fund to Cover Restricted Cash	0	255,466
Transfer from Other Funds		
Street Maintenance	9,430	7,450
Street Lighting	9,430	7,450
Intergovernmental	8,283	8,283
Interest Income	(190)	(2,481)
Total Other Revenue	2,682,697	1,587,891
<u>Other Expenses and Transfers</u>		
Transfer to Other Funds		
Non-Capital Improvements	71,445	75,214
Reimbursement for MIS Programmer	21,600	33,750
Reimbursement for Janitors	27,400	25,294
Interest on Long Term Debt	379,597	266,631
Total Other Expenses and Transfers	(500,042)	(400,889)
Net Income or Loss	\$ 5,222,077	\$ 4,181,849

**Sewer Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)**

	Assets & Deferred Outflows	
	2015	2016
<u>Current Assets</u>		
Cash	\$ 1,593,085	\$ 1,571,255
Restricted Cash and Equivalents:		
Construction	205,317	368,536
Accounts Receivable (Net)	1,823,562	1,770,020
Special Assessments	290,160	36,585
Due from Other Funds	37,319	12,844
Due from Other Governments	60,242	27,085
Inventory	63,551	73,004
Prepays	193,816	255,184
Total Current Assets	\$ 4,267,052	\$ 4,114,513
<u>Utility Plant</u>		
In Service	66,977,798	70,761,740
Construction	7,331,594	6,941,820
Less Accumulated Depreciation	(17,444,149)	(18,669,606)
Total Utility Plant Assets	56,865,243	59,033,954
<u>Other Assets</u>		
Special Assessments Receivable	7,639	184,197
Total Other Assets	7,639	184,197
Total Assets	61,139,934	63,332,664
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	178,340	131,876
Deferred Pension Obligation Outflows	253,240	1,112,279
Total Deferred Outflows	431,580	1,244,155
Total Assets and Deferred Outflows	\$ 61,571,514	\$ 64,576,819

Sewer Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

	Liabilities & Net Assets	
	2015	2016
<u>Current Liabilities</u>		
Accounts Payable	\$ 41,669	\$ 38,995
Contracts Payable	1,263,483	140,122
Notes Payable	393,298	398,938
Leases Payable	189,149	196,386
Due to Other Funds	8,890	16,104
Due to Other Governments	771,219	1,500,904
Interest Payable	109,631	104,204
Accrued Salaries Payable	38,841	38,656
Vacations Payable	143,508	132,750
Unearned Revenue	80,326	81,196
Bonds Payable	1,164,375	1,344,039
Total Current Liabilities (Payable from Current Assets)	\$ 4,204,389	\$ 3,992,294
<u>Long Term Liabilities</u>		
Notes Payable	1,720,457	1,365,213
Leases Payable	1,669,450	1,473,064
Pension Liability	1,805,691	2,647,589
Bonds Payable	6,303,791	4,959,752
Less Unamortized Bond Discount or Premium	206,245	162,440
Total Long Term Liabilities	11,705,634	10,608,058
Total Liabilities	15,910,023	14,600,352
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	240,374	373,501
Total Deferred Inflows	240,374	373,501
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	45,396,818	49,265,998
Legal Restricted Assets	205,317	368,536
Unrestricted	(181,018)	(31,568)
Total Net Assets	45,421,117	49,602,966
Total Liabilities and Net Assets	\$ 61,571,514	\$ 64,576,819

City of Duluth
Sewer Utility Bonds, Notes and Capital Leases Payable
December 31, 2016

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2015</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2016</u>
Sewer Utility								
Bonds								
Revenue and General Obligation Refunding	\$ 1,325,000	12/13/2007	2/1/2016	\$ 50,000	\$	\$	\$ 50,000	\$ 0
Revenue and General Obligation	1,244,000	2/19/2009	2/1/2024	815,836			80,119	735,717
Revenue and General Obligation Refunding	713,186	12/17/2009	2/1/2017	212,114			105,045	107,069
Revenue and General Obligation	905,000	12/17/2009	2/1/2025	650,000			55,000	595,000
Revenue and General Obligation Refunding	2,025,000	11/23/2010	2/1/2018	910,216			294,211	616,005
Revenue and General Obligation Refunding	2,265,000	11/29/2011	2/1/2020	1,635,000			310,000	1,325,000
Revenue and General Obligation Refunding	2,000,000	11/27/2012	2/1/2021	1,735,000			270,000	1,465,000
Revenue and General Obligation Refunding	1,110,000	11/5/2015	2/1/2023	1,110,000				1,110,000
Revenue and General Obligation Refunding	350,000	11/5/2015	2/1/2022	350,000				350,000
Bond Total				\$ 7,468,166	\$ 0	\$ 0	\$ 1,164,375	\$ 6,303,791
Notes								
Public Facilities Authority	\$ 100,000	8/25/2003	8/20/2018	\$ 23,814	\$	\$	\$ 7,732	\$ 16,082
Public Facilities Authority	1,179,115	10/17/2003	8/20/2018	276,000			91,000	185,000
Public Facilities Authority (Note 1)	1,973,033	7/12/2007	8/20/2022	1,060,000			146,000	914,000
Public Facilities Authority (Note 3)	279,117	11/18/2011	8/20/2021	159,566			25,566	134,000
Public Facilities Authority	1,255,464	9/4/2014	8/20/2024	594,375		43,694	123,000	515,069
Note Total				\$ 2,113,755	\$ 0	\$ 43,694	\$ 393,298	\$ 1,764,151
Capital Leases								
AMR System	\$ 2,907,099	7/12/2007	2/1/2024	\$ 1,858,600	\$	\$	\$ 189,150	\$ 1,669,450
Capital Lease Total				\$ 1,858,600	\$ 0	\$ 0	\$ 189,150	\$ 1,669,450
Total Sewer Utility Bonds, Notes, and Capital Leases				\$ 11,440,521	\$ 0	\$ 43,694	\$ 1,746,823	\$ 9,737,392

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2017	\$ 1,939,362	\$ 237,058	\$ 2,176,420
2018	1,883,208	198,092	2,081,300
2019	1,503,712	157,321	1,661,033
2020	1,549,118	118,775	1,667,893
2021	1,230,974	83,300	1,314,274
2022	914,705	55,271	969,976
2023	721,216	30,549	751,765
2024	437,028	10,278	447,306
2025	75,000	1,500	76,500
	\$ 10,254,323	\$ 892,144	\$ 11,146,467

**Sewer Fund
Schedule of Fixed Assets
Year Ending December 31, 2016**

	<u>Balance Jan. 1, 2016</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2016</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 156,349	\$	\$	\$ 156,349	\$	\$ 156,349
Infrastructure	53,326,555	3,789,910		57,116,465	10,992,420	46,124,045
Buildings and Structures	7,101,150			7,101,150	3,312,151	3,788,999
Equipment and Tools	6,393,744	87,539	93,507	6,387,776	4,365,035	2,022,741
Work in Progress	<u>7,331,594</u>	<u>3,402,328</u>	<u>3,792,102</u>	<u>6,941,820</u>		<u>6,941,820</u>
Total	<u>\$ 74,309,392</u>	<u>\$ 7,279,777</u>	<u>\$ 3,885,609</u>	<u>\$ 77,703,560</u>	<u>\$ 18,669,606</u>	<u>\$ 59,033,954</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"	SA1090003	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	NA 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	NA 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	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	69 69 69	12"	SW0830136	Permanent on site 2778 100kW
46	PS0090046	Duplex Submersible Grinder ~2005				Barnes	1 - 2 hp 2 - 2 hp	240	16 16	1.25"	SA0090132	
47	PS0090047	(in Bethany Crisis Shelter) ~2005				Barnes	1 - 1 hp 2 - 1 hp	240	9.2 9.2	1.25"	SA0090083	
48	PS0080048	 ~2005				Barnes	1 - 2 hp 2 - 2 hp	208	9.2 9.2		SW0080024	60 Amp
49	PS0410049	Duplex Submersible		8 MG		KSB	1 - 50 hp 2 - 50 hp	480	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	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	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	27,842									651				28,493
3	12,981													12,981
4	25,070													25,070
6	12,607		48				883			1,062		176	5,943	20,719
8	9,207	7,725	6,970			11,496	200,000		1,120	461,207	305	1,938	821,840	1,521,808
9							5,239						21,158	26,397
10	6,136		15,023			3,606	15,937		153	32,897	3,299	637	66,844	144,532
12	3,777		2,162			1,465	12,856		512	20,810	43,645		41,656	126,883
14						163								163
15							6,783			11,818	32,856		26,672	78,129
16	5,297					397			999		48			6,741
18				823		79	9,360	1,056		568	12,902		17,833	42,621
20				118		12	1,291				466		1,940	3,827
21						111	439			1,094	6,503	7	654	8,808
22				1,232			1,339						1,224	3,795
24	1,270			841		747	1,076			693	12,504		3,167	20,298
26				596							983			1,579
27				454							720		530	1,704
28				1,386										1,386
30				499		119	1,284				3,998			5,900
32							1,884				403			2,287
34				464			97							561
36				1,425		3,057	1,007			105	2,038			7,632
42					466				10				122	598
45				7	460									467
48	90			191	157	35			1,166		703			2,342
54														0
55					80									80
UNK										345	376	332	342	1,395
Total	106,385	7,725	24,203	8,036	1,163	21,287	259,475	1,056	3,960	531,250	121,749	3,090	1,009,925	2,099,304

Notes: The City of Duluth Sanitary Sewer system includes 8,631 manholes.

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

Miles - 397.6

Note: Pipe quantities are derived from Geographic Information System.

SANITARY SEWER ACTIVITIES 2016

ACTIVITY	WORK COMPLETED
Sewer calls	184
Cleaning sanitary sewer pipe	466,536 ft
Televising sanitary sewer pipe	211,421 ft
I & I inspections (Inflow and Infiltration Grant Program)	
Homes inspected	511
Point of Sale certificates	1,157
Point of Sale waivers	14
Laterals rehabilitated	7
Inspections for connections and disconnections	
Connections	59 services
Disconnections	37 services

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**Clean Water Utility
Statement of Net Income
For The Year Ended December 31, 2015 and 2016
(Unaudited)**

	2015		2016
<u>Operating Revenue</u>			
Charges for Services	\$ <u>1,835,014</u>		\$ <u>1,626,376</u>
Total Operating Revenue	\$ <u>1,835,014</u>		\$ <u>1,626,376</u>
<u>Operating Expense</u>			
Clean Water Expense	<u>628,864</u>		<u>563,912</u>
Total Operating Expense	<u>(628,864)</u>		<u>(563,912)</u>
Operating Income	<u>1,206,150</u>		<u>1,062,464</u>
<u>Other Revenue</u>			
Interest Income	<u>1,501</u>		<u>(3,675)</u>
Total Other Revenue	<u>1,501</u>		<u>(3,675)</u>
<u>Other Expenses and Transfers</u>			
Transfer to Sewer Fund to Cover Restricted Cash	0		255,466
Interest on Long Term Debt	<u>163,795</u>		<u>153,089</u>
Total Other Expenses and Transfers	<u>(163,795)</u>		<u>(408,555)</u>
Net Income or Loss	<u><u>\$ 1,043,856</u></u>		<u><u>\$ 650,234</u></u>

**Clean Water Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)**

Assets

	2015	2016
<u>Current Assets</u>		
Cash	\$ 478,491	\$ 542,808
Accounts Receivable (Net)	180,953	167,198
Total Current Assets	\$ 659,444	\$ 710,006
<u>Utility Plant</u>		
In Service	39,685,143	39,685,143
Construction	652,322	681,189
Less Accumulated Depreciation	(1,754,661)	(2,311,633)
Total Utility Plant Assets	38,582,804	38,054,699
Total Assets	\$ 39,242,248	\$ 38,764,705

Clean Water Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

	Liabilities & Net Assets	
	2015	2016
<u>Current Liabilities</u>		
Notes Payable	\$ 1,108,000	\$ 1,124,000
Interest Payable	57,694	52,003
Unearned Revenue	7,744	6,540
Bonds Payable	12,881	13,435
Total Current Liabilities (Payable from Current Assets)	\$ 1,186,319	\$ 1,195,978
<u>Long Term Liabilities</u>		
Notes Payable	10,037,000	8,913,000
Bonds Payable	118,283	104,847
Total Long Term Liabilities	10,155,283	9,017,847
Total Liabilities	11,341,602	10,213,825
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	27,306,640	27,899,417
Unrestricted	594,006	651,463
Total Net Assets	27,900,646	28,550,880
Total Liabilities and Net Assets	\$ 39,242,248	\$ 38,764,705

**City of Duluth
Clean Water Utility Bonds and Notes Payable
December 31, 2016**

		<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2015</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2016</u>
Clean Water Utility									
Bonds									
	Revenue and General Obligation	\$ 200,000	2/19/2009	2/1/2024	\$ 131,163	\$	\$	\$ 12,880	\$ 118,283
	Bond Total				\$ 131,163	\$ 0	\$ 0	\$ 12,880	\$ 118,283
Notes									
	Public Facilities Authority	\$ 796,835	6/17/2009	8/20/2024	\$ 516,000	\$	\$	\$ 53,000	\$ 463,000
	Public Facilities Authority	2,414,150	12/10/2009	8/20/2024	1,611,000			165,000	1,446,000
	Public Facilities Authority	8,504,224	8/31/2010	8/20/2025	5,758,000			544,000	5,214,000
	Public Facilities Authority	3,753,059	8/31/2010	8/20/2025	2,581,000			244,000	2,337,000
	Public Facilities Authority	278,149	11/18/2011	8/20/2021	180,000			29,000	151,000
	Public Facilities Authority	265,418	11/30/2011	8/20/2021	168,000			27,000	141,000
	Public Facilities Authority	476,537	9/10/2012	8/20/2022	331,000			46,000	285,000
	Note Total				\$ 11,145,000	\$ 0	\$ 0	\$ 1,108,000	\$ 10,037,000
	Total Clean Water Utility Bonds and Notes				<u>\$ 11,276,163</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 1,108,000</u>	<u>\$ 10,155,283</u>

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2017	\$ 1,137,435	\$ 143,081	\$ 1,280,516
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>\$ 10,155,283</u>	<u>\$ 696,502</u>	<u>\$ 10,851,785</u>

**Clean Water Fund
Schedule of Fixed Assets
Year Ending December 31, 2016**

	<u>Balance Jan. 1, 2016</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2016</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 525,000	\$	\$	\$ 525,000	\$	\$ 525,000
Infrastructure	38,988,025			38,988,025	2,139,515	36,848,510
Equipment and Tools	172,118			172,118	172,118	0
Work in Progress	<u>652,322</u>	<u>28,867</u>		<u>681,189</u>		<u>681,189</u>
Total	<u>\$ 40,337,465</u>	<u>\$ 28,867</u>	<u>\$ 0</u>	<u>\$ 40,366,332</u>	<u>\$ 2,311,633</u>	<u>\$ 38,054,699</u>

STORMWATER

Stormwater Utility
Statement of Net Income
For The Year Ended December 31, 2015 and 2016
(Unaudited)

	2015	2016
<u>Operating Revenue</u>		
Stormwater Charges	\$ 4,724,013	\$ 5,213,783
Other	37,936	35,219
Total Operating Revenue	\$ 4,761,949	\$ 5,249,002
<u>Operating Expense</u>		
Director's Office	85,618	214,012
Capital Related Expenses	650,763	650,850
Utility General Expense	350,470	366,655
Engineering	652,459	668,425
Utility Operations	1,782,433	1,976,195
Customer Service	202,685	216,687
Total Operating Expense	(3,724,428)	(4,092,824)
Operating Income	1,037,521	1,156,178
<u>Other Revenue</u>		
Grants Non-Capital	0	1,401
Capital Contributions	(2,129)	196
Gain or Loss on Sale of Fixed Assets	5,742	1,850
Transfer from Other Funds		
Street Maintenance	4,920	5,600
Street Lighting	4,920	5,600
Interest Income	5,661	4,322
Total Other Revenue	19,114	18,969
<u>Other Expenses and Transfers</u>		
Bond Interest	54,244	20,594
Transfer to Other Funds		
Non-Capital Improvements	28,578	30,086
Street Sweeping	450,000	433,804
Reimbursement for MIS Programmer	21,600	33,750
Reimbursement for Janitors	27,400	25,294
Total Other Expenses and Transfers	(581,822)	(543,528)
Net Income or Loss	\$ 474,813	\$ 631,619

Stormwater Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

	Assets & Deferred Outflows	
	2015	2016
<u>Current Assets</u>		
Cash	\$ 1,642,193	\$ 94,781
Accounts Receivable	465,924	491,830
Special Assessments	27,897	34,238
Due from Other Funds	9,221	9,628
Due from Other Governments	0	1,401
Inventory	65,124	71,332
Prepays	26,638	74,337
Total Current Assets	\$ 2,236,997	\$ 777,547
<u>Utility Plant</u>		
In Service	18,299,233	19,365,397
Construction	942,257	2,143,569
Less Accumulated Depreciation	(3,938,454)	(4,208,088)
Total Utility Plant Assets	15,303,036	17,300,878
<u>Other Assets</u>		
Special Assessments Receivable	160	982
Total Other Assets	160	982
Total Assets	17,540,193	18,079,407
<u>Deferred Outflows</u>		
Deferred Loss from Debt Refunding	7,486	3,895
Deferred Pension Obligation Outflows	188,330	864,197
Total Deferred Outflows	195,816	868,092
Total Assets and Deferred Outflows	\$ 17,736,009	\$ 18,947,499

Stormwater Utility
Statement of Net Assets
For The Year Ending December 31, 2015 and 2016
(Unaudited)

	Liabilities & Net Assets	
	2015	2016
<u>Current Liabilities</u>		
Accounts Payable	\$ 49,409	\$ 33,295
Contracts Payable	247,994	135,692
Due to Other Funds	10,592	14,847
Due to Other Governments	588	5,442
Accrued Interest Payable	6,787	11,084
Accrued Salaries Payable	33,547	32,466
Vacations Payable	113,243	109,809
Unearned Revenue	14,953	13,816
Bonds Payable	109,694	228,121
Total Current Liabilities (Payable from Current Assets)	\$ 586,807	\$ 584,572
<u>Long Term Liabilities</u>		
Vacations Payable	4,985	0
Pension Liability	1,342,860	2,057,072
Bonds Payable	1,019,671	791,549
Less Unamortized Bond Discount or Premium	47,840	37,414
Total Long Term Liabilities	2,415,356	2,886,035
Total Liabilities	3,002,163	3,470,607
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	178,769	290,196
Total Deferred Inflows	178,769	290,196
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	14,133,317	16,247,689
Unrestricted	421,760	(1,060,993)
Total Net Assets	14,555,077	15,186,696
Total Liabilities and Net Assets	\$ 17,736,009	\$ 18,947,499

**City of Duluth
Stormwater Utility Bonds Payable
December 31, 2016**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2015</u>	<u>Issued</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2016</u>
Stormwater Utility Bonds							
Revenue and General Obligation Refunding \$	755,000	11/23/2010	2/1/2018	\$ 339,364	\$	\$ 109,693	\$ 229,671
Revenue and General Obligation Refunding	790,000	11/5/2015	2/1/2022	<u>790,000</u>	<u> </u>	<u> </u>	<u>790,000</u>
Bond Total				\$ <u>1,129,364</u>	\$ <u>0</u>	\$ <u>109,693</u>	\$ <u>1,019,671</u>
Total Stormwater Utility Bonds				\$ <u>1,129,364</u>	\$ <u>0</u>	\$ <u>109,693</u>	\$ <u>1,019,671</u>

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2017	\$ 228,121	\$ 24,001	\$ 252,122
2018	241,550	18,184	259,734
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>1,019,671</u>	\$ <u>75,285</u>	\$ <u>1,094,956</u>

**Stormwater Fund
Schedule of Fixed Assets
Year Ending December 31, 2016**

	<u>Balance Jan. 1, 2016</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2016</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 8,481	\$	\$	\$ 8,481	\$	\$ 8,481
Infrastructure	14,076,803	1,176,707		15,253,510	1,673,103	13,580,407
Buildings and Structures	1,401,897			1,401,897	350,474	1,051,423
Equipment and Tools	2,812,052	42,009	152,552	2,701,509	2,184,511	516,998
Work in Progress	<u>942,257</u>	<u>2,398,510</u>	<u>1,197,198</u>	<u>2,143,569</u>		<u>2,143,569</u>
Total	<u>\$ 19,241,490</u>	<u>\$ 3,617,226</u>	<u>\$ 1,349,750</u>	<u>\$ 21,508,966</u>	<u>\$ 4,208,088</u>	<u>\$ 17,300,878</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							10
4			33,327					509,354	1,021					133,452	677,154
6		2,859		171	9			19,504	84			245	3,120	17,645	43,637
8		295	50	153	33	48		14,930	583			117	756	4,781	21,746
10		1,427	21	304	39		64	4,407	12,610				2,892	17,245	39,009
12		42,226	13,014	1,591	29,100	780		22,049	389,182				1,644	60,131	559,717
13									47						47
14		59		38					232					301	630
15		4,302	147		8,395	169		2,454	168,244				1,114	36,108	220,933
16		89		801	589				212					781	2,472
17														91	91
18		6,571	795		4,816	50		1,971	109,119				616	24,945	148,883
20		50		90					1,079					3,899	5,118
21		337		83				49	26,938				1,719	3,984	33,110
22								207	747						954
24	277	2,768	161	184	2,474			612	71,300	160			396	16,902	95,234
26	1,733				160			48	3,874						5,815
27					28		44		14,056					1,096	15,224
28	662	97							3,530					2,122	6,411
29									335						335
30		738	51		2,588				36,331		143				39,851
31									133						133
32	372	67			24				2,520					387	3,370
33									711						711
34									665					320	985
36		1,683	232		800	460	229		28,972					8,398	40,774
38							14								14
40		32			42				627	659				208	1,568
42	204	64		304	46			188	10,008					833	11,647
44		158							3,402					345	3,905
45									320					455	775
46														77	77
48	228	692			56		52		15,634	623	78			4,291	21,654
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									417						417
54									10,522					3,020	13,542
56									89					65	154
58									630						630
60	36	432				28	365		3,340	44				2,561	6,806
62									109					58	167
66									569	70				264	903
72		155					185		1,633	10				1,694	3,677
73														79	79
78		42							398						440
84	563	172						138	377	365					1,615
88									226						226
96									402					224	626
108									115						115
120									982	101				600	1,683
122									54						54
128									63	790				626	1,479
132									170						170
144									113						113
156									101						101
192									49						49
UNK	670	170	83		109		1,257	2,080	5,695	477				88,915	99,456
Totals	4,985	65,485	47,881	3,719	49,313	1,535	2,210	577,996	929,850	3,299	221	362	12,257	436,939	2,136,052

Note: The Storm Sewer system also includes 10,850 catch basins and 5,102 manholes.
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 2016

ACTIVITY	WORK COMPLETED
Catch basin repair or rehab	143
Culverts repaired or replaced	161
Ditch line (dug or repaired and seeded or sodded)	31,050 ft
Illicit discharges detected and removed	13
Line flushing/cleaning	20,017 ft
Manhole repair or rehab	37
Outfalls inspected	25%
Sediment trap cleaning	80 cubic yds
Stream restoration	12 project sites
Structural sedimentation basins inspected	39%
Televising storm sewer pipe	5,744 ft
Presentations	125
Radio, television and newspaper articles	161