Appendix A

STORM DRAINAGE AREAS BY RECEIVING WATER BODY

Surface Water	Outfall	Total (acres)	Res. %	Comm. %	Ind. %	Public %	Open %	Rail %	Runoff Coeff.	Pop.
Mississippi River (Minneapolis)	10-xxx	18,077	0.53	0.16	0.16	0.04	0.07	0.04	0.46	263,400
Mississippi River (Columbia Heights)	10-100	348	0.48	0.11	0.33	0.00	0.08	0.00	0.37	2,765
Mississippi River (UofM)	15-xxx	100	0.00	0.00	0.00	1.00	0.00	0.00	0.55	0
Shingle Creek	20-xxx	1,365	0.62	0.17	0.06	0.03	0.04	0.07	0.44	11,493
Ryan Lake (Minneapolis)	21-xxx	49	1.00	0.00	0.00	0.00	0.05	0.00	0.45	388
Bassett Creek	40-xxx	2,293	0.58	0.12	0.13	0.03	0.08	0.05	0.44	26,756
New Bassett Creek Tunnel	41-xxx	219	0.22	0.26	0.26	0.04	0.10	0.11	0.45	669
Brownie Lake (Minneapolis)	51-xxx	34	0.99	0.00	0.01	0.00	0.00	0.00	0.45	193
Cedar Lake (Minneapolis)	52-xxx	224	0.79	0.01	0.00	0.00	0.17	0.03	0.38	1,674
Lake of the Isles	53-xxx	760	0.76	0.07	0.02	0.01	0.12	0.01	0.42	13,644
Lake Calhoun (Minneapolis)	54-xxx	1,249	0.69	0.11	0.03	0.10	0.07	0.00	0.46	13,640
Cemetary Lake	55-xxx	205	0.00	0.99	0.00	0.00	0.01	0.00	0.60	41
Sanctuary Pond	56-xxx	68	0.00	1.00	0.00	0.00	0.00	0.00	0.60	0
Lake Harriet	57-xxx	863	0.83	0.09	0.01	0.04	0.02	0.00	0.46	12,249
Hart Lake (Minneapolis)	61-xxx	3	0.32	0.68	0.00	0.00	0.00	0.00	0.55	0
Silver Lake (Minneapolis)	62-xxx	28	0.94	0.03	0.00	0.00	0.03	0.00	0.44	245
Crystal Lake (Minneapolis)	63-xxx	469	0.92	0.04	0.00	0.02	0.03	0.00	0.45	5,985
Legion Lake (Minneapolis)	64-xxx	49	1.00	0.00	0.00	0.00	0.00	0.00	0.45	332
Legion Lake (Richfield)	64-xxx	1,700	0.96	0.00	0.01	0.00	0.03	0.00	0.30	9,781
Richfield Lake (Minneapolis)	65-xxx	715	0.88	0.06	0.02	0.00	0.04	0.00	0.32	4,388
Richfield Lake (Richfield)	65-xxx	58	0.58	0.37	0.05	0.00	0.01	0.00	0.51	442
Wood Lake (Richfield)	66-xxx	627	0.75	0.05	0.02	0.00	0.18	0.00	0.29	7,316
Minnehaha Creek	70-xxx	3,213	0.85	0.07	0.01	0.04	0.03	0.00	0.44	38,399
Diamond Lake	71-xxx	685	0.72	0.11	0.09	0.03	0.05	0.00	0.47	6,456
Lake Nokomis	72-xxx	620	0.78	0.03	0.00	0.03	0.16	0.00	0.40	7,120
Taft Lake	73-xxx	100	0.76	0.00	0.00	0.00	0.24	0.00	0.37	675
Mother Lake (Minneapolis)	74-xxx	49	0.83	0.19	0.00	0.00	0.00	0.00	0.48	111
Mother Lake (Richfield)	74-xxx	245	0.71	0.09	0.00	0.00	0.20	0.00	0.30	2,025
Unnamed Wetland W of Mother Lake	75-xxx	41	0.91	0.00	0.00	0.00	0.00	0.09	0.41	344
Lake Hiawatha	76-xxx	1,008	0.87	0.07	0.02	0.03	0.02	0.00	0.46	14,707
Birch Pond	81-xxx	31	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
Powderhorn Lake	82-xxx	286	0.88	0.05	0.02	0.04	0.01	0.00	0.46	5,621
Grass Lake	83-xxx	386	0.90	0.04	0.00	0.05	0.02	0.00	0.46	4,128
Unnamed Wetland on Hwy 62	84-xxx	17	0.86	0.00	0.14	0.00	0.00	0.00	0.47	0
Unnamed Wetland on Ewing Ave S	85-xxx	22	0.86	0.00	0.14	0.00	0.00	0.00	0.47	0
GRAND TOTAL		**36,205**	**0.58**	**0.13**	**0.10**	**0.04**	**0.06**	**0.03**	**0.42**	**454,987**

Appendix A1 - Storm Drainage Areas by Receiving Water Body
Source: Minneapolis Public Works - Surface Water & Sewers

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
10-010	60	53rd Ave N.	113.55	0.90	0.03	0.00	0.00	0.07	0.00	0.42	1,208
10-020	42	51st Ave. N (Mississippi Ct.)	7.81	0.82	0.00	0.00	0.00	0.18	0.00	0.39	40
10-030	15	49th Ave N.	4.05	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-040	78	49th Ave. N	167.42	0.65	0.12	0.12	0.00	0.10	0.01	0.45	1,176
10-050	42	46th Ave N (I-94)	114.18	0.83	0.08	0.08	0.00	0.00	0.01	0.47	1,312
10-060	15	St. Anthony Pkwy & 36th Ave NE	10.50	0.00	1.00	0.00	0.00	0.00	0.00	0.60	0
10-070	72	41st Ave N & Sooline R.R. (sanitary overflow)	30.66	0.00	0.33	0.30	0.00	0.05	0.32	0.38	0
10-080	36	1st St. N approx. 39th Ave N	30.66	0.00	0.33	0.30	0.00	0.05	0.32	0.38	0
10-090A	18	39th Ave N (At River)	0.99	0.00	0.00	1.00	0.00	0.00	0.00	0.60	0
10-090B	18	37th Ave N (At River)	1.47	0.00	0.00	1.00	0.00	0.00	0.00	0.60	0
10-090C	24	37th Ave N (Sooline R.R.)	12.77	0.00	0.00	0.90	0.00	0.02	0.08	0.54	0
10-090D	30	36th Ave N (Sooline R.R.)	4.41	0.00	0.00	1.00	0.00	0.00	0.00	0.60	0
10-100	24	Marshall St (31st Ave NE)	1392.10	0.59	0.02	0.11	0.01	0.16	0.11	0.36	8,400
10-110	48	Dowling Ave N (At River)	300.11	0.78	0.17	0.01	0.01	0.03	0.00	0.47	3,205
10-120A,B	(A)48, (B)36	(A) Approx. 34th Ave N, (B) Approx. 33rd Ave N (At River)	372.78	0.75	0.04	0.10	0.01	0.07	0.03	0.43	4,883
10-130	24	27th Ave NE (Monroe St NE)	336.00	0.30	0.07	0.45	0.00	0.05	0.13	0.45	1,669
10-140A	36	Lowry Ave NE (At River) North	2.59	0.04	0.69	0.20	0.03	0.04	0.00	0.57	2,136
10-140B	18	Lowry Ave NE (At River) South	220.65	0.05	0.70	0.20	0.02	0.03	0.00	0.58	2,136
10-150	27	Marshall St NE (Lowry Ave NE)	157.15	0.63	0.20	0.13	0.00	0.03	0.01	0.48	1,476
10-160	48	31st Ave N (Pacific St N)	17.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0
10-170	42	30th Ave N (Mill St Extended)	176.01	0.57	0.07	0.33	0.00	0.03	0.00	0.50	2,702
10-180	78	22nd Ave NE (Grand St NE)	284.26	0.60	0.14	0.10	0.05	0.05	0.06	0.45	3,214
10-190	30	27th Ave N (Mill St N)	14.58	0.00	0.53	0.45	0.00	0.02	0.00	0.59	0
10-200	36	Marshall St NE (18th Ave NE)	42.44	0.30	0.07	0.43	0.00	0.02	0.18	0.44	433
10-210	54	26th Ave N (Mill St N)	98.32	0.50	0.03	0.41	0.00	0.05	0.01	0.49	837
10-220	18	22nd Ave N	18.83	0.00	0.33	0.60	0.00	0.01	0.06	0.56	0
10-230	60	21st Ave N	235.02	0.60	0.18	0.12	0.05	0.04	0.01	0.48	4,455
10-240	42	West Broadway	103.83	0.42	0.32	0.18	0.03	0.05	0.00	0.51	985
10-250	72	12th Ave NE (Vacated)	242.96	0.64	0.09	0.17	0.06	0.03	0.01	0.48	2,674
10-260	24	17th Ave N	23.77	0.00	0.05	0.85	0.00	0.02	0.08	0.54	0
10-270	48	10th Ave NE	72.45	0.76	0.05	0.15	0.00	0.04	0.00	0.47	922
10-280	54	14th Ave (extended)	55.08	0.00	0.02	0.54	0.14	0.20	0.10	0.44	0
10-290	21	Plymouth Ave N	6.83	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-300	27	8th Ave NE	17.74	0.66	0.29	0.05	0.00	0.00	0.00	0.50	125
10-310	42	Ramsey St NE (extension)	60.29	0.85	0.08	0.01	0.05	0.01	0.00	0.47	523
10-320	84	3rd Ave NE	341.99	0.65	0.12	0.10	0.04	0.06	0.03	0.45	4,680
10-330	18x60	W River Pkwy approx. 500' SE of 4th Ave N	21.61	0.14	0.00	0.06	0.00	0.80	0.00	0.18	126
10-340	30X'60	W River Pkwy at 1st Ave N (extended)	20.74	0.00	0.12	0.59	0.00	0.21	0.08	0.45	8
10-350	36	1st Ave NE	28.16	0.00	0.50	0.50	0.00	0.00	0.00	0.60	20
10-360	36	East Hennepin (on Nicollet Isld)	29.02	0.02	0.50	0.46	0.00	0.02	0.00	0.59	9
10-370	21	East Hennepin Ave	14.46	0.00	0.52	0.38	0.07	0.03	0.00	0.59	331
10-380	30X67	W River Pkwy at 2nd Ave S (extended)	14.38	0.15	0.09	0.00	0.50	0.25	0.01	0.45	0
10-390	tunnel	3rd Ave SE	41.97	0.13	0.26	0.58	0.00	0.01	0.02	0.56	456
10-400A	30	2nd St S at 3rd Ave S	1.07	0.14	0.32	0.34	0.00	0.15	0.05	0.47	280
10-400B	108	2nd St S tunnel btwn Hennepin Ave and 3rd Ave	17.66	0.02	0.50	0.46	0.00	0.02	0.00	0.59	19

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
10-400C	108	12th Ave N approx.150' W of 3rd St. N	50.25	0.20	0.00	0.00	0.79	0.01	0.00	0.57	134
10-410A	24	Washington Ave S at Chicago Ave S	46.22	0.00	0.49	0.35	0.00	0.05	0.11	0.51	2
10-410B	30	2nd St at Park Ave S (extended)	21.29	0.00	0.00	0.41	0.00	0.59	0.00	0.31	2
10-410C	36	Washington Ave S at Portland Ave S	22.80	0.00	0.03	0.50	0.25	0.22	0.00	0.49	193
10-410D	30	Washington Ave S at 5th Ave S	27.34	0.00	0.13	0.30	0.33	0.00	0.24	0.46	423
10-410E	tunnel	Washington,Marquette,Nicollet Tunnel	220.65	0.04	0.70	0.20	0.03	0.04	0.00	0.58	2,136
10-410F	36	10th St S@ 2nd Ave S	37.92	0.06	0.42	0.51	0.00	0.01	0.00	0.59	118
10-420A	21	W River Pkwy approx 200' E of 11th Ave S (extended)	23.05	0.00	0.58	0.15	0.00	0.02	0.25	0.44	13
10-420B	15	Washington Ave S at 11th Ave S	10.06	0.00	0.74	0.25	0.00	0.01	0.00	0.60	0
10-420C	60 X 78	Washington Ave S at 11th Ave S	7.42	0.00	0.96	0.03	0.00	0.00	0.01	0.59	2
10-420D	48	5th St S at 11th Ave S	20.73	0.00	0.90	0.00	0.00	0.00	0.10	0.54	0
10-420E	60	11th Ave S at 5th St S	127.89	0.08	0.38	0.33	0.13	0.08	0.00	0.55	2,096
10-430A	24	I-35W @ 1st St S	7.07	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0
10-430B	48	I-35W @ 4th St S	54.72	0.10	0.25	0.60	0.00	0.00	0.05	0.56	2,867
10-430C	MNDOT	14th Ave S @ St. Pacific RR Bridge	44.83	0.10	0.65	0.05	0.00	0.10	0.10	0.48	17
10-430D	72	9th St S @ 13th Ave S	85.79	0.64	0.15	0.15	0.05	0.01	0.00	0.50	3,540
10-430E	36	I -35W @ W side of Portland Ave S Bridge	86.66	0.25	0.60	0.05	0.00	0.10	0.00	0.51	0
10-430F	30	Middle of I-35W 300' W of Portland Ave Bridge	12.27	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-430G	54	E. 18th St @ Clinton Ave S	82.63	0.53	0.30	0.12	0.00	0.05	0.00	0.50	5,054
10-430H	MNDOT	I-94 @ W side of 1st Ave S Bridge	33.18	0.64	0.20	0.15	0.00	0.01	0.00	0.50	658
10-430I	48	Nicollet Ave S 100' S of E 16th St	32.61	0.07	0.10	0.10	0.70	0.03	0.00	0.57	42
10-430J	120	W 15th St @ Willow St	532.36	0.45	0.20	0.08	0.08	0.18	0.01	0.44	12,300
10-430K	48	W 27th St (extended) 200' E of I-35W	337.06	0.50	0.27	0.10	0.03	0.10	0.00	0.48	8,015
10-430L	42	E 31st St @ 2nd Ave S	84.40	0.87	0.04	0.04	0.00	0.05	0.00	0.44	1,696
10-430M	48	E 31st St @ Stevens Ave S	75.94	0.32	0.47	0.15	0.04	0.01	0.01	0.54	1,681
10-430N	24	E 34th St @ 2nd Ave S	26.43	0.84	0.09	0.02	0.03	0.02	0.00	0.46	17,919
10-430O	66	E 35th St @ 2nd Ave S	109.53	0.80	0.06	0.00	0.10	0.04	0.00	0.46	1,978
10-430P	78	E 35th St @ Stevens Ave S	212.53	0.90	0.08	0.01	0.00	0.01	0.00	0.46	4,545
10-430Q	30	I-35W @ N side of W 35th St Bridge	8.03	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-430R	84	E 39th St @ 2nd Ave S	150.32	0.79	0.15	0.02	0.02	0.02	0.00	0.47	2,269
10-430S	21	I-35W @ S side of E 39th St Bridge	5.15	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-430T	78	W 39th St @ Stevens Ave S	262.47	0.93	0.04	0.01	0.01	0.01	0.00	0.46	5,157
10-430U	78	I-35W @ W 39th St Bridge	431.37	0.83	0.11	0.00	0.06	0.00	0.00	0.48	5,600
10-430V	72	King's Hwy Holding Pond @ 700' S of W 38th St	329.11	0.86	0.06	0.02	0.04	0.02	0.00	0.46	6,929
10-440A	18	35W Btwn University Ave SE 4th St SE	23.18	0.65	0.15	0.11	0.00	0.09	0.00	0.46	443
10-440B	18	35W @ 9th St SE (extended),	34.23	0.56	0.21	0.00	0.23	0.00	0.00	0.52	0
10-440C&D	(C) 18, (D) 18	(C) 35W @ Winter St, (D) Johnson St 400' S of E Broadway	56.00	0.26	0.40	0.33	0.00	0.01	0.00	0.56	60
10-440E	18	E Broadway @ New Brighton Blvd	831.25	0.45	0.35	0.15	0.02	0.02	0.01	0.52	3,677
10-440F	96	35W @ 13th Ave NE (extended)	538.85	0.59	0.15	0.14	0.04	0.04	0.04	0.47	12,569
10-450A	18	10th Ave SE @ 2nd St SE	338.26	0.50	0.16	0.21	0.03	0.04	0.06	0.47	6,510
10-450B	18	10th Ave SE 50' N of Univ. Ave SE	3.41	0.56	0.20	0.00	0.24	0.00	0.00	0.52	60
10-450C	18	10th Ave SE 50' N of 4th St SE	55.64	0.90	0.00	0.10	0.00	0.00	0.00	0.47	304
10-450D	18	10th Ave SE @ 5th St SE	4.62	1.00	0.00	0.00	0.00	0.00	0.00	0.45	219
10-450E	18	10th Ave SE @ 6th St SE	3.20	0.98	0.00	0.00	0.00	0.02	0.00	0.44	212
10-450F	18	8th St SE @ 15th Ave SE	158.55	0.10	0.31	0.38	0.00	0.02	0.19	0.46	1,473

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
10-450G&H	(G) 18, (H) 18	(G)Como Av SE 100' E 35W E Front. Rd, (H)12 Ave SE @ SCL E Henn.	73.97	0.71	0.15	0.04	0.01	0.08	0.01	0.45	1,342
10-450I	18	E Hennepin @ Pierce St NE	243.64	0.36	0.32	0.21	0.00	0.03	0.08	0.48	2,263
10-450J	18	E Hennepin @ Garfield St NE	17.16	0.03	0.20	0.61	0.00	0.02	0.14	0.50	78
10-450K	18	Winter St NE @ Garfield St NE	37.01	0.11	0.26	0.62	0.00	0.01	0.00	0.58	153
10-450L	66	Arthur St NE @ Kennedy St NE	213.41	0.00	0.21	0.63	0.00	0.02	0.14	0.51	0
10-460A	18	300' S of University Ave SE	0.00								
10-460B	18	University Ave SE 100' SE of 14th Ave SE	7.29	0.09	0.70	0.00	0.10	0.00	0.11	0.52	0
10-460C&D	18	(C) 5th St SE @ 16th Ave SE, (D) 8th St SE @ 17th Ave SE	112.22	0.00	0.03	0.15	0.41	0.05	0.36	0.36	0
10-460E	18	18th Ave SE @ Elm St. SE	231.41	0.48	0.05	0.37	0.00	0.02	0.08	0.47	1,376
10-460F	18	18th Ave SE @ Alley S of Como Ave SE	14.75	0.70	0.08	0.00	0.22	0.00	0.00	0.50	137
10-460G	18	Talmage Ave SE 50' E of 18th Ave SE	79.66	0.37	0.10	0.21	0.25	0.03	0.04	0.51	1,711
10-460H	18	18th Ave SE 50 S of E Hennepin	12.35	0.03	0.17	0.60	0.00	0.02	0.18	0.48	90
10-460I	18	Stinson Blvd @ Traffic St NE	74.29	0.01	0.21	0.69	0.00	0.02	0.07	0.55	28
10-460J	18	Como Ave @ 19th Ave SE	5.36	0.91	0.00	0.09	0.00	0.00	0.00	0.46	0
10-460K	18	Como Ave @ 20th Ave SE	5.48	0.77	0.00	0.00	0.00	0.03	0.20	0.35	45
10-460L	18	Como Ave @ 21st Ave SE	3.50	0.44	0.50	0.00	0.00	0.06	0.00	0.50	3
10-460M	18	Como Ave @ 122nd Ave SE	9.55	0.81	0.18	0.01	0.00	0.00	0.00	0.48	67
10-460N	18	Como Ave @ 23rd Ave SE	3.85	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
10-460O	18	Como Ave @ 24th Ave SE	4.15	0.98	0.02	0.00	0.00	0.00	0.00	0.45	5
10-460P	18	25th Ave SE 100' S of Como Ave SE	4.34	1.00	0.00	0.00	0.00	0.00	0.00	0.45	76
10-460Q	18	Como Ave SE @ 27th Ave SE	19.73	0.10	0.07	0.77	0.00	0.00	0.06	0.55	62
10-460R	18	25th Ave SE 200' N of Talmadge	50.46	0.03	0.11	0.78	0.00	0.00	0.08	0.55	0
10-460S	60	Hoover St NE @ E Hennepin	233.54	0.00	0.17	0.75	0.00	0.02	0.06	0.55	0
10-465	12	West River Pkwy @ RR Bridge	8.56	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-470	24	West River Road 200' N of Washington Ave	25.60	0.70	0.00	0.12	0.00	0.13	0.05	0.40	407
10-480	60	West River Road 100' N of Washington Ave	39.66	0.15	0.05	0.10	0.69	0.01	0.00	0.57	0
10-485	12	West River Road 100' S of Washington Ave	7.27	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0
10-490	84	West River Road @ 4th St S	150.96	0.45	0.20	0.15	0.01	0.18	0.01	0.44	1,822
10-500A	54	7th St S (vacated) 15' SE of 17th Ave S	26.21	0.00	0.34	0.10	0.00	0.00	0.56	0.27	571
10-500B	18	17th Ave S Under I-94	8.48	0.00	0.00	0.60	0.00	0.36	0.04	0.40	0
10-500C	72	East Franklin Av 250' E of Cedar Ave S	218.00	0.73	0.10	0.05	0.02	0.10	0.00	0.44	2,090
10-500D	12	Cedar Ave S 500' S of I-94	3.83	0.00	0.11	0.29	0.00	0.00	0.60	0.24	0
10-500E	24	19th Ave S	23.34	0.50	0.25	0.10	0.08	0.07	0.00	0.49	5,884
10-500F	48	E 18th St @ 14th Ave S	270.00	0.14	0.00	0.00	0.00	0.86	0.00	0.15	183
10-500G	60	E 24th St @ Snelling Ave S	112.94	0.67	0.09	0.18	0.03	0.03	0.00	0.48	2,090
10-505	12	West River Road below St Marys' Hospital	7.85	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-510	30X60	West River Road @ 27th Ave S (extended)	62.36	0.47	0.06	0.15	0.22	0.10	0.00	0.48	1,138
10-520	U of M	U of M Outfall	139.98	0.08	0.25	0.35	0.13	0.19	0.00	0.49	2,813
10-530	96	Oak St SE	116.15	0.15	0.23	0.23	0.12	0.25	0.02	0.44	789
10-540	30	West River Road @ I-94	53.90	0.05	0.00	0.00	0.00	0.95	0.00	0.12	72
10-550	36	West River Road @ E Franklin Av	25.83	0.90	0.07	0.02	0.00	0.01	0.00	0.46	629
10-560A&B	96	26th Ave SE Bridal Vail Creek Tunnel	600.63	0.18	0.27	0.28	0.02	0.05	0.20	0.43	2,921
10-570A	24	West River Road @ 33rd Ave S	14.64	1.00	0.00	0.00	0.00	0.00	0.00	0.45	93
10-570B	48	West River Road @ 33rd Ave S	228.18	0.58	0.14	0.10	0.03	0.15	0.00	0.44	2,847
10-580	30	Seymour Ave SE	73.39	1.00	0.00	0.00	0.00	0.00	0.00	0.45	760

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
10-600	36	Cecil St SE	89.24	0.75	0.15	0.00	0.00	0.10	0.00	0.44	859
10-610	12	East City Limits	25.60	0.88	0.08	0.02	0.00	0.00	0.02	0.46	239
10-630A	12	West River Rd @ 28th Ave S (extended)	9.80	0.95	0.02	0.00	0.03	0.00	0.00	0.46	1,641
10-630B	16	E 28th St @ Dorman Ave S	6.24	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
10-630C	60	E 28th St @ 42nd Ave S	4.68	1.00	0.00	0.00	0.00	0.00	0.00	0.45	102
10-630D	21	E 28th St @ 42nd Ave S	96.03	0.76	0.19	0.03	0.01	0.01	0.00	0.48	1,071
10-630E	16	28th Ave S	6.37	1.00	0.00	0.00	0.00	0.00	0.00	0.45	40
10-630F	16	E 28th St @ 38th Ave S	8.52	1.00	0.00	0.00	0.00	0.00	0.00	0.45	254
10-630G	60	E 28th St and 36th Ave S	17.56	0.40	0.60	0.00	0.00	0.00	0.00	0.54	170
10-630H	24	36th Ave S 100' S of E 27th St	5.90	1.00	0.00	0.00	0.00	0.00	0.00	0.45	58
10-630I	16	E 28th St @ 34th Ave S	25.63	0.42	0.05	0.14	0.00	0.00	0.39	0.30	196
10-630J	12	E 28th St @ Alleyway btwn 32nd & 33rd Ave S	12.48	0.42	0.00	0.43	0.00	0.00	0.15	0.45	52
10-630K	54	E 28th St @ 31st Ave S	95.29	0.36	0.12	0.38	0.00	0.09	0.05	0.47	440
10-630L	48	E 28th St @ 31st Ave S	100.42	0.48	0.40	0.07	0.04	0.01	0.00	0.52	1,201
10-630M	15	E 28th St @ 31st Ave S	11.71	0.65	0.00	0.33	0.00	0.02	0.00	0.49	67
10-630N	12	E 28th St @ 29th Ave S	8.45	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
10-630O	12	E 28th St @ Alley btwn 27th & 28th Ave S,	5.77	0.01	0.24	0.23	0.00	0.50	0.02	0.34	0
10-630P&Q	36	E 28th St @ 26th Ave S	66.45	0.01	0.28	0.09	0.00	0.60	0.02	0.29	0
10-630R	60	E 29th St @ 22nd Ave S	83.89	0.15	0.25	0.15	0.10	0.05	0.30	0.37	920
10-630S	21	E 29th St @ Layman Ave S	37.02	0.00	0.02	0.37	0.00	0.60	0.01	0.29	60
10-630T	16	E 29th St @ 21st Ave S	7.72	0.25	0.75	0.00	0.00	0.00	0.00	0.56	0
10-630U	16	Drill Hole along 29th Ave S	115.42	0.36	0.24	0.14	0.02	0.08	0.16	0.41	1,443
10-630V	36	E 29th St @ 14th Ave S	33.85	0.52	0.25	0.10	0.05	0.08	0.00	0.48	2,240
10-630W	16	14th Ave S @ E 28th St	23.68	0.62	0.08	0.24	0.00	0.03	0.03	0.47	458
10-630X	21	E 27th St @ 13th Ave S	14.78	0.83	0.05	0.02	0.02	0.08	0.00	0.44	549
10-630Y	60	E 27th St @ 12th Ave S	111.54	0.44	0.29	0.11	0.06	0.10	0.00	0.48	1,290
10-630Z	36	14th Ave S 200' S of E Lake St	45.66	0.82	0.11	0.04	0.02	0.01	0.00	0.47	950
10-640	40X72	W River Pkwy at E Lake St	258.18	0.83	0.07	0.03	0.03	0.02	0.02	0.45	2,980
10-650	12	W River Pkwy at E 32nd St	19.53	0.29	0.71	0.00	0.00	0.00	0.00	0.56	203
10-660	48X 72	W River Pkwy at E 33rd St	306.37	0.86	0.05	0.03	0.04	0.02	0.00	0.46	3,816
10-670	36	W River Pkwy at E 36th St	137.88	1.00	0.00	0.00	0.00	0.00	0.00	0.45	1,408
10-680	120	W River Pkwy at E 38th St	707.95	0.71	0.06	0.08	0.07	0.04	0.04	0.45	7,782
10-690	27	W River Pkwy at E 42nd St	70.63	0.66	0.04	0.00	0.30	0.00	0.00	0.50	654
10-700	60	W River Pkwy at E 44th St	222.07	0.87	0.05	0.04	0.03	0.01	0.00	0.46	2,606
10-710	36	W River Pkwy 250' S of E 46th St	29.95	0.60	0.02	0.00	0.00	0.38	0.00	0.32	244
10-720A	12	Riverview Rd 250' N of E 54th St	15.77	0.98	0.00	0.00	0.00	0.02	0.00	0.44	75
10-720B	66	E 53rd St at 48th Ave S	422.18	0.74	0.01	0.23	0.01	0.01	0.00	0.48	4,182
10-720C	24	E 52nd St at 47th Ave S	26.35	0.76	0.08	0.01	0.00	0.15	0.00	0.41	261
10-720D	21	E 54th at 38th Ave S	22.95	0.96	0.04	0.00	0.00	0.00	0.00	0.46	337
10-720E	12	Boardman Ave S at 35th Ave S (extended)	18.39	0.96	0.04	0.00	0.00	0.00	0.00	0.46	350
10-720F	84	E 55th at 33rd Ave S	317.75	0.80	0.20	0.00	0.00	0.00	0.00	0.48	3,710
10-720G	15	Hiawatha Ave at E 51st St	13.25	1.00	0.00	0.00	0.00	0.00	0.00	0.45	246
10-720H	12	Hiawatha Ave at 44th Ave S	4.55	1.00	0.00	0.00	0.00	0.00	0.00	0.45	71
10-720I	36	Hiawatha Ave at E 50th St	87.27	0.91	0.05	0.00	0.00	0.04	0.00	0.44	802
10-720J	12	Hiawatha Ave at 42nd Ave S	3.71	0.75	0.00	0.00	0.00	0.25	0.00	0.36	47

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
10-720K	12	Hiawatha Ave at E Minnehaha Pkwy	32.76	0.00	0.80	0.10	0.00	0.04	0.06	0.54	0
10-720L	12	E 59th St at 46th Ave S	5.00	1.00	0.00	0.00	0.00	0.00	0.00	0.45	102
20-010	18	Penn Ave N	93.99	0.89	0.00	0.00	0.00	0.11	0.00	0.41	990
20-020	12	52nd Ave N (Penn Av N)	15.09	0.95	0.00	0.00	0.00	0.05	0.00	0.43	170
20-030	21	52nd Ave N (Oliver Ave N)	7.95	1.00	0.00	0.00	0.00	0.00	0.00	0.45	65
20-040	12	Newton Ave N	6.79	0.80	0.00	0.00	0.00	0.20	0.00	0.38	37
20-050	12	51st Ave N (Newton Av N)	1.59	0.80	0.00	0.00	0.00	0.20	0.00	0.38	37
20-060	36	Knox Ave N	5.91	1.00	0.00	0.00	0.00	0.00	0.00	0.45	63
20-070	30	50th Ave N (Knox Ave N)	39.07	0.91	0.04	0.00	0.00	0.05	0.00	0.44	441
20-080	24	50th Ave N (James Ave N)	33.72	0.94	0.04	0.00	0.00	0.02	0.00	0.45	438
20-090	12	Alley W of Humboldt Ave N	9.95	0.32	0.00	0.00	0.68	0.00	0.00	0.55	85
20-100	54	49th Ave N (Ryan Creek)	0.99	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
20-110	21	49th Ave N (Humboldt Ave N)	216.04	0.13	0.04	0.23	0.00	0.15	0.45	0.24	370
20-120	24	48th Ave N (Humboldt Ave N)	10.22	0.89	0.06	0.00	0.05	0.00	0.00	0.47	55
20-130	12	47th Ave N (Shingle Crk Pkwy)	16.12	1.00	0.00	0.00	0.00	0.00	0.00	0.45	168
20-140	24	47th Ave N (Girard Ave N)	2.97	0.95	0.00	0.00	0.00	0.05	0.00	0.43	61
20-150	12	Malmquist Lane	14.48	1.00	0.00	0.00	0.00	0.00	0.00	0.45	182
20-160	12	Fremont Ave N (Shingle Crk Pkwy)	3.21	0.45	0.20	0.00	0.35	0.00	0.00	0.53	0
20-170	12	46th Ave N (Mamquist Lane)	4.94	0.74	0.00	0.00	0.00	0.26	0.00	0.36	44
20-180	12	46th Ave N (Shingle Crk Pkwy)	5.30	0.64	0.36	0.00	0.00	0.00	0.00	0.50	20
20-190	24	Dupont Ave N (Shingle Crk Pkwy)	1.35	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
20-200	60	45th Ave N (Dupont Ave N)	13.84	1.00	0.00	0.00	0.00	0.00	0.00	0.45	191
20-210A	60	44th Ave N (Soo Line RR)	92.90	0.96	0.00	0.00	0.00	0.03	0.01	0.44	710
20-210B	30	45th Ave N (Colfax Ave N)	620.78	0.62	0.32	0.03	0.03	0.00	0.00	0.51	5,932
20-220	24	43rd Ave N	26.38	0.60	0.10	0.20	0.00	0.10	0.00	0.46	202
20-230	24	Weber Pkwy (Aldrich Ave N)	21.16	1.00	0.00	0.00	0.00	0.00	0.00	0.45	115
20-240	21	Lyndale Ave N (S of Creek)	30.06	0.77	0.13	0.10	0.00	0.00	0.00	0.48	337
20-250	15	Lyndale Ave N (N of Creek)	6.28	0.00	0.80	0.10	0.00	0.10	0.00	0.55	0
20-260	60	I- 94 (S of Creek)	3.50	0.00	0.00	1.00	0.00	0.00	0.00	0.60	115
20-270	40	I-94 (E of I-94 at Creek)	42.81	0.75	0.02	0.03	0.20	0.00	0.00	0.49	665
20-280	24	I-94 (N of Creek)	8.98	0.00	0.90	0.00	0.00	0.05	0.05	0.55	0
20-290	54	47th Ave N @ Xerxes Ave N	8.41	0.00	0.50	0.40	0.00	0.10	0.00	0.55	0
21-010	96	14th Ave N @ Xerxes Ave N	49.49	1.00	0.00	0.00	0.00	0.05	0.00	0.45	388
40-010	future	Xerxes Ave N (S of T.H. 55)	719.17	0.87	0.05	0.01	0.02	0.05	0.00	0.44	10,605
40-020	36	Vincent Ave N (N. of T.H. 55)	15.36	1.00	0.00	0.00	0.00	0.00	0.00	0.45	85
40-030	42	Upton Ave N (N of T.H.)	51.02	0.91	0.00	0.00	0.00	0.09	0.00	0.42	426
40-040	15	T.H. 55 @ Upton Av N	65.39	0.93	0.02	0.00	0.00	0.05	0.00	0.44	987
40-050	12	100' N of 5th Av N @ Thomas Av N	10.28	1.00	0.00	0.00	0.00	0.00	0.00	0.45	65
40-060	future	S of Thomas Av N @ Inglewood St N	3.20	1.00	0.00	0.00	0.00	0.00	0.00	0.45	8
40-070	24	Thomas Av N (N of Chestnut Av N)	7.98	0.80	0.00	0.00	0.00	0.20	0.00	0.38	59
40-080	30	Queen Av N (N of Chestnut Av N)	60.51	0.81	0.00	0.00	0.00	0.19	0.00	0.38	376
40-090	15	Queen Av N -S of 2nd Av N	20.65	0.90	0.02	0.05	0.00	0.03	0.00	0.45	587
40-100	30	Oliver Av N - S of 2nd Av N	10.70	0.93	0.03	0.02	0.00	0.02	0.00	0.45	471
40-110	36	Newton Av N (S of Bassett Creek)	2.61	0.98	0.00	0.00	0.00	0.02	0.00	0.44	0
40-120	30	Morgan Av N (N of Bassett Creek)	65.87	0.87	0.04	0.03	0.00	0.03	0.03	0.44	644

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
40-130	66	Morgan Av N extended (S of Bassett Creek)	35.01	0.89	0.05	0.03	0.00	0.03	0.00	0.45	610
40-140	future	Irving Av N	125.46	0.27	0.36	0.00	0.00	0.05	0.32	0.34	572
40-150	18	2nd Av N - !00' Dupont Av N	24.31	0.38	0.16	0.33	0.00	0.05	0.08	0.47	181
40-160	36	Dupont Av N @ 2nd Av N	30.99	0.16	0.09	0.60	0.00	0.02	0.13	0.49	201
40-170	27	Glenwood Av N @ Dupont Av N (west MH)	194.89	0.12	0.29	0.14	0.03	0.25	0.17	0.36	131
40-180	42	Glenwood Av N @ Dupont Av N (east MH)	16.80	0.17	0.33	0.31	0.12	0.07	0.00	0.54	210
40-190	24	4th Av N @ Dupont Av N (west MH)	65.53	0.00	0.36	0.51	0.00	0.05	0.08	0.53	184
40-200	27	4th Av N @ Dupont Av N (east MH)	24.75	0.40	0.06	0.00	0.38	0.16	0.00	0.46	572
40-210	42	5th Av N @ Dupont Av N (west MH)	17.26	0.72	0.15	0.08	0.01	0.04	0.00	0.47	2,368
40-220	21	5th Av N @ Dupont Av N (east MH)	100.58	0.77	0.17	0.01	0.01	0.04	0.00	0.46	1,559
40-230	48	TH 55 @ Dupont Av N (west MH)	13.78	0.82	0.00	0.00	0.12	0.06	0.00	0.45	200
40-240	54	8th Av N @ Aldrich Av N	341.00	0.55	0.09	0.10	0.13	0.13	0.00	0.45	5,292
40-250	18	TH 55 @ Dupont Av N (east MH)	1.15	0.00	1.00	0.00	0.00	0.00	0.00	0.60	0
40-260	15	T H 55 (N frontage Rd) @ Dupont	3.49	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
40-270	21	T H 55 (West Bound) @ Sumner Av	9.59	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
40-280	48	Alley - NW of 8th Av N & 10th Av N	12.76	0.09	0.13	0.70	0.00	0.08	0.00	0.55	23
40-290	future	10th Av SE - 200' NE of 8th Av NE	13.73	0.04	0.66	0.15	0.00	0.08	0.07	0.51	0
40-300	42	6th St N - 100' N of 8th Av N	10.38	0.05	0.06	0.69	0.00	0.11	0.09	0.48	0
40-310	24	4th St N @ 8th Av N (extended) South MH	97.86	0.00	0.09	0.66	0.00	0.05	0.20	0.46	0
40-320	24	4th St N @ 8th Av N (extended) North MH	9.43	0.00	0.00	1.00	0.00	0.00	0.00	0.60	0
40-330	future	3rd St N @ 7th Av N (vacated) South MH	15.34	0.00	0.27	0.71	0.00	0.01	0.01	0.59	136
40-340	future	3rd St N -200' SE of 8th Av N	35.27	0.00	0.08	0.80	0.00	0.04	0.08	0.53	0
40-350	30	Washington Av N -200' S of 8th Av N	8.99	0.00	0.09	0.81	0.00	0.00	0.10	0.54	0
40-360	30	2nd St N - 100' SE of 8th Av N	8.09	0.00	0.03	0.97	0.00	0.00	0.00	0.60	0
40-370	18	1stSt N - 100' SE of 8th Av N	12.41	0.00	0.44	0.51	0.00	0.05	0.00	0.58	0
40-380	15	West River Parkway @ Bassett Creek (west curb)	24.92	0.13	0.12	0.40	0.00	0.25	0.10	0.40	204
40-390	15	Bassett Creek outlet to Mississippi River	5.72	0.00	0.96	0.00	0.00	0.04	0.00	0.58	0
40-400	60	I-394 at Penn Av S (Penn Av Holding Pond)	1.07	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
41-010	none	BNRR tracks at 16th St (extended)	94.73	0.50	0.15	0.10	0.00	0.10	0.15	0.39	142
41-020	72	Washington Av N at 3rd Av N	14.89	0.00	0.03	0.12	0.35	0.05	0.45	0.31	0
41-030	48	6th St at 2nd Av N	60.47	0.03	0.37	0.40	0.00	0.14	0.06	0.49	402
41-040	24	2nd Av N at 5th St N	35.59	0.00	0.35	0.45	0.10	0.10	0.00	0.55	125
41-050	15	2nd Av N at 4th St N	10.48	0.00	0.62	0.38	0.00	0.00	0.00	0.60	0
41-060	36	North edge of Brownie Lake	2.95	0.00	0.66	0.34	0.00	0.00	0.00	0.60	0
51-010	12	Cedar Lake Road - 250' SW of Lake View	29.63	0.99	0.00	0.01	0.00	0.00	0.00	0.45	162
51-020	21	W '21st St (extended)	4.00	1.00	0.00	0.00	0.00	0.00	0.00	0.45	31
52-010	12	Burnham Road @ Kenilworth Lagoon	45.29	0.53	0.00	0.00	0.00	0.36	0.11	0.27	147
52-020	12	Park Lane - 500' North of Burnham Road	6.09	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
52-030	12	Burnham Road - '100' North of Cedar Lake Pkwy	7.18	1.00	0.00	0.00	0.00	0.00	0.00	0.45	16
52-040	24	Cedar Lake Pkwy @ Depot	4.54	0.90	0.00	0.00	0.00	0.10	0.00	0.42	0
52-050	18	Cedar Lake Pkwy @ Chowen (extended)	15.30	0.95	0.00	0.00	0.00	0.05	0.00	0.43	74
52-060	36	Cedar Lake Pkwy @ Drew Ave S (extended)	3.22	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
52-070	24	Cedar Lake Pkwy @ Ewing Av S (extended	86.94	0.88	0.02	0.00	0.00	0.10	0.00	0.42	1,095
52-080	18	Cedar Lake Pkwy @ at Basswood Road	8.08	0.41	0.00	0.00	0.00	0.59	0.00	0.24	0
52-090	42	Cedar Lake Pkwy @ West 24th St	4.89	1.00	0.00	0.00	0.00	0.00	0.00	0.45	19

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
52-100	48	Cedar Lake Pkwy @ West 22nd St	11.89	0.58	0.00	0.00	0.00	0.39	0.03	0.30	92
52-110	24	Cedar Lake Pkwy @ West Franklin Av	8.84	0.99	0.00	0.00	0.00	0.01	0.00	0.45	45
52-120	8	Cedar Lake Pkwy @ Cedar Lake Road	14.74	1.00	0.00	0.00	0.00	0.00	0.00	0.45	168
52-130	12	Upton Av S @ West 26th St	7.18	0.70	0.00	0.00	0.00	0.00	0.30	0.32	18
53-010	24	West 26th St @ Lake of the Isles Parkway	7.03	1.00	0.00	0.00	0.00	0.00	0.00	0.45	66
53-020	15	Thomas Av S (Dean Blvd)	12.38	0.61	0.00	0.00	0.00	0.00	0.39	0.28	57
53-030	18	Lake of the Isles Parkway ('200' E of Russell Av S)	11.37	0.96	0.00	0.00	0.00	0.04	0.00	0.44	65
53-040	24	Lake of the Isles Parkway (West 24th ST)	2.78	1.00	0.00	0.00	0.00	0.00	0.00	0.45	71
53-050	30	Lake of the Isles Parkway (Penn Av S)	13.66	1.00	0.00	0.00	0.00	0.00	0.00	0.45	149
53-060	18	Lake of the Isles Parkway (Newton Av S)	20.37	1.00	0.00	0.00	0.00	0.00	0.00	0.45	284
53-070	24	Lake of the Isles Parkway (Oliver Av S)	4.89	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
53-080	24	West 21st St @ Lake of the Isles Blvd	5.81	0.84	0.00	0.00	0.00	0.16	0.00	0.39	36
53-090	24	Lake of the Isles Blvd @Franklin Av	59.59	0.68	0.01	0.00	0.03	0.28	0.00	0.36	1,555
53-100	12	Lake of the Isles Blvd @Franklin Av	107.81	0.54	0.01	0.00	0.00	0.45	0.00	0.29	634
53-110	36	Lake of the Isles Pkwy @ West 22nd St	4.59	0.81	0.00	0.00	0.00	0.19	0.00	0.38	26
53-120	12	Lake of the Isles Pkwy @ West 25th St	129.79	0.95	0.04	0.01	0.00	0.00	0.00	0.46	2,688
53-130	15	Lake of the Isles Pkwy @ West 26th St	5.02	1.00	0.00	0.00	0.00	0.00	0.00	0.45	14
53-140	42	Lake of the Isles Pkwy @ Euclid Place	6.36	1.00	0.00	0.00	0.00	0.00	0.00	0.45	60
53-150	54	Lake of the Isles Pkwy @ West 27th St	90.40	0.70	0.20	0.02	0.06	0.02	0.00	0.49	1,586
53-160	15	Lake of the Isles Pkwy @ '250' SW of James Av S	252.19	0.78	0.12	0.06	0.01	0.03	0.00	0.47	6,244
53-170	15	Lake of the Isles Pkwy @ '500' W of Lagoon	6.39	0.75	0.00	0.00	0.00	0.25	0.00	0.36	33
53-180	18	Lake of the Isles Pkwy @ West 28th St	8.09	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
53-190	36	E. Isles Pkwy at The Mall	11.41	0.57	0.00	0.00	0.00	0.43	0.00	0.30	76
54-010	42	E. Calhoun Pkwy at 33rd St. W	84.93	0.67	0.15	0.05	0.00	0.13	0.00	0.43	2,220
54-040	18	E. Calhoun Pkwy at 36th St W.	255.14	0.68	0.22	0.08	0.02	0.00	0.00	0.50	3,792
54-050	18	W. Calhoun Pkwy at Sheridan Av S.	9.27	0.21	0.00	0.00	0.00	0.79	0.00	0.17	27
54-060	30	W. Calhoun Pkwy at Vincent Av S	32.13	0.95	0.00	0.00	0.00	0.05	0.00	0.43	69
54-070	60	W. Calhoun Pwky at Xerxes Av S	60.80	0.74	0.00	0.00	0.00	0.26	0.00	0.36	595
54-080	12	W. Calhoun Pwky approx. '250' S. of W 36th St	414.26	0.89	0.03	0.01	0.05	0.02	0.00	0.46	4,180
54-090	36	W. Calhoun Pwky at W. 36th St	3.55	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
54-100	18	W. Calhoun Pwky at Rose Lane	114.24	0.20	0.00	0.00	0.78	0.02	0.00	0.56	134
54-110	24	W. Calhoun Pwky at Ivy Lane	24.55	1.00	0.00	0.00	0.00	0.00	0.00	0.45	20
54-120	12	W. Calhoun Pwky approx. '200' N of W 32nd St	62.08	0.76	0.08	0.01	0.09	0.06	0.00	0.46	378
54-130	30	W. Calhoun Pwky at Market Place (extended)	1.07	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
54-140	24	W. Calhoun Pwky at Calhoun Blvd (extended)	113.01	0.32	0.35	0.04	0.00	0.25	0.04	0.40	1,729
54-150	9	W. Calhoun Pwky at Dean Pwky	55.34	0.94	0.02	0.01	0.00	0.03	0.00	0.44	455
54-160	12	W. Calhoun Pwky approx. 200' E of Thomas Av S	2.62	0.00	1.00	0.00	0.00	0.00	0.00	0.60	0
54-170	12	W. Calhoun Pwky approx. 500' E of Thomas Av S	8.08	0.13	0.42	0.44	0.00	0.01	0.00	0.58	0
54-180	12	W. Calhoun Pwky approx 750' E of Thomas Av S	2.82	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
54-190	12	W. Calhoun Pwky approx. 1000' E of Thomas Av S	2.20	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
54-200	12	W. Calhoun Pwky approx. 1200' E of Thomas Av S	2.13	0.00	0.00	0.00	0.00	1.00	0.00	0.10	41
54-210	12	E. Calhoun Pkwy approx. 1000' NE of Wm Berry Pkwy	1.14	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
55-010	12	Lakewood Cemetary	14.98	0.00	1.00	0.00	0.00	0.00	0.00	0.60	0
55-020	12	Lake Harriet Pkwy at Roseway Rd	189.58	0.00	0.99	0.00	0.00	0.01	0.00	0.60	41
56-010	15	E. Harriet Pwky at 43rd St	67.62	0.00	1.00	0.00	0.00	0.00	0.00	0.60	0

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
57-010	36	E. Harriet Pwky at 44th St	26.10	0.44	0.56	0.00	0.00	0.00	0.00	0.53	130
57-020	12	E. Harriet Pwky at Kings Highway	143.08	0.95	0.02	0.00	0.03	0.00	0.00	0.46	1,641
57-030	24	E. Harriet Pwky at W 47th St	18.22	1.00	0.00	0.00	0.00	0.00	0.00	0.45	157
57-040	12	Harriet Pwky at Morgan Av S	39.88	0.71	0.00	0.00	0.00	0.29	0.00	0.35	390
57-050	24	Harriet Pwky at Oliver Ave S.	7.90	1.00	0.00	0.00	0.00	0.00	0.00	0.45	51
57-060	36	W. Harriet Pwky @ Queen Av S	26.11	0.91	0.08	0.01	0.00	0.00	0.00	0.46	436
57-070	12	W. Harriet Pwky @ Russel Av S	81.33	0.98	0.02	0.00	0.00	0.00	0.00	0.45	1,011
57-080	42	W. Harriet Pwky @ Thomas Av S	5.54	0.92	0.00	0.00	0.00	0.08	0.00	0.42	45
57-090	60	W. Harriet Pwky @ W. 47th St	77.77	0.85	0.05	0.01	0.09	0.00	0.00	0.47	833
57-100	12	W. Harriet Pwky @ W.46th St (extended)	313.43	0.81	0.11	0.02	0.06	0.00	0.00	0.48	3,458
57-110	30	W. Harriet Pwky @ W. 44th St.	21.60	0.40	0.60	0.00	0.00	0.00	0.00	0.54	275
57-120	18	W. Harriet Pwky @ approx. 400' N of W 44th St	62.08	0.81	0.11	0.02	0.06	0.00	0.00	0.48	3,458
57-130	18	W. Harriet Pwky @ approx. 500' S W 42nd St	1.16	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
57-140	15	W. Harriet Pwky @ W 42nd St	1.55	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
57-150	12	Lake Harriet Pkwy approx. 50' N of W 42nd St	35.68	0.88	0.02	0.00	0.00	0.10	0.00	0.42	364
57-160	future	Cleveland St NE at 37th Av NE	1.89	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
61-010	36	Silver Lake Stinson Blvd and 37th Av NE	2.86	0.32	0.68	0.00	0.00	0.00	0.00	0.55	0
62-010	66	Victory Pkwy @ Dowling Av N	27.84	0.94	0.03	0.00	0.00	0.03	0.00	0.44	245
63-010	24	W Broadwy Av at Xerxes Av N	455.67	0.92	0.04	0.00	0.02	0.02	0.00	0.45	5,985
63-020	24	Columbus Av S (extended) 200' S of E 61st St	13.62	0.75	0.00	0.00	0.00	0.25	0.00	0.36	0
64-100	12	Elliot Av S (extended) S side of Hwy 62	24.92	1.00	0.00	0.00	0.00	0.00	0.00	0.45	314
64-110	30	Oakland Av S (extended) @ 50' N of Hwy 62	6.01	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
64-120	12	Park Av S 300' E of Portland Av (at curve)	16.04	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
64-130	30	Mn Hwy 190 @ Hwy 62	2.44	1.00	0.00	0.00	0.00	0.00	0.00	0.45	18
65-010	33	W 62nd St (extended) @ State Hwy 190	18.97	0.86	0.00	0.14	0.00	0.00	0.00	0.47	0
65-020	12	W 54th @ France Av S	39.13	0.44	0.55	0.00	0.00	0.01	0.00	0.53	442
70 -265	21	Pratt St @ W M'haha Pkwy (north bank)	185.98	0.81	0.15	0.02	0.00	0.02	0.00	0.47	2,415
70-010	24	W 54th St 150' E of Zenith Av S	6.23	0.93	0.07	0.00	0.00	0.00	0.00	0.46	55
70-015	24	York Av S @ W 54th St (extended)	11.69	1.00	0.00	0.00	0.00	0.00	0.00	0.45	124
70-020	12	Xerxes Av S @ 54th St	37.55	1.00	0.00	0.00	0.00	0.00	0.00	0.45	576
70-025	18	Washburn Av S @ N Bank of Creek	3.67	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-030	12	Washburn Av S	13.48	1.00	0.00	0.00	0.00	0.00	0.00	0.45	106
70-035	12	Vincent Av S @ W 54th St	4.53	1.00	0.00	0.00	0.00	0.00	0.00	0.45	57
70-040	12	W 54th St 50' W of Upton Av S	2.42	1.00	0.00	0.00	0.00	0.00	0.00	0.45	55
70-045	18	Upton Av S - N Bank of Creek	0.22	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-050	60	W 54th St 250' E of Upton Av S	17.41	1.00	0.00	0.00	0.00	0.00	0.00	0.45	216
70-055	12	Forest Dale Rd 250' E of Upton Av S	333.43	0.87	0.09	0.00	0.02	0.02	0.00	0.46	3,186
70-060	12	Forest Dale Rd 750' E of Upton Av S	3.53	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-065	12	Forest Dale Rd @ Sheridan Av S (extended)	1.89	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-070	12	Queen Av S @ W 53rd St S	5.80	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-075	15	Penn Av S - S Bank of Creek	5.00	0.95	0.00	0.00	0.00	0.05	0.00	0.43	96
70-080	48	Morgan Av S 300' N of 53rd St	11.96	0.94	0.03	0.00	0.00	0.03	0.00	0.44	2,796
70-085	15	W 52nd St - W Bank of Creek	229.48	0.94	0.03	0.00	0.00	0.03	0.00	0.44	2,702
70-090	15	W 52nd St -E Bank of Creek	18.57	1.00	0.00	0.00	0.00	0.00	0.00	0.45	271
70-095	12	300' SE of Newton Av S @ W 51st St	9.99	1.00	0.00	0.00	0.00	0.00	0.00	0.45	129

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
70-100	12	Morgan Av S '500' N of W 52nd St	9.64	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-105	21	Morgan Av S @ 51st St	1.63	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-110	12	Logan Av S at W M' haha Pkwy (South bank)	18.13	1.00	0.00	0.00	0.00	0.00	0.00	0.45	217
70-115	21	Logan Av S at W M' haha Pkwy (north bank)	3.71	1.00	0.00	0.00	0.00	0.00	0.00	0.45	40
70-120	12	Knox Av S @ W M' haha Pkwy (south)	4.22	1.00	0.00	0.00	0.00	0.00	0.00	0.45	61
70-125	36	James Av S @ N Bank of Creek	5.23	1.00	0.00	0.00	0.00	0.00	0.00	0.45	66
70-130	12	Irving Av S @ W 51st St	34.29	0.70	0.23	0.00	0.07	0.00	0.00	0.50	218
70-135	12	Humboldt Av S @ N Bank of Creek	7.46	1.00	0.00	0.00	0.00	0.00	0.00	0.45	115
70-140	20	W 50th St @ W M' haha Pkwy	0.78	0.00	0.00	0.00	1.00	0.00	0.00	0.60	0
70-145	30	W 49th St @ Humboldt Av S (vacated)	9.19	0.00	0.60	0.00	0.40	0.00	0.00	0.60	0
70-150	15	Humboldt Av S '50' N of W 49th St	4.51	1.00	0.00	0.00	0.00	0.00	0.00	0.45	77
70-155	12	Harriet Pkwy @ Irving Av S	2.05	1.00	0.00	0.00	0.00	0.00	0.00	0.45	66
70-160	15	W 48th St @ Humboldt Av S	2.95	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-165	15	W 49th St @ W M'haha Pkwy	27.77	1.00	0.00	0.00	0.00	0.00	0.00	0.45	286
70-170	18	W 50th St @ W M' haha (east bank)	23.74	1.00	0.00	0.00	0.00	0.00	0.00	0.45	179
70-175	12	W M 'haha Pkwy 400' S of W 50th St	30.89	0.95	0.02	0.00	0.03	0.00	0.00	0.46	420
70-180	12	W 51st St @ Humboldt Av S	1.14	1.00	0.00	0.00	0.00	0.00	0.00	0.45	17
70-185	18	Humboldt Av S @ W M ' haha Pkwy (west bank)	1.53	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-190	21	Fremont Av S @ W M' haha Pkwy (east bank)	15.04	0.21	0.00	0.00	0.00	0.79	0.00	0.17	171
70-195	24	Girard Av S @ W M' haha Pkwy	46.02	0.96	0.04	0.00	0.00	0.00	0.00	0.46	554
70-200	12	W M 'haha Pkwy 250' W of Emerson Av S (east bank)	31.52	1.00	0.00	0.00	0.00	0.00	0.00	0.45	342
70-205	12	W M 'haha Pkwy @ Fremont Av S (extended)	1.39	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-210	12	Emerson Av S @ W M' haha	3.58	1.00	0.00	0.00	0.00	0.00	0.00	0.45	111
70-215	12	Dupont Av S @ W M' haha Pkwy (south bank)	5.93	1.00	0.00	0.00	0.00	0.00	0.00	0.45	60
70-220	12	Dupont Av S @ W M' haha Pkwy (northbank)	4.54	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-225	12	Colfax Av S @ W M 'haha Pkwy (north bank)	4.99	1.00	0.00	0.00	0.00	0.00	0.00	0.45	65
70-230	12	Bryant Av S @ W M' haha Pkwy (north bank)	4.72	1.00	0.00	0.00	0.00	0.00	0.00	0.45	66
70-235	30	Bryant Av S @ W M' haha Pkwy (south bank)	5.04	1.00	0.00	0.00	0.00	0.00	0.00	0.45	68
70-240	12	Aldrich Av S @ W M"haha Pkwy (north bank)	4.52	1.00	0.00	0.00	0.00	0.00	0.00	0.45	93
70-245	27	Lyndale Av S @ W M ' haha Pkwy (south bank)	9.98	0.95	0.00	0.00	0.00	0.05	0.00	0.43	187
70-250	24	Harriet Av S @ W M' haha Pkwy (north bank)	41.27	0.78	0.20	0.02	0.00	0.00	0.00	0.48	398
70-255	30	Gladstone Av S (ext) @ W M haha Pkwy (north bank)	45.37	1.00	0.00	0.00	0.00	0.00	0.00	0.45	388
70-260	48	Pleasant Av S @ W M'haha Pkwy (south bank)	24.90	0.94	0.00	0.06	0.00	0.00	0.00	0.46	341
70-270	24	W M 'haha Pkwy 250' W of Nicollet Ave S (east bank)	4.66	1.00	0.00	0.00	0.00	0.00	0.00	0.45	119
70-275	21	W M' haha Pkwy 300' S of Valley View (north bank)	4.28	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-280	18	Nicollet Ave S at M ' haha Pkwy (north bank)	9.39	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-285	12	E M' haha Pkwy 300' E of Nicollet Ave S (n bank)	19.03	1.00	0.00	0.00	0.00	0.00	0.00	0.45	60
70-290	15	E M ' haha Pkwy 50' W of Stevens Av S (south bank)	2.37	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-295	12	E M ' haha Pkwy 50' W of Stevens Av S (south bank)	7.18	1.00	0.00	0.00	0.00	0.00	0.00	0.45	90
70-300	12	E M ' haha Pkwy at Luverne Av S (north bank)	0.40	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
70-305	12	E M ' haha Pkwy at 3rd Av S (north bank)	12.68	0.99	0.00	0.00	0.00	0.01	0.00	0.45	118
70-310	21	E M ' haha Pkwy at 200' W of Tarrymore Av S (S bank)	5.36	0.82	0.00	0.00	0.00	0.18	0.00	0.39	0
70-315	36	E M ' haha Pkwy at E 50th St (north Bank)	5.79	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-320	9	E M ' haha Pkwy at 5th Av S (north bank)	2.32	0.82	0.00	0.00	0.00	0.18	0.00	0.39	394
70-325	54	E M ' haha Pkwy at 5th Av S (north bank)	2.35	1.00	0.00	0.00	0.00	0.00	0.00	0.45	394

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
70-330	18	E M ' haha Pkwy at 100' W of Portland Av S (s bank)	279.41	0.83	0.03	0.00	0.14	0.00	0.00	0.48	3,211
70-335	12	E M ' haha Pkwy at Portland Av S (s bank)	1.99	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-340	12	E M ' haha Pkwy at Oakland Av S (s bank)	21.97	0.12	0.12	0.40	0.00	0.25	0.11	0.39	204
70-345	60	E M ' haha Pkwy at Oakland Av S (n bank)	3.81	1.00	0.00	0.00	0.00	0.00	0.00	0.45	60
70-350	12	E M ' haha Pkwy at Park Av S (s bank)	314.40	0.70	0.25	0.01	0.04	0.00	0.00	0.50	4,075
70-355	42	E M ' haha Pkwy at Park Av S (s bank)	1.29	1.00	0.00	0.00	0.00	0.00	0.00	0.45	18
70-360	12	E M ' haha Pkwy at Columbus Av S (s bank)	131.96	0.96	0.02	0.01	0.01	0.00	0.00	0.46	1,253
70-365	21	E M ' haha Pkwy at Chicago Av S (n bank)	6.70	1.00	0.00	0.00	0.00	0.00	0.00	0.45	116
70-370	12	E M ' haha Pkwy at Chicago Av S (s bank)	3.75	0.96	0.00	0.00	0.00	0.04	0.00	0.44	33
70-375	15	E M' haha Pkwy at 11th Av S (s bank)	7.10	0.85	0.15	0.00	0.00	0.00	0.00	0.47	64
70-380	127	E M ' haha Pkwy 150 ' W of 11th Av S (n bank)	14.40	1.00	0.00	0.00	0.00	0.00	0.00	0.45	222
70-385	24	E M' haha Pkwy at 12th Av S (s bank)	14.97	1.00	0.00	0.00	0.00	0.00	0.00	0.45	243
70-390	30	E M' haha Pkwy at 12th Av S (n bank)	58.11	0.90	0.00	0.00	0.10	0.00	0.00	0.47	770
70-395	12	E 50th St at 13th Av S (s bank)	57.19	0.94	0.00	0.00	0.00	0.06	0.00	0.43	713
70-400	15	E 50th St at Bloomington Av S (south bank)	9.67	0.95	0.00	0.00	0.00	0.05	0.00	0.43	119
70-405	12	E 49th St at 16th Av S (south bank)	7.16	0.40	0.00	0.00	0.00	0.60	0.00	0.24	0
70-410	36x96	E M' haha Pkwy at 16th Av S (north bank)	5.80	0.90	0.00	0.00	0.00	0.10	0.00	0.42	67
70-415	15	E M' haha Pkwy at 18th Av S (south bank)	120.75	0.96	0.02	0.00	0.02	0.00	0.00	0.46	947
70-420	30	E M' haha Pkwy at Cedar Av S (north bank)	16.99	1.00	0.00	0.00	0.00	0.00	0.00	0.45	164
70-425	15	E M' haha Pkwy 1/2 mi. E of Longfellow Av (w bank)	20.63	0.59	0.34	0.07	0.00	0.00	0.00	0.51	163
70-430	18	E M' haha Pkwy 1/2 mi. E of Longfellow Av (e bank)	6.19	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
70-435	42	47th St E (extended) 1/2 mi. E Longfellow Av	9.16	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
70-440	12	28th Av S @ W 47th St (s bank)	34.48	0.68	0.06	0.06	0.20	0.00	0.00	0.50	236
70-445	12	28th Av S 500' S of 46th St E (n band)	5.60	1.00	0.00	0.00	0.00	0.00	0.00	0.45	65
70-450	12	29th Av S 500' N E M' haha Pkwy (s band)	2.65	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-455	12	29th Av S 500' S of 46th St E (n bank)	2.66	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-460	15	'30th Av S 500' N of E M ' haha Pkwy (s band)	2.67	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-465	15	30th Av S 500' S of E 46th St (n bank)	2.58	1.00	0.00	0.00	0.00	0.00	0.00	0.45	92
70-470	60	Nokomis Av 200' S of 46th St (n bank)	8.55	0.81	0.00	0.00	0.00	0.19	0.00	0.38	164
70-475	12	31st Av S @ E 46th St (n bank)	229.14	0.85	0.02	0.00	0.10	0.03	0.00	0.46	2,806
70-480	24	E 31st St 600' N of 47th St (s bank)	0.68	0.00	0.00	0.00	1.00	0.00	0.00	0.60	0
70-485	48	31st Av @ E 46th St (s bank)	13.36	1.00	0.00	0.00	0.00	0.00	0.00	0.45	140
70-490	15	32nd Av S @ E 46th St	48.75	0.85	0.00	0.00	0.15	0.00	0.00	0.47	466
70-495	12	32nd Av S 250' N of E M' haha Pkwy (s bank)	7.74	1.00	0.00	0.00	0.00	0.00	0.00	0.45	66
70-500	15	E 47th St 200' W of 32nd Av S	0.56	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-505	27	32nd Av S 300' N of E M' haha Pkwy (s bank)	8.12	0.89	0.00	0.00	0.00	0.11	0.00	0.41	110
70-510	30	33rd Av S '250' NE of E M' haha Pkwy (s bank)	41.82	0.99	0.01	0.00	0.00	0.00	0.00	0.45	360
70-515	18	34th Av S '150 N of E M' haha Pkwy (s bank)	62.73	0.86	0.14	0.00	0.00	0.00	0.00	0.47	778
70-520	15	35th Av S @ E M' haha Pkwy (s bank)	6.05	1.00	0.00	0.00	0.00	0.00	0.00	0.45	74
70-525	12	35th Av S @ e 47th St	6.23	1.00	0.00	0.00	0.00	0.00	0.00	0.45	110
70-530	24	35th Av S 100' S of Crosby Av S	1.67	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-535	12	35th Av S @ E 47th St (s bank)	30.24	0.75	0.05	0.00	0.00	0.20	0.00	0.39	370
70-540	12	36th Av S @ Crosby Av (n bank)	5.10	0.32	0.00	0.00	0.00	0.68	0.00	0.21	63
70-545	12	37th Av S 100' N of E 47th St (s bank)	1.89	1.00	0.00	0.00	0.00	0.00	0.00	0.45	55
70-550	12	37th Av S Crosby Av S	1.77	1.00	0.00	0.00	0.00	0.00	0.00	0.45	55

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
70-555	12	E 47th St @ 38th Av S (s bank)	1.73	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-560	12	E M' haha Pkwy @ 39th Av S (s bank)	3.33	1.00	0.00	0.00	0.00	0.00	0.00	0.45	39
70-565	12	39th Av S 250' N of E 49th St (s bank)	16.63	0.40	0.00	0.00	0.00	0.60	0.00	0.24	143
70-570	24	E 49th St @ 30th Av S	1.23	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
70-575	48	Godfrey Rd @ 46th Av S (extended)	15.39	1.00	0.00	0.00	0.00	0.00	0.00	0.45	175
70-580	12	Portland Av S 250' S of Diamond Lake Rd	119.93	0.73	0.10	0.05	0.00	0.12	0.00	0.43	1,025
71-010	18	E 55th St @ Portland Av S	1.12	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
71-020	24	E 56th St @ Park Av S	14.05	1.00	0.00	0.00	0.00	0.00	0.00	0.45	115
71-030	12	E 57th St @ Portland Av S	28.58	0.98	0.02	0.00	0.00	0.00	0.00	0.45	328
71-040	36	E 58th St @ Portland Av S	20.93	0.34	0.00	0.00	0.00	0.66	0.00	0.22	131
71-050	12	Diamond Lake Lane @ E 59th St	120.42	0.95	0.05	0.00	0.00	0.00	0.00	0.46	1,218
71-060	66	W 58th St @ Clinton Av S	3.11	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
71-070	54	E Diamond Lake Road @ Clinton Av S	386.69	0.60	0.15	0.15	0.05	0.05	0.00	0.49	3,657
71-080	12	Hampshire Drive @ E Diamond Lake Rd	101.79	0.85	0.10	0.05	0.00	0.00	0.00	0.47	938
71-090	12	Diamond Lake Rd 250' E of Hampshire Drive	6.50	0.99	0.00	0.00	0.00	0.01	0.00	0.45	69
71-100	21	Nokomis Pkwy at Parking Lot on North Shore	1.99	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
72-010	18	E Nokomis Pkwy approx. 100' N of 50th St	17.32	0.00	0.00	0.00	0.15	0.85	0.00	0.18	0
72-020	21	E Nokomis Pkwy approx 200 N of 52nd St E	24.70	0.77	0.05	0.00	0.00	0.18	0.00	0.39	205
72-030	36	E Nokomis Pkwy @ E 53rd St	5.25	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
72-040	18	E Nokomis Pkwy @ 54th St (extended)	166.54	0.80	0.04	0.00	0.03	0.13	0.00	0.42	1,911
72-050	36	E Nokomis Pkwy E 56th St	5.16	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
72-060	12	Cedar Av S 500' N of Nokomis Pkwy	113.04	0.69	0.00	0.00	0.04	0.27	0.00	0.36	947
72-070	12	W Nokomis Pkwy 500' W of Cedar Av S	2.21	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
72-080	73x115	Edgewater Blvd at Nokomis Lane	4.74	0.00	1.00	0.00	0.00	0.00	0.00	0.60	0
72-090	42	Edgewater Blvd 50' W of Nokomis Lane	68.71	0.92	0.00	0.00	0.05	0.03	0.00	0.45	717
72-100	12	Nokomis Pkwy 600' W of Cedar Av S	68.32	0.91	0.09	0.00	0.00	0.00	0.00	0.46	760
72-110	27	E Nokomis Pkwy at 54th St	3.22	1.00	0.00	0.00	0.00	0.00	0.00	0.45	610
72-120	30	Cedar Av S at E 52nd St	62.98	1.00	0.00	0.00	0.00	0.00	0.00	0.45	589
72-130	12	E Nokomis Pkwy at Parking Lot on NW Shore	58.06	0.96	0.04	0.00	0.00	0.00	0.00	0.46	706
72-140	24	Nokomis Pkwy at Parking Lot on N Shore	10.19	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
72-150	12	W Nokomis Pkwy 500' S of Minnehaha Creek	4.76	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
72-160	48	E 61st St @ Bloomington Av S	4.55	0.95	0.00	0.00	0.00	0.05	0.00	0.43	675
73-010	42	E 61st St @ Bloomington Av S	20.76	0.98	0.00	0.00	0.00	0.02	0.00	0.44	92
73-020	12	North Shore of Taft Lake	57.47	0.97	0.00	0.00	0.00	0.03	0.00	0.44	583
73-030	12	Hwy 62 at NW Shore of Mother Lake	21.56	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
74-010	18	59th St E at 26th Ave S	44.39	0.81	0.19	0.00	0.00	0.00	0.00	0.48	111
74-020	12	Highway 62 @ SW shore of Wetland	4.41	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
75-005	12	Highway 62 frontage Rd @ 15th Av S	12.39	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
75-010	12	E 60th St 50' W of 15th Av S	3.65	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0
75-020	15	14th Av S @ E 59th St	1.53	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
75-030	15	E 59th St @ 12th Av S	8.38	1.00	0.00	0.00	0.00	0.00	0.00	0.45	35
75-040	60x69	E 43rd St @ 23rd Av S (extended)	14.74	1.00	0.00	0.00	0.00	0.00	0.00	0.45	309
76-010	42	27th Av S @ E44th St	907.31	0.86	0.07	0.02	0.03	0.02	0.00	0.46	13,563
76-020	15	E 44th St @ 27th Av S	88.62	0.96	0.04	0.00	0.00	0.00	0.00	0.46	1,074
76-030	15	E 45th St @ 28th Av S	7.55	1.00	0.00	0.00	0.00	0.00	0.00	0.45	70

STORM DRAINAGE AREAS CHARACTERIZATION

Outfall	Pipe Size(in)	Location of Outfall	Total(Ac)	Res	Comm	Ind	Public	Open	Rail	Runoff	Pop
76-040	15	E 46th St @ 28th Av S	4.67	0.25	0.00	0.00	0.00	0.75	0.00	0.19	0
81-010	18	Wirth Pkwy @ S side of Birch Pond	31.17	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
82-010	36	Powderhorn Terrace @ 12th Av S	23.53	0.72	0.22	0.06	0.00	0.00	0.00	0.49	457
82-020	36	15th Av S 300' S of E 34th St	73.45	0.94	0.03	0.01	0.02	0.00	0.00	0.46	1,285
82-030	30	E 35th St @ 13th Av S	90.04	0.91	0.04	0.01	0.02	0.02	0.00	0.45	1,998
82-040	36	10th Av S 200' S of E 33rd St	98.49	0.85	0.03	0.02	0.08	0.02	0.00	0.46	1,881
83-010		W 61st St @ Grass Lake Terrace	6.59	1.00	0.00	0.00	0.00	0.00	0.00	0.45	39
83-015	24	S Shore of Grass Lake @ Grass Lake Terrace	0.99	1.00	0.00	0.00	0.00	0.00	0.00	0.45	0
83-020	48	Road btwn W 61st St & Grass Lake Terrace	85.96	0.96	0.00	0.00	0.00	0.04	0.00	0.44	241
83-025	36	Road btwn W 61st St & Grass Lake Terrace	51.23	1.00	0.00	0.00	0.00	0.00	0.00	0.45	474
83-030	24	W Grass Lake Terr. @ SW corner of Grass Lake	0.82	0.00	0.00	1.00	0.00	0.00	0.00	0.60	0
83-040	32	W Grass Lake Terr. @ W shore of Grass Lake	1.08	0.00	0.00	0.00	0.00	1.00	0.00	0.10	0
83-050	24	W 59th St (extended) @ Grass Lake Terrace	40.40	0.99	0.00	0.01	0.00	0.00	0.00	0.45	295
83-060	15	Girard Av S 250' S Grass Lake Terrace	10.05	1.00	0.00	0.00	0.00	0.00	0.00	0.45	149
83-070	24	Girard Av S @ W 60th St	1.19	0.82	0.08	0.00	0.10	0.00	0.00	0.48	1,426
83-080	60	Girard Av S 250' N of Dupont Av S	178.63	0.82	0.08	0.00	0.10	0.00	0.00	0.48	1,426
83-090	15	Dupont Av S @ Girard Av S	9.16	0.85	0.00	0.00	0.00	0.15	0.00	0.40	78
84-010	12	Hwy 62 between 28th and 34th Ave S	16.93	0.86	0.00	0.14	0.00	0.00	0.00	0.47	0
85-010	12	Ewing Ave S & W 22nd St.	21.56	0.86	0.00	0.14	0.00	0.00	0.00	0.47	0

SOURCES OF POLLUTANTS IN STORMWATER RUNOFF

	Fossil Fuel Combustion Incinerators	Gasoline Consumption	Metal Corrosion Metal Protection	Road Salts	Tires	Asphalt	Fertilizers, Pesticides, Soil Treatments	Wood Preservatives	Paints and Stains	Plastics	Soil Erosion	Sanitary Waste	Manufacturing	Animal Waste	Atmospheric Deposition	Plant Materials
Organic Toxic Pollutants:																
Volatiles	√	√		√		√	√		√	√		√	√	√	√	
Acid Compounds	√	√					√	√	√			√		√		
Base/Neutral	√					√	√	√	√	√		√	√	√		
Pesticides					√		√								√	√
Other Toxic Pollutants (Metals and Cyanide) and Total Phenols:																
Antimony			√						√	√	√		√		√	
Arsenic	√						√				√		√		√	
Beryllium	√		√								√		√			
Cadmium	√		√		√		√						√		√	
Chromium			√					√	√				√			
Copper			√				√		√				√			
Lead		√	√		√				√				√		√	
Mercury	√						√		√		√		√		√	
Nickel	√	√				√							√		√	
Selenium	√								√		√		√	√	√	
Silver			√								√		√			
Thallium							√				√		√		√	
Zinc			√	√	√				√				√			
Cyanide		√	√	√												
Phenols						?		√		√						

SOURCES OF POLLUTANTS IN STORMWATER RUNOFF

	Fossil Fuel Combustion Incinerators	Gasoline Consumption	Metal Corrosion Metal Protection	Road Salts	Tires	Asphalt	Fertilizers, Pesticides, Soil Treatments	Wood Preservatives	Paints and Stains	Plastics	Soil Erosion	Sanitary Waste	Manufacturing	Animal Waste	Atmospheric Deposition	Plant Materials
Other Conventional and Non-Conventional Pollutants:																
Total Dissolved Solids (TDS)	√			√		√	√					√		√	√	√
Total Suspended Solids (TSS)	√		√	√	√	√	√			√	√	√	√	√	√	√
Biochemical Oxygen Demand (BOD_5)											√	√		√	√	√
Chemical Oxygen Demand (COD)									√				√		√	√
Oil and Grease		√				√							√			
Fecal Coliform											?	√		√	√	
Fecal Streptococcus											?	√		√	√	
Phosphorus, Total	√	√			?	?	√				√	√	√	√	√	√
Phosphorus, Dissolved	√	√			?	?	√				√	√		√	√	√
pH			√	√												
Total Kjeldahl Nitrogen							√					√		√	√	√
Nitrate + Nitrite		√					√				√	√	√	√	√	√
Total Ammonia and Organic Nitrogen							√					√		√	√	√
Total Residual Chlorine			√	√						√		√	√		√	

23 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) MONITORING

BACKGROUND

The Minneapolis Park and Recreation Board (MPRB) and Minneapolis Public Works (MPW) Department are responsible for compliance with the National Pollutant Discharge Elimination System (NPDES) stormwater permit. The MPRB is responsible for monitoring and reporting the data to the City. The purpose of monitoring for the NPDES permit is to characterize the impacts of stormwater discharges. Previously, the MPRB and MPW partnered with the City of St. Paul to fulfill the NPDES permit requirements. Five sites were monitored for 2001 – 2004 located in Minneapolis and St. Paul. In 2005, four new sites were selected for monitoring located in Minneapolis. In 2006, the recreational/parkland site was moved due to land use changes at the previous recreational/parkland site. The new sites were chosen to comply with the original NPDES permit and to assist MPW with their modeling and load allocation efforts.

METHODS

This summary includes the equipment installation at each site, the parameters monitored, field quality assurance sampling, data handling, validation and reporting.

Site Installation

The equipment installed at each site included an ISCO 3700 sampler, a low profile area/velocity pressure transducer and ISCO 4150 datalogger. The dataloggers were flow paced and adjusted accordingly throughout the year to collect samples over the entire hydrograph.

Sites 6 (22nd/Aldrich) and 9 (61st/Lyndale) were installed on 5/3/07. Sites 7 (14th and Park) and 8a (Pershing Park) were installed on 5/4/07.

Equipment installation began when freezing temperatures were no longer a concern in the spring in order to prevent damage to transducers. See Table 23A for site locations and characteristics. See Figure 23A for a map of site locations.

Monitored Parameters

In 2007 storm event samples were collected from May through November. Two snowmelt grab samples were collected in 2007. One snowmelt grab sample was collected in February from sites 6, 7, 8a and 9 and one in March from sites 6, 7, 8a and 9. The target frequency for sample collection was once a month. If a sample was missed one month due to lack of precipitation events, then two were taken the next month. Total volume sampled for each site and total recorded volumes in 2007 are given in Table 23B along with the percentage sampled per season. For detailed information on sampling events see Table 23C. Due to occasional interrupted computer service some weather station data needed to be augmented with National Weather Service (NWS) precipitation data. Multiple bacteria grab samples were taken

throughout the season except at site 8a which was inaccessible for grab sampling following snowmelt. The pH was measured in the field using an Oakton Waterproof pHTestr 2™ or IRI laboratory. The pH meter was calibrated each sampling trip. Fecal coliform and pH samples were collected from grab samples (spring, summer and fall). All required sampling was successfully accomplished in 2007.

Table 23A. NPDES stormwater monitoring sites for Minneapolis, MN.

	SD006	**SD007**	**SD008a**	**SD009**
Location	22nd St. and Aldrich Ave.	E. 14th St. and Park Ave. S.	Pershing Field east of 49th St. and Chowen Ave.	335 ft east of 61st St. and Harriet Ave.
Land Use	Multi – Family Residential	Commercial/Industrial/ High Rise Residential	Recreational/ Parkland	Commercial/ Industrial
Area (acres)	8.9	13.1	2.5	34.9
Pipe Diameter (inches)	18	42	10	36
Outfall ID#	10 – 430J	10 – 430D	57 – 100A/B	71 – 070

Table 23B. NPDES site volume totals for the sampling period 5/7/07 – 10/15/07.

	Site 6	Site 7	Site 8a	Site 9
Total volume of sampled events (cf)	19,515	400,473	7,066	664,560
Total volume recorded for 2007 (cf)	91,756	1,917,221	20,509	1,124,286
% sampled ANNUAL	21%	21%	34%	59%
% sampled SPRING (April- June)	4%	0%	1%	1%
% sampled SUMMER (July- September)	15%	18%	30%	54%
% sampled FALL (October- November)	1%	0%	2%	3%

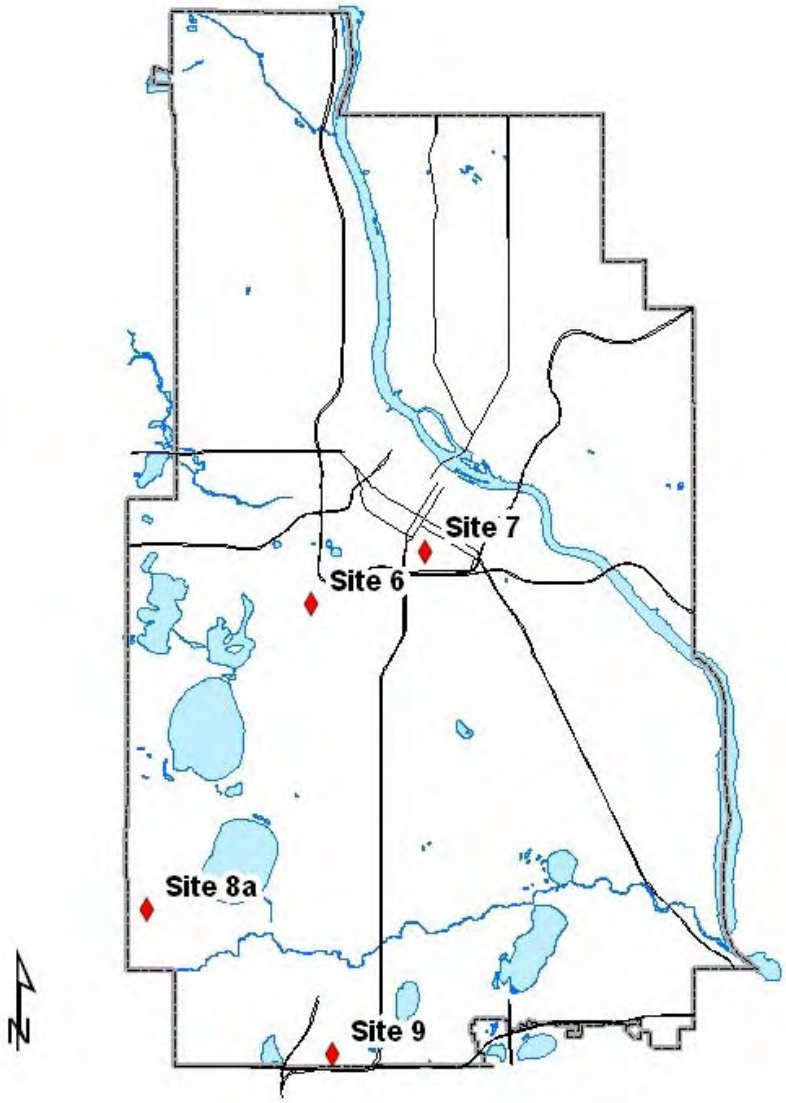

Figure 23A. Map of the 2007 NPDES sites located in Minneapolis, MN.

Table 23C. 2007 precipitation event data and samples collected for NDPES sites. A precipitation event is defined as being greater than 0.10 inches and separated by 8 hours. Rain gage located at 3800 Bryant Ave. S., Minneapolis, MN.

Event	Start Date/Time	End Date/Time	Precip (inches)	Duration (hours)	Intensity (in/hr)	Sample Type	2007 NPDES Events Collected			
							Site 6 22nd/Aldrich	Site 7 14th/Park	Site 8a Pershing	Site 9 61st/Lyndale
+1	2/20/2007					grab	X(w/fecal)	X(w/fecal)		X(w/fecal)
+2	2/21/2007					grab			X	
+3	3/9/2007					grab	X(w/fecal)	X(w/fecal)		X(w/fecal)
+4	3/12/2007					grab			X(w/fecal)	
*5	5/7/2007 5:00	5/7/2007 19:00	0.06	14.0	0.004	composite	X			
6	5/8/2007 2215	5/8/2007 2345	0.18	1.50	0.120	composite	X		X	X
7	5/24/2007 630	5/24/2007 1500	0.48	7.50	0.064	grab	fecal/pH	fecal/pH		fecal/pH
8	6/18/2007 1100	6/18/2007 1215	0.26	1.25	0.208	composite	X	X	X	X
9	7/8/2007 1545	7/8/2007 1845	1.10	3.00	0.367	composite	X	X	X	X
10	7/18/2007 1645	7/18/2007 1830	1.11	1.75	0.634	composite	X	X		
11	8/4/2007 945	8/4/2007 2215	0.19	12.5	0.015	composite	X	X(lmtd)		X
12	8/11/2007 330	8/11/2007 1015	0.86	6.75	0.127	composite	X(lmtd)	X (lmtd)	X(lmtd)	X(lmtd)
13	8/11/2007 1930	8/11/2007 2030	0.28	1.00	0.280	composite	2	2		
14	8/13/2007 2315	8/13/2007 2345	1.45	0.50	2.90	composite	X	X	X	X
15	8/18/2007 900	8/19/2007 1745	2.47	31.8	0.078	composite			X	X
16	8/27/2007 200	8/27/2007 345	0.41	1.75	0.234	composite	X			
*17	9/18/2007 4:00	9/18/2007 0:00	1.77	20.0	0.089	composite		X	X	X(w/fecal)
18	10/2/2007 1030	10/2/2007 2045	0.55	10.3	0.054		X(w/fecal/pH)	X(w/fecal/pH)	X	X(w/fecal/pH)
*19	10/15/2007 17:00	10/16/2007 16:00	0.65	24.0	0.027	grab	fecal/pH	fecal/pH		fecal/pH
		Totals	**11.82**				**12**	**10**	**10**	**11**

+snowmelt event
*NWS (National Weather Service) MSP data
n/a = not applicable
X(lmtd) = event sampled with limited parameters generally due to holding times
X(w/fecal) = event sampled with fecal coliform
w/fecal = only fecal coliform sampled
2 = this storm was combined with the previous storm.

The parameters listed in Table 23D were monitored as part of the NPDES permit for each sample collected. Table 23E gives the approved method used for analysis, reporting limit and holding time for each parameter as reported by the contract laboratory Instrumental Research, Inc. (IRI).

A single non-event occurred at Site 7 on 9/17-18/08. Limited analysis was run on it and resulted in 0.159 mg/L TP, 0.039 mg/L TDP and 4.48 µmhos/cm conductivity. The data were not handled as an NPDES stormwater event and were not used in calculations.

Table 23D. The chemical list of monitored parameters for the NPDES permit. BOD is biochemical oxygen demand.

Parameter	Abbreviation	Units	Sample Type
BOD –carbonaceous, 5 Day	cBOD	mg/L	Composite
Chloride, Total	Cl	mg/L	Composite
Specific Conductivity	Sp. Cond	µmhos/cm	Composite
Copper, Total	Cu	µg/L	Composite
Fecal Coliform	F. Coli	#/100mL	Grab (3X year)
Lead, Total	Pb	µg/L	Composite
Nitrite+Nitrate, Total as N	NO2NO3	mg/L	Composite
Ammonia, Un-ionized as N	NH3	mg/L	Composite
Kjeldahl Nitrogen, Total	TKN	mg/L	Composite
pH	pH	standard unit	Grab (3X year)
Phosphorus, Total Dissolved	TDP	mg/L	Composite
Phosphorus, Total	TP	mg/L	Composite
Solids, Total Dissolved	TDS	mg/L	Composite
Solids, Total Suspended	TSS	mg/L	Composite
Zinc, Total	Zn	µg/L	Composite

Table 23E. Analysis method, reporting limit and holding times for parameters used by Instrumental Research, Inc.

Parameter	Method	Reporting Limit	Holding Times
cBOD, carbonaceous, 5 Day (20°C)	SM 5210 B	1.0 mg/L	24 hours
Chloride, Total	SM 4500-Cl^- B	2.0 mg/L	28 days
Specific Conductivity	SM 2510 B	10 µmhos/cm	28 days
Copper, Total	EPA 200.9	5 µg/L	6 months
Fecal Coliform	SM 9222D	<1 per 100mL	< 24hrs
Lead, Total	SM 3500-Pb B	5 µg/L	6 months
Nitrite+Nitrate, Total as N	SM 4500-NO_3 E	0.030 mg/L	28 days
Ammonia, Un-ionized as N	SM 4500-NH_3 F	0.500 mg/L	7 days
Kjeldahl Nitrogen, Total	SM 4500-Norg B	0.500 mg/L	7 days
Phosphorus, Total Dissolved	SM 4500-P A, B, G	0.010 mg/L	48 hours
Phosphorus, Total	SM 4500-P A, B, E	0.010 mg/L	48 hours
Solids, Total Dissolved	SM 2540 C	10.0 mg/L	7 days
Solids, Total Suspended	SM 2540 D	1.0 mg/L	7 days
Zinc, Total	SM 3500-Zn B	50 µg/L	6 months

Field Quality Assurance Samples

A number of quality assurance samples (10% of samples) were used during the sampling season. The purpose of these samples was to ensure sample integrity. Field blanks consisted of deionized water which accompanied samples from the sites to the analytical laboratory. One field blank was used, for each sampling trip, and was analyzed for all NPDES parameters. All field blank parameters from each trip were below the minimum detection limits.

An equipment blank (~ 2 L sample) was collected at site 8a (Pershing) on 11/9/07. To collect the equipment blank, a large bottle of deionized water was placed at the end of the sampler tubing. The intake line was flushed and pumped by pulling deionized water through the sampler, simulating the pre-sample flush. The flush water was back-pumped to waste and then a sample of deionized water was collected. The sample was of sufficient volume to allow analysis of all parameters. All analyses came back from the laboratory below the minimum detection limits.

Data Handling, Validation and Reporting

Manual transcription of data was minimized to reduce any errors. A minimum of 10% of the final data were checked by hand against the raw data sent by the laboratory to ensure there were no errors entering, manipulating or transferring the data. See Section 28, Quality Assurance Assessment Report for details.

Field measurements were recorded on the Field Measurement Form in the Field Log Book and then entered into a computer database. Computerized data from the laboratory were forwarded to the MPRB in pre-formatted spreadsheets. Computerized data from the laboratory were checked and passed laboratory quality assurance procedures. Protocols for data validity followed those defined in the Storm Water Monitoring Program Manual (MPRB, 2001). For data reported below the reporting limit, the reporting limit value was divided in half and then used

for all statistical calculations.

A Chain of Custody (sample receipt) form accompanied each set of sample bottles delivered to the lab. Each sampler tray or container(s) was labeled indicating the date and time of collection, site location and the field personnel's initials. The time each sample was collected was recorded from the ISCO sampler onto field sheets. A complete description of methods can be found in the Storm Water Monitoring Program Manual (MPRB, 2001).

Statistics for event mean concentrations were calculated using Microsoft Excel spreadsheets. The computer program FLUX and computer model P8 were used to calculate flow-weighted mean concentrations and estimate snowmelt runoff volume, respectively.

A description of FLUX as described in the FLUX manual (Walker, 1996):

> "FLUX is an interactive program designed for use in estimating the loadings of nutrients or other water quality components passing a tributary sampling station over a given period of time. These estimates can be used in formulating reservoir nutrient balances over annual or seasonal averaging periods appropriate for application of empirical eutrophication models.
>
> Using six calculation techniques, FLUX maps the flow/concentration relationship developed from the sample record onto the entire flow record to calculate total mass discharge and associated error statistics. In many cases, stratifying the data increases the accuracy and precision of loading estimates."

A description of P8 as described in the software's introduction:

> "P8 is a model for predicting the generation and transport of stormwater runoff pollutants in small urban catchments...
>
> Simulations are driven by hourly rainfall and daily air-temperature time series..."

RESULTS & DISCUSSION

Event mean concentrations are listed in Table 23F. In 2007, when flow was sufficient, fecal coliform grab samples were collected. This occurred seventeen times at the NPDES sites (Table 23F).

In 2007, limited parameters were collected six times (Table 23C). These samples were collected after 24 hours and parameters with short holding times were not analyzed (e.g. cBOD, TDP).

Data with questionable usability were underlined. In 2007, seven NPDES chemical data records were flagged. The May TSS and June Cl data failed the blind monthly performance standard and are flagged as possibly suspect, but the data were still used in calculations because the values were deemed reasonable. Further quality assurance protocols can be found in Section 28.

Table 23G lists the statistical calculations for all measured parameters. Many parameters fluctuate with season. Typically, maximums for most parameters were reached during snowmelt and spring, e.g. TP, NH3, NO2NO3, Cl, TSS, TDS and Zn. Some parameters peaked in fall, e.g. TP, TDP, NO2NO3 and BOD which was likely due to leaf litter.

The event on 6/18/07 showed increased concentrations for some parameters (TP, TDP, TSS, Pb and Zn) which was most likely due to a previous lack of rain. The last event prior to 6/18/07 was two weeks prior on 6/6/07 which likely allowed accumulation and wash off of debris. The summer of 2007 was unusually dry. Another event of notable interest was on 10/2/07 where many of the TSS and metal values were higher (notably Pb and Zn) likely from leaf litter.

Peak phosphorus levels during snowmelt were probably due to an accumulation of animal, lawn, and leaf litter waste in late fall/winter and atmospheric deposition during winter months. The maximum TP of 1.93 mg/L at Site 6 was on 2/20/07.

Most snowmelt samples were brown to dark brown and very turbid except Site 8a which was relatively clear. This is most likely due to the filtering effect of the parkland turf as this site has mostly park overland flow runoff and has little or no street runoff. High Cl concentrations are typical for stormwater runoff during winter and early spring months when road salt is used and subsequently washed off the streets.

Site 9 showed increased amounts of chloride during the summer months. There are many industries surrounding Site 9 which may be contributing to chloride levels during the summer months. Site 9 also has a small baseflow indicating that there is discharge or infiltration coming from an unknown source.

In addition specific conductivity, TDS, and TSS generally tend to be high during winter and spring months, with the exception of Sites 8a and 9. High TSS values in snowmelt and spring might be attributed to wash off of accumulated sand applied to icy roads. A small amount of sand can lead to very high TSS values. Almost all maximum metal values followed the same trend as TSS. Zinc was below the detection limit for most of Site 6, Site 7 and Site 8a events. Fecal coliform values were lowest for the snowmelt event and generally peaked during summer/fall months. This would be expected since bacterial survival is temperature dependent.

In 2007 at site 8a there were large construction projects occurring in the park such as installation of a new basketball court, fence and playground. There appears to have been little to no effect on mean TP (and most other parameters) when compared to the previous year but may have had a small effect on increasing mean TSS values.

Table 23F. 2007 NDPES sampled event data by site. Data with questionable usability are underlined. These data failed the blind monthly performance standard and are suspect, but the data were still used because the values were reasonable.

Date	Time	Site ID & Location	Sample Type	TP mg/L	TDP mg/L	TKN mg/L	NO3NO2 mg/L	NH3 mg/L	Cl mg/L	Field pH	Sp.Cond. µmhos/cm	F. Coli cfu/100mL	cBOD mg/L	TSS mg/L	TDS mg/L	Cu µg/L	Pb µg/L	Zn µg/L
2/20/2007	12:50	Site 6, 22nd & Aldrich	Grab	1.93	0.606	12.5	<0.030	5.92	2204	7.3	8080	1800	71	383	3977	132	297	578
3/9/2007	12:30	Site 6, 22nd & Aldrich	Grab	0.813	0.097	12.5	1.00	1.28	1255	7.0	1795	100	20	418	2038	76.6	78.8	313
5/7/2007	18:00	Site 6, 22nd & Aldrich	Composite	0.780	0.146	4.47	0.287	1.15	<2.00		56.8		10	203	35.0	31.3	163	100
5/24/2007	9:15	Site 6, 22nd & Aldrich	Grab							7.2		15000						
6/18/2007	12:26	Site 6, 22nd & Aldrich	Composite	0.594	0.066	4.05	0.382	0.970	<2.00		38.6		11	128	55.2	25.2	150	143
7/8/2007	18:42	Site 6, 22nd & Aldrich	Composite	0.363	0.048	2.63	0.137	0.529	<2.00		43.3		9	55	61.0	24.4	41.7	<50.0
7/18/2007	18:44	Site 6, 22nd & Aldrich	Composite	0.366	0.043	2.43	1.68	<0.500	<2.00		47.6		9	85	38.9	23.3	69.0	76
*8/4/2007	14:28	Site 6, 22nd & Aldrich	Composite	0.486										65				
*8/11/2007	20:32	Site 6, 22nd & Aldrich	Composite	0.544		3.25	0.116	0.500	<2.00		62.8			130	68.6	26.5	110	103
8/27/2007	14:45	Site 6, 22nd & Aldrich	Composite	0.277	0.075	2.02	0.667	0.524	<2.00		48.3		11	63	32.7	12.2	32.4	<50.0
9/18/2007	9:50	Site 6, 22nd & Aldrich	Composite	0.410	0.047	2.67	0.323	0.582	<2.00		61.2	900	15	75	68.7	28.0	48.1	<50.0
10/2/2007	11:42	Site 6, 22nd & Aldrich	Composite	0.388	0.171	2.77	0.355	0.609	6.8	7.3	125	2000	28	30	92.0	13.0	13.9	<50.0
10/2/2007	21:25	Site 6, 22nd & Aldrich	Composite	0.200	0.083	2.70	0.140	<0.500	<2.00		50.0		8	45	16.3	<5.00	15.8	<50.0
10/16/2007	10:00	Site 6, 22nd & Aldrich	Grab							7.4		935						
2/20/2007	13:10	Site 7, 14th & Park	Grab	1.31	0.462	10.3	<0.030	5.98	2543	7.4	8560	<10	31	232	4364	107	27.8	830
3/9/2007	12:50	Site 7, 14th & Park	Grab	0.569	0.066	10.3	0.985	1.01	1404	6.9	989	40	22	177	2438	65.6	47.3	292
5/24/2007	12:40	Site 7, 14th & Park	Grab	0.089	0.048	0.825	0.455	0.503	7.10	7.2	54.2	5000	5	8	36.2	6.50	5.00	<50.0
6/18/2007	12:40	Site 7, 14th & Park	Composite	0.236	0.053	1.70	0.414	0.584	<2.00		37.3		5	74	32.7	14.4	26.7	55.0
7/8/2007	19:00	Site 7, 14th & Park	Composite	0.212	0.030	1.49	0.373	<0.500	<2.00		40.9		5	55	40.9	24.7	18.4	<50.0
7/18/2007	17:19	Site 7, 14th & Park	Composite	0.250	0.036	2.08	1.89	0.710	<2.00		71.2		7	70	63.5	14.7	18.6	97.0
8/4/2007	14:13	Site 7, 14th & Park	Grab	0.384										36				
*8/11/2007	20:37	Site 7, 14th & Park	Composite	0.222		1.14	0.437	<0.500	<2.00		46.7			27	39.5	19.8	10.5	<50.0
8/14/2007	0:14	Site 7, 14th & Park	Composite	0.111	0.040	1.07	0.273	<0.500	<2.00		27.0		8	28	15.8	8.20	13.4	<50.0
9/18/2007	17:49	Site 7, 14th & Park	Composite	0.091	0.030	<0.500	0.125	<0.500	<2.00		26.6		<1.00	23	18.6	8.80	7.40	<50.0
10/2/2007	11:25	Site 7, 14th & Park	Composite	0.343	0.093	1.840	0.544	<0.500	12.4	7.7	178	13000	14	50	142	18.1	7.60	<50.0
10/2/2007	18:17	Site 7, 14th & Park	Composite	0.092	0.034	0.732	0.241	<0.500	<2.00		37.8		8	24	16.6	6.20	<5.00	<50.0
10/16/2007	10:15	Site 7, 14th & Park	Grab							8.1		330						
2/21/2007	14:10	Site 8a, Pershing	Grab	0.774	0.614	3.25	0.548	1.57	122	7.0	149	1300	10	15	123	7.60	<5.00	<50.0
3/12/2007	11:00	Site 8a, Pershing	Grab	0.302	0.161	3.25	0.896	1.18	9.9	7.4	70.5	25	5	9	61.0	6.40	<5.00	<50.0
5/8/2007	23:21	Site 8a, Pershing	Composite	0.897	0.240	4.70	0.302	1.16	8.0		107		31	145	95.5	29.0	16.65	81.0
6/18/2007	12:30	Site 8a, Pershing	Composite	0.726	0.056	4.56	0.842	1.15	3.6		81.0		18	226	77.7	31.2	19.55	158
7/8/2007	23:21	Site 8a, Pershing	Composite	0.618	0.132	2.94	0.514	0.857	<2.00		46.4		9	152	58.1	28.8	24.6	<50.0
*8/11/2007	4:37	Site 8a, Pershing	Composite	0.870		3.35	0.080	0.803	<2.00		86.5			125	57.5	22.6	19.4	<50.0
8/13/2007	23:35	Site 8a, Pershing	Composite	0.267	0.048	2.15	0.287	0.702	<2.00		28.0		21	121	26.7	11.4	16.8	<50.0
8/19/2007	14:38	Site 8a, Pershing	Composite	0.425	0.101	1.80	0.260	<0.500	<2.00		62.5		2	161	32.2	15.3	16.4	68.0
9/18/2007	12:37	Site 8a, Pershing	Composite	0.493	0.138	2.64	0.499	<0.500	7.3		78.7		12	143	54.7	22.5	15.4	<50.0
10/2/2007	15:45	Site 8a, Pershing	Composite	0.607	0.222	1.74	0.768	<0.500	<2.00		136		6	155	56.9	11.6	5.10	<50.0
2/20/2007	13:45	Site 9, 61st & Lyndale	Grab	0.412	0.078	8.48	2.07	1.73	2834	10.6	9760	<10	34	272	4822	80.8	11.3	267
3/9/2007	13:15	Site 9, 61st & Lyndale	Grab	0.696	0.152	8.48	1.29	0.621	1504	9.1	1930	45	16	219	2477	98.4	23.7	356
5/9/2007	0:48	Site 9, 61st & Lyndale	Composite	0.622	0.071	3.73	0.964	1.34	43.7		246		13	363	169	39.8	22.3	145
5/24/2007	10:30	Site 9, 61st & Lyndale	Grab							6.9		1400						
6/18/2007	12:42	Site 9, 61st & Lyndale	Composite	0.883	0.122	4.78	0.558	2.05	39.4		175		10	444	181	54.8	32.0	276
7/8/2007	16:48	Site 9, 61st & Lyndale	Composite	0.337	0.051	1.97	0.386	0.88	14.6		110		4	235	76.4	31.2	25.5	<50.0
*8/4/2007	15:44	Site 9, 61st & Lyndale	Composite	0.418										163				
*8/11/2007	4:38	Site 9, 61st & Lyndale	Composite	0.331		2.00	0.356	1.07	14.4		140			158	8.19	7.50	<5.00	66.0
8/14/2007	0:18	Site 9, 61st & Lyndale	Composite	0.252	0.033	1.38	0.310	0.602	10.9		98		11	151	41.3	15.6	6.70	<50.0
8/19/2007	17:30	Site 9, 61st & Lyndale	Composite	0.129	0.028	0.81	0.242	<0.500	6.30		76		1	73	46.2	8.50	6.60	<50.0
9/18/2007	12:44	Site 9, 61st & Lyndale	Composite	0.360	0.106	1.53	0.289	0.692	23.6		144	1400	8	137	97.7	20.4	10.3	52.0
10/2/2007	12:05	Site 9, 61st & Lyndale	Composite	0.380	0.041	6.11	0.538	1.74	62.3	8.7	353	12000	24	130	208	16.7	11.1	75.0
10/2/2007	22:50	Site 9, 61st & Lyndale	Composite	0.323	0.051	2.00	0.098	<0.500	41.0		286		8	143	129	19.4	10.6	74.0
10/16/2007	11:30	Site 9, 61st & Lyndale	Grab							8.7		940						

*** Sample collected after 24 hours**

Appendix A4
Source: 2007 Water Resources Report – Minneapolis Park & Recreation Board

Table 23G. 2007 event mean concentration statistics.

All = all 4 sites, STDEV = standard deviation, COV = coefficient of variation

Site ID	Statistical Function	TP mg/L	TDP mg/L	TKN mg/L	NO3NO2 mg/L	NH3 mg/L	Cl mg/L	Field pH	Sp.Cond. µmhos/cm	F. Coli cfu/100mL	cBOD mg/L	TSS mg/L	TDS mg/L	Cu µg/L	Pb µg/L	Zn µg/L
6	MEAN (geometric)	0.497	0.095	3.80	0.266	0.718	5	7.2	120	1287	15	100	99	23.7	63.0	70.0
6	MEAN (arithmetic)	0.596	0.138	4.73	0.464	1.14	316	7.3	946	3456	19	140	589	35.9	92.7	131
6	MAX	1.93	0.606	12.50	1.68	5.92	2204	7.4	8080	15000	71	418	3977	132	297	578
6	MIN	0.200	0.043	2.02	0.015	0.250	1	7.0	39	100	8	30	16	2.50	13.9	25.0
6	MEDIAN	0.448	0.079	2.77	0.323	0.582	1	7.3	57	1368	11	80	61	25.2	69.0	76.0
6	STDEV	0.459	0.170	3.91	0.491	1.62	730	0.164	2423	5697	19	131	1272	37.0	84.5	171
6	NUMBER	12	10	11	11	11	11	5	11	6	10	12	11	11.0	11.0	11.0
6	COV	0.770	1.23	0.827	1.06	1.42	2.31	0.023	2.56	1.65	1.01	0.934	2.16	1.03	0.911	1.31
7	MEAN (geometric)	0.231	0.056	1.61	0.322	0.479	6	7.4	101	336	7	45	80	17.2	12.5	52.2
7	MEAN (arithmetic)	0.326	0.089	2.88	0.523	0.935	361	7.4	915	3675	10	67	655	26.7	16.8	132
7	MAX	1.31	0.462	10.3	1.89	5.98	2543	8.1	8560	13000	31	232	4364	107	47	830
7	MIN	0.089	0.030	0.250	0.015	0.250	1	6.9	27	5	1	8	16	6.20	2.50	25.0
7	MEDIAN	0.229	0.044	1.49	0.414	0.250	1	7.4	47	330	7	43	40	14.7	13.4	25.0
7	STDEV	0.341	0.132	3.70	0.518	1.69	837	0.445	2551	5625	9	68	1425	31.4	13.1	245
7	NUMBER	12	10	11	11	11	11	5	11	5	10	12	11	11	11	11
7	COV	1.05	1.48	1.28	0.991	1.81	2.32	0.060	2.79	1.53	0.894	1.02	2.17	1.18	0.780	1.86
8a	MEAN (geometric)	0.555	0.144	2.88	0.414	0.672	3	7.2	76	180	10	90	59	16.3	10.8	37.4
8a	MEAN (arithmetic)	0.598	0.190	3.04	0.500	0.817	16	7.2	85	663	13	125	64	18.6	13.9	48.2
8a	MAX	0.897	0.614	4.70	0.896	1.57	122	7.4	149	1300	31	226	123	31.2	24.6	158
8a	MIN	0.509	0.113	2.73	0.307	0.525	2	7.2	68	49	7	43	54	13.9	7.22	31.9
8a	MEDIAN	0.613	0.138	3.10	0.507	0.830	2	7.2	80	663	10	144	58	18.9	16.5	25.0
8a	STDEV	0.223	0.172	1.02	0.272	0.460	38	0.283	38	902	9	66	28	9.33	7.74	43.8
8a	NUMBER	10	9	10	10	10	10	2	10	2	9	10	10	10	10	10
8a	COV	0.374	0.903	0.337	0.545	0.563	2.41	0.039	0.444	1.36	0.731	0.529	0.442	0.501	0.557	0.909
9	MEAN (geometric)	0.385	0.064	2.86	0.466	0.828	51	8.7	293	413	10	185	154	25.9	11.9	82.0
9	MEAN (arithmetic)	0.429	0.073	3.75	0.646	1.02	418	8.8	1211	2632	13	207	751	35.7	14.8	126
9	MAX	0.883	0.152	8.48	2.07	2.05	2834	10.6	9760	12000	34	444	4822	98.4	32.0	356
9	MIN	0.129	0.028	0.813	0.098	0.250	6	6.9	76	5	1	73	8	7.50	2.50	25.0
9	MEDIAN	0.370	0.061	2.00	0.386	0.879	39	8.7	175	1170	11	161	129	20.4	11.1	74.0
9	STDEV	0.207	0.041	2.83	0.585	0.619	916	1.32	2885	4631	10	107	1527	30.3	9.5	119
9	NUMBER	12	10	11	11	11	11	5	11	6	10	12	11	11.0	11.0	11.0
9	COV	0.484	0.564	0.753	0.906	0.607	2.19	0.150	2.38	1.76	0.748	0.516	2.04	0.847	0.640	0.941
All	MEAN (geometric)	0.390	0.082	2.66	0.357	0.661	9	7.7	130	513	10	93	93	20.5	18.0	58.5
All	MEAN (arithmetic)	0.482	0.121	3.61	0.534	0.982	284	7.8	806	2959	14	135	525	29.5	35.0	111
All	MAX	1.93	0.614	12.5	2.07	5.98	2834	10.6	9760	15000	71	444	4822	132	297	830
All	MIN	0.089	0.028	0.250	0.015	0.250	1	6.9	27	5	1	8	8	2.50	2.50	25.0
All	MEDIAN	0.386	0.071	2.64	0.382	0.621	6	7.4	79	940	10	129	61	20.4	16.8	25.0
All	STDEV	0.338	0.140	3.09	0.473	1.21	719	0.993	2259	4785	13	108	1222	29.1	54.3	162
All	NUMBER	46	39	43	43	43	43	17	43	19	39	46	43	43.0	43.0	43.0
All	COV	0.701	1.16	0.856	0.886	1.23	2.54	0.128	2.80	1.62	0.916	0.798	2.33	0.987	1.55	1.47

Sampled data were fairly comparable to typical urban stormwater data from the Nationwide Urban Runoff Program (NURP), Center for Watershed Protection (CWP) and Bannerman (Tables 23H and 23I). Table 23H shows median values for MPRB 2007 monitored residential sampled sites which were comparable or less than reported NURP values with the notable exception of TP and TKN values. Most MPRB land use category values were comparable to NURP values, and all metals were well below NURP values. Most 2007 parameters were comparable to MRPB 2001 – 2006 data. The exceptions being residential land use which were higher in 2007 for Cu and Pb and the composite of all land use categories where TSS was higher. Mixed land use 2007 data were comparably lower for TP, TSS and Zn and all land use was lower for Zn. It is important to note that the new sites monitored in 2005, 2006 and 2007 are different watersheds and have similar, but not identical, land uses as previously monitored sites in 2001 – 2004.

Table 23H. Typical MEDIAN urban stormwater concentrations. NURP = median event mean concentrations as reported by the National Urban Runoff Program (USEPA, 1996). MPRB = median values calculated by the Minneapolis Park & Recreation Board for the identified year(s).

	Residential			Mixed			Composite of all land use categories		
Parameter	MPRB[1] 2007	MPRB[2] 2001 – 2006	NURP	MPRB[3] 2007	MPRB[4] 2001 – 2006	NURP	MPRB[5] 2007	MPRB[6] 2001 – 2006	NURP
TP (mg/L)	0.448	0.455	0.383	0.222	0.311	0.263	0.386	0.379	0.33
TKN (mg/L)	2.77	2.42	1.9	1.49	1.69	1.288	2.64	2.18	1.5
NO3NO2 (mg/L)	0.323	0.352	0.736	0.414	0.409	0.558	0.382	0.409	0.68
BOD (mg/L)	11	12	10	8	12	7.8	10	11	9
TSS (mg/L)	80	87	101	43	68	67	129	85	100
Cu (µg/L)	25.2	16.8	33	14.7	18.3	27	20.4	17.8	30
Pb (µg/L)	69.0	16.8	144	13.4	16.7	114	16.8	16.0	140
Zn (µg/L)	76	74	135	25	83.5	154	25	82	160

[1] Site 6 data
[2] Sites 1 and 2 data, (Site 6, 2005-2006)
[3] Site 7 data
[4] Sites 5 and 5a data, (Site 7, 2005-2006)
[5] Sites 6 – 9 data
[6] Sites 1 – 5a data, (Site 6 – 9, 2005-2006)

Most MPRB mean concentrations were comparable to other studies as listed in Table 23I. TP values are most closely related to those monitored by local agencies. Data from MPRB Sites 1 – 5a (2001 – 2004) and 6 – 9 (2005 – 2006) were generally similar to Sites 6 – 9 in 2007. TKN, TDS and TSS increased while TP, TDP, and Zn decreased.

Table 23l. Typical MEAN urban stormwater concentrations. " -- " = not reported.

Parameter	NURP[1]	CWP[2]	Bannerman *et al.*[3]	Mpls PW[4]	St. Paul[5]	MPRB[6] 2001– 2006	MPRB[7] 2007
TP (mg/L)	0.5	0.3	0.66	0.417	0.484	0.486	0.482
TDP (mg/L)	--	--	0.27	0.251	--	0.139	0.121
TKN (mg/L)	2.3	--	--	--	2.46	2.69	3.61
NO3NO2 (mg/L)	0.86	--	--	--	0.362	0.510	0.534
NH3 (mg/L)	--	--	--	0.234	--	1.15	0.982
Cl (mg/L)	--	230 (winter)	--	--	--	247	284
BOD (mg/L)	12	--	--	14.9	25	16	14
TDS (mg/L)	--	--	--	73.3	78	472	525
TSS (mg/L)	239	80	262	77.6	129.2	120	135
Cu (µg/L)	50	10	16	26.7	30	27.0	29.5
Pb (µg/L)	240	18	32	75.5	233	26.0	35.0
Zn (µg/L)	350	140	204	148	194	129	111

[1] USEPA (1996)
[2] Center for Watershed Protection (2000)
[3] Monroe study area of Bannerman *et al*. (1993)
[4] City of Minneapolis Public Works Department (1992) – average from a combination of land uses
[5] City of St. Paul 1994 stormwater data – average from a combination of land uses
[6] MPRB arithmetic mean data calculated from NPDES Sites 1 – 5a (2001 – 2004), 6 – 9 (2005 – 2006)
[7] MPRB arithmetic mean data calculated from NPDES Sites 6 – 9 (2007)

The model P8 was used to estimate daily flows for snowmelt events and grab samples from January through mid-May. Daily flows and collected chemical data were used as input for the interactive program FLUX. Daily temperature and hourly precipitation files obtained from the National Oceanic and Atmospheric Administration (NOAA) National Data Center (NDC) were used as input for P8. The rain gauge is located at the Minneapolis/St. Paul International Airport.

Large rain events can lead to pipe surcharges. Surcharges occur when the water backs up vertically and creates a pressurized head which can result in inaccurate daily flow calculations and should be considered when evaluating flow-weighted mean concentrations. These events usually happened during storm events with high precipitation totals or high intensity. The

following surcharges occurred at the NPDES sites in 2007:

- **Site 6 (22nd and Aldrich):** 7/18/07, 9/6/07, 9/20/07
- **Site 7 (Park and 14th):** none
- **Site 8a (Pershing):** 5/23/07, 5/30/07, 6/2/07, 6/18/07, 6/22/07, 7/3/07, 7/8/07, 7/18/07, 7/26/07, 8/11/07, 8/14/07, 8/18/07, 8/19/07, 8/21/07, 8/27/07, 8/28/07, 9/6/07, 9/12/07, 9/14/07, 9/20/07, 9/24/07, 9/30/07, 10/5/07, 10/7,
- **Site 9 (61st and Lyndale):** 7/8/07, 7/18/07, 8/11/07, 8/14,07 9/20/07

Site 8a had twenty-five surcharges in 2007. At the site, two pipes and overland flow enter into the manhole basin and the outlet at the bottom is a 12 inch PVC pipe. It is unknown what caused the significant number of surcharges. In 2006 only twelve surcharges occurred. These surcharges do not appear to cause any flooding issues.

All flow-weighted mean concentrations were calculated using FLUX (Table 23J). FLUX calculates flow-weighted mean concentrations and associated error statistics based on six different calculation methods. Calculation methods 1-Direct Mean Loading and 5-Regression, Second-Order were ignored because they are inappropriate for storm sewer applications where the daily flow file contains a significant number of zero flows (Bruce Wilson, MPCA Research Scientist, personal communication, 2001). In general, calculation methods 2-Flow-Weighted Concentration and 6-Regression Applied to Individual Daily Flows were used. Sample concentrations and associated daily average flows were used as input for these calculations. The data were often stratified by flow or season to achieve the most accurate and precise results.

Table 23J. Flow–weighted mean concentrations and related statistics for NPDES parameters in 2007. STANDEV= standard deviation.

Site	TP (mg/L)	TDP (mg/L)	TKN (mg/L)	NO3NO2 (mg/L)	NH3 (mg/L)	Cl* (mg/L)	cBOD (mg/L)	TSS (mg/L)	TDS* (mg/L)	Cu (µg/L)	Pb (µg/L)	Zn (µg/L)
6	0.643	0.138	8.21	0.494	1.20	884	20	263	1539	63	87	250
7	0.312	0.081	3.45	0.530	0.929	464	16	135	826	29	18	134
8a	0.548	0.113	2.78	0.394	0.817	5.35	22	102	55	15	13	33
9	0.384	0.100	3.27	0.567	0.944	296	10	219	527	35	16	116
MEAN	**0.472**	**0.108**	**4.43**	**0.496**	**0.973**	**412**	**17**	**180**	**737**	**35.5**	**33.5**	**133**
MEDIAN	**0.466**	**0.107**	**3.36**	**0.512**	**1.48**	**380**	**18**	**177**	**676**	**32.0**	**17.0**	**125**
STANDEV	**0.151**	**0.024**	**2.54**	**0.074**	**0.163**	**367**	**5**	**74**	**622**	**20.16**	**35.7**	**89.4**

*** Flow–weighted mean concentrations for Cl and TDS were difficult to estimate using FLUX due to large outliers from the two snowmelt samples; these estimates should be used with discretion.**

The highest and lowest TP concentrations were modeled at Site 6 and 7, respectively. Site 6 is multi-family residential. Site 7 is mostly high rise residential. Site 7 had the lowest estimated TP, TDP, TKN and TSS. This was probably due to the lack of vegetation (seeds, leaves, grass

clippings, etc.) within the Site 7 watershed.

In 2007 sites 6 and 8a had the two highest mean TP concentrations of 0.643 and 0.542 mg/L, respectively. This is similar to historical data for these sites.

Site 8a had the highest modeled concentrations of cBOD and lowest modeled NO2NO3, NH3, Cl, TSS, TDS, Cu, Pb, and Zn. Low concentrations of TSS, nitrogen, Cl and metals would be expected for an open parkland watershed as there should be minimal inputs of these parameters.

Site 9 had the highest modeled concentrations of NO3NO2. Site 9 is located adjacent to a large cement aggregate mixing facility which may explain the slightly higher TSS values. Site 9 is mainly commercial/industrial. This site sometimes had a small baseflow which could be sampled during future monitoring to distinguish high concentrations from storm events or baseflow.

For comparison purposes, Table 23K includes flow-weighted mean pollutant concentrations reported by the U.S. Geological Survey (USGS) for various sites within the Twin Cities (as cited in MPCA, 2000). The Yates watershed was a stabilized residential area. Iverson was a residential watershed under development while Sandberg was predominantly light industrial land use as reported by the USGS (as cited in MPCA, 2000). Site 6 is more closely related to the Yates watershed land use characteristics. Sites 7 and 9 are most comparable to the Sandberg watershed land use characteristics. When comparing the flow-weighted mean concentrations for these sites, Site 6 has slightly higher concentrations than Yates for all parameters with the exception of Pb. Sites 7 and 9 have lower flow-weighted mean concentrations than Sandberg for almost all parameters and are well within the ranges shown. The 2007 water quality of Sites 8a, 7, and 9 was better than in the study sites of 1980.

Table 23K. Flow–weighted mean pollutant concentrations (mg/L) and ranges as reported by the USGS (as cited in MPCA, 2000).

Pollutant		Monitoring Site		
		Yates (stabilized residential)	**Iverson (developing residential)**	**Sandburg (light industrial)**
TSS	Mean Range	133 (2 – 758)	740 (17 – 26,610)	337 (7 – 4,388)
Pb	Mean Range	0.23 (0.015 – 1.8)	0.02 (0.008 – 0.31)	0.19 (0.003 – 1.5)
Zn	Mean Range	0.198 (0.02 – 2.2)	0.235 (0.028 – 0.53)	0.185 (0.02 – 0.81)
TKN	Mean Range	3.6 (0.6 – 28.6)	1.2 (1.0 – 29.2)	2.5 (0.4 – 16.0)
TP	Mean Range	0.63 (0.10 – 3.85)	0.62 (0.2 – 13.1)	0.63 (0.07 – 4.3)

Table 23L shows the flow weighted mean concentration in 2007 compared to previous years.

Flow-weighted mean concentrations for Cl and TDS were difficult to estimate using FLUX due to large outliers from the two snowmelt samples. These estimates should be used with good judgment. When samples were below the MDL, half of the MDL was used for calculations.

Cadmium was discontinued from monitoring in 2006 because Cd concentrations have typically been below detection for the Minneapolis/St. Paul area (Table 23L), as shown in previous years data. It should also be noted the detection limit for Cd has changed over time, in 2002 it was <0.500 µg/L, in 2003 it was <2.00 µg/L and in 2004 it was <5.00 µg/L.

Most parameters fell within the range of estimated flow-weighted mean concentration of previous years as seen in Table 23L. But in 2007 the parameters TKN, cBOD, TSS, TDS and Zn generally had higher concentrations than the previously monitored years. Specifically TDS data show a rather marked increase in 2007 but did not differ from the 2003 mean data.

Table 23L. MPRB Flow–weighted mean concentration compared to previous years. Each year is the average flow–weighted mean concentration of all sites monitored that year. nc = data not collected.

	Flow–weighted mean concentrations						
Parameter	**MPRB 2001**	**MPRB 2002**	**MPRB 2003**	**MPRB 2004**	**MPRB 2005**	**MPRB 2006**	**MPRB 2007**
TP (mg/L)	0.470	0.337	0.474	0.332	0.354	0.548	0.472
TDP (mg/L)	0.112	0.095	0.114	0.121	0.123	0.135	0.108
TKN (mg/L)	2.21	1.60	2.10	1.94	3.48	3.54	4.43
NO3NO2 (mg/L)	0.398	0.423	0.496	0.382	0.448	0.638	0.496
NH3 (mg/L)	0.494	0.722	0.346	0.918	1.74	1.64	0.970
Cl (mg/L)	37.4	10.5	587	40.0	18.0	91	412
cBOD (mg/L)	12	8	16	20	9	9	17
TSS (mg/L)	116	83	116	70	108	156	180
TDS (mg/L)	306	85	725	130	252	183	737
Cd (µg/L)	0.532	0.518	2.11	2.80	2.50	nc	nc
Cu (µg/L)	15.1	30.8	23.4	15.3	19.3	29.0	35.5
Pb (µg/L)	23.3	17.1	22.0	14.3	40.9	31.0	33.5
Zn (µg/L)	180	76.0	107	76.0	86.0	94.0	133
	← Sites 1-5a →				← Sites 6-9 →		

Event mean concentration seasonal statistics (snowmelt, spring, summer and fall) for a combination of all sites were calculated and are listed in Table 23M. Seasonal patterns are evident with snowmelt having the highest mean TP, TKN, Cl, TSS, TDS, Cu and Zn. Spring had the highest NO3NO2, Pb and F. Coli. geometric mean. Fall shows a decrease in many of the other pollutants.

Finally while the land use designation characteristics (commercial, residential, etc.) for the NPDES stormwater sites have remained the same, the watersheds for the sites are different as sites have needed to be changed from year-to-year. Also the timing of both street sweeping and sampling may have had an effect within the monitoring year and between years. These may have had the greatest influence on any concentration differences.

Table 23M. 2007 statistical summary for event mean concentrations by season. Statistics were calculated from all sites (6 –9). STDEV= standard deviation, COV= coefficient of variation

2007 Season	Statistical Function	TP mg/L	TDP mg/L	TKN mg/L	NH3 mg/L	NO3NO2 mg/L	Cl mg/L	Field pH	Sp.Cond. µmhos/cm	F. Coli cfu/100mL	cBOD mg/L	TSS mg/L	TDS mg/L	Cu µg/L	Pb µg/L	Zn µg/L
SNOWMELT (February-March)	**MEAN (geometric)**	0.727	0.195	7.72	1.76	0.361	689	7.8	1490	63	20	123	1291	47.8	21.8	200
	MEAN (arithmetic)	0.851	0.280	8.63	2.41	0.852	1484	7.8	3917	415	26	216	2538	71.8	61.4	336
	MAX	1.93	0.614	12.5	5.98	2.07	2834	10.6	9760	1800	71	418	4822	132	297	830
	MIN	0.302	0.066	3.25	0.621	0.015	10	6.9	71	5	5	9	61	6.40	2.50	25.0
	MEDIAN	0.735	0.157	9.39	1.43	0.941	1454	7.4	1863	43	21	226	2458	78.7	25.8	303
	STDEV	0.532	0.240	3.65	2.21	0.677	1039	1.3	4124	714	21	150	1807	44.9	98.6	268
	NUMBER	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	COV	0.625	0.857	0.423	0.917	0.795	0.700	0.168	1.05	1.72	0.792	0.694	0.712	0.625	1.61	0.799
SPRING (April-May)	**MEAN (geometric)**	0.444	0.105	2.84	0.974	0.442	7	7.1	95	4718	12	96	67	22.0	23.5	73.6
	MEAN (arithmetic)	0.597	0.126	3.43	1.04	0.502	15	7.1	116	7133	15	180	84	26.7	51.7	88
	MAX	0.897	0.240	4.70	1.34	0.964	44	7.2	246	15000	31	363	169	39.8	163	145
	MIN	0.089	0.048	0.825	0.503	0.287	1	6.9	54	1400	5	8	35	6.50	5.00	25.0
	MEDIAN	0.701	0.109	4.10	1.16	0.379	8	7.2	82	5000	11	174	66	30.2	19.5	90.5
	STDEV	0.357	0.087	1.79	0.367	0.317	19	0.2	90	7047	11	147	63	14.2	74.5	49.7
	NUMBER	4	4	4	4	4	4	3	4	3	4	4	4	4	4	4
	COV	0.598	0.686	0.521	0.354	0.632	1.30	0.024	0.776	0.988	0.783	0.818	0.755	0.533	1.44	0.566
SUMMER (June-August)	**MEAN (geometric)**	0.353	0.054	2.14	0.559	0.378	2		60		7	98	44	18.6	21.5	47.0
	MEAN (arithmetic)	0.404	0.060	2.38	0.672	0.510	5		68		9	123	53	21.0	33.0	65.9
	MAX	0.883	0.132	4.78	2.05	1.89	39		175		21	444	181	54.8	150	276
	MIN	0.111	0.028	0.81	0.250	0.080	1		27		1	27	8	7.50	2.50	25.0
	MEDIAN	0.363	0.050	2.05	0.593	0.378	1		55		9	121	44	21.2	19.5	25.0
	STDEV	0.215	0.032	1.13	0.437	0.473	9		38		5	91	36	11.0	36.8	64.7
	NUMBER	23	16	20	20	20	20		20		16	23	20	20	20	20
	COV	0.531	0.532	0.475	0.650	0.928	1.79		0.563		0.588	0.744	0.675	0.525	1.11	0.983
FALL (Sept-Nov)	**MEAN (geometric)**	0.276	0.071	1.78	0.383	0.296	5	8.0	94	1808	9	69	60	12.8	10.3	32.6
	MEAN (arithmetic)	0.321	0.088	2.27	0.488	0.356	14	8.0	127	3938	12	87	82	15.2	13.4	36.5
	MAX	0.607	0.222	6.11	1.74	0.768	62	8.7	353	13000	28	155	208	28.0	48.1	75.0
	MIN	0.091	0.030	0.250	0.250	0.098	1	7.3	26.6	330	1	23	16	2.50	2.50	25.0
	MEDIAN	0.352	0.067	2.00	0.250	0.323	7	7.9	102	1170	8	75	69	16.7	10.6	25.0
	STDEV	0.158	0.062	1.52	0.450	0.211	20	0.6	103	5313	8	55	60	7.57	12.2	20.5
	NUMBER	12	12	11	11	11	11	6	12	8	11	11	11	11	11	11
	COV	0.494	0.700	0.668	0.922	0.591	1.41	0.077	0.813	1.35	0.682	0.629	0.735	0.498	0.910	0.561

24A HERITAGE PARK BMP MONITORING

BACKGROUND

Best management practices (BMPs) include procedures and structures designed to help reduce water pollution. In 2007, the MPRB monitored two of the City of Minneapolis' stormwater ponds located in northern Minneapolis at Heritage Park (Figure 24A). Heritage Park is a large redevelopment project of 140 acres which was formerly public housing and a public park. It is now a mix of public and private housing (ownership and rental), a public park and an innovative collection of stormwater treatment systems. The treatment train of filtration basins, grit chambers, trench forebays, wetlands and ponds was designed for hydraulic mitigation purposes and to help reduce pollutants discharged to the Mississippi River. For purposes of this report the stormwater ponds located north and south of the intersection of Olson Memorial Highway and Van White Memorial Boulevard are referred to as Heritage Park Pond to the north and Heritage Commons Pond to the south.

The northern drainage area to Heritage Park Pond is 282.5 acres, much larger than the southern drainage area to Heritage Commons Pond. The Heritage Park Pond portion of Heritage Park has many innovative inlet treatment devices such as trench forebays (4), CDS (Continuous Deflective Separators) units (13), infiltration basins (3), filtration basins (11) and wetland ponds (3). The Heritage Park Pond system is a large treatment system and has one main outlet (pond 3), shown in Figure 24A. Figure 24B shows the location of the outlet within the system. The outlet weir elevation is designed to be at 805.80 mean sea level (msl) (Figure 24C). It may actually be 805.50 because there is no metal plate present which is referenced in plans. The largest of the ponds (pond 3) was designed to have a high water depth of 5.5 ft.

Figure 24A. Heritage Park Pond outlet

The southern drainage area to the Heritage Commons Pond is 101.2 acres. The treatment train approach for the Heritage Commons Pond includes three CDS (Continuous Deflective Separators) units, one sedimentation pond, one large filtration basin, and one wetland pond. The system has three main inlets and two outlets. Each of the two outlets is at a slightly different elevation. Figure 24B shows the inlets which are labeled A, B and C. The north and south Heritage Commons outlets are labeled N and S. The north and south outlet weir elevations are 806.2 msl and 807.7 msl respectively. The south outlet is a secondary outfall. The small inlet pipes (A, B and C) drain the adjacent residential street and are treated with the small CDS units. The bottom of the pond was designed to have an elevation of 798.0 ft. an interim normal water depth of 4.9 ft., final high water depth of 11.9 ft., and a final normal water depth of 8.2 ft.

Figure 24B. Arial photograph of Heritage Park located in Minneapolis, MN.

Source: 2007 Water Resources Report – Minneapolis Park & Recreation Board

Figure 24C. The Heritage Park Pond weir is inside the 5' X 10' box culvert.

METHODS

In 2007 the MPRB monitored both of the Heritage Park systems located north and south of Olson Memorial Highway (TH55) along Van White Memorial Boulevard. The Heritage Park stormwater treatment system is divided into two parts, the part north of Olson Memorial Highway will be referred to as Heritage Park Pond and the part south of Olson Memorial Highway will be referred to as Heritage Commons.

Heritage Park Pond outlet auto-monitoring began July 30, 2007. Auto-monitoring samples were collected at the outlet. Auto-monitoring equipment consisted of an area/velocity pressure transducer with an ISCO 4150 datalogger coupled with an ISCO 3700 sampler. The Pond outlet is a large 10' wide by 5' tall box culvert with an internal weir (Figure 24C). This configuration necessitated custom bracket fixtures to be designed, fabricated and installed in order to monitor this site (Figure 24D). Entry into this site required a confined space entry and was cumbersome due to three feet of standing water (Figure 24D). The outlet datalogger was flow paced and the pacing adjusted accordingly to collect samples over the entire hydrograph. Heritage Park Pond flow data were calculated using Flowlink 5. Statistical chemical and load data were calculated using an Excel spreadsheet.

Figure 24D. Heritage Park Pond box culvert with monitoring equipment installed.

The Heritage Commons Pond grab sample monitoring began August 21, 2007. Two liter grab samples were collected at the Heritage Commons Pond north outlet and at the three inlets (A, B and C) using a dipper pole and/or clean white plastic bucket attached to a rope. Heritage Commons Pond did not have associated flow data. Statistical data were calculated using Excel.

The chemical parameters for both sites analyzed in 2007 mirrored NPDES parameters. The parameters were: total phosphorus (TP), total dissolved phosphorus (TDP), total Kjeldahl nitrogen (TKN), nitrate+nitrite (NO3NO2), ammonia (NH3), chloride (Cl), conductivity, carbonaceous biochemical oxygen demand (cBOD), total suspended solids (TSS), total dissolved solids (TDS), copper (Cu), lead (Pb), zinc (Zn) and fecal coliform grab samples. Depending on the time that the samples were collected, certain chemical parameters were not analyzed due to expired holding times or limited volume. Only a limited number of fecal grab samples were collected. Holding times for all parameters are listed in Section 23, Table 23E.

RESULTS & DISCUSSION

In 2007 fifteen storm flow weighted events were auto-sampled at the Heritage Park Pond outlet.

In 2007 at the Heritage Commons Pond eleven storm events were grab sampled at the north outlet. Inlets were also grab sampled at Heritage Commons Pond, six at inlet A, three at inlet B and two at inlet C.

These data will be used to assess and give an indication of the baseline efficacy of the BMPs and will be compared to data collected in later years. The dates and lab results are presented in Table 24A.

Storms at Heritage Park Pond associated with higher TP and TSS values tended to occur at greater than ¾" of precipitation. Table 24A shows the 8/28/07 storm (0.80") produced high values for the outlet of 0.603 mg/L TP and 276 mg/L TSS. It is unknown exactly why this specific storm exported such high nutrient and solid concentrations, since much larger storms

that were more intense on 8/14/07 (1.45"), 8/19/07 (2.47") and 9/20/07 (1.77") exported lower nutrients and solids concentrations. It is possible that it was related to ongoing construction or other activities in the watershed. In this watershed it may also be possible the load is not related to the amount of runoff.

Storms at Heritage Commons Pond associated with high TP and TSS values tended to occur at greater than ½" of precipitation. Table 24A shows the mean concentration was higher for the outlet than the inlet for all parameters except NO3NO2, cBOD, TSS, CU and Pb. The 9/7/07 storm (1.00") produced nearly the highest TP and TSS concentrations for the north outlet of 0.592 mg/L and 32 mg/L respectively. Specific storm nutrient and solids concentrations appear to be less precipitation related and more likely related to construction or other activities in the sub-watersheds. Data in Table 24A seem to indicate some treatment is occurring in the pond as the concentrations at the outlets (for NO3NO2, cBOD, TSS, Cu and Pb) are lower than the inlets. It should be noted that these are grab samples and thus may not be hydraulically homogenous since they are not flow weighted composites.

The Heritage Park Pond had only outlet monitoring but it produced some interesting findings. This outlet system was finished before Heritage Commons and had more time to grow plants (terrestrial and wetland) and stabilize (Figure 24E). The mean outlet TP, NO3NO2, Cl, cBOD, TSS, Cu and Pb were high at the Heritage Park Pond outlet when compared to the Heritage Commons outlet. It is unknown why the TP, TSS, Cu and Pb mean outlet values were higher at the more mature outlet than the newly developed Heritage Commons outlet. In similar watersheds the opposite would be expected.

Figure 24E. Heritage Park Pond system after it was established.

Total volume recorded at the monitored location and total pollutant load calculations for Heritage Park Pond outlet are given in Table 24C. The total outlet volume recorded for the sampling period 7/30/07 – 11/7/07 was 578,360 cf.

It should be noted that the park complex adjacent to the Heritage Park Pond has an automatic in-ground sprinkler system. It was observed producing runoff into the system (7/30/07) during a non-precipitation event which may have had some effect.

At Heritage Commons both inlet and north outlet samples were collected for comparison. All samples were grab samples collected during storms. Parameters with increased mean output

(Table 24B) at Heritage Commons were TP, TDP, NH3, Cl, TDS and Zn. It is likely that two factors caused this result. First, landscaping installation was ongoing and soil erosion from side-slopes and/or other activities may largely explain some of the findings. Second, a large resident Canada goose population was observed in the outlet pond which likely contributed animal waste products. Parameters with decreased mean output at Heritage Commons were NO3NO2, TSS, Cu and Pb. I t appears that settling in the pond is removing some TSS and metals.

The construction of ponds is a BMP with many documented positive water quality benefits. At both Heritage Park and Heritage Commons ponds re-suspension of sediments may explain some of the larger export values, which may come from large storms, wind, the lack of aquatic vegetation that can help stabilize sediments, waterfowl or fish activity. While ponds are highly effective for rate control, it may be possible that sedimentation of significant organic materials may lead to biological digestion in the pond bottom for later export as a dissolved fraction. An earlier 2005 and 2006 MPRB study of Logan Pond indicated an increase in the TDS at the outlet in relation to the inlets. The same phenomena were also seen at Heritage Commons Pond and digestion may be one explanation.

The mean, median, standard deviation, maximum and minimum statistics for all data are presented in Table 24B. Lab values reported below detection were divided in half for statistical calculations. The fact that these data were collected with construction ongoing should be interpreted as a baseline and not as how these systems will ultimately work.

Table 24A. Heritage Commons and Heritage Park Pond sampled event data for 2007.

Date	Time	Site Location	Sample Type	TP mg/L	TDP mg/L	TKN mg/L	NO3NO2 mg/L	NH3 mg/L	Cl mg/L	Sp.Cond. µm	F. Coli cfu/100mL	cBOD mg/L	TSS mg/L	TDS mg/L	Cu µg/L	Pb µg/L	Zn µg/L
9/18/2007	9:00	Heritage Commons Inlet A	grab	0.194	0.068	0.949	0.353	<0.500	<2.00	78.1	8000	4	31	56	7.50	5.50	<50.0
9/21/2007	9:05	Heritage Commons Inlet A	grab	0.076	n/c	n/c	n/c	n/c	n/c	n/c	900	n/c	n/c	n/c	n/c	n/c	n/c
10/2/2007	13:25	Heritage Commons Inlet A	grab	0.503	0.129	7.59	0.560	<0.500	8.90	185		10	222	109	17.7	19.0	<50.0
10/5/2007	12:00	Heritage Commons Inlet A	grab	0.231	0.167	1.31	0.280	<0.500	6.40	213		2	10	232	9.55	<5.00	<50.0
10/16/2007	9:35	Heritage Commons Inlet A	grab	0.260	0.204	0.539	0.377	<0.500	<2.00	78.0		4	27	40	<5.00	<5.00	<50.0
10/18/2007	8:35	Heritage Commons Inlet A	grab	0.182	0.079	0.721	0.092	<0.500	<2.00	53.3		3	38	29	10.2	<5.00	<50.0
9/18/2007	8:50	Heritage Commons Inlet B	grab	0.279	0.182	0.927	0.366	<0.500	7.30	82.0	6500	9	18	56	7.30	5.10	<50.0
10/16/2007	9:30	Heritage Commons Inlet B	grab	0.766	0.582	1.28	<0.030	<0.500	<2.00	104		23	36	121	19.0	<5.00	<50.0
10/18/2007	8:31	Heritage Commons Inlet B	grab	0.380	0.215	0.764	0.037	<0.500	3.80	63.2		16	39	34	9.30	<5.00	<50.0
10/16/2007	11:00	Heritage Commons Inlet C	grab	0.165	0.076	1.16	0.688	<0.500	<2.00	89.0		4	34	56	9.40	<5.00	<50.0
10/18/2007	8:30	Heritage Commons Inlet C	grab	0.135	0.065	1.28	0.101	<0.500	<2.00	90.2		1	26	28	8.50	<5.00	<50.0
		Mean Inlet		**0.288**	**0.177**	**1.65**	**0.317**	**<0.500**	**6.60**	**104**	**5133**	**8**	**48**	**76**	**10.94**	**9.87**	**<50.0**
8/21/2007	9:55	Heritage Commons Outlet North	grab	0.322	0.221	2.91	0.171	0.979	29.0	354		3	13	214	5.10	<5.00	55.0
8/27/2007	9:15	Heritage Commons Outlet North	grab	0.323	0.180	3.12	0.259	2.20	40.3	354		10	27	255	6.90	<5.00	<50.0
8/28/2007	9:50	Heritage Commons Outlet North	grab	0.449	0.325	2.22	0.347	0.613	15.4	236		5	30	156	<5.00	6.80	<50.0
9/7/2007	8:45	Heritage Commons Outlet North	grab	0.592	0.362	3.26	0.154	1.75	15.4	266		11	32	187	6.90	<5.00	<50.0
9/18/2007	8:30	Heritage Commons Outlet North	grab	0.319	0.226	1.84	0.061	0.534	18.0	288	1700	5	20	188	<5.00	<5.00	<50.0
9/21/2007	8:55	Heritage Commons Outlet North	grab	0.383	0.286	1.75	0.242	0.970	8.40	237	12000	4	18	129	5.20	<5.00	<50.0
9/25/2007	11:35	Heritage Commons Outlet North	grab	0.491	0.336	1.89	0.109	0.570	9.90	265		5	44	26	6.60	<5.00	<50.0
10/2/2007	13:40	Heritage Commons Outlet North	grab	0.438	0.299	1.97	0.078	<0.500	14.9	282		3	38	186	5.70	<5.00	<50.0
10/5/2007	11:50	Heritage Commons Outlet North	grab	0.414	0.320	1.31	0.148	<0.500	13.1	269		3	20	218	<5.00	<5.00	<50.0
10/16/2007	8:50	Heritage Commons Outlet North	grab	0.439	0.338	1.43	0.107	0.682	14.1	310		2	13	208	<5.00	<5.00	<50.0
10/18/2007	8:50	Heritage Commons Outlet North	grab	0.400	0.318	1.40	0.136	0.637	13.6	301		3	7	192	6.30	<5.00	<50.0
		Mean Outlet		**0.415**	**0.292**	**2.10**	**0.165**	**0.993**	**17.5**	**287**	**6850**	**5**	**24**	**178**	**6.10**	**6.80**	**55.0**
8/11/2007	23:00	Heritage Park Outlet	composite	0.400	n/c	2.02	n/c	n/c	n/c	304		n/c	59	n/c	17.2	5.95	<50.0
8/14/2007	7:51	Heritage Park Outlet	composite	0.457	0.171	1.65	0.271	0.580	9.90	202		21	138	133	18.0	<5.00	<50.0
8/19/2007	21:45	Heritage Park Outlet	composite	0.346	0.182	1.18	0.147	<0.500	12.9	222		3	36	158	9.30	5.60	<50.0
8/21/2007	9:03	Heritage Park Outlet	composite	0.331	0.174	2.02	0.240	<0.500	10.4	245		4	46	132	13.7	8.40	<50.0
8/27/2007	7:29	Heritage Park Outlet	composite	0.284	0.112	1.06	0.069	<0.500	n/c	194		11	38	n/c	7.40	5.70	<50.0
8/28/2007	5:00	Heritage Park Outlet	composite	0.603	0.179	1.74	0.361	<0.500	7.40	156		4	276	94	25.9	5.60	<50.0
9/7/2007	6:00	Heritage Park Outlet	composite	0.338	0.136	1.24	0.210	<0.500	16.5	247		6	57	148	7.60	<5.00	<50.0
9/18/2007	22:50	Heritage Park Outlet	composite	0.334	0.165	0.894	0.234	<0.500	8.90	172		3	59	99	12.3	8.40	<50.0
9/20/2007	23:32	Heritage Park Outlet	composite	0.459	0.153	n/c	0.333	n/c	4.30	150	8000	n/c	137	107	15.1	21.1	<50.0
9/25/2007	14:15	Heritage Park Outlet	composite	0.369	0.147	1.06	0.241	<0.500	10.9	207		5	83	129	13.3	13.9	<50.0
10/2/2007	19:17	Heritage Park Outlet	composite	0.302	0.133	n/c	0.097	n/c	n/c	n/c		n/c	35	147	n/c	n/c	n/c
10/5/2007	9:02	Heritage Park Outlet	composite	0.364	n/c	1.16	0.209	<0.500	10.5	234		n/c	70	154	10.0	7.80	<50.0
10/8/2007	12:46	Heritage Park Outlet	composite	0.394	0.244	3.18	0.113	<0.500	8.50	254		11	35	160	9.80	<5.00	<50.0
10/16/2007	20:59	Heritage Park Outlet	composite	0.298	0.151	n/c	n/c	n/c	n/c	n/c		n/c	41	n/c	n/c	n/c	n/c
10/19/2007	7:33	Heritage Park Outlet	composite	0.306	n/c	0.689	0.303	<0.500	10.0	226		n/c	46	128	10.4	5.30	<50.0
		Mean Outlet		**0.372**	**0.162**	**1.49**	**0.218**	**0.580**	**10.0**	**216**	**8000**	**8**	**77**	**132**	**13.1**	**8.78**	**<50.0**

Notes: n/c = not collected due to limited sample volume or expired holding time.

Table 24B. Event mean concentration statistics for Heritage Commons and Heritage Park Pond in 2007.

Site Location	Statistical Function	TP mg/L	TDP mg/L	TKN mg/L	NO3NO2 mg/L	NH3 mg/L	Cl mg/L	Sp.Cond. µm	F. Coli cfu/100mL	cBOD mg/L	TSS mg/L	TDS mg/L	Cu µg/L	Pb µg/L	Zn µg/L
Heritage Commons Inlet A	**MEAN**	0.241	0.129	2.22	0.332	0.250	3.66	121	4450	4	66	93	9.49	6.40	<50.0
Heritage Commons Inlet A	**MEDIAN**	0.213	0.129	0.949	0.353	0.250	1.00	78	4450	4	31	56	9.55	2.50	<50.0
Heritage Commons Inlet A	**STDEV**	0.143	0.058	3.01	0.169	0.000	3.75	72	5020	3	88	83	5.49	7.16	0.00
Heritage Commons Inlet A	**MAXIMUM**	0.503	0.204	7.59	0.560	0.250	8.90	213	8000	10	222	232	17.7	19.0	<50.0
Heritage Commons Inlet A	**MINIMUM**	0.076	0.068	0.539	0.092	0.250	1.00	53	900	2	10	29	2.50	2.50	<50.0
Heritage Commons Inlet A	**NUMBER**	6	5	5	5	5	5	5	2	5	5	5	5	5	5
Heritage Commons Inlet B	**MEAN**	0.475	0.326	0.990	0.139	0.250	4.03	83	6500	16	31	70	11.9	3.37	<50.0
Heritage Commons Inlet B	**MEDIAN**	0.380	0.215	0.927	0.037	0.250	3.80	82	6500	16	36	56	9.30	2.50	<50.0
Heritage Commons Inlet B	**STDEV**	0.257	0.222	0.264	0.197	0.000	3.16	20		7	11	45	6.26	1.50	0.00
Heritage Commons Inlet B	**MAXIMUM**	0.766	0.582	1.28	0.366	0.250	7.30	104	6500	23	39	121	19.0	5.10	<50.0
Heritage Commons Inlet B	**MINIMUM**	0.279	0.182	0.764	0.015	0.250	1.00	63	6500	9	18	34	7.30	2.50	<50.0
Heritage Commons Inlet B	**NUMBER**	3	3	3	3	3	3	3	1	3	3	3	3	3	3
Heritage Commons Inlet C	**MEAN**	0.150	0.071	1.22	0.395	0.250	1.00	90		3	30	42	8.95	2.50	<50.0
Heritage Commons Inlet C	**MEDIAN**	0.150	0.071	1.22	0.395	0.250	1.00	90		3	30	42	8.95	2.50	<50.0
Heritage Commons Inlet C	**STDEV**	0.021	0.008	0.085	0.415	0.000	0.00	1		2	5	19	0.636	0.00	0.00
Heritage Commons Inlet C	**MAXIMUM**	0.165	0.076	1.28	0.688	0.250	1.00	90		4	34	56	9.40	2.50	<50.0
Heritage Commons Inlet C	**MINIMUM**	0.135	0.065	1.16	0.101	0.250	1.00	89		1	26	28	8.50	2.50	<50.0
Heritage Commons Inlet C	**NUMBER**	2	2	2	2	2	2	2	0	2	2	2	2	2	2
Heritage Commons Outlet North	**MEAN**	0.415	0.292	2.10	0.165	0.858	17.5	287	6850	5	24	178	4.79	2.89	27.7
Heritage Commons Outlet North	**MEDIAN**	0.414	0.318	1.89	0.148	0.637	14.9	282	6850	4	20	188	5.20	2.50	25.0
Heritage Commons Outlet North	**STDEV**	0.082	0.058	0.698	0.086	0.608	9.24	40	7283	3	11	60	1.91	1.30	9.05
Heritage Commons Outlet North	**MAXIMUM**	0.592	0.362	3.26	0.347	2.20	40.3	354	12000	11	44	255	6.90	6.80	55.0
Heritage Commons Outlet North	**MINIMUM**	0.319	0.180	1.31	0.061	0.250	8.40	236	1700	2	7	26	2.50	2.50	25.0
Heritage Commons Outlet North	**NUMBER**	11	11	11	11	11	11	11	2	11	11	11	11	11	11
Heritage Park Outlet	**MEAN**	0.372	0.162	1.49	0.218	0.280	10.0	216	8000	8	77	132	13.1	7.33	25.0
Heritage Park Outlet	**MEDIAN**	0.346	0.159	1.21	0.234	0.250	10.0	222	8000	5	57	133	12.3	5.70	25.0
Heritage Park Outlet	**STDEV**	0.083	0.033	0.684	0.090	0.099	3.08	43		6	64	23	5.12	5.16	0.00
Heritage Park Outlet	**MAXIMUM**	0.603	0.244	3.18	0.361	0.580	16.5	304	8000	21	276	160	25.9	21.1	25.0
Heritage Park Outlet	**MINIMUM**	0.284	0.112	0.689	0.069	0.250	4.30	150	8000	3	35	94	7.40	2.50	25.0
Heritage Park Outlet	**NUMBER**	15	12	12	13	11	11	13	1	9	15	12	13	13	13

Source: 2007 Water Resources Report – Minneapolis Park & Recreation Board

Table 24C. Estimated pollutant load and volume for Heritage Park Pond Outlet 2007.

Location	7/30/07 - 11/7/07 total cubic feet	TP kg	TDP kg	TKN kg	NO3NO2 kg	NH3 kg	Cl kg	F. coli cfu	cBOD kg	TSS kg	TDS kg	Cu kg	Pb kg	Zn kg
Heritage Outlet	578,360	6.09	2.66	24.4	3.56	4.58	164	130941	125	1263	2167	0.214	0.120	0.409

Source: 2007 Water Resources Report – Minneapolis Park & Recreation Board

Further study with auto-monitoring at inlets and outlets will be necessary to shed light on the efficacy and functioning of both Heritage Park Pond and Heritage Commons systems.

Both Heritage systems had CDS units that appeared to be backing up and malfunctioning with standing water in the upstream pipes. Some of the infiltration basins/trench forebays at Heritage Park appear to be silting in (Figure 24F). Minneapolis Public Works will be carrying out some modifications in 2008.

A. B.

Figure 24F. Trench forebays not infiltrating (A), because they are silted in (B).

Sediment also appears to be circumventing upstream treatment as seen in Figure 24G where silt is being deposited in front of the spreaders.

Figure 24G. Heritage Park with sediment in front of spreaders.

It is difficult to draw solid conclusions from this limited data set which included grab samples, limited inlet data and a dynamic system under construction. Further comprehensive study will be needed to explore and answer some of the questions raised. It is laudable for the City and designers to approach stormwater as a resource to be enjoyed and not disposed of in large pipes underground. The Heritage systems should serve to connect people to the impact they have on stormwater by being close to it, recreating around it and seeing it.

Additional comprehensive auto-monitoring in the future can help better characterize the pre-treatment and pond performance and overall system efficiency. It would be best to continue monitoring after development and construction are finished and the systems have stabilized. Other recommendations for future monitoring and design efficiency include:

- Investigate increased street sweeping to remove solids before entering the Heritage systems.
- Further erosion control monitoring to ensure soils are minimally disturbed and stay on construction sites.
- Measure depth of pond sediment to ensure proper function in future years.
- Investigate digestion of previously settled organic solids in the pond bottom and possibility of later storm export of it as a dissolved fraction.
- Institute goose control measures at the Heritage Commons pond.
- Investigate any effects of in-ground automatic sprinkler systems.

2007 ANNUAL POLLUTANT LOADINGS BY RECEIVING WATER

2007 ANNUAL POLLUTANT LOADINGS BY RECEIVING WATER - KILOGRAMS PER YEAR (estimated using FLUX)

WATERSHED	RUNOFF	AREA	BOD	TSS	TDS	TKN	NH3-N	NO2-NO3	TP	TDP	Cu	Pb	Zn
	COEFF.		mg\l	mg\l	mg\l	mg\l	mg\l	mg\l	mg\l	mg\l	mg\l	mg\l	mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.469	0.472	0.108	0.036	0.034	0.133
Mississippi River (Minneapolis)	0.46	18077	424,368.3	4,493,311.9	18,397,616.0	110,585.4	24,214.0	11,707.6	11,782.5	2,696.0	886.2	836.3	3,320.1
Shingle Creek	0.44	1365	30,775.4	325,857.4	2,259,916.4	8,019.7	1,756.0	849.0	854.5	195.5	64.3	60.6	240.8
Ryan Lake (Minneapolis)	0.45	49	1,142.2	12,093.6	83,872.9	297.6	65.2	31.5	31.7	7.3	2.4	2.3	8.9
Bassett Creek	0.44	2293	51,436.4	544,621.1	3,777,106.7	13,403.7	2,934.9	1,419.0	1,428.1	326.8	107.4	101.4	402.4
New Bassett Creek Tunnel	0.45	219	5,011.2	53,059.5	367,982.8	1,305.9	285.9	138.2	139.1	31.8	10.5	9.9	39.2
Brownie Lake (Minneapolis)	0.45	34	773.7	8,192.1	56,814.4	201.6	44.1	21.3	21.5	4.9	1.6	1.5	6.1
Cedar Lake (Minneapolis)	0.38	224	4,290.2	45,425.9	315,042.2	1,118.0	244.8	118.4	119.1	27.3	9.0	8.5	33.6
Lake of the Isles	0.42	760	16,326.6	172,870.0	1,198,903.7	4,254.5	931.6	450.4	453.3	103.7	34.1	32.2	127.7
Lake Calhoun (Minneapolis)	0.46	1249	29,125.7	308,389.7	2,138,772.7	7,589.8	1,661.9	803.5	808.7	185.0	60.8	57.4	227.9
Cemetary Lake	0.60	205	6,208.2	65,733.4	455,880.0	1,617.8	354.2	171.3	172.4	39.4	13.0	12.2	48.6
Sanctuary Pond	0.60	68	2,068.2	21,898.1	151,870.0	538.9	118.0	57.1	57.4	13.1	4.3	4.1	16.2
Lake Harriet	0.46	863	20,379.7	215,784.7	1,496,529.8	5,310.7	1,162.8	562.2	565.8	129.5	42.6	40.2	159.4
Hart Lake (Minneapolis)	0.55	3	80.5	852.1	5,909.5	21.0	4.6	2.2	2.2	0.5	0.2	0.2	0.6
Silver Lake (Minneapolis)	0.44	28	630.1	6,671.6	46,269.8	164.2	36.0	17.4	17.5	4.0	1.3	1.2	4.9
Crystal Lake (Minneapolis)	0.45	469	10,770.4	114,039.5	790,897.0	2,806.6	614.5	297.1	299.0	68.4	22.5	21.2	84.3
Legion Lake (Minneapolis)	0.45	49	1,133.4	12,000.7	83,228.7	295.4	64.7	31.3	31.5	7.2	2.4	2.2	8.9
Richfield Lake (Minneapolis)	0.32	715	11,663.1	123,491.5	856,449.4	3,039.3	665.5	321.8	323.8	74.1	24.4	23.0	91.2
Minnehaha Creek	0.44	3213	72,273.3	765,247.2	5,307,212.6	18,833.6	4,123.8	1,993.9	2,006.6	459.1	150.9	142.4	565.4
Diamond Lake	0.47	685	16,271.1	172,282.6	1,194,830.2	4,240.1	928.4	448.9	451.8	103.4	34.0	32.1	127.3
Lake Nokomis	0.40	620	12,691.1	134,376.4	931,939.5	3,307.2	724.1	350.1	352.4	80.6	26.5	25.0	99.3
Taft Lake	0.37	100	1,866.2	19,760.1	137,042.2	486.3	106.5	51.5	51.8	11.9	3.9	3.7	14.6
Mother Lake (Minneapolis)	0.48	49	1,203.6	12,744.4	88,386.4	313.7	68.7	33.2	33.4	7.6	2.5	2.4	9.4
Unnamed Wetland W of Mother Lake	0.41	41	850.1	9,001.2	62,426.2	221.5	48.5	23.5	23.6	5.4	1.8	1.7	6.7
Lake Hiawatha	0.46	1008	23,599.1	249,872.6	1,732,939.1	6,149.6	1,346.5	651.1	655.2	149.9	49.3	46.5	184.6
Birch Pond	0.10	31	158.9	1,682.4	11,667.6	41.4	9.1	4.4	4.4	1.0	0.3	0.3	1.2
Powderhorn Lake	0.46	286	6,712.1	71,069.7	492,889.2	1,749.1	383.0	185.2	186.4	42.6	14.0	13.2	52.5
Grass Lake	0.46	386	9,008.4	95,382.8	661,507.6	2,347.5	514.0	248.5	250.1	57.2	18.8	17.8	70.5
Unnamed Wetland on Hwy 62	0.47	17	405.9	4,297.8	29,806.7	105.8	23.2	11.2	11.3	2.6	0.8	0.8	3.2
Unnamed Wetland on Ewing Ave S	0.47	22	517.6	5,480.9	38,011.5	134.9	29.5	14.3	14.4	3.3	1.1	1.0	4.0
ANNUAL TOTAL KILOGRAMS - Minneapolis		33,127.7	761,740.8	8,065,491.0	43,171,720.9	198,500.7	43,464.0	21,015.1	21,149.5	4,839.3	1,590.7	1,501.1	5,959.5

National Weather Service, Annual Precipitation = 34.32 inches 0.87 meters

ESTIMATES OF ANNUAL AND SEASONAL POLLUTANT LOADS

Statistics for event mean concentrations were calculated using Microsoft Excel spreadsheets. FLUX and P8 were used to calculate flow-weighted mean concentrations and snowmelt runoffs respectively.

All flow weighted mean concentrations were calculated using the model FLUX. FLUX calculates total mass discharge and associated error statistics based on six different calculation methods. Calculation methods 1-Direct Mean Loading and 5-Regression, Second-Order were ignored because they are inappropriate for storm sewer applications where the daily flow file contains a significant number of zero flows (Bruce Wilson, personal communication, 2001). Sample concentrations and associated daily average flows were used as input for these calculations. In order to achieve the most accurate and precise results, the data was often stratified by flow or by season.

The model P8 was used to calculate daily flows for the snowmelt events during January through April. Daily temperature and hourly precipitation files obtained from the National Oceanic and Atmospheric Administration (NOAA) National Data Center (NNDC) were used as input for P8.

A description of FLUX as described in the FLUX manual (Walker 1996):

> "FLUX is an interactive program designed for use in estimating the loadings of nutrients or other water quality components passing a tributary sampling station over a given period of time. These estimates can be used in formulating reservoir nutrient balances over annual or seasonal averaging periods appropriate for application of empirical eutrophication models.
>
> Using six calculation techniques, FLUX maps the flow/concentration relationship developed from the sample record onto the entire flow record to calculate total mass discharge and associated error statistics. In many cases, stratifying the data increases the accuracy and precision of loading estimates."

A description of P8 as described in the software's introduction:

> "P8 is a model for predicting the generation and transport of stormwater runoff pollutants in small urban catchments…
>
> Simulations are driven by hourly rainfall and daily air-temperature time series…"

The following formula was used to calculate the total annual pollutant load. Conversion factors were used to convert acres to square meters and adjust units for concentration.

$$L = [(P)\ (Pj)\ (Rv)\ (C/1000)\ (A*4046.9)]$$

where: L = seasonal pollutant load, kilograms/season
P = seasonal precipitation, inches/season (meters/season)
Pj = correction factor for storms which do not produce runoff = 0.85

Rv = runoff coefficient
C = median event mean concentration of pollutants, mg/L
A = area, acres
Conversion factors 4046.9 for acres to square meters
1000 for liters to cubic meters

The flow weighted mean concentration (FWMC) expressed as a mean of all sites was used for the annual load estimation calculations as it most accurately reflects storm water loadings on an annual basis. The seasonal loadings were calculated from the pooled data using the median event mean concentration as there were too few data points from each watershed to use FLUX to determine with a reasonable degree of accuracy a seasonal FWMC for each site. The median of the data set is a better representation of the runoff data than the mean values (Bannerman et al., 1992). The annual load and a summation of the seasonal loads will not be equal due to this difference in calculation methods.

Seasonal loads were calculated on the following basis.

Season	Inclusive dates	Precipitation for period
Winter/snowmelt	01/01/07 – 03/31/07	5.32 inches (0.135 m)
Spring	04/01/07 – 05/31/07	3.10 inches (0.079 m)
Summer	06/01/07 – 08/31/07	14.66 inches (0.372 m)
Fall	09/01/07 – 12/31/07	11.24 inches (0.285 m)

$$L = [(P)\ (Pj)\ (Rv)\ (C/1000)\ (A*4046.9)]$$

where: L = seasonal pollutant load, kilograms/season
P = seasonal precipitation, inches/season (meters/season)
Pj = correction factor for storms which do not produce runoff = 0.85
Rv = runoff coefficient
C = median event mean concentration of pollutants, mg/L
A = area, acres
Conversion factors 4046.9 for acres to square meters
1000 for liters to cubic meters

Flow-weighted mean concentrations and related statistics for NPDES parameters in 2007. FWMC= Flow Weighted Mean Concentration, CV= Coefficient of Variance. STANDEV= standard deviation.

Site	TP (mg/L)	TDP (mg/L)	TKN (mg/L)	NO3NO2 (mg/L)	NH3 (mg/L)	Cl* (mg/L)	cBOD (mg/L)	TSS (mg/L)	TDS* (mg/L)	Cu (µg/L)	Pb (µg/L)	Zn (µg/L)
6	0.643	0.138	8.21	0.494	1.20	884	20	263	1539	63	87	250
7	0.312	0.081	3.45	0.530	0.929	464	16	135	826	29	18	134
8a	0.548	0.113	2.78	0.394	0.817	5.35	22	102	55	15	13	33
9	0.384	0.100	3.27	0.567	0.944	296	10	219	527	35	16	116
MEAN	**0.472**	**0.108**	**4.43**	**0.496**	**0.973**	**412**	**17**	**180**	**737**	**35.5**	**33.5**	**133**
MEDIAN	**0.466**	**0.107**	**3.36**	**0.512**	**1.48**	**380**	**18**	**177**	**676**	**32.0**	**17.0**	**125**
STANDEV	**0.151**	**0.024**	**2.54**	**0.074**	**0.163**	**367**	**5**	**74**	**622**	**20.16**	**35.7**	**89.4**

*** Flow-weighted mean concentrations for Cl and TDS were difficult to estimate using FLUX due to large outliers from the one snowmelt sample, these estimates should be used with discretion.**

Statistical summary for event mean concentrations by season in 2007. Statistics were calculated from all sites (6-9). STDEV= standard deviation, COV= coefficient of variance.

2007 Season	Statistical Function	TP mg/L	TDP mg/L	TKN mg/L	NH3 mg/L	NO3NO2 mg/L	Cl mg/L	Field pH	Sp.Cond. µmhos/cm	F. Coli cfu/100mL	cBOD mg/L	TSS mg/L	TDS mg/L	Cu µg/L	Pb µg/L	Zn µg/L
SNOWMELT (February-March)	**MEAN (geometric)**	0.727	0.195	7.72	1.76	0.361	689	7.8	1490	63	20	123	1291	47.8	21.8	200
	MEAN (arithmetic)	0.851	0.280	8.63	2.41	0.852	1484	7.8	3917	415	26	216	2538	71.8	61.4	336
	MAX	1.93	0.614	12.5	5.98	2.07	2834	10.6	9760	1800	71	418	4822	132	297	830
	MIN	0.302	0.066	3.25	0.621	0.015	10	6.9	71	5	5	9	61	6.40	2.50	25.0
	MEDIAN	0.735	0.157	9.39	1.43	0.941	1454	7.4	1863	43	21	226	2458	78.7	25.8	303
	STDEV	0.532	0.240	3.65	2.21	0.677	1039	1.3	4124	714	21	150	1807	44.9	98.6	268
	NUMBER	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	COV	0.625	0.857	0.423	0.917	0.795	0.700	0.168	1.05	1.72	0.792	0.694	0.712	0.625	1.61	0.799
SPRING (April-May)	**MEAN (geometric)**	0.444	0.105	2.84	0.974	0.442	7	7.1	95	4718	12	96	67	22.0	23.5	73.6
	MEAN (arithmetic)	0.597	0.126	3.43	1.04	0.502	15	7.1	116	7133	15	180	84	26.7	51.7	88
	MAX	0.897	0.240	4.70	1.34	0.964	44	7.2	246	15000	31	363	169	39.8	163	145
	MIN	0.089	0.048	0.825	0.503	0.287	1	6.9	54	1400	5	8	35	6.50	5.00	25.0
	MEDIAN	0.701	0.109	4.10	1.16	0.379	8	7.2	82	5000	11	174	66	30.2	19.5	90.5
	STDEV	0.357	0.087	1.79	0.367	0.317	19	0.2	90	7047	11	147	63	14.2	74.5	49.7
	NUMBER	4	4	4	4	4	4	3	4	3	4	4	4	4	4	4
	COV	0.598	0.686	0.521	0.354	0.632	1.30	0.024	0.776	0.988	0.783	0.818	0.755	0.533	1.44	0.566
SUMMER (June-August)	**MEAN (geometric)**	0.353	0.054	2.14	0.559	0.378	2		60		7	98	44	18.6	21.5	47.0
	MEAN (arithmetic)	0.404	0.060	2.38	0.672	0.510	5		68		9	123	53	21.0	33.0	65.9
	MAX	0.883	0.132	4.78	2.05	1.89	39		175		21	444	181	54.8	150	276
	MIN	0.111	0.028	0.81	0.250	0.080	1		27		1	27	8	7.50	2.50	25.0
	MEDIAN	0.363	0.050	2.05	0.593	0.378	1		55		9	121	44	21.2	19.5	25.0
	STDEV	0.215	0.032	1.13	0.437	0.473	9		38		5	91	36	11.0	36.8	64.7
	NUMBER	23	16	20	20	20	20		20		16	23	20	20	20	20
	COV	0.531	0.532	0.475	0.650	0.928	1.79		0.563		0.588	0.744	0.675	0.525	1.11	0.983
FALL (Sept-Nov)	**MEAN (geometric)**	0.276	0.071	1.78	0.383	0.296	5	8.0	94	1808	9	69	60	12.8	10.3	32.6
	MEAN (arithmetic)	0.321	0.088	2.27	0.488	0.356	14	8.0	127	3938	12	87	82	15.2	13.4	36.5
	MAX	0.607	0.222	6.11	1.74	0.768	62	8.7	353	13000	28	155	208	28.0	48.1	75.0
	MIN	0.091	0.030	0.250	0.250	0.098	1	7.3	26.6	330	1	23	16	2.50	2.50	25.0
	MEDIAN	0.352	0.067	2.00	0.250	0.323	7	7.9	102	1170	8	75	69	16.7	10.6	25.0
	STDEV	0.158	0.062	1.52	0.450	0.211	20	0.6	103	5313	8	55	60	7.57	12.2	20.5
	NUMBER	12	12	11	11	11	11	6	12	8	11	11	11	11	11	11
	COV	0.494	0.700	0.668	0.922	0.591	1.41	0.077	0.813	1.35	0.682	0.629	0.735	0.498	0.910	0.561

Supporting Documents

Bannerman, R.T., D.W. Owens, R. Dodds, and P. Hughes. 1992. Sources of Pollutants in Wisconsin Stormwater. WI Dept. of Natural Resources, Madison, WI.

Walker, W. W., 1996. *Simplified Procedures for Eutrophication Assessment and Prediction: User Manual*. Instruction Report W-96-2, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

2007 POLLUTANT LOADINGS BY OUTFALL

2007 POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS PER YEAR (estimated using FLUX)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation (meters)	0.8717												
10-010	0.43	113.55	2,497.2	26,440.4	108,258.8	650.7	142.5	72.9	69.3	15.9	5.2	4.9	19.5
10-020	0.45	7.81	179.2	1,896.9	7,766.8	46.7	10.2	5.2	5.0	1.1	0.4	0.4	1.4
10-030	0.10	4.05	20.6	218.6	895.0	5.4	1.2	0.6	0.6	0.1	0.0	0.0	0.2
10-040	0.45	167.42	3,813.7	40,380.9	165,337.3	993.8	217.6	111.3	105.9	24.2	8.0	7.5	29.8
10-050	0.46	114.18	2,649.4	28,052.9	114,861.1	690.4	151.2	77.3	73.6	16.8	5.5	5.2	20.7
10-060	0.60	10.5	321.1	3,400.3	13,922.5	83.7	18.3	9.4	8.9	2.0	0.7	0.6	2.5
10-070	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-080	0.38	30.66	597.2	6,323.8	25,892.3	155.6	34.1	17.4	16.6	3.8	1.2	1.2	4.7
10-090A	0.00	0.85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090B	0.00	1.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090C	0.54	12.77	352.5	3,732.4	15,282.0	91.9	20.1	10.3	9.8	2.2	0.7	0.7	2.8
10-090D	0.00	4.68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-100	0.36	1392.1	25,739.5	272,536.3	1,115,884.8	6,707.4	1,468.7	751.0	714.7	163.5	53.8	50.7	201.4
10-110	0.47	300.11	7,137.1	75,569.3	309,414.5	1,859.8	407.2	208.2	198.2	45.3	14.9	14.1	55.8
10-120A/B	0.44	372.78	8,271.0	87,575.0	358,571.1	2,155.3	471.9	241.3	229.6	52.5	17.3	16.3	64.7
10-130	0.45	336.46	7,744.0	81,995.8	335,727.3	2,018.0	441.9	225.9	215.0	49.2	16.2	15.3	60.6
10-140a	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-140a,b	0.58	220.65	6,472.2	68,529.5	280,590.1	1,686.6	369.3	188.8	179.7	41.1	13.5	12.8	50.6
10-150	0.47	157.15	3,756.0	39,769.6	162,834.4	978.8	214.3	109.6	104.3	23.9	7.8	7.4	29.4
10-160	0.00	17	2.2	22.9	93.9	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-170	0.50	176.01	4,515.0	47,805.8	195,738.2	1,176.6	257.6	131.7	125.4	28.7	9.4	8.9	35.3
10-180	0.45	284.26	6,452.7	68,322.6	279,743.2	1,681.5	368.2	188.3	179.2	41.0	13.5	12.7	50.5
10-190	0.59	14.58	439.8	4,656.6	19,066.2	114.6	25.1	12.8	12.2	2.8	0.9	0.9	3.4
10-200	0.40	42.44	858.9	9,094.7	37,237.9	223.8	49.0	25.1	23.8	5.5	1.8	1.7	6.7
10-210	0.49	98.32	2,463.7	26,086.4	106,809.3	642.0	140.6	71.9	68.4	15.7	5.1	4.9	19.3
10-220	0.56	18.83	536.6	5,682.0	23,264.8	139.8	30.6	15.7	14.9	3.4	1.1	1.1	4.2
10-230	0.47	235.02	5,663.0	59,961.6	245,509.4	1,475.7	323.1	165.2	157.2	36.0	11.8	11.2	44.3
10-240	0.51	103.83	2,718.9	28,788.7	117,873.8	708.5	155.1	79.3	75.5	17.3	5.7	5.4	21.3
10-250	0.49	242.96	6,054.4	64,105.2	262,475.2	1,577.7	345.5	176.6	168.1	38.5	12.6	11.9	47.4
10-260	0.56	23.77	675.1	7,147.9	29,266.8	175.9	38.5	19.7	18.7	4.3	1.4	1.3	5.3
10-270	0.47	72.45	1,750.0	18,529.4	75,867.8	456.0	99.9	51.1	48.6	11.1	3.7	3.4	13.7
10-280	0.44	55.08	1,246.1	13,194.2	54,022.8	324.7	71.1	36.4	34.6	7.9	2.6	2.5	9.7
10-290	0.10	6.83	34.8	368.6	1,509.4	9.1	2.0	1.0	1.0	0.2	0.1	0.1	0.3
10-300	0.36	17.74	326.1	3,452.6	14,136.5	85.0	18.6	9.5	9.1	2.1	0.7	0.6	2.6
10-310	0.47	60.29	1,451.3	15,366.7	62,918.0	378.2	82.8	42.3	40.3	9.2	3.0	2.9	11.4
10-320	0.45	341.99	7,875.7	83,389.3	341,432.8	2,052.3	449.4	229.8	218.7	50.0	16.4	15.5	61.6
10-330	0.35	21.61	387.3	4,100.7	16,789.9	100.9	22.1	11.3	10.8	2.5	0.8	0.8	3.0
10-340	0.45	20.74	477.0	5,050.9	20,680.6	124.3	27.2	13.9	13.2	3.0	1.0	0.9	3.7
10-350	0.60	28.16	859.7	9,102.7	37,270.3	224.0	49.1	25.1	23.9	5.5	1.8	1.7	6.7
10-360	0.59	29.02	876.7	9,283.0	38,008.7	228.5	50.0	25.6	24.3	5.6	1.8	1.7	6.9
10-370	0.59	14.46	434.6	4,601.3	18,839.9	113.2	24.8	12.7	12.1	2.8	0.9	0.9	3.4
10-380	0.45	14.38	326.3	3,455.2	14,147.0	85.0	18.6	9.5	9.1	2.1	0.7	0.6	2.6
10-390	0.49	41.97	1,054.9	11,169.3	45,732.0	274.9	60.2	30.8	29.3	6.7	2.2	2.1	8.3
10-400A	0.10	1.07	5.5	57.8	236.5	1.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0
10-400B	0.47	17.66	424.5	4,495.1	18,404.9	110.6	24.2	12.4	11.8	2.7	0.9	0.8	3.3
10-400C	0.57	50.25	1,449.3	15,345.1	62,829.5	377.7	82.7	42.3	40.2	9.2	3.0	2.9	11.3
10-410A	0.50	46.22	1,172.9	12,419.2	50,849.7	305.7	66.9	34.2	32.6	7.5	2.4	2.3	9.2
10-410B	0.32	21.29	343.4	3,635.7	14,886.3	89.5	19.6	10.0	9.5	2.2	0.7	0.7	2.7
10-410C	0.53	22.8	613.4	6,495.2	26,594.1	159.9	35.0	17.9	17.0	3.9	1.3	1.2	4.8
10-410D	0.60	27.34	836.5	8,857.4	36,266.0	218.0	47.7	24.4	23.2	5.3	1.7	1.6	6.5
10-410E	0.58	256.04	7,510.3	79,520.9	325,593.9	1,957.1	428.5	219.1	208.5	47.7	15.7	14.8	58.8
10-410F	0.59	37.92	1,137.0	12,039.1	49,293.3	296.3	64.9	33.2	31.6	7.2	2.4	2.2	8.9
10-420A	0.27	23.05	320.2	3,390.2	13,881.1	83.4	18.3	9.3	8.9	2.0	0.7	0.6	2.5
10-420B	0.00	10.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420C	0.00	7.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420D	0.00	20.73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420E	0.59	127.89	3,825.7	40,507.0	165,853.6	996.9	218.3	111.6	106.2	24.3	8.0	7.5	29.9
10-430A	0.00	8.14	1.0	11.0	45.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10-430B	0.53	54.72	1,490.5	15,781.3	64,615.6	388.4	85.0	43.5	41.4	9.5	3.1	2.9	11.7
10-430C	0.48	44.83	1,097.8	11,623.8	47,592.8	286.1	62.6	32.0	30.5	7.0	2.3	2.2	8.6
10-430D	0.49	85.79	2,149.9	22,763.2	93,202.8	560.2	122.7	62.7	59.7	13.7	4.5	4.2	16.8
10-430E	0.56	86.66	2,463.2	26,081.1	106,787.7	641.9	140.5	71.9	68.4	15.6	5.1	4.9	19.3
10-430F	0.10	377.97	1,926.7	20,400.4	83,528.2	502.1	109.9	56.2	53.5	12.2	4.0	3.8	15.1
10-430G	0.50	125.89	3,180.3	33,673.7	137,874.9	828.7	181.5	92.8	88.3	20.2	6.6	6.3	24.9
10-430H	0.49	33.18	831.1	8,799.8	36,030.5	216.6	47.4	24.2	23.1	5.3	1.7	1.6	6.5
10-430I	0.59	32.61	978.5	10,360.2	42,419.1	255.0	55.8	28.5	27.2	6.2	2.0	1.9	7.7
10-430J	0.43	532.36	11,776.1	124,688.6	510,530.6	3,068.7	671.9	343.6	327.0	74.8	24.6	23.2	92.1
10-430K	0.48	337.06	8,206.9	86,896.1	355,791.4	2,138.6	468.3	239.4	227.9	52.1	17.1	16.2	64.2
10-430L	0.45	84.4	1,939.3	20,533.5	84,073.5	505.4	110.7	56.6	53.8	12.3	4.0	3.8	15.2
10-430M	0.54	75.94	2,099.6	22,230.9	91,023.2	547.1	119.8	61.3	58.3	13.3	4.4	4.1	16.4
10-430N	0.44	26.43	598.1	6,332.5	25,928.2	155.9	34.1	17.4	16.6	3.8	1.2	1.2	4.7
10-430O	0.00	109.53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430P	0.00	229.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430Q	0.10	8.03	40.9	433.4	1,774.6	10.7	2.3	1.2	1.1	0.3	0.1	0.1	0.3
10-430R	0.47	150.32	3,582.0	37,927.3	155,291.1	933.4	204.4	104.5	99.5	22.8	7.5	7.1	28.0
10-430S	0.10	5.15	26.3	278.0	1,138.1	6.8	1.5	0.8	0.7	0.2	0.1	0.1	0.2
10-430T	0.46	262.47	6,116.0	64,757.6	265,146.5	1,593.8	349.0	178.4	169.8	38.9	12.8	12.1	47.8
10-430U	0.47	431.37	10,331.7	109,394.3	447,908.9	2,692.3	589.5	301.4	286.9	65.6	21.6	20.4	80.8

2007 POLLUTANT LOADINGS BY OUTFALL

2007 POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS PER YEAR (estimated using FLUX)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation (meters)	0.8717												
10-430V	0.46	329.11	7,798.3	82,569.8	338,077.3	2,032.1	445.0	227.5	216.5	49.5	16.3	15.4	61.0
10-440A	0.46	23.18	541.3	5,731.7	23,468.1	141.1	30.9	15.8	15.0	3.4	1.1	1.1	4.2
10-440B	0.49	34.23	859.9	9,104.6	37,278.1	224.1	49.1	25.1	23.9	5.5	1.8	1.7	6.7
10-440C/D	0.00	56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-440E	0.51	831.25	21,789.7	230,714.4	944,647.2	5,678.1	1,243.3	635.7	605.0	138.4	45.5	42.9	170.5
10-440F	0.46	538.85	12,641.3	133,849.5	548,039.3	3,294.2	721.3	368.8	351.0	80.3	26.4	24.9	98.9
10-450A	0.00	343.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-450B	0.52	3.41	89.8	950.9	3,893.5	23.4	5.1	2.6	2.5	0.6	0.2	0.2	0.7
10-450C	0.59	55.64	1,684.3	17,833.6	73,018.8	438.9	96.1	49.1	46.8	10.7	3.5	3.3	13.2
10-450D	0.45	4.62	106.0	1,122.1	4,594.4	27.6	6.0	3.1	2.9	0.7	0.2	0.2	0.8
10-450E	0.44	3.2	72.1	763.4	3,125.6	18.8	4.1	2.1	2.0	0.5	0.2	0.1	0.6
10-450F	0.46	158.55	3,713.1	39,315.5	160,975.3	967.6	211.9	108.3	103.1	23.6	7.8	7.3	29.0
10-450G/H	0.48	75.02	1,837.5	19,455.6	79,659.8	478.8	104.8	53.6	51.0	11.7	3.8	3.6	14.4
10-450I	0.49	243.64	6,100.8	64,596.6	264,487.0	1,589.8	348.1	178.0	169.4	38.8	12.7	12.0	47.7
10-450J	0.49	17.16	424.7	4,496.4	18,410.4	110.7	24.2	12.4	11.8	2.7	0.9	0.8	3.3
10-450K	0.58	37.01	1,092.8	11,571.2	47,377.8	284.8	62.4	31.9	30.3	6.9	2.3	2.2	8.5
10-450L	0.51	213.41	5,494.3	58,175.4	238,196.0	1,431.8	313.5	160.3	152.5	34.9	11.5	10.8	43.0
10-460	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460A	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460B	0.52	7.29	192.0	2,033.4	8,325.6	50.0	11.0	5.6	5.3	1.2	0.4	0.4	1.5
10-460C/D/F	0.00	159.87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460E	0.49	231.41	5,825.4	61,681.1	252,550.0	1,518.0	332.4	170.0	161.7	37.0	12.2	11.5	45.6
10-460F	0.49	14.75	372.0	3,938.5	16,125.9	96.9	21.2	10.9	10.3	2.4	0.8	0.7	2.9
10-460G	0.51	79.66	2,074.2	21,962.1	89,922.7	540.5	118.4	60.5	57.6	13.2	4.3	4.1	16.2
10-460H	0.48	12.35	301.8	3,195.6	13,084.1	78.6	17.2	8.8	8.4	1.9	0.6	0.6	2.4
10-460I	0.00	72.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460J	0.46	5.36	126.7	1,341.4	5,492.4	33.0	7.2	3.7	3.5	0.8	0.3	0.2	1.0
10-460K	0.36	5.48	100.5	1,063.9	4,356.2	26.2	5.7	2.9	2.8	0.6	0.2	0.2	0.8
10-460L	0.46	3.5	82.7	875.5	3,584.5	21.5	4.7	2.4	2.3	0.5	0.2	0.2	0.6
10-460M	0.48	9.55	233.0	2,466.9	10,100.5	60.7	13.3	6.8	6.5	1.5	0.5	0.5	1.8
10-460N	0.45	3.85	88.3	935.1	3,828.7	23.0	5.0	2.6	2.5	0.6	0.2	0.2	0.7
10-460O	0.45	4.15	96.0	1,016.2	4,160.9	25.0	5.5	2.8	2.7	0.6	0.2	0.2	0.8
10-460P	0.45	4.34	99.6	1,054.1	4,316.0	25.9	5.7	2.9	2.8	0.6	0.2	0.2	0.8
10-460Q	0.56	19.73	567.4	6,007.8	24,598.5	147.9	32.4	16.6	15.8	3.6	1.2	1.1	4.4
10-460R	0.00	51.51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460S	0.56	233.54	6,717.8	71,129.7	291,236.4	1,750.6	383.3	196.0	186.5	42.7	14.0	13.2	52.6
10-465	0.10	8.56	43.6	462.0	1,891.7	11.4	2.5	1.3	1.2	0.3	0.1	0.1	0.3
10-470	0.38	25.6	498.0	5,273.2	21,591.0	129.8	28.4	14.5	13.8	3.2	1.0	1.0	3.9
10-480	0.58	39.66	1,172.9	12,419.3	50,850.1	305.7	66.9	34.2	32.6	7.5	2.4	2.3	9.2
10-485	0.00	7.27	0.9	9.8	40.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10-490	0.43	150.96	3,336.0	35,322.5	144,626.2	869.3	190.3	97.3	92.6	21.2	7.0	6.6	26.1
10-500A	0.26	26.21	350.6	3,712.7	15,201.3	91.4	20.0	10.2	9.7	2.2	0.7	0.7	2.7
10-500B	0.46	8.48	199.0	2,106.7	8,625.7	51.8	11.4	5.8	5.5	1.3	0.4	0.4	1.6
10-500C	0.44	111.36	2,471.3	26,167.0	107,139.3	644.0	141.0	72.1	68.6	15.7	5.2	4.9	19.3
10-500D	0.24	3.83	46.5	492.2	2,015.2	12.1	2.7	1.4	1.3	0.3	0.1	0.1	0.4
10-500E	0.53	23.34	633.5	6,707.4	27,463.0	165.1	36.1	18.5	17.6	4.0	1.3	1.2	5.0
10-500F	0.49	12.04	303.1	3,208.8	13,138.3	79.0	17.3	8.8	8.4	1.9	0.6	0.6	2.4
10-500G	0.00	112.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-505	0.10	7.85	40.0	423.7	1,734.8	10.4	2.3	1.2	1.1	0.3	0.1	0.1	0.3
10-510	0.51	62.36	1,616.9	17,119.8	70,095.9	421.3	92.3	47.2	44.9	10.3	3.4	3.2	12.6
10-520	0.00	139.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-530	0.45	116.15	2,668.9	28,259.3	115,706.1	695.5	152.3	77.9	74.1	17.0	5.6	5.3	20.9
10-540	0.12	53.9	325.4	3,445.2	14,106.1	84.8	18.6	9.5	9.0	2.1	0.7	0.6	2.5
10-550	0.46	25.83	605.6	6,411.8	26,252.9	157.8	34.6	17.7	16.8	3.8	1.3	1.2	4.7
10-560A/B	0.44	600.63	13,394.7	141,826.6	580,701.0	3,490.5	764.3	390.8	371.9	85.1	28.0	26.4	104.8
10-570A	0.54	14.64	405.8	4,296.8	17,593.0	105.7	23.2	11.8	11.3	2.6	0.8	0.8	3.2
10-570B	0.44	228.18	5,077.3	53,759.8	220,116.5	1,323.1	289.7	148.1	141.0	32.3	10.6	10.0	39.7
10-580	0.45	73.39	1,679.1	17,778.7	72,793.9	437.6	95.8	49.0	46.6	10.7	3.5	3.3	13.1
10-600	0.48	89.24	2,199.9	23,293.4	95,373.4	573.3	125.5	64.2	61.1	14.0	4.6	4.3	17.2
10-610	0.46	25.6	598.1	6,333.1	25,930.7	155.9	34.1	17.5	16.6	3.8	1.2	1.2	4.7
10-620	0.00	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630A	0.10	6.24	31.8	336.8	1,379.0	8.3	1.8	0.9	0.9	0.2	0.1	0.1	0.2
10-630B	0.45	4.68	107.4	1,136.7	4,654.1	28.0	6.1	3.1	3.0	0.7	0.2	0.2	0.8
10-630C	0.48	96.03	2,365.0	25,041.3	102,530.1	616.3	134.9	69.0	65.7	15.0	4.9	4.7	18.5
10-630D	0.45	6.37	146.1	1,547.2	6,334.7	38.1	8.3	4.3	4.1	0.9	0.3	0.3	1.1
10-630E	0.45	8.52	195.4	2,069.3	8,472.8	50.9	11.2	5.7	5.4	1.2	0.4	0.4	1.5
10-630F	0.54	17.56	483.6	5,120.3	20,964.6	126.0	27.6	14.1	13.4	3.1	1.0	1.0	3.8
10-630G	0.45	5.9	135.3	1,433.0	5,867.3	35.3	7.7	3.9	3.8	0.9	0.3	0.3	1.1
10-630H	0.30	25.63	395.7	4,189.7	17,154.6	103.1	22.6	11.5	11.0	2.5	0.8	0.8	3.1
10-630I	0.47	12.48	295.8	3,132.3	12,825.2	77.1	16.9	8.6	8.2	1.9	0.6	0.6	2.3
10-630J	0.55	14.69	414.6	4,389.9	17,974.0	108.0	23.7	12.1	11.5	2.6	0.9	0.8	3.2
10-630K	0.47	95.29	2,299.0	24,341.8	99,666.3	599.1	131.2	67.1	63.8	14.6	4.8	4.5	18.0
10-630L	0.52	100.42	2,667.0	28,238.3	115,620.2	695.0	152.2	77.8	74.0	16.9	5.6	5.3	20.9
10-630M	0.50	11.71	296.4	3,138.2	12,849.0	77.2	16.9	8.6	8.2	1.9	0.6	0.6	2.3
10-630N	0.45	8.45	193.8	2,052.3	8,403.2	50.5	11.1	5.7	5.4	1.2	0.4	0.4	1.5
10-630O	0.36	5.77	107.1	1,133.8	4,642.5	27.9	6.1	3.1	3.0	0.7	0.2	0.2	0.8
10-630P/Q	0.00	67.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630R	0.33	83.89	1,428.2	15,122.2	61,917.2	372.2	81.5	41.7	39.7	9.1	3.0	2.8	11.2
10-630S	0.22	37.02	410.2	4,343.5	17,784.0	106.9	23.4	12.0	11.4	2.6	0.9	0.8	3.2

2007 POLLUTANT LOADINGS BY OUTFALL

2007 POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS PER YEAR (estimated using FLUX)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation (meters)	0.8717												
10-630T	0.56	7.72	221.4	2,343.8	9,596.6	57.7	12.6	6.5	6.1	1.4	0.5	0.4	1.7
10-630U	0.52	115.42	3,077.6	32,586.6	133,423.8	802.0	175.6	89.8	85.4	19.6	6.4	6.1	24.1
10-630V	0.11	33.85	182.2	1,929.3	7,899.6	47.5	10.4	5.3	5.1	1.2	0.4	0.4	1.4
10-630W	0.47	23.68	571.8	6,054.3	24,789.1	149.0	32.6	16.7	15.9	3.6	1.2	1.1	4.5
10-630X	0.44	14.78	333.3	3,529.1	14,449.6	86.9	19.0	9.7	9.3	2.1	0.7	0.7	2.6
10-630Y	0.00	112.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630Z	0.47	45.66	1,095.8	11,602.3	47,505.0	285.5	62.5	32.0	30.4	7.0	2.3	2.2	8.6
10-640	0.46	258.18	6,019.1	63,731.8	260,946.4	1,568.5	343.4	175.6	167.1	38.2	12.6	11.9	47.1
10-650	0.56	19.53	554.5	5,871.6	24,041.0	144.5	31.6	16.2	15.4	3.5	1.2	1.1	4.3
10-660	0.46	306.37	7,234.8	76,603.3	313,647.8	1,885.3	412.8	211.1	200.9	46.0	15.1	14.3	56.6
10-670	0.45	137.88	3,158.2	33,439.3	136,915.4	823.0	180.2	92.1	87.7	20.1	6.6	6.2	24.7
10-680	0.46	707.95	16,546.8	175,201.1	717,351.2	4,311.9	944.1	482.8	459.4	105.1	34.6	32.6	129.5
10-690	0.50	70.63	1,801.2	19,071.4	78,086.9	469.4	102.8	52.6	50.0	11.4	3.8	3.5	14.1
10-700	0.46	222.07	5,256.5	55,657.2	227,885.2	1,369.8	299.9	153.4	145.9	33.4	11.0	10.4	41.1
10-710	0.33	29.95	508.6	5,385.0	22,048.5	132.5	29.0	14.8	14.1	3.2	1.1	1.0	4.0
10-720A	0.44	15.77	356.5	3,774.2	15,453.4	92.9	20.3	10.4	9.9	2.3	0.7	0.7	2.8
10-720B	0.48	422.18	10,368.2	109,781.0	449,492.4	2,701.8	591.6	302.5	287.9	65.9	21.7	20.4	81.1
10-720C	0.43	26.35	576.8	6,106.9	25,004.5	150.3	32.9	16.8	16.0	3.7	1.2	1.1	4.5
10-720D	0.46	22.95	532.6	5,639.3	23,089.9	138.8	30.4	15.5	14.8	3.4	1.1	1.0	4.2
10-720E	0.46	18.39	427.2	4,523.5	18,521.0	111.3	24.4	12.5	11.9	2.7	0.9	0.8	3.3
10-720F	0.48	317.75	7,771.6	82,287.9	336,923.1	2,025.2	443.4	226.7	215.8	49.4	16.2	15.3	60.8
10-720G	0.00	13.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-720H	0.45	4.55	104.4	1,105.1	4,524.8	27.2	6.0	3.0	2.9	0.7	0.2	0.2	0.8
10-720I	0.45	87.27	1,983.9	21,005.7	86,006.6	517.0	113.2	57.9	55.1	12.6	4.1	3.9	15.5
10-720J	0.36	3.71	67.6	715.4	2,929.0	17.6	3.9	2.0	1.9	0.4	0.1	0.1	0.5
10-720K	0.55	32.76	916.9	9,708.9	39,752.4	238.9	52.3	26.8	25.5	5.8	1.9	1.8	7.2
10-720L	0.45	4.57	104.8	1,110.0	4,544.7	27.3	6.0	3.1	2.9	0.7	0.2	0.2	0.8
20-010	0.42	93.99	2,011.3	21,296.6	87,197.7	524.1	114.8	58.7	55.8	12.8	4.2	4.0	15.7
20-020	0.44	15.09	337.4	3,572.7	14,628.3	87.9	19.3	9.8	9.4	2.1	0.7	0.7	2.6
20-030	0.45	7.95	182.4	1,930.9	7,906.0	47.5	10.4	5.3	5.1	1.2	0.4	0.4	1.4
20-040	0.37	6.79	129.0	1,366.3	5,594.4	33.6	7.4	3.8	3.6	0.8	0.3	0.3	1.0
20-050	0.00	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-060	0.45	5.91	135.6	1,435.4	5,877.3	35.3	7.7	4.0	3.8	0.9	0.3	0.3	1.1
20-070	0.44	39.07	883.0	9,349.9	38,282.5	230.1	50.4	25.8	24.5	5.6	1.8	1.7	6.9
20-080	0.45	33.72	779.3	8,251.6	33,785.9	203.1	44.5	22.7	21.6	5.0	1.6	1.5	6.1
20-090	0.55	9.95	280.4	2,968.5	12,154.2	73.1	16.0	8.2	7.8	1.8	0.6	0.6	2.2
20-100	0.10	0.99	5.0	53.4	218.8	1.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0
20-110	0.24	216.04	2,642.2	27,975.7	114,545.0	688.5	150.8	77.1	73.4	16.8	5.5	5.2	20.7
20-120	0.47	10.22	243.5	2,578.5	10,557.4	63.5	13.9	7.1	6.8	1.5	0.5	0.5	1.9
20-130	0.45	16.12	369.8	3,915.2	16,030.7	96.4	21.1	10.8	10.3	2.3	0.8	0.7	2.9
20-140	0.44	2.97	66.8	707.4	2,896.6	17.4	3.8	1.9	1.9	0.4	0.1	0.1	0.5
20-150	0.45	14.48	332.2	3,516.9	14,399.8	86.6	19.0	9.7	9.2	2.1	0.7	0.7	2.6
20-160	0.54	3.21	88.4	936.1	3,832.8	23.0	5.0	2.6	2.5	0.6	0.2	0.2	0.7
20-170	0.37	4.94	93.8	993.4	4,067.5	24.4	5.4	2.7	2.6	0.6	0.2	0.2	0.7
20-180	0.51	5.3	136.7	1,447.8	5,927.9	35.6	7.8	4.0	3.8	0.9	0.3	0.3	1.1
20-190	0.45	1.35	31.0	327.9	1,342.5	8.1	1.8	0.9	0.9	0.2	0.1	0.1	0.2
20-200	0.45	13.84	317.5	3,361.5	13,763.4	82.7	18.1	9.3	8.8	2.0	0.7	0.6	2.5
20-210A	0.44	92.9	2,080.2	22,025.6	90,182.7	542.1	118.7	60.7	57.8	13.2	4.3	4.1	16.3
20-210B	0.50	620.78	15,966.4	169,055.6	692,188.7	4,160.6	911.0	465.8	443.3	101.4	33.3	31.5	124.9
20-220	0.46	26.38	619.9	6,564.2	26,876.7	161.6	35.4	18.1	17.2	3.9	1.3	1.2	4.9
20-230	0.00	21.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-240	0.48	30.06	738.3	7,816.9	32,006.0	192.4	42.1	21.5	20.5	4.7	1.5	1.5	5.8
20-250	0.57	6.28	183.0	1,937.9	7,934.5	47.7	10.4	5.3	5.1	1.2	0.4	0.4	1.4
20-260	0.60	3.5	107.0	1,133.4	4,640.8	27.9	6.1	3.1	3.0	0.7	0.2	0.2	0.8
20-270	0.48	42.81	1,040.3	11,015.0	45,100.4	271.1	59.4	30.4	28.9	6.6	2.2	2.1	8.1
20-280	0.54	8.98	246.0	2,605.0	10,665.8	64.1	14.0	7.2	6.8	1.6	0.5	0.5	1.9
20-290	0.00	4.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-010	0.45	49.49	1,130.8	11,973.4	49,024.6	294.7	64.5	33.0	31.4	7.2	2.4	2.2	8.8
40-010	0.45	719.17	16,427.8	173,941.0	712,191.8	4,280.9	937.3	479.3	456.1	104.4	34.3	32.4	128.5
40-020	0.45	15.36	352.3	3,730.7	15,274.9	91.8	20.1	10.3	9.8	2.2	0.7	0.7	2.8
40-030	0.42	51.02	1,086.4	11,503.6	47,100.7	283.1	62.0	31.7	30.2	6.9	2.3	2.1	8.5
40-040	0.43	65.39	1,447.3	15,324.2	62,744.0	377.1	82.6	42.2	40.2	9.2	3.0	2.9	11.3
40-050	0.45	10.28	235.8	2,496.8	10,223.1	61.4	13.5	6.9	6.5	1.5	0.5	0.5	1.8
40-060	0.45	3.2	73.4	777.2	3,182.3	19.1	4.2	2.1	2.0	0.5	0.2	0.1	0.6
40-070	0.38	7.98	153.9	1,629.4	6,671.6	40.1	8.8	4.5	4.3	1.0	0.3	0.3	1.2
40-080	0.41	60.51	1,259.7	13,337.8	54,610.8	328.3	71.9	36.8	35.0	8.0	2.6	2.5	9.9
40-090	0.46	20.65	489.3	5,181.3	21,214.5	127.5	27.9	14.3	13.6	3.1	1.0	1.0	3.8
40-100	0.00	20.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-110	0.44	2.61	59.0	625.2	2,559.8	15.4	3.4	1.7	1.6	0.4	0.1	0.1	0.5
40-120	0.44	65.87	1,471.6	15,581.8	63,798.7	383.5	84.0	42.9	40.9	9.3	3.1	2.9	11.5
40-130	0.45	35.01	806.4	8,538.6	34,960.8	210.1	46.0	23.5	22.4	5.1	1.7	1.6	6.3
40-140	0.35	125.46	2,223.9	23,546.8	96,410.9	579.5	126.9	64.9	61.7	14.1	4.6	4.4	17.4
40-150	0.47	24.31	587.1	6,215.9	25,450.5	153.0	33.5	17.1	16.3	3.7	1.2	1.2	4.6
40-160	0.49	30.99	780.9	8,268.8	33,856.1	203.5	44.6	22.8	21.7	5.0	1.6	1.5	6.1
40-170	0.00	194.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-180	0.54	16.8	461.0	4,881.5	19,986.9	120.1	26.3	13.5	12.8	2.9	1.0	0.9	3.6
40-190	0.53	65.53	1,766.3	18,702.1	76,574.6	460.3	100.8	51.5	49.0	11.2	3.7	3.5	13.8
40-200	0.46	24.75	583.3	6,175.9	25,286.8	152.0	33.3	17.0	16.2	3.7	1.2	1.1	4.6
40-210	0.54	17.26	479.4	5,075.7	20,782.1	124.9	27.4	14.0	13.3	3.0	1.0	0.9	3.8

2007 POLLUTANT LOADINGS BY OUTFALL

2007 POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS PER YEAR (estimated using FLUX)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation (meters)	0.8717												
40-220	0.47	100.58	2,396.8	25,378.2	103,909.5	624.6	136.8	69.9	66.5	15.2	5.0	4.7	18.8
40-230	0.44	13.78	312.5	3,308.4	13,546.3	81.4	17.8	9.1	8.7	2.0	0.7	0.6	2.4
40-240	0.00	340.86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-250	0.60	1.15	35.2	372.4	1,524.8	9.2	2.0	1.0	1.0	0.2	0.1	0.1	0.3
40-260	0.45	3.49	80.1	847.7	3,470.7	20.9	4.6	2.3	2.2	0.5	0.2	0.2	0.6
40-270	0.45	9.59	220.0	2,329.2	9,536.9	57.3	12.6	6.4	6.1	1.4	0.5	0.4	1.7
40-280	0.53	12.76	342.1	3,621.7	14,829.0	89.1	19.5	10.0	9.5	2.2	0.7	0.7	2.7
40-290	0.51	13.73	358.4	3,794.4	15,536.0	93.4	20.4	10.5	9.9	2.3	0.7	0.7	2.8
40-300	0.52	10.38	275.7	2,919.0	11,951.8	71.8	15.7	8.0	7.7	1.8	0.6	0.5	2.2
40-310	0.45	97.86	2,258.0	23,908.0	97,890.2	588.4	128.8	65.9	62.7	14.3	4.7	4.4	17.7
40-320	0.60	9.43	288.4	3,053.8	12,503.7	75.2	16.5	8.4	8.0	1.8	0.6	0.6	2.3
40-330	0.59	15.34	463.5	4,907.2	20,092.4	120.8	26.4	13.5	12.9	2.9	1.0	0.9	3.6
40-340	0.53	35.27	958.1	10,145.0	41,538.0	249.7	54.7	28.0	26.6	6.1	2.0	1.9	7.5
40-350	0.60	8.99	275.0	2,911.3	11,920.3	71.7	15.7	8.0	7.6	1.7	0.6	0.5	2.2
40-360	0.60	8.09	247.4	2,619.9	10,726.9	64.5	14.1	7.2	6.9	1.6	0.5	0.5	1.9
40-370	0.58	12.41	365.9	3,874.5	15,864.0	95.4	20.9	10.7	10.2	2.3	0.8	0.7	2.9
40-380	0.39	24.92	499.8	5,291.7	21,666.5	130.2	28.5	14.6	13.9	3.2	1.0	1.0	3.9
40-390	0.58	5.72	169.1	1,790.5	7,331.0	44.1	9.6	4.9	4.7	1.1	0.4	0.3	1.3
40-400	0.10	1.07	5.5	57.8	236.5	1.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0
41-010	0.38	94.73	1,822.6	19,298.5	79,016.8	475.0	104.0	53.2	50.6	11.6	3.8	3.6	14.3
41-020	0.00	14.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-030	0.50	60.47	1,547.3	16,383.6	67,081.8	403.2	88.3	45.1	43.0	9.8	3.2	3.0	12.1
41-040	0.57	35.59	1,039.5	11,006.9	45,067.0	270.9	59.3	30.3	28.9	6.6	2.2	2.0	8.1
41-050	0.60	10.48	320.5	3,393.9	13,896.0	83.5	18.3	9.4	8.9	2.0	0.7	0.6	2.5
41-060	0.60	2.95	90.2	955.3	3,911.6	23.5	5.1	2.6	2.5	0.6	0.2	0.2	0.7
51-010	0.45	29.63	681.7	7,217.9	29,553.3	177.6	38.9	19.9	18.9	4.3	1.4	1.3	5.3
51-020	0.45	4.55	104.4	1,105.1	4,524.8	27.2	6.0	3.0	2.9	0.7	0.2	0.2	0.8
52-010	0.28	45.29	638.0	6,755.3	27,659.0	166.3	36.4	18.6	17.7	4.1	1.3	1.3	5.0
52-020	0.45	6.09	139.7	1,479.1	6,056.3	36.4	8.0	4.1	3.9	0.9	0.3	0.3	1.1
52-030	0.45	7.18	164.7	1,743.9	7,140.2	42.9	9.4	4.8	4.6	1.0	0.3	0.3	1.3
52-040	0.41	4.54	95.7	1,012.9	4,147.2	24.9	5.5	2.8	2.7	0.6	0.2	0.2	0.7
52-050	0.44	15.3	339.3	3,592.4	14,708.8	88.4	19.4	9.9	9.4	2.2	0.7	0.7	2.7
52-060	0.10	3.22	16.4	173.8	711.6	4.3	0.9	0.5	0.5	0.1	0.0	0.0	0.1
52-070	0.42	86.94	1,875.4	19,857.6	81,305.6	488.7	107.0	54.7	52.1	11.9	3.9	3.7	14.7
52-080	0.24	8.08	99.7	1,055.5	4,321.7	26.0	5.7	2.9	2.8	0.6	0.2	0.2	0.8
52-090	0.45	4.89	112.2	1,187.7	4,862.9	29.2	6.4	3.3	3.1	0.7	0.2	0.2	0.9
52-100A/B	0.27	11.89	161.6	1,711.0	7,005.8	42.1	9.2	4.7	4.5	1.0	0.3	0.3	1.3
52-110	0.45	8.84	201.2	2,129.8	8,720.5	52.4	11.5	5.9	5.6	1.3	0.4	0.4	1.6
52-120	0.45	14.74	338.1	3,580.1	14,658.4	88.1	19.3	9.9	9.4	2.1	0.7	0.7	2.6
52-130	0.31	7.18	115.2	1,219.8	4,994.4	30.0	6.6	3.4	3.2	0.7	0.2	0.2	0.9
53-010	0.45	7.03	161.3	1,707.5	6,991.1	42.0	9.2	4.7	4.5	1.0	0.3	0.3	1.3
53-020	0.28	12.38	174.4	1,846.7	7,561.1	45.4	10.0	5.1	4.8	1.1	0.4	0.3	1.4
53-030	0.44	11.37	253.2	2,681.0	10,977.3	66.0	14.4	7.4	7.0	1.6	0.5	0.5	2.0
53-040	0.45	2.78	63.8	675.2	2,764.6	16.6	3.6	1.9	1.8	0.4	0.1	0.1	0.5
53-050	0.45	13.66	313.3	3,317.8	13,584.4	81.7	17.9	9.1	8.7	2.0	0.7	0.6	2.5
53-060	0.45	20.37	467.3	4,947.5	20,257.2	121.8	26.7	13.6	13.0	3.0	1.0	0.9	3.7
53-070	0.45	4.89	112.2	1,187.7	4,862.9	29.2	6.4	3.3	3.1	0.7	0.2	0.2	0.9
53-080	0.39	5.81	116.8	1,236.2	5,061.5	30.4	6.7	3.4	3.2	0.7	0.2	0.2	0.9
53-090	0.46	59.59	1,394.8	14,768.2	60,467.6	363.5	79.6	40.7	38.7	8.9	2.9	2.7	10.9
53-100	0.00	107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53-110	0.38	4.59	90.1	953.5	3,904.2	23.5	5.1	2.6	2.5	0.6	0.2	0.2	0.7
53-120A/B	0.46	129.79	3,014.4	31,916.9	130,681.8	785.5	172.0	87.9	83.7	19.2	6.3	5.9	23.6
53-130	0.45	5.02	115.2	1,219.3	4,992.2	30.0	6.6	3.4	3.2	0.7	0.2	0.2	0.9
53-140	0.45	6.36	145.9	1,544.7	6,324.8	38.0	8.3	4.3	4.1	0.9	0.3	0.3	1.1
53-150	0.48	90.4	2,229.5	23,606.3	96,654.9	581.0	127.2	65.0	61.9	14.2	4.7	4.4	17.4
53-160	0.47	252.19	6,077.6	64,351.6	263,483.9	1,583.8	346.8	177.3	168.7	38.6	12.7	12.0	47.5
53-170	0.36	6.39	117.5	1,244.6	5,095.8	30.6	6.7	3.4	3.3	0.7	0.2	0.2	0.9
53-180	0.10	8.09	41.2	436.6	1,787.8	10.7	2.4	1.2	1.1	0.3	0.1	0.1	0.3
53-190	0.30	11.41	174.8	1,850.7	7,577.4	45.5	10.0	5.1	4.9	1.1	0.4	0.3	1.4
54-010A/B	0.44	84.93	1,883.6	19,944.2	81,660.3	490.8	107.5	55.0	52.3	12.0	3.9	3.7	14.7
54-040A/B	0.49	255.14	6,437.1	68,157.2	279,066.1	1,677.4	367.3	187.8	178.7	40.9	13.4	12.7	50.4
54-050	0.17	9.27	82.2	870.0	3,562.2	21.4	4.7	2.4	2.3	0.5	0.2	0.2	0.6
54-060	0.44	32.13	719.4	7,617.5	31,189.5	187.5	41.0	21.0	20.0	4.6	1.5	1.4	5.6
54-070	0.36	60.8	1,111.3	11,767.1	48,179.9	289.6	63.4	32.4	30.9	7.1	2.3	2.2	8.7
54-080A/B/C	0.46	414.26	9,652.3	102,201.1	418,456.8	2,515.3	550.8	281.6	268.0	61.3	20.2	19.0	75.5
54-090	0.10	3.55	18.1	191.6	784.5	4.7	1.0	0.5	0.5	0.1	0.0	0.0	0.1
54-100A/B	0.60	114.24	3,469.0	36,730.5	150,391.0	904.0	197.9	101.2	96.3	22.0	7.2	6.8	27.1
54-110	0.45	24.55	563.1	5,962.7	24,414.1	146.7	32.1	16.4	15.6	3.6	1.2	1.1	4.4
54-120	0.46	62.08	1,446.0	15,310.8	62,689.0	376.8	82.5	42.2	40.1	9.2	3.0	2.8	11.3
54-130	0.10	1.07	5.5	57.8	236.5	1.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0
54-140A/B	0.41	113.01	2,350.0	24,882.0	101,877.9	612.4	134.1	68.6	65.2	14.9	4.9	4.6	18.4
54-150	0.45	55.34	1,256.3	13,301.5	54,462.4	327.4	71.7	36.7	34.9	8.0	2.6	2.5	9.8
54-160	0.60	2.62	80.1	848.5	3,474.0	20.9	4.6	2.3	2.2	0.5	0.2	0.2	0.6
54-170	0.59	8.08	244.9	2,593.1	10,617.4	63.8	14.0	7.1	6.8	1.6	0.5	0.5	1.9
54-180	0.60	2.82	86.2	913.2	3,739.2	22.5	4.9	2.5	2.4	0.5	0.2	0.2	0.7
54-190	0.10	2.2	11.2	118.7	486.2	2.9	0.6	0.3	0.3	0.1	0.0	0.0	0.1
54-200	0.10	2.13	10.9	115.0	470.7	2.8	0.6	0.3	0.3	0.1	0.0	0.0	0.1
54-210	0.10	1.14	5.8	61.5	251.9	1.5	0.3	0.2	0.2	0.0	0.0	0.0	0.0
55-010	0.60	14.98	458.2	4,851.1	19,862.7	119.4	26.1	13.4	12.7	2.9	1.0	0.9	3.6

2007 POLLUTANT LOADINGS BY OUTFALL

2007 POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS PER YEAR (estimated using FLUX)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation (meters)	0.8717												
55-020	0.60	189.58	5,760.6	60,994.8	249,739.7	1,501.1	328.7	168.1	159.9	36.6	12.0	11.4	45.1
56-010	0.60	67.62	2,068.2	21,898.1	89,660.7	538.9	118.0	60.3	57.4	13.1	4.3	4.1	16.2
57-010	0.53	26.1	709.7	7,514.9	30,769.3	185.0	40.5	20.7	19.7	4.5	1.5	1.4	5.6
57-020	0.00	142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-030	0.45	18.22	417.9	4,425.3	18,119.1	108.9	23.8	12.2	11.6	2.7	0.9	0.8	3.3
57-040	0.35	39.88	709.4	7,511.1	30,753.9	184.9	40.5	20.7	19.7	4.5	1.5	1.4	5.5
57-050	0.45	7.9	181.2	1,918.8	7,856.3	47.2	10.3	5.3	5.0	1.2	0.4	0.4	1.4
57-060	0.46	26.11	615.5	6,517.1	26,683.8	160.4	35.1	18.0	17.1	3.9	1.3	1.2	4.8
57-070	0.45	81.33	1,870.1	19,800.7	81,072.9	487.3	106.7	54.6	51.9	11.9	3.9	3.7	14.6
57-080	0.42	5.54	119.4	1,263.9	5,175.1	31.1	6.8	3.5	3.3	0.8	0.2	0.2	0.9
57-090	0.47	77.77	1,860.5	19,699.2	80,657.2	484.8	106.2	54.3	51.7	11.8	3.9	3.7	14.6
57-100A/B	0.47	313.43	7,547.7	79,917.3	327,216.8	1,966.9	430.7	220.2	209.6	48.0	15.8	14.9	59.0
57-110	0.54	21.6	595.4	6,304.7	25,814.4	155.2	34.0	17.4	16.5	3.8	1.2	1.2	4.7
57-120A/B/C	0.00	65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-130	0.10	1.16	5.9	62.6	256.4	1.5	0.3	0.2	0.2	0.0	0.0	0.0	0.0
57-140	0.10	1.55	7.9	83.7	342.5	2.1	0.5	0.2	0.2	0.1	0.0	0.0	0.1
57-150	0.43	35.68	785.0	8,311.7	34,032.0	204.6	44.8	22.9	21.8	5.0	1.6	1.5	6.1
57-160	0.10	1.89	9.6	102.0	417.7	2.5	0.5	0.3	0.3	0.1	0.0	0.0	0.1
61-010	0.55	2.86	80.4	851.7	3,487.1	21.0	4.6	2.3	2.2	0.5	0.2	0.2	0.6
62-010	0.45	27.84	641.6	6,793.1	27,813.8	167.2	36.6	18.7	17.8	4.1	1.3	1.3	5.0
63-010	0.45	388.79	8,960.6	94,876.7	388,467.2	2,335.0	511.3	261.4	248.8	56.9	18.7	17.7	70.1
63-020	0.00	11.91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64-100	0.45	24.92	571.1	6,046.9	24,758.9	148.8	32.6	16.7	15.9	3.6	1.2	1.1	4.5
64-110	0.45	6.01	137.9	1,459.7	5,976.7	35.9	7.9	4.0	3.8	0.9	0.3	0.3	1.1
64-120	0.45	16.04	367.9	3,895.8	15,951.2	95.9	21.0	10.7	10.2	2.3	0.8	0.7	2.9
64-130	0.45	2.44	56.0	592.6	2,426.5	14.6	3.2	1.6	1.6	0.4	0.1	0.1	0.4
65-010	0.00	18.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65-020	0.53	38.46	1,037.4	10,984.4	44,975.1	270.3	59.2	30.3	28.8	6.6	2.2	2.0	8.1
70-010	0.46	6.23	145.6	1,542.1	6,314.0	38.0	8.3	4.2	4.0	0.9	0.3	0.3	1.1
70-015	0.45	11.69	268.2	2,839.3	11,625.3	69.9	15.3	7.8	7.4	1.7	0.6	0.5	2.1
70-020	0.45	37.55	861.4	9,120.2	37,342.1	224.5	49.1	25.1	23.9	5.5	1.8	1.7	6.7
70-025	0.00	3.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-030	0.45	13.48	309.0	3,271.5	13,394.9	80.5	17.6	9.0	8.6	2.0	0.6	0.6	2.4
70-035	0.45	4.53	103.9	1,100.3	4,504.9	27.1	5.9	3.0	2.9	0.7	0.2	0.2	0.8
70-040	0.45	2.42	55.5	587.8	2,406.6	14.5	3.2	1.6	1.5	0.4	0.1	0.1	0.4
70-045	0.00	0.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-050	0.45	17.41	399.4	4,228.6	17,313.6	104.1	22.8	11.7	11.1	2.5	0.8	0.8	3.1
70-055	0.46	333.43	7,888.4	83,524.0	341,984.3	2,055.6	450.1	230.2	219.0	50.1	16.5	15.5	61.7
70-060	0.45	3.53	81.0	857.4	3,510.5	21.1	4.6	2.4	2.2	0.5	0.2	0.2	0.6
70-065	0.45	1.89	43.4	459.0	1,879.5	11.3	2.5	1.3	1.2	0.3	0.1	0.1	0.3
70-070	0.45	5.8	133.0	1,408.7	5,767.9	34.7	7.6	3.9	3.7	0.8	0.3	0.3	1.0
70-075	0.43	5	109.9	1,164.2	4,766.6	28.7	6.3	3.2	3.1	0.7	0.2	0.2	0.9
70-080	0.46	11.96	281.7	2,982.2	12,210.5	73.4	16.1	8.2	7.8	1.8	0.6	0.6	2.2
70-085	0.45	229.48	5,231.6	55,393.9	226,807.1	1,363.3	298.5	152.6	145.3	33.2	10.9	10.3	40.9
70-090	0.45	18.57	426.0	4,510.3	18,467.2	111.0	24.3	12.4	11.8	2.7	0.9	0.8	3.3
70-095	0.45	9.99	229.2	2,426.4	9,934.7	59.7	13.1	6.7	6.4	1.5	0.5	0.5	1.8
70-100	0.45	9.64	221.1	2,341.4	9,586.6	57.6	12.6	6.5	6.1	1.4	0.5	0.4	1.7
70-105	0.45	1.63	37.4	395.9	1,621.0	9.7	2.1	1.1	1.0	0.2	0.1	0.1	0.3
70-110	0.45	18.13	415.9	4,403.4	18,029.6	108.4	23.7	12.1	11.5	2.6	0.9	0.8	3.3
70-115	0.45	3.71	85.1	901.1	3,689.5	22.2	4.9	2.5	2.4	0.5	0.2	0.2	0.7
70-120	0.45	4.22	96.8	1,025.0	4,196.6	25.2	5.5	2.8	2.7	0.6	0.2	0.2	0.8
70-125	0.00	5.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-130	0.49	34.29	862.9	9,137.1	37,411.2	224.9	49.2	25.2	24.0	5.5	1.8	1.7	6.8
70-135	0.45	7.46	171.1	1,811.9	7,418.7	44.6	9.8	5.0	4.8	1.1	0.4	0.3	1.3
70-140	0.60	0.78	23.9	252.6	1,034.2	6.2	1.4	0.7	0.7	0.2	0.0	0.0	0.2
70-145	0.60	9.19	281.1	2,976.1	12,185.5	73.2	16.0	8.2	7.8	1.8	0.6	0.6	2.2
70-150	0.45	4.51	103.5	1,095.4	4,485.0	27.0	5.9	3.0	2.9	0.7	0.2	0.2	0.8
70-155	0.45	2.05	47.0	497.9	2,038.6	12.3	2.7	1.4	1.3	0.3	0.1	0.1	0.4
70-160	0.45	2.95	67.7	716.5	2,933.7	17.6	3.9	2.0	1.9	0.4	0.1	0.1	0.5
70-165	0.45	27.77	637.0	6,744.8	27,616.2	166.0	36.3	18.6	17.7	4.0	1.3	1.3	5.0
70-170	0.45	23.74	544.6	5,766.0	23,608.5	141.9	31.1	15.9	15.1	3.5	1.1	1.1	4.3
70-175	0.46	30.89	719.9	7,623.0	31,211.8	187.6	41.1	21.0	20.0	4.6	1.5	1.4	5.6
70-180	0.45	1.14	26.2	276.9	1,133.7	6.8	1.5	0.8	0.7	0.2	0.1	0.1	0.2
70-185	0.45	1.53	35.1	371.6	1,521.5	9.1	2.0	1.0	1.0	0.2	0.1	0.1	0.3
70-190	0.17	15.04	131.9	1,397.0	5,720.1	34.4	7.5	3.8	3.7	0.8	0.3	0.3	1.0
70-195	0.45	46.02	1,061.4	11,238.4	46,014.8	276.6	60.6	31.0	29.5	6.7	2.2	2.1	8.3
70-200	0.45	31.52	723.0	7,655.6	31,345.5	188.4	41.3	21.1	20.1	4.6	1.5	1.4	5.7
70-205	0.45	1.39	31.9	337.6	1,382.3	8.3	1.8	0.9	0.9	0.2	0.1	0.1	0.2
70-210	0.45	3.58	82.1	869.5	3,560.2	21.4	4.7	2.4	2.3	0.5	0.2	0.2	0.6
70-215	0.45	5.93	136.0	1,440.3	5,897.2	35.4	7.8	4.0	3.8	0.9	0.3	0.3	1.1
70-220	0.45	4.54	104.1	1,102.7	4,514.9	27.1	5.9	3.0	2.9	0.7	0.2	0.2	0.8
70-225	0.45	4.99	114.5	1,212.0	4,962.4	29.8	6.5	3.3	3.2	0.7	0.2	0.2	0.9
70-230	0.45	4.72	108.3	1,146.4	4,693.9	28.2	6.2	3.2	3.0	0.7	0.2	0.2	0.8
70-235	0.45	5.04	115.6	1,224.1	5,012.1	30.1	6.6	3.4	3.2	0.7	0.2	0.2	0.9
70-240	0.45	4.52	103.7	1,097.8	4,495.0	27.0	5.9	3.0	2.9	0.7	0.2	0.2	0.8
70-245	0.44	9.98	223.3	2,364.6	9,681.6	58.2	12.7	6.5	6.2	1.4	0.5	0.4	1.7
70-250	0.48	41.27	1,014.7	10,744.4	43,992.4	264.4	57.9	29.6	28.2	6.4	2.1	2.0	7.9
70-255	0.45	45.37	1,041.0	11,022.8	45,132.3	271.3	59.4	30.4	28.9	6.6	2.2	2.1	8.1
70-260	0.46	24.9	581.0	6,152.0	25,188.9	151.4	33.2	17.0	16.1	3.7	1.2	1.1	4.5

2007 POLLUTANT LOADINGS BY OUTFALL

2007 POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS PER YEAR (estimated using FLUX)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation (meters)	0.8717												
70-265A/B	0.00	183.65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-270	0.45	4.66	106.9	1,131.8	4,634.2	27.9	6.1	3.1	3.0	0.7	0.2	0.2	0.8
70-275	0.45	4.28	98.2	1,039.5	4,256.3	25.6	5.6	2.9	2.7	0.6	0.2	0.2	0.8
70-280	0.45	9.39	215.8	2,284.5	9,353.9	56.2	12.3	6.3	6.0	1.4	0.5	0.4	1.7
70-285	0.45	19.03	436.0	4,617.0	18,904.0	113.6	24.9	12.7	12.1	2.8	0.9	0.9	3.4
70-290	0.45	2.37	53.9	570.7	2,336.8	14.0	3.1	1.6	1.5	0.3	0.1	0.1	0.4
70-295	0.45	7.18	164.7	1,743.9	7,140.2	42.9	9.4	4.8	4.6	1.0	0.3	0.3	1.3
70-300	0.10	0.4	2.0	21.6	88.4	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-305	0.45	12.68	288.2	3,052.0	12,496.4	75.1	16.4	8.4	8.0	1.8	0.6	0.6	2.3
70-310	0.00	5.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-315	0.30	5.79	88.5	937.5	3,838.5	23.1	5.1	2.6	2.5	0.6	0.2	0.2	0.7
70-320	0.44	2.32	51.9	549.9	2,251.6	13.5	3.0	1.5	1.4	0.3	0.1	0.1	0.4
70-325	0.00	2.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-330	0.47	279.41	6,709.1	71,037.1	290,857.5	1,748.3	382.8	195.7	186.3	42.6	14.0	13.2	52.5
70-335	0.45	1.99	45.6	483.3	1,979.0	11.9	2.6	1.3	1.3	0.3	0.1	0.1	0.4
70-340	0.39	22.25	446.2	4,724.7	19,345.0	116.3	25.5	13.0	12.4	2.8	0.9	0.9	3.5
70-345	0.45	3.81	87.4	925.4	3,788.9	22.8	5.0	2.5	2.4	0.6	0.2	0.2	0.7
70-350	0.49	314.4	7,919.0	83,848.6	343,313.5	2,063.6	451.9	231.0	219.9	50.3	16.5	15.6	62.0
70-355	0.45	1.29	29.6	313.3	1,282.9	7.7	1.7	0.9	0.8	0.2	0.1	0.1	0.2
70-360	0.45	131.96	3,057.3	32,371.8	132,544.5	796.7	174.4	89.2	84.9	19.4	6.4	6.0	23.9
70-365	0.45	6.7	153.7	1,627.3	6,662.9	40.0	8.8	4.5	4.3	1.0	0.3	0.3	1.2
70-370	0.44	3.75	84.7	896.6	3,670.9	22.1	4.8	2.5	2.4	0.5	0.2	0.2	0.7
70-375	0.47	7.1	171.1	1,811.2	7,415.8	44.6	9.8	5.0	4.7	1.1	0.4	0.3	1.3
70-380	0.45	14.4	330.3	3,497.5	14,320.3	86.1	18.8	9.6	9.2	2.1	0.7	0.7	2.6
70-385	0.45	14.97	343.4	3,635.9	14,887.1	89.5	19.6	10.0	9.5	2.2	0.7	0.7	2.7
70-390	0.46	58.11	1,372.2	14,528.9	59,487.8	357.6	78.3	40.0	38.1	8.7	2.9	2.7	10.7
70-395	0.43	57.19	1,252.2	13,258.4	54,285.6	326.3	71.4	36.5	34.8	8.0	2.6	2.5	9.8
70-400	0.44	9.67	216.3	2,290.4	9,377.9	56.4	12.3	6.3	6.0	1.4	0.5	0.4	1.7
70-405	0.25	7.16	91.3	966.5	3,957.1	23.8	5.2	2.7	2.5	0.6	0.2	0.2	0.7
70-410	0.43	5.8	126.8	1,342.5	5,496.9	33.0	7.2	3.7	3.5	0.8	0.3	0.2	1.0
70-415	0.45	120.75	2,794.2	29,586.0	121,138.1	728.1	159.4	81.5	77.6	17.8	5.8	5.5	21.9
70-420	0.45	16.99	389.7	4,126.5	16,895.9	101.6	22.2	11.4	10.8	2.5	0.8	0.8	3.0
70-425	0.51	20.63	537.4	5,689.7	23,296.3	140.0	30.7	15.7	14.9	3.4	1.1	1.1	4.2
70-430	0.10	6.19	31.6	334.1	1,367.9	8.2	1.8	0.9	0.9	0.2	0.1	0.1	0.2
70-435	0.10	9.16	46.7	494.4	2,024.3	12.2	2.7	1.4	1.3	0.3	0.1	0.1	0.4
70-440	0.50	34.48	873.0	9,243.8	37,848.3	227.5	49.8	25.5	24.2	5.5	1.8	1.7	6.8
70-445	0.45	5.6	128.5	1,360.1	5,569.0	33.5	7.3	3.7	3.6	0.8	0.3	0.3	1.0
70-450	0.45	2.65	60.8	643.6	2,635.3	15.8	3.5	1.8	1.7	0.4	0.1	0.1	0.5
70-455	0.00	2.66	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-460	0.45	2.67	61.2	648.5	2,655.2	16.0	3.5	1.8	1.7	0.4	0.1	0.1	0.5
70-465	0.45	2.58	59.2	626.6	2,565.7	15.4	3.4	1.7	1.6	0.4	0.1	0.1	0.5
70-470	0.38	8.55	167.4	1,772.3	7,256.7	43.6	9.6	4.9	4.6	1.1	0.3	0.3	1.3
70-475	0.46	229.14	5,376.8	56,931.3	233,102.1	1,401.1	306.8	156.9	149.3	34.2	11.2	10.6	42.1
70-480	0.60	0.31	9.5	100.4	411.0	2.5	0.5	0.3	0.3	0.1	0.0	0.0	0.1
70-485	0.45	13.36	306.5	3,244.9	13,286.0	79.9	17.5	8.9	8.5	1.9	0.6	0.6	2.4
70-490	0.47	48.75	1,166.4	12,350.0	50,566.3	303.9	66.6	34.0	32.4	7.4	2.4	2.3	9.1
70-495	0.45	7.74	177.5	1,879.9	7,697.1	46.3	10.1	5.2	4.9	1.1	0.4	0.3	1.4
70-500	0.45	0.56	12.8	136.0	556.9	3.3	0.7	0.4	0.4	0.1	0.0	0.0	0.1
70-505	0.41	8.12	170.4	1,804.1	7,386.7	44.4	9.7	5.0	4.7	1.1	0.4	0.3	1.3
70-510	0.45	41.82	962.4	10,190.5	41,724.3	250.8	54.9	28.1	26.7	6.1	2.0	1.9	7.5
70-515	0.47	62.73	1,502.7	15,910.5	65,144.8	391.6	85.7	43.8	41.7	9.5	3.1	3.0	11.8
70-520	0.45	6.05	138.8	1,469.4	6,016.5	36.2	7.9	4.0	3.9	0.9	0.3	0.3	1.1
70-525	0.45	6.23	142.9	1,513.1	6,195.5	37.2	8.2	4.2	4.0	0.9	0.3	0.3	1.1
70-530	0.45	1.67	38.3	405.6	1,660.8	10.0	2.2	1.1	1.1	0.2	0.1	0.1	0.3
70-535	0.45	30.24	695.3	7,361.8	30,142.4	181.2	39.7	20.3	19.3	4.4	1.5	1.4	5.4
70-540	0.21	5.1	55.5	587.6	2,405.9	14.5	3.2	1.6	1.5	0.4	0.1	0.1	0.4
70-545	0.45	1.89	43.4	459.0	1,879.5	11.3	2.5	1.3	1.2	0.3	0.1	0.1	0.3
70-550	0.26	1.3	17.2	181.6	743.7	4.5	1.0	0.5	0.5	0.1	0.0	0.0	0.1
70-555	0.45	1.73	39.7	420.2	1,720.4	10.3	2.3	1.2	1.1	0.3	0.1	0.1	0.3
70-560	0.45	3.33	76.4	808.8	3,311.6	19.9	4.4	2.2	2.1	0.5	0.2	0.2	0.6
70-565	0.24	16.63	203.9	2,159.2	8,840.6	53.1	11.6	5.9	5.7	1.3	0.4	0.4	1.6
70-570	0.45	1.23	28.2	298.7	1,223.2	7.4	1.6	0.8	0.8	0.2	0.1	0.1	0.2
70-575	0.45	15.39	352.7	3,734.2	15,289.5	91.9	20.1	10.3	9.8	2.2	0.7	0.7	2.8
70-580	0.43	119.93	2,652.0	28,079.8	114,971.2	691.1	151.3	77.4	73.6	16.8	5.5	5.2	20.7
71-010	0.10	1.12	5.7	60.5	247.5	1.5	0.3	0.2	0.2	0.0	0.0	0.0	0.0
71-020	0.45	14.05	322.3	3,412.5	13,972.2	84.0	18.4	9.4	8.9	2.0	0.7	0.6	2.5
71-030	0.45	28.58	659.2	6,979.5	28,577.1	171.8	37.6	19.2	18.3	4.2	1.4	1.3	5.2
71-040	0.22	20.93	234.2	2,479.5	10,152.2	61.0	13.4	6.8	6.5	1.5	0.5	0.5	1.8
71-050	0.46	120.42	2,811.4	29,767.4	121,880.8	732.6	160.4	82.0	78.1	17.9	5.9	5.5	22.0
71-060	0.45	3.11	71.3	755.4	3,092.8	18.6	4.1	2.1	2.0	0.5	0.1	0.1	0.6
71-070	0.00	386.63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71-080	0.46	101.79	2,367.5	25,067.9	102,639.0	616.9	135.1	69.1	65.7	15.0	4.9	4.7	18.5
71-090	0.45	6.5	147.6	1,563.1	6,400.2	38.5	8.4	4.3	4.1	0.9	0.3	0.3	1.2
71-100	0.10	1.99	10.1	107.4	439.8	2.6	0.6	0.3	0.3	0.1	0.0	0.0	0.1
72-010	0.18	17.32	154.6	1,636.9	6,702.1	40.3	8.8	4.5	4.3	1.0	0.3	0.3	1.2
72-020	0.40	24.7	497.5	5,267.7	21,568.4	129.6	28.4	14.5	13.8	3.2	1.0	1.0	3.9
72-030	0.10	5.25	26.8	283.4	1,160.2	7.0	1.5	0.8	0.7	0.2	0.1	0.1	0.2
72-040	0.42	166.54	3,536.1	37,441.3	153,301.4	921.5	201.8	103.2	98.2	22.5	7.4	7.0	27.7
72-050	0.10	5.16	26.3	278.5	1,140.3	6.9	1.5	0.8	0.7	0.2	0.1	0.1	0.2

2007 POLLUTANT LOADINGS BY OUTFALL

2007 POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS PER YEAR (estimated using FLUX)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Mean Flow Weighted Mean Concentration - all 2007 sites			17.00	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation (meters)	0.8717												
72-060	0.36	113.04	2,084.3	22,069.2	90,360.9	543.1	118.9	60.8	57.9	13.2	4.4	4.1	16.3
72-070	0.10	2.21	11.3	119.3	488.4	2.9	0.6	0.3	0.3	0.1	0.0	0.0	0.1
72-080	0.60	4.74	145.0	1,535.0	6,285.0	37.8	8.3	4.2	4.0	0.9	0.3	0.3	1.1
72-090	0.45	68.71	1,566.2	16,583.4	67,899.8	408.1	89.4	45.7	43.5	10.0	3.3	3.1	12.3
72-100	0.46	68.32	1,612.5	17,073.2	69,905.2	420.2	92.0	47.0	44.8	10.2	3.4	3.2	12.6
72-110	0.10	3.22	16.4	173.8	711.6	4.3	0.9	0.5	0.5	0.1	0.0	0.0	0.1
72-120	0.45	62.98	1,444.7	15,296.6	62,631.3	376.5	82.4	42.2	40.1	9.2	3.0	2.8	11.3
72-130	0.46	58.06	1,350.6	14,300.0	58,550.7	351.9	77.1	39.4	37.5	8.6	2.8	2.7	10.6
72-140	0.10	10.19	51.9	550.0	2,251.9	13.5	3.0	1.5	1.4	0.3	0.1	0.1	0.4
72-150	0.10	4.76	24.3	256.9	1,051.9	6.3	1.4	0.7	0.7	0.2	0.1	0.0	0.2
72-160	0.10	4.55	23.2	245.6	1,005.5	6.0	1.3	0.7	0.6	0.1	0.0	0.0	0.2
73-010	0.44	20.76	464.4	4,917.7	20,135.1	121.0	26.5	13.6	12.9	3.0	1.0	0.9	3.6
73-020	0.44	57.47	1,296.6	13,728.2	56,209.4	337.9	74.0	37.8	36.0	8.2	2.7	2.6	10.1
73-030	0.10	21.56	109.9	1,163.7	4,764.6	28.6	6.3	3.2	3.1	0.7	0.2	0.2	0.9
74-010	0.48	44.39	1,083.1	11,468.3	46,956.2	282.2	61.8	31.6	30.1	6.9	2.3	2.1	8.5
74-020	0.45	4.41	101.2	1,071.1	4,385.6	26.4	5.8	3.0	2.8	0.6	0.2	0.2	0.8
75-005	0.45	12.39	283.9	3,005.7	12,306.6	74.0	16.2	8.3	7.9	1.8	0.6	0.6	2.2
75-010	0.60	3.65	111.6	1,182.0	4,839.7	29.1	6.4	3.3	3.1	0.7	0.2	0.2	0.9
75-020	0.45	1.53	35.1	371.6	1,521.5	9.1	2.0	1.0	1.0	0.2	0.1	0.1	0.3
75-030	0.45	8.38	192.2	2,035.3	8,333.6	50.1	11.0	5.6	5.3	1.2	0.4	0.4	1.5
75-040	0.45	14.74	338.1	3,580.1	14,658.4	88.1	19.3	9.9	9.4	2.1	0.7	0.7	2.6
76-010	0.46	907.31	21,452.7	227,145.9	930,036.1	5,590.3	1,224.1	625.9	595.6	136.3	44.8	42.3	167.8
76-020	0.46	88.62	2,058.5	21,795.6	89,240.7	536.4	117.5	60.1	57.2	13.1	4.3	4.1	16.1
76-030	0.45	7.55	173.2	1,833.8	7,508.2	45.1	9.9	5.1	4.8	1.1	0.4	0.3	1.4
76-040	0.19	4.67	44.3	469.2	1,921.0	11.5	2.5	1.3	1.2	0.3	0.1	0.1	0.3
76-050	0.00	2.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81-010	0.10	31.17	158.9	1,682.4	6,888.3	41.4	9.1	4.6	4.4	1.0	0.3	0.3	1.2
82-010	0.49	23.53	583.6	6,179.5	25,301.6	152.1	33.3	17.0	16.2	3.7	1.2	1.2	4.6
82-020	0.45	73.45	1,702.9	18,030.5	73,824.8	443.8	97.2	49.7	47.3	10.8	3.6	3.4	13.3
82-030	0.45	90.04	2,087.0	22,097.4	90,476.6	543.8	119.1	60.9	57.9	13.3	4.4	4.1	16.3
82-040	0.46	98.49	2,329.0	24,660.5	100,971.1	606.9	132.9	68.0	64.7	14.8	4.9	4.6	18.2
83-010	0.45	6.59	151.2	1,600.6	6,553.5	39.4	8.6	4.4	4.2	1.0	0.3	0.3	1.2
83-015	0.45	0.99	22.7	240.5	984.5	5.9	1.3	0.7	0.6	0.1	0.0	0.0	0.2
83-020	0.43	85.96	1,905.1	20,171.7	82,591.8	496.4	108.7	55.6	52.9	12.1	4.0	3.8	14.9
83-025	0.45	51.23	1,175.2	12,442.8	50,946.3	306.2	67.1	34.3	32.6	7.5	2.5	2.3	9.2
83-030	0.60	0.82	25.1	265.5	1,087.3	6.5	1.4	0.7	0.7	0.2	0.1	0.0	0.2
83-040	0.10	1.08	5.5	58.3	238.7	1.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0
83-050	0.45	40.4	929.3	9,839.2	40,286.1	242.2	53.0	27.1	25.8	5.9	1.9	1.8	7.3
83-060	0.45	10.05	230.5	2,441.0	9,994.3	60.1	13.2	6.7	6.4	1.5	0.5	0.5	1.8
83-070	0.10	1.19	6.1	64.2	263.0	1.6	0.3	0.2	0.2	0.0	0.0	0.0	0.0
83-080	0.48	178.63	4,329.2	45,838.6	187,683.5	1,128.1	247.0	126.3	120.2	27.5	9.0	8.5	33.9
83-090	0.41	9.16	191.3	2,025.9	8,295.1	49.9	10.9	5.6	5.3	1.2	0.4	0.4	1.5
84-010	0.47	21.56	516.9	5,473.2	22,409.7	134.7	29.5	15.1	14.4	3.3	1.1	1.0	4.0
85-010	0.10	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ANNUAL SUMMATION (kg)			**688,561.81**	**7,290,654.51**	**29,851,179.85**	**179,431.11**	**39,288.53**	**20,089.80**	**19,117.72**	**4,374.39**	**1,437.88**	**1,356.87**	**5,386.98**

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (01/01/07 - 03/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.760	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation (meters)	0.135												
10-010	0.43	113.55	455.0	2,798.1	29,369.0	175.6	40.0	8.2	16.5	4.4	1.1	0.5	4.5
10-020	0.45	7.81	32.6	200.7	2,107.0	12.6	2.9	0.6	1.2	0.3	0.1	0.0	0.3
10-030	0.10	4.05	3.8	23.1	242.8	1.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0
10-040	0.45	167.42	694.9	4,273.4	44,853.5	268.2	61.1	12.5	25.3	6.8	1.7	0.8	6.9
10-050	0.46	114.18	482.7	2,968.8	31,160.1	186.3	42.5	8.7	17.5	4.7	1.2	0.5	4.8
10-060	0.60	10.5	58.5	359.8	3,777.0	22.6	5.1	1.1	2.1	0.6	0.1	0.1	0.6
10-070	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-080	0.38	30.66	108.8	669.2	7,024.2	42.0	9.6	2.0	4.0	1.1	0.3	0.1	1.1
10-090A	0.00	0.85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090B	0.00	1.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090C	0.54	12.77	64.2	395.0	4,145.8	24.8	5.7	1.2	2.3	0.6	0.2	0.1	0.6
10-090D	0.00	4.68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-100	0.36	1392.1	4,689.7	28,841.9	302,722.6	1,810.2	412.7	84.6	170.5	45.7	11.2	5.1	46.9
10-110	0.47	300.11	1,300.4	7,997.3	83,939.4	501.9	114.4	23.5	47.3	12.7	3.1	1.4	13.0
10-120A/B	0.44	372.78	1,507.0	9,267.9	97,274.9	581.7	132.6	27.2	54.8	14.7	3.6	1.6	15.1
10-130	0.45	336.46	1,411.0	8,677.4	91,077.7	544.6	124.2	25.5	51.3	13.8	3.4	1.5	14.1
10-140a	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-140a,b	0.58	220.65	1,179.2	7,252.3	76,119.8	455.2	103.8	21.3	42.9	11.5	2.8	1.3	11.8
10-150	0.47	157.15	684.3	4,208.7	44,174.5	264.2	60.2	12.4	24.9	6.7	1.6	0.7	6.8
10-160	0.00	17	0.4	2.4	25.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-170	0.50	176.01	822.6	5,059.2	53,100.8	317.5	72.4	14.8	29.9	8.0	2.0	0.9	8.2
10-180	0.45	284.26	1,175.7	7,230.4	75,890.1	453.8	103.5	21.2	42.7	11.5	2.8	1.3	11.8
10-190	0.59	14.58	80.1	492.8	5,172.4	30.9	7.1	1.4	2.9	0.8	0.2	0.1	0.8
10-200	0.40	42.44	156.5	962.5	10,102.1	60.4	13.8	2.8	5.7	1.5	0.4	0.2	1.6
10-210	0.49	98.32	448.9	2,760.7	28,975.7	173.3	39.5	8.1	16.3	4.4	1.1	0.5	4.5
10-220	0.56	18.83	97.8	601.3	6,311.4	37.7	8.6	1.8	3.6	1.0	0.2	0.1	1.0
10-230	0.47	235.02	1,031.8	6,345.6	66,603.0	398.3	90.8	18.6	37.5	10.1	2.5	1.1	10.3
10-240	0.51	103.83	495.4	3,046.6	31,977.4	191.2	43.6	8.9	18.0	4.8	1.2	0.5	5.0
10-250	0.49	242.96	1,103.1	6,784.1	71,205.5	425.8	97.1	19.9	40.1	10.8	2.6	1.2	11.0
10-260	0.56	23.77	123.0	756.4	7,939.6	47.5	10.8	2.2	4.5	1.2	0.3	0.1	1.2
10-270	0.47	72.45	318.9	1,960.9	20,581.8	123.1	28.1	5.8	11.6	3.1	0.8	0.3	3.2
10-280	0.44	55.08	227.0	1,396.3	14,655.6	87.6	20.0	4.1	8.3	2.2	0.5	0.2	2.3
10-290	0.10	6.83	6.3	39.0	409.5	2.4	0.6	0.1	0.2	0.1	0.0	0.0	0.1
10-300	0.36	17.74	59.4	365.4	3,835.0	22.9	5.2	1.1	2.2	0.6	0.1	0.1	0.6
10-310	0.47	60.29	264.4	1,626.2	17,068.7	102.1	23.3	4.8	9.6	2.6	0.6	0.3	2.6
10-320	0.45	341.99	1,434.9	8,824.9	92,625.5	553.9	126.3	25.9	52.2	14.0	3.4	1.6	14.3
10-330	0.35	21.61	70.6	434.0	4,554.9	27.2	6.2	1.3	2.6	0.7	0.2	0.1	0.7
10-340	0.45	20.74	86.9	534.5	5,610.3	33.5	7.6	1.6	3.2	0.8	0.2	0.1	0.9
10-350	0.60	28.16	156.6	963.3	10,110.9	60.5	13.8	2.8	5.7	1.5	0.4	0.2	1.6
10-360	0.59	29.02	159.7	982.4	10,311.2	61.7	14.1	2.9	5.8	1.6	0.4	0.2	1.6
10-370	0.59	14.46	79.2	486.9	5,111.0	30.6	7.0	1.4	2.9	0.8	0.2	0.1	0.8
10-380	0.45	14.38	59.5	365.7	3,837.9	22.9	5.2	1.1	2.2	0.6	0.1	0.1	0.6
10-390	0.49	41.97	192.2	1,182.0	12,406.4	74.2	16.9	3.5	7.0	1.9	0.5	0.2	1.9
10-400A	0.10	1.07	1.0	6.1	64.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10-400B	0.47	17.66	77.4	475.7	4,993.0	29.9	6.8	1.4	2.8	0.8	0.2	0.1	0.8
10-400C	0.57	50.25	264.1	1,623.9	17,044.7	101.9	23.2	4.8	9.6	2.6	0.6	0.3	2.6
10-410A	0.50	46.22	213.7	1,314.3	13,794.8	82.5	18.8	3.9	7.8	2.1	0.5	0.2	2.1
10-410B	0.32	21.29	62.6	384.8	4,038.4	24.1	5.5	1.1	2.3	0.6	0.1	0.1	0.6
10-410C	0.53	22.8	111.8	687.4	7,214.6	43.1	9.8	2.0	4.1	1.1	0.3	0.1	1.1
10-410D	0.60	27.34	152.4	937.4	9,838.4	58.8	13.4	2.8	5.5	1.5	0.4	0.2	1.5
10-410E	0.58	256.04	1,368.4	8,415.5	88,328.7	528.2	120.4	24.7	49.7	13.3	3.3	1.5	13.7
10-410F	0.59	37.92	207.2	1,274.1	13,372.5	80.0	18.2	3.7	7.5	2.0	0.5	0.2	2.1
10-420A	0.27	23.05	58.3	358.8	3,765.7	22.5	5.1	1.1	2.1	0.6	0.1	0.1	0.6
10-420B	0.00	10.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420C	0.00	7.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420D	0.00	20.73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420E	0.59	127.89	697.0	4,286.8	44,993.6	269.1	61.3	12.6	25.3	6.8	1.7	0.8	7.0
10-430A	0.00	8.14	0.2	1.2	12.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430B	0.53	54.72	271.6	1,670.1	17,529.2	104.8	23.9	4.9	9.9	2.6	0.6	0.3	2.7
10-430C	0.48	44.83	200.0	1,230.1	12,911.2	77.2	17.6	3.6	7.3	2.0	0.5	0.2	2.0
10-430D	0.49	85.79	391.7	2,409.0	25,284.5	151.2	34.5	7.1	14.2	3.8	0.9	0.4	3.9
10-430E	0.56	86.66	448.8	2,760.1	28,969.9	173.2	39.5	8.1	16.3	4.4	1.1	0.5	4.5
10-430F	0.10	377.97	351.0	2,158.9	22,659.9	135.5	30.9	6.3	12.8	3.4	0.8	0.4	3.5
10-430G	0.50	125.89	579.4	3,563.6	37,403.4	223.7	51.0	10.5	21.1	5.6	1.4	0.6	5.8
10-430H	0.49	33.18	151.4	931.3	9,774.5	58.5	13.3	2.7	5.5	1.5	0.4	0.2	1.5
10-430I	0.59	32.61	178.3	1,096.4	11,507.7	68.8	15.7	3.2	6.5	1.7	0.4	0.2	1.8
10-430J	0.43	532.36	2,145.6	13,195.5	138,499.2	828.2	188.8	38.7	78.0	20.9	5.1	2.3	21.5
10-430K	0.48	337.06	1,495.3	9,196.0	96,520.8	577.2	131.6	27.0	54.4	14.6	3.6	1.6	15.0
10-430L	0.45	84.4	353.3	2,173.0	22,807.9	136.4	31.1	6.4	12.8	3.4	0.8	0.4	3.5
10-430M	0.54	75.94	382.5	2,352.6	24,693.2	147.7	33.7	6.9	13.9	3.7	0.9	0.4	3.8
10-430N	0.44	26.43	109.0	670.2	7,033.9	42.1	9.6	2.0	4.0	1.1	0.3	0.1	1.1
10-430O	0.00	109.53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430P	0.00	229.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430Q	0.10	8.03	7.5	45.9	481.4	2.9	0.7	0.1	0.3	0.1	0.0	0.0	0.1
10-430R	0.47	150.32	652.6	4,013.8	42,128.1	251.9	57.4	11.8	23.7	6.4	1.6	0.7	6.5
10-430S	0.10	5.15	4.8	29.4	308.8	1.8	0.4	0.1	0.2	0.0	0.0	0.0	0.0
10-430T	0.46	262.47	1,114.3	6,853.1	71,930.2	430.1	98.1	20.1	40.5	10.9	2.7	1.2	11.1

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (01/01/07 - 03/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.760	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation (meters)	0.135												
10-430U	0.47	431.37	1,882.4	11,576.9	121,510.9	726.6	165.7	34.0	68.4	18.4	4.5	2.1	18.8
10-430V	0.46	329.11	1,420.8	8,738.2	91,715.2	548.4	125.0	25.6	51.6	13.9	3.4	1.5	14.2
10-440A	0.46	23.18	98.6	606.6	6,366.5	38.1	8.7	1.8	3.6	1.0	0.2	0.1	1.0
10-440B	0.49	34.23	156.7	963.5	10,113.0	60.5	13.8	2.8	5.7	1.5	0.4	0.2	1.6
10-440C/D	0.00	56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-440E	0.51	831.25	3,970.1	24,416.0	256,268.4	1,532.4	349.4	71.7	144.3	38.7	9.5	4.3	39.7
10-440F	0.46	538.85	2,303.2	14,165.0	148,674.7	889.1	202.7	41.6	83.7	22.5	5.5	2.5	23.0
10-450A	0.00	343.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-450B	0.52	3.41	16.4	100.6	1,056.2	6.3	1.4	0.3	0.6	0.2	0.0	0.0	0.2
10-450C	0.59	55.64	306.9	1,887.3	19,808.9	118.5	27.0	5.5	11.2	3.0	0.7	0.3	3.1
10-450D	0.45	4.62	19.3	118.8	1,246.4	7.5	1.7	0.3	0.7	0.2	0.0	0.0	0.2
10-450E	0.44	3.2	13.1	80.8	847.9	5.1	1.2	0.2	0.5	0.1	0.0	0.0	0.1
10-450F	0.46	158.55	676.5	4,160.7	43,670.1	261.1	59.5	12.2	24.6	6.6	1.6	0.7	6.8
10-450G/H	0.48	75.02	334.8	2,058.9	21,610.5	129.2	29.5	6.0	12.2	3.3	0.8	0.4	3.3
10-450I	0.49	243.64	1,111.6	6,836.1	71,751.3	429.1	97.8	20.1	40.4	10.8	2.7	1.2	11.1
10-450J	0.49	17.16	77.4	475.8	4,994.5	29.9	6.8	1.4	2.8	0.8	0.2	0.1	0.8
10-450K	0.58	37.01	199.1	1,224.6	12,852.9	76.9	17.5	3.6	7.2	1.9	0.5	0.2	2.0
10-450L	0.51	213.41	1,001.1	6,156.6	64,619.0	386.4	88.1	18.1	36.4	9.8	2.4	1.1	10.0
10-460	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460A	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460B	0.52	7.29	35.0	215.2	2,258.6	13.5	3.1	0.6	1.3	0.3	0.1	0.0	0.3
10-460C/D/F	0.00	159.87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460E	0.49	231.41	1,061.4	6,527.6	68,513.0	409.7	93.4	19.2	38.6	10.3	2.5	1.2	10.6
10-460F	0.49	14.75	67.8	416.8	4,374.7	26.2	6.0	1.2	2.5	0.7	0.2	0.1	0.7
10-460G	0.51	79.66	377.9	2,324.2	24,394.7	145.9	33.3	6.8	13.7	3.7	0.9	0.4	3.8
10-460H	0.48	12.35	55.0	338.2	3,549.5	21.2	4.8	1.0	2.0	0.5	0.1	0.1	0.5
10-460I	0.00	72.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460J	0.46	5.36	23.1	142.0	1,490.0	8.9	2.0	0.4	0.8	0.2	0.1	0.0	0.2
10-460K	0.36	5.48	18.3	112.6	1,181.8	7.1	1.6	0.3	0.7	0.2	0.0	0.0	0.2
10-460L	0.46	3.5	15.1	92.6	972.4	5.8	1.3	0.3	0.5	0.1	0.0	0.0	0.2
10-460M	0.48	9.55	42.4	261.1	2,740.1	16.4	3.7	0.8	1.5	0.4	0.1	0.0	0.4
10-460N	0.45	3.85	16.1	99.0	1,038.7	6.2	1.4	0.3	0.6	0.2	0.0	0.0	0.2
10-460O	0.45	4.15	17.5	107.5	1,128.8	6.7	1.5	0.3	0.6	0.2	0.0	0.0	0.2
10-460P	0.45	4.34	18.1	111.6	1,170.9	7.0	1.6	0.3	0.7	0.2	0.0	0.0	0.2
10-460Q	0.56	19.73	103.4	635.8	6,673.2	39.9	9.1	1.9	3.8	1.0	0.2	0.1	1.0
10-460R	0.00	51.51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460S	0.56	233.54	1,224.0	7,527.5	79,008.0	472.5	107.7	22.1	44.5	11.9	2.9	1.3	12.2
10-465	0.10	8.56	8.0	48.9	513.2	3.1	0.7	0.1	0.3	0.1	0.0	0.0	0.1
10-470	0.38	25.6	90.7	558.1	5,857.3	35.0	8.0	1.6	3.3	0.9	0.2	0.1	0.9
10-480	0.58	39.66	213.7	1,314.3	13,794.8	82.5	18.8	3.9	7.8	2.1	0.5	0.2	2.1
10-485	0.00	7.27	0.2	1.0	10.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-490	0.43	150.96	607.8	3,738.1	39,234.9	234.6	53.5	11.0	22.1	5.9	1.5	0.7	6.1
10-500A	0.26	26.21	63.9	392.9	4,123.9	24.7	5.6	1.2	2.3	0.6	0.2	0.1	0.6
10-500B	0.46	8.48	36.3	222.9	2,340.0	14.0	3.2	0.7	1.3	0.4	0.1	0.0	0.4
10-500C	0.44	111.36	450.3	2,769.2	29,065.3	173.8	39.6	8.1	16.4	4.4	1.1	0.5	4.5
10-500D	0.24	3.83	8.5	52.1	546.7	3.3	0.7	0.2	0.3	0.1	0.0	0.0	0.1
10-500E	0.53	23.34	115.4	709.8	7,450.3	44.6	10.2	2.1	4.2	1.1	0.3	0.1	1.2
10-500F	0.49	12.04	55.2	339.6	3,564.2	21.3	4.9	1.0	2.0	0.5	0.1	0.1	0.6
10-500G	0.00	112.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-505	0.10	7.85	7.3	44.8	470.6	2.8	0.6	0.1	0.3	0.1	0.0	0.0	0.1
10-510	0.51	62.36	294.6	1,811.7	19,015.9	113.7	25.9	5.3	10.7	2.9	0.7	0.3	2.9
10-520	0.00	139.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-530	0.45	116.15	486.3	2,990.6	31,389.3	187.7	42.8	8.8	17.7	4.7	1.2	0.5	4.9
10-540	0.12	53.9	59.3	364.6	3,826.8	22.9	5.2	1.1	2.2	0.6	0.1	0.1	0.6
10-550	0.46	25.83	110.3	678.6	7,122.0	42.6	9.7	2.0	4.0	1.1	0.3	0.1	1.1
10-560A/B	0.44	600.63	2,440.5	15,009.2	157,535.4	942.0	214.8	44.1	88.7	23.8	5.8	2.7	24.4
10-570A	0.54	14.64	73.9	454.7	4,772.7	28.5	6.5	1.3	2.7	0.7	0.2	0.1	0.7
10-570B	0.44	228.18	925.1	5,689.3	59,714.3	357.1	81.4	16.7	33.6	9.0	2.2	1.0	9.3
10-580	0.45	73.39	305.9	1,881.5	19,747.9	118.1	26.9	5.5	11.1	3.0	0.7	0.3	3.1
10-600	0.48	89.24	400.8	2,465.1	25,873.3	154.7	35.3	7.2	14.6	3.9	1.0	0.4	4.0
10-610	0.46	25.6	109.0	670.2	7,034.6	42.1	9.6	2.0	4.0	1.1	0.3	0.1	1.1
10-620	0.00	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630A	0.10	6.24	5.8	35.6	374.1	2.2	0.5	0.1	0.2	0.1	0.0	0.0	0.1
10-630B	0.45	4.68	19.6	120.3	1,262.6	7.6	1.7	0.4	0.7	0.2	0.0	0.0	0.2
10-630C	0.48	96.03	430.9	2,650.1	27,814.9	166.3	37.9	7.8	15.7	4.2	1.0	0.5	4.3
10-630D	0.45	6.37	26.6	163.7	1,718.5	10.3	2.3	0.5	1.0	0.3	0.1	0.0	0.3
10-630E	0.45	8.52	35.6	219.0	2,298.5	13.7	3.1	0.6	1.3	0.3	0.1	0.0	0.4
10-630F	0.54	17.56	88.1	541.9	5,687.4	34.0	7.8	1.6	3.2	0.9	0.2	0.1	0.9
10-630G	0.45	5.9	24.7	151.7	1,591.7	9.5	2.2	0.4	0.9	0.2	0.1	0.0	0.2
10-630H	0.30	25.63	72.1	443.4	4,653.8	27.8	6.3	1.3	2.6	0.7	0.2	0.1	0.7
10-630I	0.47	12.48	53.9	331.5	3,479.3	20.8	4.7	1.0	2.0	0.5	0.1	0.1	0.5
10-630J	0.55	14.69	75.5	464.6	4,876.1	29.2	6.6	1.4	2.7	0.7	0.2	0.1	0.8
10-630K	0.47	95.29	418.9	2,576.0	27,038.0	161.7	36.9	7.6	15.2	4.1	1.0	0.5	4.2
10-630L	0.52	100.42	485.9	2,988.4	31,366.0	187.6	42.8	8.8	17.7	4.7	1.2	0.5	4.9
10-630M	0.50	11.71	54.0	332.1	3,485.7	20.8	4.8	1.0	2.0	0.5	0.1	0.1	0.5
10-630N	0.45	8.45	35.3	217.2	2,279.7	13.6	3.1	0.6	1.3	0.3	0.1	0.0	0.4
10-630O	0.36	5.77	19.5	120.0	1,259.4	7.5	1.7	0.4	0.7	0.2	0.0	0.0	0.2

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (01/01/07 - 03/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.760	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation (meters)	0.135												
10-630P/Q	0.00	67.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630R	0.33	83.89	260.2	1,600.4	16,797.2	100.4	22.9	4.7	9.5	2.5	0.6	0.3	2.6
10-630S	0.22	37.02	74.7	459.7	4,824.5	28.9	6.6	1.3	2.7	0.7	0.2	0.1	0.7
10-630T	0.56	7.72	40.3	248.0	2,603.4	15.6	3.5	0.7	1.5	0.4	0.1	0.0	0.4
10-630U	0.52	115.42	560.7	3,448.6	36,195.9	216.4	49.3	10.1	20.4	5.5	1.3	0.6	5.6
10-630V	0.11	33.85	33.2	204.2	2,143.0	12.8	2.9	0.6	1.2	0.3	0.1	0.0	0.3
10-630W	0.47	23.68	104.2	640.7	6,724.9	40.2	9.2	1.9	3.8	1.0	0.2	0.1	1.0
10-630X	0.44	14.78	60.7	373.5	3,920.0	23.4	5.3	1.1	2.2	0.6	0.1	0.1	0.6
10-630Y	0.00	112.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630Z	0.47	45.66	199.6	1,227.8	12,887.4	77.1	17.6	3.6	7.3	1.9	0.5	0.2	2.0
10-640	0.46	258.18	1,096.7	6,744.6	70,790.8	423.3	96.5	19.8	39.9	10.7	2.6	1.2	11.0
10-650	0.56	19.53	101.0	621.4	6,522.0	39.0	8.9	1.8	3.7	1.0	0.2	0.1	1.0
10-660	0.46	306.37	1,318.2	8,106.7	85,087.9	508.8	116.0	23.8	47.9	12.9	3.2	1.4	13.2
10-670	0.45	137.88	575.4	3,538.8	37,143.1	222.1	50.6	10.4	20.9	5.6	1.4	0.6	5.8
10-680	0.46	707.95	3,014.8	18,541.1	194,606.5	1,163.7	265.3	54.4	109.6	29.4	7.2	3.3	30.1
10-690	0.50	70.63	328.2	2,018.3	21,183.8	126.7	28.9	5.9	11.9	3.2	0.8	0.4	3.3
10-700	0.46	222.07	957.7	5,890.1	61,821.8	369.7	84.3	17.3	34.8	9.3	2.3	1.0	9.6
10-710	0.33	29.95	92.7	569.9	5,981.4	35.8	8.2	1.7	3.4	0.9	0.2	0.1	0.9
10-720A	0.44	15.77	64.9	399.4	4,192.3	25.1	5.7	1.2	2.4	0.6	0.2	0.1	0.6
10-720B	0.48	422.18	1,889.1	11,617.9	121,940.5	729.2	166.2	34.1	68.7	18.4	4.5	2.1	18.9
10-720C	0.43	26.35	105.1	646.3	6,783.3	40.6	9.2	1.9	3.8	1.0	0.3	0.1	1.1
10-720D	0.46	22.95	97.0	596.8	6,264.0	37.5	8.5	1.8	3.5	0.9	0.2	0.1	1.0
10-720E	0.46	18.39	77.8	478.7	5,024.5	30.0	6.8	1.4	2.8	0.8	0.2	0.1	0.8
10-720F	0.48	317.75	1,416.0	8,708.3	91,402.1	546.6	124.6	25.6	51.5	13.8	3.4	1.5	14.2
10-720G	0.00	13.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-720H	0.45	4.55	19.0	117.0	1,227.5	7.3	1.7	0.3	0.7	0.2	0.0	0.0	0.2
10-720I	0.45	87.27	361.5	2,223.0	23,332.3	139.5	31.8	6.5	13.1	3.5	0.9	0.4	3.6
10-720J	0.36	3.71	12.3	75.7	794.6	4.8	1.1	0.2	0.4	0.1	0.0	0.0	0.1
10-720K	0.55	32.76	167.1	1,027.5	10,784.2	64.5	14.7	3.0	6.1	1.6	0.4	0.2	1.7
10-720L	0.45	4.57	19.1	117.5	1,232.9	7.4	1.7	0.3	0.7	0.2	0.0	0.0	0.2
20-010	0.42	93.99	366.5	2,253.8	23,655.4	141.5	32.2	6.6	13.3	3.6	0.9	0.4	3.7
20-020	0.44	15.09	61.5	378.1	3,968.4	23.7	5.4	1.1	2.2	0.6	0.1	0.1	0.6
20-030	0.45	7.95	33.2	204.3	2,144.8	12.8	2.9	0.6	1.2	0.3	0.1	0.0	0.3
20-040	0.37	6.79	23.5	144.6	1,517.7	9.1	2.1	0.4	0.9	0.2	0.1	0.0	0.2
20-050	0.00	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-060	0.45	5.91	24.7	151.9	1,594.4	9.5	2.2	0.4	0.9	0.2	0.1	0.0	0.2
20-070	0.44	39.07	160.9	989.5	10,385.5	62.1	14.2	2.9	5.8	1.6	0.4	0.2	1.6
20-080	0.45	33.72	142.0	873.3	9,165.6	54.8	12.5	2.6	5.2	1.4	0.3	0.2	1.4
20-090	0.55	9.95	51.1	314.1	3,297.3	19.7	4.5	0.9	1.9	0.5	0.1	0.1	0.5
20-100	0.10	0.99	0.9	5.7	59.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20-110	0.24	216.04	481.4	2,960.6	31,074.3	185.8	42.4	8.7	17.5	4.7	1.2	0.5	4.8
20-120	0.47	10.22	44.4	272.9	2,864.1	17.1	3.9	0.8	1.6	0.4	0.1	0.0	0.4
20-130	0.45	16.12	67.4	414.3	4,348.9	26.0	5.9	1.2	2.4	0.7	0.2	0.1	0.7
20-140	0.44	2.97	12.2	74.9	785.8	4.7	1.1	0.2	0.4	0.1	0.0	0.0	0.1
20-150	0.45	14.48	60.5	372.2	3,906.5	23.4	5.3	1.1	2.2	0.6	0.1	0.1	0.6
20-160	0.54	3.21	16.1	99.1	1,039.8	6.2	1.4	0.3	0.6	0.2	0.0	0.0	0.2
20-170	0.37	4.94	17.1	105.1	1,103.4	6.6	1.5	0.3	0.6	0.2	0.0	0.0	0.2
20-180	0.51	5.3	24.9	153.2	1,608.1	9.6	2.2	0.4	0.9	0.2	0.1	0.0	0.2
20-190	0.45	1.35	5.6	34.7	364.2	2.2	0.5	0.1	0.2	0.1	0.0	0.0	0.1
20-200	0.45	13.84	57.8	355.7	3,733.8	22.3	5.1	1.0	2.1	0.6	0.1	0.1	0.6
20-210A	0.44	92.9	379.0	2,330.9	24,465.2	146.3	33.4	6.8	13.8	3.7	0.9	0.4	3.8
20-210B	0.50	620.78	2,909.1	17,890.8	187,780.3	1,122.9	256.0	52.5	105.7	28.4	7.0	3.2	29.1
20-220	0.46	26.38	113.0	694.7	7,291.2	43.6	9.9	2.0	4.1	1.1	0.3	0.1	1.1
20-230	0.00	21.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-240	0.48	30.06	134.5	827.2	8,682.7	51.9	11.8	2.4	4.9	1.3	0.3	0.1	1.3
20-250	0.57	6.28	33.3	205.1	2,152.5	12.9	2.9	0.6	1.2	0.3	0.1	0.0	0.3
20-260	0.60	3.5	19.5	119.9	1,259.0	7.5	1.7	0.4	0.7	0.2	0.0	0.0	0.2
20-270	0.48	42.81	189.5	1,165.7	12,235.0	73.2	16.7	3.4	6.9	1.8	0.5	0.2	1.9
20-280	0.54	8.98	44.8	275.7	2,893.5	17.3	3.9	0.8	1.6	0.4	0.1	0.0	0.4
20-290	0.00	4.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-010	0.45	49.49	206.0	1,267.1	13,299.6	79.5	18.1	3.7	7.5	2.0	0.5	0.2	2.1
40-010	0.45	719.17	2,993.1	18,407.8	193,206.8	1,155.3	263.4	54.0	108.8	29.2	7.2	3.3	29.9
40-020	0.45	15.36	64.2	394.8	4,143.9	24.8	5.6	1.2	2.3	0.6	0.2	0.1	0.6
40-030	0.42	51.02	198.0	1,217.4	12,777.7	76.4	17.4	3.6	7.2	1.9	0.5	0.2	2.0
40-040	0.43	65.39	263.7	1,621.7	17,021.5	101.8	23.2	4.8	9.6	2.6	0.6	0.3	2.6
40-050	0.45	10.28	43.0	264.2	2,773.4	16.6	3.8	0.8	1.6	0.4	0.1	0.0	0.4
40-060	0.45	3.2	13.4	82.3	863.3	5.2	1.2	0.2	0.5	0.1	0.0	0.0	0.1
40-070	0.38	7.98	28.0	172.4	1,809.9	10.8	2.5	0.5	1.0	0.3	0.1	0.0	0.3
40-080	0.41	60.51	229.5	1,411.5	14,815.1	88.6	20.2	4.1	8.3	2.2	0.5	0.3	2.3
40-090	0.46	20.65	89.2	548.3	5,755.2	34.4	7.8	1.6	3.2	0.9	0.2	0.1	0.9
40-100	0.00	20.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-110	0.44	2.61	10.8	66.2	694.4	4.2	0.9	0.2	0.4	0.1	0.0	0.0	0.1
40-120	0.44	65.87	268.1	1,649.0	17,307.6	103.5	23.6	4.8	9.7	2.6	0.6	0.3	2.7
40-130	0.45	35.01	146.9	903.6	9,484.3	56.7	12.9	2.7	5.3	1.4	0.4	0.2	1.5
40-140	0.35	125.46	405.2	2,491.9	26,154.8	156.4	35.7	7.3	14.7	4.0	1.0	0.4	4.1
40-150	0.47	24.31	107.0	657.8	6,904.3	41.3	9.4	1.9	3.9	1.0	0.3	0.1	1.1
40-160	0.49	30.99	142.3	875.1	9,184.6	54.9	12.5	2.6	5.2	1.4	0.3	0.2	1.4

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (01/01/07 - 03/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.760	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation (meters)	0.135												
40-170	0.00	194.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-180	0.54	16.8	84.0	516.6	5,422.1	32.4	7.4	1.5	3.1	0.8	0.2	0.1	0.8
40-190	0.53	65.53	321.8	1,979.2	20,773.5	124.2	28.3	5.8	11.7	3.1	0.8	0.4	3.2
40-200	0.46	24.75	106.3	653.6	6,859.9	41.0	9.4	1.9	3.9	1.0	0.3	0.1	1.1
40-210	0.54	17.26	87.3	537.1	5,637.9	33.7	7.7	1.6	3.2	0.9	0.2	0.1	0.9
40-220	0.47	100.58	436.7	2,685.7	28,189.1	168.6	38.4	7.9	15.9	4.3	1.0	0.5	4.4
40-230	0.44	13.78	56.9	350.1	3,674.9	22.0	5.0	1.0	2.1	0.6	0.1	0.1	0.6
40-240	0.00	340.86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-250	0.60	1.15	6.4	39.4	413.7	2.5	0.6	0.1	0.2	0.1	0.0	0.0	0.1
40-260	0.45	3.49	14.6	89.7	941.5	5.6	1.3	0.3	0.5	0.1	0.0	0.0	0.1
40-270	0.45	9.59	40.1	246.5	2,587.2	15.5	3.5	0.7	1.5	0.4	0.1	0.0	0.4
40-280	0.53	12.76	62.3	383.3	4,022.9	24.1	5.5	1.1	2.3	0.6	0.1	0.1	0.6
40-290	0.51	13.73	65.3	401.6	4,214.7	25.2	5.7	1.2	2.4	0.6	0.2	0.1	0.7
40-300	0.52	10.38	50.2	308.9	3,242.3	19.4	4.4	0.9	1.8	0.5	0.1	0.1	0.5
40-310	0.45	97.86	411.4	2,530.1	26,556.1	158.8	36.2	7.4	15.0	4.0	1.0	0.4	4.1
40-320	0.60	9.43	52.5	323.2	3,392.1	20.3	4.6	0.9	1.9	0.5	0.1	0.1	0.5
40-330	0.59	15.34	84.4	519.3	5,450.8	32.6	7.4	1.5	3.1	0.8	0.2	0.1	0.8
40-340	0.53	35.27	174.6	1,073.6	11,268.6	67.4	15.4	3.2	6.3	1.7	0.4	0.2	1.7
40-350	0.60	8.99	50.1	308.1	3,233.8	19.3	4.4	0.9	1.8	0.5	0.1	0.1	0.5
40-360	0.60	8.09	45.1	277.3	2,910.1	17.4	4.0	0.8	1.6	0.4	0.1	0.0	0.5
40-370	0.58	12.41	66.7	410.0	4,303.7	25.7	5.9	1.2	2.4	0.7	0.2	0.1	0.7
40-380	0.39	24.92	91.1	560.0	5,877.8	35.1	8.0	1.6	3.3	0.9	0.2	0.1	0.9
40-390	0.58	5.72	30.8	189.5	1,988.8	11.9	2.7	0.6	1.1	0.3	0.1	0.0	0.3
40-400	0.10	1.07	1.0	6.1	64.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
41-010	0.38	94.73	332.1	2,042.3	21,436.1	128.2	29.2	6.0	12.1	3.2	0.8	0.4	3.3
41-020	0.00	14.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-030	0.50	60.47	281.9	1,733.8	18,198.3	108.8	24.8	5.1	10.2	2.7	0.7	0.3	2.8
41-040	0.57	35.59	189.4	1,164.8	12,226.0	73.1	16.7	3.4	6.9	1.8	0.5	0.2	1.9
41-050	0.60	10.48	58.4	359.2	3,769.8	22.5	5.1	1.1	2.1	0.6	0.1	0.1	0.6
41-060	0.60	2.95	16.4	101.1	1,061.1	6.3	1.4	0.3	0.6	0.2	0.0	0.0	0.2
51-010	0.45	29.63	124.2	763.9	8,017.4	47.9	10.9	2.2	4.5	1.2	0.3	0.1	1.2
51-020	0.45	4.55	19.0	117.0	1,227.5	7.3	1.7	0.3	0.7	0.2	0.0	0.0	0.2
52-010	0.28	45.29	116.2	714.9	7,503.5	44.9	10.2	2.1	4.2	1.1	0.3	0.1	1.2
52-020	0.45	6.09	25.5	156.5	1,643.0	9.8	2.2	0.5	0.9	0.2	0.1	0.0	0.3
52-030	0.45	7.18	30.0	184.6	1,937.0	11.6	2.6	0.5	1.1	0.3	0.1	0.0	0.3
52-040	0.41	4.54	17.4	107.2	1,125.1	6.7	1.5	0.3	0.6	0.2	0.0	0.0	0.2
52-050	0.44	15.3	61.8	380.2	3,990.3	23.9	5.4	1.1	2.2	0.6	0.1	0.1	0.6
52-060	0.10	3.22	3.0	18.4	193.0	1.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0
52-070	0.42	86.94	341.7	2,101.5	22,057.0	131.9	30.1	6.2	12.4	3.3	0.8	0.4	3.4
52-080	0.24	8.08	18.2	111.7	1,172.4	7.0	1.6	0.3	0.7	0.2	0.0	0.0	0.2
52-090	0.45	4.89	20.4	125.7	1,319.2	7.9	1.8	0.4	0.7	0.2	0.0	0.0	0.2
52-100A/B	0.27	11.89	29.4	181.1	1,900.6	11.4	2.6	0.5	1.1	0.3	0.1	0.0	0.3
52-110	0.45	8.84	36.6	225.4	2,365.7	14.1	3.2	0.7	1.3	0.4	0.1	0.0	0.4
52-120	0.45	14.74	61.6	378.9	3,976.6	23.8	5.4	1.1	2.2	0.6	0.1	0.1	0.6
52-130	0.31	7.18	21.0	129.1	1,354.9	8.1	1.8	0.4	0.8	0.2	0.1	0.0	0.2
53-010	0.45	7.03	29.4	180.7	1,896.6	11.3	2.6	0.5	1.1	0.3	0.1	0.0	0.3
53-020	0.28	12.38	31.8	195.4	2,051.2	12.3	2.8	0.6	1.2	0.3	0.1	0.0	0.3
53-030	0.44	11.37	46.1	283.7	2,978.0	17.8	4.1	0.8	1.7	0.4	0.1	0.1	0.5
53-040	0.45	2.78	11.6	71.5	750.0	4.5	1.0	0.2	0.4	0.1	0.0	0.0	0.1
53-050	0.45	13.66	57.1	351.1	3,685.2	22.0	5.0	1.0	2.1	0.6	0.1	0.1	0.6
53-060	0.45	20.37	85.1	523.6	5,495.5	32.9	7.5	1.5	3.1	0.8	0.2	0.1	0.9
53-070	0.45	4.89	20.4	125.7	1,319.2	7.9	1.8	0.4	0.7	0.2	0.0	0.0	0.2
53-080	0.39	5.81	21.3	130.8	1,373.1	8.2	1.9	0.4	0.8	0.2	0.1	0.0	0.2
53-090	0.46	59.59	254.1	1,562.9	16,403.9	98.1	22.4	4.6	9.2	2.5	0.6	0.3	2.5
53-100	0.00	107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53-110	0.38	4.59	16.4	100.9	1,059.2	6.3	1.4	0.3	0.6	0.2	0.0	0.0	0.2
53-120A/B	0.46	129.79	549.2	3,377.7	35,452.0	212.0	48.3	9.9	20.0	5.4	1.3	0.6	5.5
53-130	0.45	5.02	21.0	129.0	1,354.3	8.1	1.8	0.4	0.8	0.2	0.1	0.0	0.2
53-140	0.45	6.36	26.6	163.5	1,715.8	10.3	2.3	0.5	1.0	0.3	0.1	0.0	0.3
53-150	0.48	90.4	406.2	2,498.2	26,221.0	156.8	35.7	7.3	14.8	4.0	1.0	0.4	4.1
53-160	0.47	252.19	1,107.3	6,810.2	71,479.2	427.4	97.4	20.0	40.3	10.8	2.6	1.2	11.1
53-170	0.36	6.39	21.4	131.7	1,382.4	8.3	1.9	0.4	0.8	0.2	0.1	0.0	0.2
53-180	0.10	8.09	7.5	46.2	485.0	2.9	0.7	0.1	0.3	0.1	0.0	0.0	0.1
53-190	0.30	11.41	31.8	195.9	2,055.6	12.3	2.8	0.6	1.2	0.3	0.1	0.0	0.3
54-010A/B	0.44	84.93	343.2	2,110.6	22,153.2	132.5	30.2	6.2	12.5	3.3	0.8	0.4	3.4
54-040A/B	0.49	255.14	1,172.8	7,212.9	75,706.4	452.7	103.2	21.2	42.6	11.4	2.8	1.3	11.7
54-050	0.17	9.27	15.0	92.1	966.4	5.8	1.3	0.3	0.5	0.1	0.0	0.0	0.1
54-060	0.44	32.13	131.1	806.1	8,461.2	50.6	11.5	2.4	4.8	1.3	0.3	0.1	1.3
54-070	0.36	60.8	202.5	1,245.3	13,070.5	78.2	17.8	3.7	7.4	2.0	0.5	0.2	2.0
54-080A/B/C	0.46	414.26	1,758.7	10,815.7	113,521.0	678.8	154.8	31.7	63.9	17.1	4.2	1.9	17.6
54-090	0.10	3.55	3.3	20.3	212.8	1.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0
54-100A/B	0.60	114.24	632.0	3,887.1	40,798.8	244.0	55.6	11.4	23.0	6.2	1.5	0.7	6.3
54-110	0.45	24.55	102.6	631.0	6,623.2	39.6	9.0	1.9	3.7	1.0	0.2	0.1	1.0
54-120	0.46	62.08	263.5	1,620.3	17,006.6	101.7	23.2	4.8	9.6	2.6	0.6	0.3	2.6
54-130	0.10	1.07	1.0	6.1	64.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
54-140A/B	0.41	113.01	428.2	2,633.2	27,637.9	165.3	37.7	7.7	15.6	4.2	1.0	0.5	4.3
54-150	0.45	55.34	228.9	1,407.7	14,774.8	88.4	20.1	4.1	8.3	2.2	0.5	0.2	2.3

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (01/01/07 - 03/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.760	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation (meters)	0.135												
54-160	0.60	2.62	14.6	89.8	942.4	5.6	1.3	0.3	0.5	0.1	0.0	0.0	0.1
54-170	0.59	8.08	44.6	274.4	2,880.3	17.2	3.9	0.8	1.6	0.4	0.1	0.0	0.4
54-180	0.60	2.82	15.7	96.6	1,014.4	6.1	1.4	0.3	0.6	0.2	0.0	0.0	0.2
54-190	0.10	2.2	2.0	12.6	131.9	0.8	0.2	0.0	0.1	0.0	0.0	0.0	0.0
54-200	0.10	2.13	2.0	12.2	127.7	0.8	0.2	0.0	0.1	0.0	0.0	0.0	0.0
54-210	0.10	1.14	1.1	6.5	68.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
55-010	0.60	14.98	83.5	513.4	5,388.5	32.2	7.3	1.5	3.0	0.8	0.2	0.1	0.8
55-020	0.60	189.58	1,049.6	6,454.9	67,750.6	405.1	92.4	18.9	38.2	10.2	2.5	1.1	10.5
56-010	0.60	67.62	376.8	2,317.4	24,323.6	145.5	33.2	6.8	13.7	3.7	0.9	0.4	3.8
57-010	0.53	26.1	129.3	795.3	8,347.3	49.9	11.4	2.3	4.7	1.3	0.3	0.1	1.3
57-020	0.00	142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-030	0.45	18.22	76.1	468.3	4,915.4	29.4	6.7	1.4	2.8	0.7	0.2	0.1	0.8
57-040	0.35	39.88	129.2	794.9	8,343.1	49.9	11.4	2.3	4.7	1.3	0.3	0.1	1.3
57-050	0.45	7.9	33.0	203.1	2,131.3	12.7	2.9	0.6	1.2	0.3	0.1	0.0	0.3
57-060	0.46	26.11	112.1	689.7	7,238.9	43.3	9.9	2.0	4.1	1.1	0.3	0.1	1.1
57-070	0.45	81.33	340.7	2,095.5	21,993.8	131.5	30.0	6.2	12.4	3.3	0.8	0.4	3.4
57-080	0.42	5.54	21.7	133.8	1,403.9	8.4	1.9	0.4	0.8	0.2	0.1	0.0	0.2
57-090	0.47	77.77	339.0	2,084.7	21,881.1	130.8	29.8	6.1	12.3	3.3	0.8	0.4	3.4
57-100A/B	0.47	313.43	1,375.2	8,457.5	88,768.9	530.8	121.0	24.8	50.0	13.4	3.3	1.5	13.8
57-110	0.54	21.6	108.5	667.2	7,003.1	41.9	9.5	2.0	3.9	1.1	0.3	0.1	1.1
57-120A/B/C	0.00	65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-130	0.10	1.16	1.1	6.6	69.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
57-140	0.10	1.55	1.4	8.9	92.9	0.6	0.1	0.0	0.1	0.0	0.0	0.0	0.0
57-150	0.43	35.68	143.0	879.6	9,232.4	55.2	12.6	2.6	5.2	1.4	0.3	0.2	1.4
57-160	0.10	1.89	1.8	10.8	113.3	0.7	0.2	0.0	0.1	0.0	0.0	0.0	0.0
61-010	0.55	2.86	14.7	90.1	946.0	5.7	1.3	0.3	0.5	0.1	0.0	0.0	0.1
62-010	0.45	27.84	116.9	718.9	7,545.5	45.1	10.3	2.1	4.2	1.1	0.3	0.1	1.2
63-010	0.45	388.79	1,632.6	10,040.6	105,385.2	630.2	143.7	29.5	59.3	15.9	3.9	1.8	16.3
63-020	0.00	11.91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64-100	0.45	24.92	104.1	639.9	6,716.7	40.2	9.2	1.9	3.8	1.0	0.2	0.1	1.0
64-110	0.45	6.01	25.1	154.5	1,621.4	9.7	2.2	0.5	0.9	0.2	0.1	0.0	0.3
64-120	0.45	16.04	67.0	412.3	4,327.3	25.9	5.9	1.2	2.4	0.7	0.2	0.1	0.7
64-130	0.45	2.44	10.2	62.7	658.3	3.9	0.9	0.2	0.4	0.1	0.0	0.0	0.1
65-010	0.00	18.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65-020	0.53	38.46	189.0	1,162.5	12,201.1	73.0	16.6	3.4	6.9	1.8	0.5	0.2	1.9
70-010	0.46	6.23	26.5	163.2	1,712.9	10.2	2.3	0.5	1.0	0.3	0.1	0.0	0.3
70-015	0.45	11.69	48.9	300.5	3,153.8	18.9	4.3	0.9	1.8	0.5	0.1	0.1	0.5
70-020	0.45	37.55	156.9	965.2	10,130.3	60.6	13.8	2.8	5.7	1.5	0.4	0.2	1.6
70-025	0.00	3.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-030	0.45	13.48	56.3	346.2	3,633.8	21.7	5.0	1.0	2.0	0.5	0.1	0.1	0.6
70-035	0.45	4.53	18.9	116.4	1,222.1	7.3	1.7	0.3	0.7	0.2	0.0	0.0	0.2
70-040	0.45	2.42	10.1	62.2	652.9	3.9	0.9	0.2	0.4	0.1	0.0	0.0	0.1
70-045	0.00	0.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-050	0.45	17.41	72.8	447.5	4,696.9	28.1	6.4	1.3	2.6	0.7	0.2	0.1	0.7
70-055	0.46	333.43	1,437.3	8,839.2	92,775.2	554.8	126.5	25.9	52.2	14.0	3.4	1.6	14.4
70-060	0.45	3.53	14.8	90.7	952.3	5.7	1.3	0.3	0.5	0.1	0.0	0.0	0.1
70-065	0.45	1.89	7.9	48.6	509.9	3.0	0.7	0.1	0.3	0.1	0.0	0.0	0.1
70-070	0.45	5.8	24.2	149.1	1,564.7	9.4	2.1	0.4	0.9	0.2	0.1	0.0	0.2
70-075	0.43	5	20.0	123.2	1,293.1	7.7	1.8	0.4	0.7	0.2	0.0	0.0	0.2
70-080	0.46	11.96	51.3	315.6	3,312.5	19.8	4.5	0.9	1.9	0.5	0.1	0.1	0.5
70-085	0.45	229.48	953.2	5,862.2	61,529.3	367.9	83.9	17.2	34.6	9.3	2.3	1.0	9.5
70-090	0.45	18.57	77.6	477.3	5,009.9	30.0	6.8	1.4	2.8	0.8	0.2	0.1	0.8
70-095	0.45	9.99	41.8	256.8	2,695.1	16.1	3.7	0.8	1.5	0.4	0.1	0.0	0.4
70-100	0.45	9.64	40.3	247.8	2,600.7	15.6	3.5	0.7	1.5	0.4	0.1	0.0	0.4
70-105	0.45	1.63	6.8	41.9	439.7	2.6	0.6	0.1	0.2	0.1	0.0	0.0	0.1
70-110	0.45	18.13	75.8	466.0	4,891.2	29.2	6.7	1.4	2.8	0.7	0.2	0.1	0.8
70-115	0.45	3.71	15.5	95.4	1,000.9	6.0	1.4	0.3	0.6	0.2	0.0	0.0	0.2
70-120	0.45	4.22	17.6	108.5	1,138.5	6.8	1.6	0.3	0.6	0.2	0.0	0.0	0.2
70-125	0.00	5.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-130	0.49	34.29	157.2	967.0	10,149.1	60.7	13.8	2.8	5.7	1.5	0.4	0.2	1.6
70-135	0.45	7.46	31.2	191.7	2,012.6	12.0	2.7	0.6	1.1	0.3	0.1	0.0	0.3
70-140	0.60	0.78	4.3	26.7	280.6	1.7	0.4	0.1	0.2	0.0	0.0	0.0	0.0
70-145	0.60	9.19	51.2	315.0	3,305.7	19.8	4.5	0.9	1.9	0.5	0.1	0.1	0.5
70-150	0.45	4.51	18.8	115.9	1,216.7	7.3	1.7	0.3	0.7	0.2	0.0	0.0	0.2
70-155	0.45	2.05	8.6	52.7	553.1	3.3	0.8	0.2	0.3	0.1	0.0	0.0	0.1
70-160	0.45	2.95	12.3	75.8	795.9	4.8	1.1	0.2	0.4	0.1	0.0	0.0	0.1
70-165	0.45	27.77	116.1	713.8	7,491.9	44.8	10.2	2.1	4.2	1.1	0.3	0.1	1.2
70-170	0.45	23.74	99.2	610.2	6,404.6	38.3	8.7	1.8	3.6	1.0	0.2	0.1	1.0
70-175	0.46	30.89	131.2	806.7	8,467.3	50.6	11.5	2.4	4.8	1.3	0.3	0.1	1.3
70-180	0.45	1.14	4.8	29.3	307.6	1.8	0.4	0.1	0.2	0.0	0.0	0.0	0.0
70-185	0.45	1.53	6.4	39.3	412.8	2.5	0.6	0.1	0.2	0.1	0.0	0.0	0.1
70-190	0.17	15.04	24.0	147.8	1,551.8	9.3	2.1	0.4	0.9	0.2	0.1	0.0	0.2
70-195	0.45	46.02	193.4	1,189.3	12,483.1	74.6	17.0	3.5	7.0	1.9	0.5	0.2	1.9
70-200	0.45	31.52	131.7	810.2	8,503.5	50.9	11.6	2.4	4.8	1.3	0.3	0.1	1.3
70-205	0.45	1.39	5.8	35.7	375.0	2.2	0.5	0.1	0.2	0.1	0.0	0.0	0.1
70-210	0.45	3.58	15.0	92.0	965.8	5.8	1.3	0.3	0.5	0.1	0.0	0.0	0.1
70-215	0.45	5.93	24.8	152.4	1,599.8	9.6	2.2	0.4	0.9	0.2	0.1	0.0	0.2

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (01/01/07 - 03/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.760	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation (meters)	0.135												
70-220	0.45	4.54	19.0	116.7	1,224.8	7.3	1.7	0.3	0.7	0.2	0.0	0.0	0.2
70-225	0.45	4.99	20.9	128.3	1,346.2	8.1	1.8	0.4	0.8	0.2	0.0	0.0	0.2
70-230	0.45	4.72	19.7	121.3	1,273.4	7.6	1.7	0.4	0.7	0.2	0.0	0.0	0.2
70-235	0.45	5.04	21.1	129.5	1,359.7	8.1	1.9	0.4	0.8	0.2	0.1	0.0	0.2
70-240	0.45	4.52	18.9	116.2	1,219.4	7.3	1.7	0.3	0.7	0.2	0.0	0.0	0.2
70-245	0.44	9.98	40.7	250.2	2,626.5	15.7	3.6	0.7	1.5	0.4	0.1	0.0	0.4
70-250	0.48	41.27	184.9	1,137.1	11,934.5	71.4	16.3	3.3	6.7	1.8	0.4	0.2	1.8
70-255	0.45	45.37	189.7	1,166.5	12,243.7	73.2	16.7	3.4	6.9	1.8	0.5	0.2	1.9
70-260	0.46	24.9	105.9	651.0	6,833.4	40.9	9.3	1.9	3.8	1.0	0.3	0.1	1.1
70-265A/B	0.00	183.65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-270	0.45	4.66	19.5	119.8	1,257.2	7.5	1.7	0.4	0.7	0.2	0.0	0.0	0.2
70-275	0.45	4.28	17.9	110.0	1,154.7	6.9	1.6	0.3	0.7	0.2	0.0	0.0	0.2
70-280	0.45	9.39	39.3	241.8	2,537.6	15.2	3.5	0.7	1.4	0.4	0.1	0.0	0.4
70-285	0.45	19.03	79.4	488.6	5,128.4	30.7	7.0	1.4	2.9	0.8	0.2	0.1	0.8
70-290	0.45	2.37	9.8	60.4	633.9	3.8	0.9	0.2	0.4	0.1	0.0	0.0	0.1
70-295	0.45	7.18	30.0	184.6	1,937.0	11.6	2.6	0.5	1.1	0.3	0.1	0.0	0.3
70-300	0.10	0.4	0.4	2.3	24.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-305	0.45	12.68	52.5	323.0	3,390.1	20.3	4.6	0.9	1.9	0.5	0.1	0.1	0.5
70-310	0.00	5.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-315	0.30	5.79	16.1	99.2	1,041.3	6.2	1.4	0.3	0.6	0.2	0.0	0.0	0.2
70-320	0.44	2.32	9.5	58.2	610.8	3.7	0.8	0.2	0.3	0.1	0.0	0.0	0.1
70-325	0.00	2.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-330	0.47	279.41	1,222.4	7,517.7	78,905.2	471.8	107.6	22.1	44.4	11.9	2.9	1.3	12.2
70-335	0.45	1.99	8.3	51.2	536.9	3.2	0.7	0.2	0.3	0.1	0.0	0.0	0.1
70-340	0.39	22.25	81.3	500.0	5,248.0	31.4	7.2	1.5	3.0	0.8	0.2	0.1	0.8
70-345	0.45	3.81	15.9	97.9	1,027.9	6.1	1.4	0.3	0.6	0.2	0.0	0.0	0.2
70-350	0.49	314.4	1,442.8	8,873.5	93,135.7	556.9	127.0	26.0	52.4	14.1	3.4	1.6	14.4
70-355	0.45	1.29	5.4	33.2	348.0	2.1	0.5	0.1	0.2	0.1	0.0	0.0	0.1
70-360	0.45	131.96	557.0	3,425.8	35,957.3	215.0	49.0	10.1	20.2	5.4	1.3	0.6	5.6
70-365	0.45	6.7	28.0	172.2	1,807.5	10.8	2.5	0.5	1.0	0.3	0.1	0.0	0.3
70-370	0.44	3.75	15.4	94.9	995.9	6.0	1.4	0.3	0.6	0.2	0.0	0.0	0.2
70-375	0.47	7.1	31.2	191.7	2,011.8	12.0	2.7	0.6	1.1	0.3	0.1	0.0	0.3
70-380	0.45	14.4	60.2	370.1	3,884.9	23.2	5.3	1.1	2.2	0.6	0.1	0.1	0.6
70-385	0.45	14.97	62.6	384.8	4,038.6	24.2	5.5	1.1	2.3	0.6	0.1	0.1	0.6
70-390	0.46	58.11	250.0	1,537.6	16,138.1	96.5	22.0	4.5	9.1	2.4	0.6	0.3	2.5
70-395	0.43	57.19	228.1	1,403.1	14,726.9	88.1	20.1	4.1	8.3	2.2	0.5	0.2	2.3
70-400	0.44	9.67	39.4	242.4	2,544.1	15.2	3.5	0.7	1.4	0.4	0.1	0.0	0.4
70-405	0.25	7.16	16.6	102.3	1,073.5	6.4	1.5	0.3	0.6	0.2	0.0	0.0	0.2
70-410	0.43	5.8	23.1	142.1	1,491.2	8.9	2.0	0.4	0.8	0.2	0.1	0.0	0.2
70-415	0.45	120.75	509.1	3,131.0	32,862.9	196.5	44.8	9.2	18.5	5.0	1.2	0.6	5.1
70-420	0.45	16.99	71.0	436.7	4,583.6	27.4	6.2	1.3	2.6	0.7	0.2	0.1	0.7
70-425	0.51	20.63	97.9	602.1	6,319.9	37.8	8.6	1.8	3.6	1.0	0.2	0.1	1.0
70-430	0.10	6.19	5.7	35.4	371.1	2.2	0.5	0.1	0.2	0.1	0.0	0.0	0.1
70-435	0.10	9.16	8.5	52.3	549.2	3.3	0.7	0.2	0.3	0.1	0.0	0.0	0.1
70-440	0.50	34.48	159.1	978.3	10,267.7	61.4	14.0	2.9	5.8	1.6	0.4	0.2	1.6
70-445	0.45	5.6	23.4	143.9	1,510.8	9.0	2.1	0.4	0.9	0.2	0.1	0.0	0.2
70-450	0.45	2.65	11.1	68.1	714.9	4.3	1.0	0.2	0.4	0.1	0.0	0.0	0.1
70-455	0.00	2.66	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-460	0.45	2.67	11.2	68.6	720.3	4.3	1.0	0.2	0.4	0.1	0.0	0.0	0.1
70-465	0.45	2.58	10.8	66.3	696.0	4.2	0.9	0.2	0.4	0.1	0.0	0.0	0.1
70-470	0.38	8.55	30.5	187.6	1,968.6	11.8	2.7	0.6	1.1	0.3	0.1	0.0	0.3
70-475	0.46	229.14	979.7	6,024.9	63,237.0	378.1	86.2	17.7	35.6	9.6	2.3	1.1	9.8
70-480	0.60	0.31	1.7	10.6	111.5	0.7	0.2	0.0	0.1	0.0	0.0	0.0	0.0
70-485	0.45	13.36	55.8	343.4	3,604.3	21.6	4.9	1.0	2.0	0.5	0.1	0.1	0.6
70-490	0.47	48.75	212.5	1,307.0	13,717.9	82.0	18.7	3.8	7.7	2.1	0.5	0.2	2.1
70-495	0.45	7.74	32.3	198.9	2,088.1	12.5	2.8	0.6	1.2	0.3	0.1	0.0	0.3
70-500	0.45	0.56	2.3	14.4	151.1	0.9	0.2	0.0	0.1	0.0	0.0	0.0	0.0
70-505	0.41	8.12	31.0	190.9	2,003.9	12.0	2.7	0.6	1.1	0.3	0.1	0.0	0.3
70-510	0.45	41.82	175.4	1,078.4	11,319.2	67.7	15.4	3.2	6.4	1.7	0.4	0.2	1.8
70-515	0.47	62.73	273.8	1,683.8	17,672.8	105.7	24.1	4.9	10.0	2.7	0.7	0.3	2.7
70-520	0.45	6.05	25.3	155.5	1,632.2	9.8	2.2	0.5	0.9	0.2	0.1	0.0	0.3
70-525	0.45	6.23	26.0	160.1	1,680.7	10.1	2.3	0.5	0.9	0.3	0.1	0.0	0.3
70-530	0.45	1.67	7.0	42.9	450.5	2.7	0.6	0.1	0.3	0.1	0.0	0.0	0.1
70-535	0.45	30.24	126.7	779.1	8,177.2	48.9	11.1	2.3	4.6	1.2	0.3	0.1	1.3
70-540	0.21	5.1	10.1	62.2	652.7	3.9	0.9	0.2	0.4	0.1	0.0	0.0	0.1
70-545	0.45	1.89	7.9	48.6	509.9	3.0	0.7	0.1	0.3	0.1	0.0	0.0	0.1
70-550	0.26	1.3	3.1	19.2	201.8	1.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-555	0.45	1.73	7.2	44.5	466.7	2.8	0.6	0.1	0.3	0.1	0.0	0.0	0.1
70-560	0.45	3.33	13.9	85.6	898.4	5.4	1.2	0.3	0.5	0.1	0.0	0.0	0.1
70-565	0.24	16.63	37.2	228.5	2,398.3	14.3	3.3	0.7	1.4	0.4	0.1	0.0	0.4
70-570	0.45	1.23	5.1	31.6	331.8	2.0	0.5	0.1	0.2	0.1	0.0	0.0	0.1
70-575	0.45	15.39	64.3	395.2	4,147.8	24.8	5.7	1.2	2.3	0.6	0.2	0.1	0.6
70-580	0.43	119.93	483.2	2,971.6	31,189.9	186.5	42.5	8.7	17.6	4.7	1.2	0.5	4.8
71-010	0.10	1.12	1.0	6.4	67.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
71-020	0.45	14.05	58.7	361.1	3,790.4	22.7	5.2	1.1	2.1	0.6	0.1	0.1	0.6
71-030	0.45	28.58	120.1	738.6	7,752.5	46.4	10.6	2.2	4.4	1.2	0.3	0.1	1.2
71-040	0.22	20.93	42.7	262.4	2,754.1	16.5	3.8	0.8	1.6	0.4	0.1	0.0	0.4

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL

2007 WINTER/SNOWMELT POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (01/01/07 - 03/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.760	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation (meters)	**0.135**												
71-050	0.46	120.42	512.2	3,150.2	33,064.4	197.7	45.1	9.2	18.6	5.0	1.2	0.6	5.1
71-060	0.45	3.11	13.0	79.9	839.0	5.0	1.1	0.2	0.5	0.1	0.0	0.0	0.1
71-070	0.00	386.63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71-080	0.46	101.79	431.4	2,652.9	27,844.4	166.5	38.0	7.8	15.7	4.2	1.0	0.5	4.3
71-090	0.45	6.5	26.9	165.4	1,736.3	10.4	2.4	0.5	1.0	0.3	0.1	0.0	0.3
71-100	0.10	1.99	1.8	11.4	119.3	0.7	0.2	0.0	0.1	0.0	0.0	0.0	0.0
72-010	0.18	17.32	28.2	173.2	1,818.2	10.9	2.5	0.5	1.0	0.3	0.1	0.0	0.3
72-020	0.40	24.7	90.6	557.5	5,851.2	35.0	8.0	1.6	3.3	0.9	0.2	0.1	0.9
72-030	0.10	5.25	4.9	30.0	314.7	1.9	0.4	0.1	0.2	0.0	0.0	0.0	0.0
72-040	0.42	166.54	644.3	3,962.3	41,588.3	248.7	56.7	11.6	23.4	6.3	1.5	0.7	6.4
72-050	0.10	5.16	4.8	29.5	309.4	1.8	0.4	0.1	0.2	0.0	0.0	0.0	0.0
72-060	0.36	113.04	379.8	2,335.5	24,513.5	146.6	33.4	6.9	13.8	3.7	0.9	0.4	3.8
72-070	0.10	2.21	2.1	12.6	132.5	0.8	0.2	0.0	0.1	0.0	0.0	0.0	0.0
72-080	0.60	4.74	26.4	162.4	1,705.0	10.2	2.3	0.5	1.0	0.3	0.1	0.0	0.3
72-090	0.45	68.71	285.4	1,755.0	18,420.2	110.2	25.1	5.2	10.4	2.8	0.7	0.3	2.9
72-100	0.46	68.32	293.8	1,806.8	18,964.2	113.4	25.9	5.3	10.7	2.9	0.7	0.3	2.9
72-110	0.10	3.22	3.0	18.4	193.0	1.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0
72-120	0.45	62.98	263.2	1,618.8	16,990.9	101.6	23.2	4.8	9.6	2.6	0.6	0.3	2.6
72-130	0.46	58.06	246.1	1,513.3	15,883.9	95.0	21.7	4.4	8.9	2.4	0.6	0.3	2.5
72-140	0.10	10.19	9.5	58.2	610.9	3.7	0.8	0.2	0.3	0.1	0.0	0.0	0.1
72-150	0.10	4.76	4.4	27.2	285.4	1.7	0.4	0.1	0.2	0.0	0.0	0.0	0.0
72-160	0.10	4.55	4.2	26.0	272.8	1.6	0.4	0.1	0.2	0.0	0.0	0.0	0.0
73-010	0.44	20.76	84.6	520.4	5,462.3	32.7	7.4	1.5	3.1	0.8	0.2	0.1	0.8
73-020	0.44	57.47	236.2	1,452.8	15,248.8	91.2	20.8	4.3	8.6	2.3	0.6	0.3	2.4
73-030	0.10	21.56	20.0	123.1	1,292.6	7.7	1.8	0.4	0.7	0.2	0.0	0.0	0.2
74-010	0.48	44.39	197.3	1,213.7	12,738.5	76.2	17.4	3.6	7.2	1.9	0.5	0.2	2.0
74-020	0.45	4.41	18.4	113.4	1,189.7	7.1	1.6	0.3	0.7	0.2	0.0	0.0	0.2
75-005	0.45	12.39	51.7	318.1	3,338.6	20.0	4.6	0.9	1.9	0.5	0.1	0.1	0.5
75-010	0.60	3.65	20.3	125.1	1,312.9	7.9	1.8	0.4	0.7	0.2	0.0	0.0	0.2
75-020	0.45	1.53	6.4	39.3	412.8	2.5	0.6	0.1	0.2	0.1	0.0	0.0	0.1
75-030	0.45	8.38	35.0	215.4	2,260.8	13.5	3.1	0.6	1.3	0.3	0.1	0.0	0.4
75-040	0.45	14.74	61.6	378.9	3,976.6	23.8	5.4	1.1	2.2	0.6	0.1	0.1	0.6
76-010	0.46	907.31	3,908.7	24,038.3	252,304.7	1,508.7	344.0	70.6	142.1	38.1	9.3	4.3	39.1
76-020	0.46	88.62	375.1	2,306.6	24,209.6	144.8	33.0	6.8	13.6	3.7	0.9	0.4	3.8
76-030	0.45	7.55	31.6	194.1	2,036.9	12.2	2.8	0.6	1.1	0.3	0.1	0.0	0.3
76-040	0.19	4.67	8.1	49.7	521.1	3.1	0.7	0.1	0.3	0.1	0.0	0.0	0.1
76-050	0.00	2.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81-010	0.10	31.17	28.9	178.0	1,868.7	11.2	2.5	0.5	1.1	0.3	0.1	0.0	0.3
82-010	0.49	23.53	106.3	654.0	6,863.9	41.0	9.4	1.9	3.9	1.0	0.3	0.1	1.1
82-020	0.45	73.45	310.3	1,908.1	20,027.6	119.8	27.3	5.6	11.3	3.0	0.7	0.3	3.1
82-030	0.45	90.04	380.2	2,338.5	24,544.9	146.8	33.5	6.9	13.8	3.7	0.9	0.4	3.8
82-040	0.46	98.49	424.4	2,609.8	27,391.9	163.8	37.3	7.7	15.4	4.1	1.0	0.5	4.2
83-010	0.45	6.59	27.5	169.4	1,777.9	10.6	2.4	0.5	1.0	0.3	0.1	0.0	0.3
83-015	0.45	0.99	4.1	25.4	267.1	1.6	0.4	0.1	0.2	0.0	0.0	0.0	0.0
83-020	0.43	85.96	347.1	2,134.7	22,405.9	134.0	30.5	6.3	12.6	3.4	0.8	0.4	3.5
83-025	0.45	51.23	214.1	1,316.8	13,821.0	82.6	18.8	3.9	7.8	2.1	0.5	0.2	2.1
83-030	0.60	0.82	4.6	28.1	295.0	1.8	0.4	0.1	0.2	0.0	0.0	0.0	0.0
83-040	0.10	1.08	1.0	6.2	64.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
83-050	0.45	40.4	169.3	1,041.3	10,929.0	65.4	14.9	3.1	6.2	1.7	0.4	0.2	1.7
83-060	0.45	10.05	42.0	258.3	2,711.3	16.2	3.7	0.8	1.5	0.4	0.1	0.0	0.4
83-070	0.10	1.19	1.1	6.8	71.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
83-080	0.48	178.63	788.8	4,851.0	50,915.7	304.5	69.4	14.2	28.7	7.7	1.9	0.9	7.9
83-090	0.41	9.16	34.9	214.4	2,250.3	13.5	3.1	0.6	1.3	0.3	0.1	0.0	0.3
84-010	0.47	21.56	94.2	579.2	6,079.4	36.4	8.3	1.7	3.4	0.9	0.2	0.1	0.9
85-010	0.10	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WINTER (SNOWMELT) SEASONAL SUMMATION (kg)			**125,455.80**	**771,553.15**	**8,098,171.65**	**48,425.94**	**11,040.11**	**2,264.48**	**4,560.32**	**1,223.19**	**299.84**	**136.75**	**1,254.56**

2007 SPRING POLLUTANT LOADINGS BY OUTFALL

2007 SPRING POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (04/01/07 - 05/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Spring Median Event Mean Concentration			12.0	96	67	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation (meters)	0.079												
10-010	0.43	113.55	159.1	1,273.1	888.5	37.7	12.9	5.9	5.9	1.4	0.3	0.3	1.0
10-020	0.45	7.81	11.4	91.3	63.7	2.7	0.9	0.4	0.4	0.1	0.0	0.0	0.1
10-030	0.10	4.05	1.3	10.5	7.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10-040	0.45	167.42	243.0	1,944.4	1,357.0	57.5	19.7	9.0	9.0	2.1	0.4	0.5	1.5
10-050	0.46	114.18	168.8	1,350.8	942.7	40.0	13.7	6.2	6.2	1.5	0.3	0.3	1.0
10-060	0.60	10.5	20.5	163.7	114.3	4.8	1.7	0.8	0.8	0.2	0.0	0.0	0.1
10-070	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-080	0.38	30.66	38.1	304.5	212.5	9.0	3.1	1.4	1.4	0.3	0.1	0.1	0.2
10-090A	0.00	0.85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090B	0.00	1.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090C	0.54	12.77	22.5	179.7	125.4	5.3	1.8	0.8	0.8	0.2	0.0	0.0	0.1
10-090D	0.00	4.68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-100	0.36	1392.1	1,640.4	13,122.9	9,158.7	388.2	133.1	60.4	60.7	14.4	3.0	3.2	10.1
10-110	0.47	300.11	454.8	3,638.7	2,539.5	107.6	36.9	16.8	16.8	4.0	0.8	0.9	2.8
10-120A/B	0.44	372.78	527.1	4,216.8	2,943.0	124.7	42.8	19.4	19.5	4.6	1.0	1.0	3.2
10-130	0.45	336.46	493.5	3,948.2	2,755.5	116.8	40.1	18.2	18.3	4.3	0.9	1.0	3.0
10-140a	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-140a,b	0.58	220.65	412.5	3,299.8	2,303.0	97.6	33.5	15.2	15.3	3.6	0.8	0.8	2.5
10-150	0.47	157.15	239.4	1,915.0	1,336.5	56.7	19.4	8.8	8.9	2.1	0.4	0.5	1.5
10-160	0.00	17	0.1	1.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-170	0.50	176.01	287.7	2,301.9	1,606.5	68.1	23.4	10.6	10.6	2.5	0.5	0.6	1.8
10-180	0.45	284.26	411.2	3,289.8	2,296.0	97.3	33.4	15.1	15.2	3.6	0.8	0.8	2.5
10-190	0.59	14.58	28.0	224.2	156.5	6.6	2.3	1.0	1.0	0.2	0.1	0.1	0.2
10-200	0.40	42.44	54.7	437.9	305.6	13.0	4.4	2.0	2.0	0.5	0.1	0.1	0.3
10-210	0.49	98.32	157.0	1,256.1	876.6	37.2	12.7	5.8	5.8	1.4	0.3	0.3	1.0
10-220	0.56	18.83	34.2	273.6	190.9	8.1	2.8	1.3	1.3	0.3	0.1	0.1	0.2
10-230	0.47	235.02	360.9	2,887.2	2,015.0	85.4	29.3	13.3	13.4	3.2	0.7	0.7	2.2
10-240	0.51	103.83	173.3	1,386.2	967.5	41.0	14.1	6.4	6.4	1.5	0.3	0.3	1.1
10-250	0.49	242.96	385.8	3,086.7	2,154.3	91.3	31.3	14.2	14.3	3.4	0.7	0.8	2.4
10-260	0.56	23.77	43.0	344.2	240.2	10.2	3.5	1.6	1.6	0.4	0.1	0.1	0.3
10-270	0.47	72.45	111.5	892.2	622.7	26.4	9.1	4.1	4.1	1.0	0.2	0.2	0.7
10-280	0.44	55.08	79.4	635.3	443.4	18.8	6.4	2.9	2.9	0.7	0.1	0.2	0.5
10-290	0.10	6.83	2.2	17.8	12.4	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-300	0.36	17.74	20.8	166.2	116.0	4.9	1.7	0.8	0.8	0.2	0.0	0.0	0.1
10-310	0.47	60.29	92.5	739.9	516.4	21.9	7.5	3.4	3.4	0.8	0.2	0.2	0.6
10-320	0.45	341.99	501.9	4,015.3	2,802.3	118.8	40.7	18.5	18.6	4.4	0.9	1.0	3.1
10-330	0.35	21.61	24.7	197.5	137.8	5.8	2.0	0.9	0.9	0.2	0.0	0.0	0.2
10-340	0.45	20.74	30.4	243.2	169.7	7.2	2.5	1.1	1.1	0.3	0.1	0.1	0.2
10-350	0.60	28.16	54.8	438.3	305.9	13.0	4.4	2.0	2.0	0.5	0.1	0.1	0.3
10-360	0.59	29.02	55.9	447.0	312.0	13.2	4.5	2.1	2.1	0.5	0.1	0.1	0.3
10-370	0.59	14.46	27.7	221.6	154.6	6.6	2.2	1.0	1.0	0.2	0.1	0.1	0.2
10-380	0.45	14.38	20.8	166.4	116.1	4.9	1.7	0.8	0.8	0.2	0.0	0.0	0.1
10-390	0.49	41.97	67.2	537.8	375.3	15.9	5.5	2.5	2.5	0.6	0.1	0.1	0.4
10-400A	0.10	1.07	0.3	2.8	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-400B	0.47	17.66	27.1	216.4	151.1	6.4	2.2	1.0	1.0	0.2	0.0	0.1	0.2
10-400C	0.57	50.25	92.4	738.9	515.7	21.9	7.5	3.4	3.4	0.8	0.2	0.2	0.6
10-410A	0.50	46.22	74.7	598.0	417.4	17.7	6.1	2.8	2.8	0.7	0.1	0.1	0.5
10-410B	0.32	21.29	21.9	175.1	122.2	5.2	1.8	0.8	0.8	0.2	0.0	0.0	0.1
10-410C	0.53	22.8	39.1	312.7	218.3	9.3	3.2	1.4	1.4	0.3	0.1	0.1	0.2
10-410D	0.60	27.34	53.3	426.5	297.7	12.6	4.3	2.0	2.0	0.5	0.1	0.1	0.3
10-410E	0.58	256.04	478.6	3,829.0	2,672.3	113.3	38.8	17.6	17.7	4.2	0.9	0.9	2.9
10-410F	0.59	37.92	72.5	579.7	404.6	17.1	5.9	2.7	2.7	0.6	0.1	0.1	0.4
10-420A	0.27	23.05	20.4	163.2	113.9	4.8	1.7	0.8	0.8	0.2	0.0	0.0	0.1
10-420B	0.00	10.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420C	0.00	7.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420D	0.00	20.73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420E	0.59	127.89	243.8	1,950.5	1,361.3	57.7	19.8	9.0	9.0	2.1	0.4	0.5	1.5
10-430A	0.00	8.14	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430B	0.53	54.72	95.0	759.9	530.3	22.5	7.7	3.5	3.5	0.8	0.2	0.2	0.6
10-430C	0.48	44.83	70.0	559.7	390.6	16.6	5.7	2.6	2.6	0.6	0.1	0.1	0.4
10-430D	0.49	85.79	137.0	1,096.1	765.0	32.4	11.1	5.0	5.1	1.2	0.3	0.3	0.8
10-430E	0.56	86.66	157.0	1,255.8	876.5	37.2	12.7	5.8	5.8	1.4	0.3	0.3	1.0
10-430F	0.10	377.97	122.8	982.3	685.6	29.1	10.0	4.5	4.5	1.1	0.2	0.2	0.8
10-430G	0.50	125.89	202.7	1,621.4	1,131.6	48.0	16.5	7.5	7.5	1.8	0.4	0.4	1.2
10-430H	0.49	33.18	53.0	423.7	295.7	12.5	4.3	2.0	2.0	0.5	0.1	0.1	0.3
10-430I	0.59	32.61	62.4	498.9	348.2	14.8	5.1	2.3	2.3	0.5	0.1	0.1	0.4
10-430J	0.43	532.36	750.5	6,003.9	4,190.2	177.6	60.9	27.6	27.8	6.6	1.4	1.5	4.6
10-430K	0.48	337.06	523.0	4,184.1	2,920.2	123.8	42.5	19.3	19.4	4.6	1.0	1.0	3.2
10-430L	0.45	84.4	123.6	988.7	690.0	29.2	10.0	4.6	4.6	1.1	0.2	0.2	0.8
10-430M	0.54	75.94	133.8	1,070.4	747.1	31.7	10.9	4.9	5.0	1.2	0.2	0.3	0.8
10-430N	0.44	26.43	38.1	304.9	212.8	9.0	3.1	1.4	1.4	0.3	0.1	0.1	0.2
10-430O	0.00	109.53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430P	0.00	229.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430Q	0.10	8.03	2.6	20.9	14.6	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-430R	0.47	150.32	228.3	1,826.2	1,274.6	54.0	18.5	8.4	8.4	2.0	0.4	0.4	1.4
10-430S	0.10	5.15	1.7	13.4	9.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-430T	0.46	262.47	389.8	3,118.2	2,176.2	92.2	31.6	14.4	14.4	3.4	0.7	0.8	2.4

2007 SPRING POLLUTANT LOADINGS BY OUTFALL

2007 SPRING POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (04/01/07 - 05/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Spring Median Event Mean Concentration			12.0	96	67	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation (meters)	0.079												
10-430U	0.47	431.37	658.4	5,267.5	3,676.2	155.8	53.4	24.3	24.4	5.8	1.2	1.3	4.0
10-430V	0.46	329.11	497.0	3,975.8	2,774.8	117.6	40.3	18.3	18.4	4.3	0.9	1.0	3.0
10-440A	0.46	23.18	34.5	276.0	192.6	8.2	2.8	1.3	1.3	0.3	0.1	0.1	0.2
10-440B	0.49	34.23	54.8	438.4	306.0	13.0	4.4	2.0	2.0	0.5	0.1	0.1	0.3
10-440C/D	0.00	56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-440E	0.51	831.25	1,388.6	11,109.2	7,753.3	328.6	112.7	51.1	51.4	12.2	2.5	2.7	8.5
10-440F	0.46	538.85	805.6	6,445.0	4,498.1	190.7	65.4	29.7	29.8	7.0	1.5	1.6	4.9
10-450A	0.00	343.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-450B	0.52	3.41	5.7	45.8	32.0	1.4	0.5	0.2	0.2	0.1	0.0	0.0	0.0
10-450C	0.59	55.64	107.3	858.7	599.3	25.4	8.7	4.0	4.0	0.9	0.2	0.2	0.7
10-450D	0.45	4.62	6.8	54.0	37.7	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
10-450E	0.44	3.2	4.6	36.8	25.7	1.1	0.4	0.2	0.2	0.0	0.0	0.0	0.0
10-450F	0.46	158.55	236.6	1,893.1	1,321.2	56.0	19.2	8.7	8.8	2.1	0.4	0.5	1.5
10-450G/H	0.48	75.02	117.1	936.8	653.8	27.7	9.5	4.3	4.3	1.0	0.2	0.2	0.7
10-450I	0.49	243.64	388.8	3,110.4	2,170.8	92.0	31.6	14.3	14.4	3.4	0.7	0.8	2.4
10-450J	0.49	17.16	27.1	216.5	151.1	6.4	2.2	1.0	1.0	0.2	0.0	0.1	0.2
10-450K	0.58	37.01	69.6	557.2	388.9	16.5	5.7	2.6	2.6	0.6	0.1	0.1	0.4
10-450L	0.51	213.41	350.2	2,801.2	1,955.0	82.9	28.4	12.9	13.0	3.1	0.6	0.7	2.1
10-460	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460A	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460B	0.52	7.29	12.2	97.9	68.3	2.9	1.0	0.5	0.5	0.1	0.0	0.0	0.1
10-460C/D/F	0.00	159.87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460E	0.49	231.41	371.3	2,970.0	2,072.8	87.9	30.1	13.7	13.7	3.2	0.7	0.7	2.3
10-460F	0.49	14.75	23.7	189.6	132.4	5.6	1.9	0.9	0.9	0.2	0.0	0.0	0.1
10-460G	0.51	79.66	132.2	1,057.5	738.0	31.3	10.7	4.9	4.9	1.2	0.2	0.3	0.8
10-460H	0.48	12.35	19.2	153.9	107.4	4.6	1.6	0.7	0.7	0.2	0.0	0.0	0.1
10-460I	0.00	72.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460J	0.46	5.36	8.1	64.6	45.1	1.9	0.7	0.3	0.3	0.1	0.0	0.0	0.0
10-460K	0.36	5.48	6.4	51.2	35.8	1.5	0.5	0.2	0.2	0.1	0.0	0.0	0.0
10-460L	0.46	3.5	5.3	42.2	29.4	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
10-460M	0.48	9.55	14.8	118.8	82.9	3.5	1.2	0.5	0.5	0.1	0.0	0.0	0.1
10-460N	0.45	3.85	5.6	45.0	31.4	1.3	0.5	0.2	0.2	0.0	0.0	0.0	0.0
10-460O	0.45	4.15	6.1	48.9	34.2	1.4	0.5	0.2	0.2	0.1	0.0	0.0	0.0
10-460P	0.45	4.34	6.3	50.8	35.4	1.5	0.5	0.2	0.2	0.1	0.0	0.0	0.0
10-460Q	0.56	19.73	36.2	289.3	201.9	8.6	2.9	1.3	1.3	0.3	0.1	0.1	0.2
10-460R	0.00	51.51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460S	0.56	233.54	428.1	3,425.0	2,390.3	101.3	34.7	15.8	15.8	3.7	0.8	0.8	2.6
10-465	0.10	8.56	2.8	22.2	15.5	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-470	0.38	25.6	31.7	253.9	177.2	7.5	2.6	1.2	1.2	0.3	0.1	0.1	0.2
10-480	0.58	39.66	74.8	598.0	417.4	17.7	6.1	2.8	2.8	0.7	0.1	0.1	0.5
10-485	0.00	7.27	0.1	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-490	0.43	150.96	212.6	1,700.8	1,187.0	50.3	17.3	7.8	7.9	1.9	0.4	0.4	1.3
10-500A	0.26	26.21	22.3	178.8	124.8	5.3	1.8	0.8	0.8	0.2	0.0	0.0	0.1
10-500B	0.46	8.48	12.7	101.4	70.8	3.0	1.0	0.5	0.5	0.1	0.0	0.0	0.1
10-500C	0.44	111.36	157.5	1,260.0	879.4	37.3	12.8	5.8	5.8	1.4	0.3	0.3	1.0
10-500D	0.24	3.83	3.0	23.7	16.5	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-500E	0.53	23.34	40.4	323.0	225.4	9.6	3.3	1.5	1.5	0.4	0.1	0.1	0.2
10-500F	0.49	12.04	19.3	154.5	107.8	4.6	1.6	0.7	0.7	0.2	0.0	0.0	0.1
10-500G	0.00	112.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-505	0.10	7.85	2.6	20.4	14.2	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-510	0.51	62.36	103.0	824.3	575.3	24.4	8.4	3.8	3.8	0.9	0.2	0.2	0.6
10-520	0.00	139.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-530	0.45	116.15	170.1	1,360.7	949.7	40.3	13.8	6.3	6.3	1.5	0.3	0.3	1.0
10-540	0.12	53.9	20.7	165.9	115.8	4.9	1.7	0.8	0.8	0.2	0.0	0.0	0.1
10-550	0.46	25.83	38.6	308.7	215.5	9.1	3.1	1.4	1.4	0.3	0.1	0.1	0.2
10-560A/B	0.44	600.63	853.6	6,829.1	4,766.1	202.0	69.3	31.4	31.6	7.5	1.6	1.7	5.2
10-570A	0.54	14.64	25.9	206.9	144.4	6.1	2.1	1.0	1.0	0.2	0.0	0.1	0.2
10-570B	0.44	228.18	323.6	2,588.6	1,806.6	76.6	26.3	11.9	12.0	2.8	0.6	0.6	2.0
10-580	0.45	73.39	107.0	856.1	597.5	25.3	8.7	3.9	4.0	0.9	0.2	0.2	0.7
10-600	0.48	89.24	140.2	1,121.6	782.8	33.2	11.4	5.2	5.2	1.2	0.3	0.3	0.9
10-610	0.46	25.6	38.1	304.9	212.8	9.0	3.1	1.4	1.4	0.3	0.1	0.1	0.2
10-620	0.00	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630A	0.10	6.24	2.0	16.2	11.3	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-630B	0.45	4.68	6.8	54.7	38.2	1.6	0.6	0.3	0.3	0.1	0.0	0.0	0.0
10-630C	0.48	96.03	150.7	1,205.8	841.5	35.7	12.2	5.6	5.6	1.3	0.3	0.3	0.9
10-630D	0.45	6.37	9.3	74.5	52.0	2.2	0.8	0.3	0.3	0.1	0.0	0.0	0.1
10-630E	0.45	8.52	12.5	99.6	69.5	2.9	1.0	0.5	0.5	0.1	0.0	0.0	0.1
10-630F	0.54	17.56	30.8	246.5	172.1	7.3	2.5	1.1	1.1	0.3	0.1	0.1	0.2
10-630G	0.45	5.9	8.6	69.0	48.2	2.0	0.7	0.3	0.3	0.1	0.0	0.0	0.1
10-630H	0.30	25.63	25.2	201.7	140.8	6.0	2.0	0.9	0.9	0.2	0.0	0.0	0.2
10-630I	0.47	12.48	18.9	150.8	105.3	4.5	1.5	0.7	0.7	0.2	0.0	0.0	0.1
10-630J	0.55	14.69	26.4	211.4	147.5	6.3	2.1	1.0	1.0	0.2	0.0	0.1	0.2
10-630K	0.47	95.29	146.5	1,172.1	818.0	34.7	11.9	5.4	5.4	1.3	0.3	0.3	0.9
10-630L	0.52	100.42	170.0	1,359.7	949.0	40.2	13.8	6.3	6.3	1.5	0.3	0.3	1.0
10-630M	0.50	11.71	18.9	151.1	105.5	4.5	1.5	0.7	0.7	0.2	0.0	0.0	0.1
10-630N	0.45	8.45	12.4	98.8	69.0	2.9	1.0	0.5	0.5	0.1	0.0	0.0	0.1
10-630O	0.36	5.77	6.8	54.6	38.1	1.6	0.6	0.3	0.3	0.1	0.0	0.0	0.0

2007 SPRING POLLUTANT LOADINGS BY OUTFALL

2007 SPRING POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (04/01/07 - 05/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Spring Median Event Mean Concentration			12.0	96	67	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation (meters)	0.079												
10-630P/Q	0.00	67.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630R	0.33	83.89	91.0	728.2	508.2	21.5	7.4	3.4	3.4	0.8	0.2	0.2	0.6
10-630S	0.22	37.02	26.1	209.1	146.0	6.2	2.1	1.0	1.0	0.2	0.0	0.1	0.2
10-630T	0.56	7.72	14.1	112.9	78.8	3.3	1.1	0.5	0.5	0.1	0.0	0.0	0.1
10-630U	0.52	115.42	196.1	1,569.1	1,095.1	46.4	15.9	7.2	7.3	1.7	0.4	0.4	1.2
10-630V	0.11	33.85	11.6	92.9	64.8	2.7	0.9	0.4	0.4	0.1	0.0	0.0	0.1
10-630W	0.47	23.68	36.4	291.5	203.5	8.6	3.0	1.3	1.3	0.3	0.1	0.1	0.2
10-630X	0.44	14.78	21.2	169.9	118.6	5.0	1.7	0.8	0.8	0.2	0.0	0.0	0.1
10-630Y	0.00	112.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630Z	0.47	45.66	69.8	558.7	389.9	16.5	5.7	2.6	2.6	0.6	0.1	0.1	0.4
10-640	0.46	258.18	383.6	3,068.8	2,141.7	90.8	31.1	14.1	14.2	3.4	0.7	0.8	2.4
10-650	0.56	19.53	35.3	282.7	197.3	8.4	2.9	1.3	1.3	0.3	0.1	0.1	0.2
10-660	0.46	306.37	461.1	3,688.5	2,574.3	109.1	37.4	17.0	17.1	4.0	0.8	0.9	2.8
10-670	0.45	137.88	201.3	1,610.1	1,123.7	47.6	16.3	7.4	7.4	1.8	0.4	0.4	1.2
10-680	0.46	707.95	1,054.5	8,436.1	5,887.7	249.6	85.6	38.8	39.0	9.2	1.9	2.1	6.5
10-690	0.50	70.63	114.8	918.3	640.9	27.2	9.3	4.2	4.2	1.0	0.2	0.2	0.7
10-700	0.46	222.07	335.0	2,680.0	1,870.4	79.3	27.2	12.3	12.4	2.9	0.6	0.7	2.1
10-710	0.33	29.95	32.4	259.3	181.0	7.7	2.6	1.2	1.2	0.3	0.1	0.1	0.2
10-720A	0.44	15.77	22.7	181.7	126.8	5.4	1.8	0.8	0.8	0.2	0.0	0.0	0.1
10-720B	0.48	422.18	660.8	5,286.1	3,689.2	156.4	53.6	24.3	24.4	5.8	1.2	1.3	4.1
10-720C	0.43	26.35	36.8	294.1	205.2	8.7	3.0	1.4	1.4	0.3	0.1	0.1	0.2
10-720D	0.46	22.95	33.9	271.5	189.5	8.0	2.8	1.3	1.3	0.3	0.1	0.1	0.2
10-720E	0.46	18.39	27.2	217.8	152.0	6.4	2.2	1.0	1.0	0.2	0.0	0.1	0.2
10-720F	0.48	317.75	495.3	3,962.3	2,765.3	117.2	40.2	18.2	18.3	4.3	0.9	1.0	3.0
10-720G	0.00	13.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-720H	0.45	4.55	6.7	53.2	37.1	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
10-720I	0.45	87.27	126.4	1,011.4	705.9	29.9	10.3	4.7	4.7	1.1	0.2	0.2	0.8
10-720J	0.36	3.71	4.3	34.4	24.0	1.0	0.3	0.2	0.2	0.0	0.0	0.0	0.0
10-720K	0.55	32.76	58.4	467.5	326.3	13.8	4.7	2.2	2.2	0.5	0.1	0.1	0.4
10-720L	0.45	4.57	6.7	53.4	37.3	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
20-010	0.42	93.99	128.2	1,025.5	715.7	30.3	10.4	4.7	4.7	1.1	0.2	0.3	0.8
20-020	0.44	15.09	21.5	172.0	120.1	5.1	1.7	0.8	0.8	0.2	0.0	0.0	0.1
20-030	0.45	7.95	11.6	93.0	64.9	2.8	0.9	0.4	0.4	0.1	0.0	0.0	0.1
20-040	0.37	6.79	8.2	65.8	45.9	1.9	0.7	0.3	0.3	0.1	0.0	0.0	0.1
20-050	0.00	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-060	0.45	5.91	8.6	69.1	48.2	2.0	0.7	0.3	0.3	0.1	0.0	0.0	0.1
20-070	0.44	39.07	56.3	450.2	314.2	13.3	4.6	2.1	2.1	0.5	0.1	0.1	0.3
20-080	0.45	33.72	49.7	397.3	277.3	11.8	4.0	1.8	1.8	0.4	0.1	0.1	0.3
20-090	0.55	9.95	17.9	142.9	99.8	4.2	1.5	0.7	0.7	0.2	0.0	0.0	0.1
20-100	0.10	0.99	0.3	2.6	1.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-110	0.24	216.04	168.4	1,347.1	940.1	39.9	13.7	6.2	6.2	1.5	0.3	0.3	1.0
20-120	0.47	10.22	15.5	124.2	86.7	3.7	1.3	0.6	0.6	0.1	0.0	0.0	0.1
20-130	0.45	16.12	23.6	188.5	131.6	5.6	1.9	0.9	0.9	0.2	0.0	0.0	0.1
20-140	0.44	2.97	4.3	34.1	23.8	1.0	0.3	0.2	0.2	0.0	0.0	0.0	0.0
20-150	0.45	14.48	21.2	169.3	118.2	5.0	1.7	0.8	0.8	0.2	0.0	0.0	0.1
20-160	0.54	3.21	5.6	45.1	31.5	1.3	0.5	0.2	0.2	0.0	0.0	0.0	0.0
20-170	0.37	4.94	6.0	47.8	33.4	1.4	0.5	0.2	0.2	0.1	0.0	0.0	0.0
20-180	0.51	5.3	8.7	69.7	48.7	2.1	0.7	0.3	0.3	0.1	0.0	0.0	0.1
20-190	0.45	1.35	2.0	15.8	11.0	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
20-200	0.45	13.84	20.2	161.9	113.0	4.8	1.6	0.7	0.7	0.2	0.0	0.0	0.1
20-210A	0.44	92.9	132.6	1,060.6	740.2	31.4	10.8	4.9	4.9	1.2	0.2	0.3	0.8
20-210B	0.50	620.78	1,017.5	8,140.2	5,681.2	240.8	82.6	37.5	37.6	8.9	1.9	2.0	6.2
20-220	0.46	26.38	39.5	316.1	220.6	9.4	3.2	1.5	1.5	0.3	0.1	0.1	0.2
20-230	0.00	21.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-240	0.48	30.06	47.0	376.4	262.7	11.1	3.8	1.7	1.7	0.4	0.1	0.1	0.3
20-250	0.57	6.28	11.7	93.3	65.1	2.8	0.9	0.4	0.4	0.1	0.0	0.0	0.1
20-260	0.60	3.5	6.8	54.6	38.1	1.6	0.6	0.3	0.3	0.1	0.0	0.0	0.0
20-270	0.48	42.81	66.3	530.4	370.2	15.7	5.4	2.4	2.5	0.6	0.1	0.1	0.4
20-280	0.54	8.98	15.7	125.4	87.5	3.7	1.3	0.6	0.6	0.1	0.0	0.0	0.1
20-290	0.00	4.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-010	0.45	49.49	72.1	576.5	402.4	17.1	5.8	2.7	2.7	0.6	0.1	0.1	0.4
40-010	0.45	719.17	1,046.9	8,375.5	5,845.4	247.8	85.0	38.6	38.7	9.2	1.9	2.1	6.4
40-020	0.45	15.36	22.5	179.6	125.4	5.3	1.8	0.8	0.8	0.2	0.0	0.0	0.1
40-030	0.42	51.02	69.2	553.9	386.6	16.4	5.6	2.6	2.6	0.6	0.1	0.1	0.4
40-040	0.43	65.39	92.2	737.9	515.0	21.8	7.5	3.4	3.4	0.8	0.2	0.2	0.6
40-050	0.45	10.28	15.0	120.2	83.9	3.6	1.2	0.6	0.6	0.1	0.0	0.0	0.1
40-060	0.45	3.2	4.7	37.4	26.1	1.1	0.4	0.2	0.2	0.0	0.0	0.0	0.0
40-070	0.38	7.98	9.8	78.5	54.8	2.3	0.8	0.4	0.4	0.1	0.0	0.0	0.1
40-080	0.41	60.51	80.3	642.2	448.2	19.0	6.5	3.0	3.0	0.7	0.1	0.2	0.5
40-090	0.46	20.65	31.2	249.5	174.1	7.4	2.5	1.1	1.2	0.3	0.1	0.1	0.2
40-100	0.00	20.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-110	0.44	2.61	3.8	30.1	21.0	0.9	0.3	0.1	0.1	0.0	0.0	0.0	0.0
40-120	0.44	65.87	93.8	750.3	523.6	22.2	7.6	3.5	3.5	0.8	0.2	0.2	0.6
40-130	0.45	35.01	51.4	411.1	286.9	12.2	4.2	1.9	1.9	0.4	0.1	0.1	0.3
40-140	0.35	125.46	141.7	1,133.8	791.3	33.5	11.5	5.2	5.2	1.2	0.3	0.3	0.9
40-150	0.47	24.31	37.4	299.3	208.9	8.9	3.0	1.4	1.4	0.3	0.1	0.1	0.2
40-160	0.49	30.99	49.8	398.2	277.9	11.8	4.0	1.8	1.8	0.4	0.1	0.1	0.3

2007 SPRING POLLUTANT LOADINGS BY OUTFALL

2007 SPRING POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (04/01/07 - 05/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Spring Median Event Mean Concentration			12.0	96	67	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation (meters)	0.079												
40-170	0.00	194.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-180	0.54	16.8	29.4	235.0	164.0	7.0	2.4	1.1	1.1	0.3	0.1	0.1	0.2
40-190	0.53	65.53	112.6	900.5	628.5	26.6	9.1	4.1	4.2	1.0	0.2	0.2	0.7
40-200	0.46	24.75	37.2	297.4	207.5	8.8	3.0	1.4	1.4	0.3	0.1	0.1	0.2
40-210	0.54	17.26	30.5	244.4	170.6	7.2	2.5	1.1	1.1	0.3	0.1	0.1	0.2
40-220	0.47	100.58	152.7	1,222.0	852.8	36.2	12.4	5.6	5.7	1.3	0.3	0.3	0.9
40-230	0.44	13.78	19.9	159.3	111.2	4.7	1.6	0.7	0.7	0.2	0.0	0.0	0.1
40-240	0.00	340.86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-250	0.60	1.15	2.2	17.9	12.5	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
40-260	0.45	3.49	5.1	40.8	28.5	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
40-270	0.45	9.59	14.0	112.2	78.3	3.3	1.1	0.5	0.5	0.1	0.0	0.0	0.1
40-280	0.53	12.76	21.8	174.4	121.7	5.2	1.8	0.8	0.8	0.2	0.0	0.0	0.1
40-290	0.51	13.73	22.8	182.7	127.5	5.4	1.9	0.8	0.8	0.2	0.0	0.0	0.1
40-300	0.52	10.38	17.6	140.6	98.1	4.2	1.4	0.6	0.7	0.2	0.0	0.0	0.1
40-310	0.45	97.86	143.9	1,151.2	803.4	34.1	11.7	5.3	5.3	1.3	0.3	0.3	0.9
40-320	0.60	9.43	18.4	147.0	102.6	4.4	1.5	0.7	0.7	0.2	0.0	0.0	0.1
40-330	0.59	15.34	29.5	236.3	164.9	7.0	2.4	1.1	1.1	0.3	0.1	0.1	0.2
40-340	0.53	35.27	61.1	488.5	340.9	14.5	5.0	2.2	2.3	0.5	0.1	0.1	0.4
40-350	0.60	8.99	17.5	140.2	97.8	4.1	1.4	0.6	0.6	0.2	0.0	0.0	0.1
40-360	0.60	8.09	15.8	126.1	88.0	3.7	1.3	0.6	0.6	0.1	0.0	0.0	0.1
40-370	0.58	12.41	23.3	186.6	130.2	5.5	1.9	0.9	0.9	0.2	0.0	0.0	0.1
40-380	0.39	24.92	31.8	254.8	177.8	7.5	2.6	1.2	1.2	0.3	0.1	0.1	0.2
40-390	0.58	5.72	10.8	86.2	60.2	2.6	0.9	0.4	0.4	0.1	0.0	0.0	0.1
40-400	0.10	1.07	0.3	2.8	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-010	0.38	94.73	116.2	929.2	648.5	27.5	9.4	4.3	4.3	1.0	0.2	0.2	0.7
41-020	0.00	14.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-030	0.50	60.47	98.6	788.9	550.6	23.3	8.0	3.6	3.6	0.9	0.2	0.2	0.6
41-040	0.57	35.59	66.2	530.0	369.9	15.7	5.4	2.4	2.5	0.6	0.1	0.1	0.4
41-050	0.60	10.48	20.4	163.4	114.1	4.8	1.7	0.8	0.8	0.2	0.0	0.0	0.1
41-060	0.60	2.95	5.8	46.0	32.1	1.4	0.5	0.2	0.2	0.1	0.0	0.0	0.0
51-010	0.45	29.63	43.4	347.6	242.6	10.3	3.5	1.6	1.6	0.4	0.1	0.1	0.3
51-020	0.45	4.55	6.7	53.2	37.1	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
52-010	0.28	45.29	40.7	325.3	227.0	9.6	3.3	1.5	1.5	0.4	0.1	0.1	0.2
52-020	0.45	6.09	8.9	71.2	49.7	2.1	0.7	0.3	0.3	0.1	0.0	0.0	0.1
52-030	0.45	7.18	10.5	84.0	58.6	2.5	0.9	0.4	0.4	0.1	0.0	0.0	0.1
52-040	0.41	4.54	6.1	48.8	34.0	1.4	0.5	0.2	0.2	0.1	0.0	0.0	0.0
52-050	0.44	15.3	21.6	173.0	120.7	5.1	1.8	0.8	0.8	0.2	0.0	0.0	0.1
52-060	0.10	3.22	1.0	8.4	5.8	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
52-070	0.42	86.94	119.5	956.2	667.3	28.3	9.7	4.4	4.4	1.0	0.2	0.2	0.7
52-080	0.24	8.08	6.4	50.8	35.5	1.5	0.5	0.2	0.2	0.1	0.0	0.0	0.0
52-090	0.45	4.89	7.1	57.2	39.9	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
52-100A/B	0.27	11.89	10.3	82.4	57.5	2.4	0.8	0.4	0.4	0.1	0.0	0.0	0.1
52-110	0.45	8.84	12.8	102.6	71.6	3.0	1.0	0.5	0.5	0.1	0.0	0.0	0.1
52-120	0.45	14.74	21.5	172.4	120.3	5.1	1.7	0.8	0.8	0.2	0.0	0.0	0.1
52-130	0.31	7.18	7.3	58.7	41.0	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
53-010	0.45	7.03	10.3	82.2	57.4	2.4	0.8	0.4	0.4	0.1	0.0	0.0	0.1
53-020	0.28	12.38	11.1	88.9	62.1	2.6	0.9	0.4	0.4	0.1	0.0	0.0	0.1
53-030	0.44	11.37	16.1	129.1	90.1	3.8	1.3	0.6	0.6	0.1	0.0	0.0	0.1
53-040	0.45	2.78	4.1	32.5	22.7	1.0	0.3	0.1	0.2	0.0	0.0	0.0	0.0
53-050	0.45	13.66	20.0	159.8	111.5	4.7	1.6	0.7	0.7	0.2	0.0	0.0	0.1
53-060	0.45	20.37	29.8	238.2	166.3	7.0	2.4	1.1	1.1	0.3	0.1	0.1	0.2
53-070	0.45	4.89	7.1	57.2	39.9	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
53-080	0.39	5.81	7.4	59.5	41.5	1.8	0.6	0.3	0.3	0.1	0.0	0.0	0.0
53-090	0.46	59.59	88.9	711.1	496.3	21.0	7.2	3.3	3.3	0.8	0.2	0.2	0.5
53-100	0.00	107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53-110	0.38	4.59	5.7	45.9	32.0	1.4	0.5	0.2	0.2	0.1	0.0	0.0	0.0
53-120A/B	0.46	129.79	192.1	1,536.8	1,072.6	45.5	15.6	7.1	7.1	1.7	0.4	0.4	1.2
53-130	0.45	5.02	7.3	58.7	41.0	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
53-140	0.45	6.36	9.3	74.4	51.9	2.2	0.8	0.3	0.3	0.1	0.0	0.0	0.1
53-150	0.48	90.4	142.1	1,136.7	793.3	33.6	11.5	5.2	5.3	1.2	0.3	0.3	0.9
53-160	0.47	252.19	387.3	3,098.6	2,162.6	91.7	31.4	14.3	14.3	3.4	0.7	0.8	2.4
53-170	0.36	6.39	7.5	59.9	41.8	1.8	0.6	0.3	0.3	0.1	0.0	0.0	0.0
53-180	0.10	8.09	2.6	21.0	14.7	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
53-190	0.30	11.41	11.1	89.1	62.2	2.6	0.9	0.4	0.4	0.1	0.0	0.0	0.1
54-010A/B	0.44	84.93	120.0	960.3	670.2	28.4	9.7	4.4	4.4	1.1	0.2	0.2	0.7
54-040A/B	0.49	255.14	410.2	3,281.8	2,290.5	97.1	33.3	15.1	15.2	3.6	0.8	0.8	2.5
54-050	0.17	9.27	5.2	41.9	29.2	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
54-060	0.44	32.13	45.8	366.8	256.0	10.9	3.7	1.7	1.7	0.4	0.1	0.1	0.3
54-070	0.36	60.8	70.8	566.6	395.4	16.8	5.7	2.6	2.6	0.6	0.1	0.1	0.4
54-080A/B/C	0.46	414.26	615.1	4,921.1	3,434.5	145.6	49.9	22.7	22.8	5.4	1.1	1.2	3.8
54-090	0.10	3.55	1.2	9.2	6.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
54-100A/B	0.60	114.24	221.1	1,768.6	1,234.3	52.3	17.9	8.1	8.2	1.9	0.4	0.4	1.4
54-110	0.45	24.55	35.9	287.1	200.4	8.5	2.9	1.3	1.3	0.3	0.1	0.1	0.2
54-120	0.46	62.08	92.2	737.2	514.5	21.8	7.5	3.4	3.4	0.8	0.2	0.2	0.6
54-130	0.10	1.07	0.3	2.8	1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54-140A/B	0.41	113.01	149.8	1,198.1	836.2	35.4	12.2	5.5	5.5	1.3	0.3	0.3	0.9
54-150	0.45	55.34	80.1	640.5	447.0	18.9	6.5	2.9	3.0	0.7	0.1	0.2	0.5

2007 SPRING POLLUTANT LOADINGS BY OUTFALL

2007 SPRING POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (04/01/07 - 05/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Spring Median Event Mean Concentration			12.0	96	67	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation (meters)	0.079												
54-160	0.60	2.62	5.1	40.9	28.5	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
54-170	0.59	8.08	15.6	124.9	87.1	3.7	1.3	0.6	0.6	0.1	0.0	0.0	0.1
54-180	0.60	2.82	5.5	44.0	30.7	1.3	0.4	0.2	0.2	0.0	0.0	0.0	0.0
54-190	0.10	2.2	0.7	5.7	4.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
54-200	0.10	2.13	0.7	5.5	3.9	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
54-210	0.10	1.14	0.4	3.0	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55-010	0.60	14.98	29.2	233.6	163.0	6.9	2.4	1.1	1.1	0.3	0.1	0.1	0.2
55-020	0.60	189.58	367.1	2,937.0	2,049.8	86.9	29.8	13.5	13.6	3.2	0.7	0.7	2.3
56-010	0.60	67.62	131.8	1,054.4	735.9	31.2	10.7	4.9	4.9	1.2	0.2	0.3	0.8
57-010	0.53	26.1	45.2	361.9	252.5	10.7	3.7	1.7	1.7	0.4	0.1	0.1	0.3
57-020	0.00	142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-030	0.45	18.22	26.6	213.1	148.7	6.3	2.2	1.0	1.0	0.2	0.0	0.1	0.2
57-040	0.35	39.88	45.2	361.7	252.4	10.7	3.7	1.7	1.7	0.4	0.1	0.1	0.3
57-050	0.45	7.9	11.5	92.4	64.5	2.7	0.9	0.4	0.4	0.1	0.0	0.0	0.1
57-060	0.46	26.11	39.2	313.8	219.0	9.3	3.2	1.4	1.5	0.3	0.1	0.1	0.2
57-070	0.45	81.33	119.2	953.4	665.4	28.2	9.7	4.4	4.4	1.0	0.2	0.2	0.7
57-080	0.42	5.54	7.6	60.9	42.5	1.8	0.6	0.3	0.3	0.1	0.0	0.0	0.0
57-090	0.47	77.77	118.6	948.5	662.0	28.1	9.6	4.4	4.4	1.0	0.2	0.2	0.7
57-100A/B	0.47	313.43	481.0	3,848.1	2,685.7	113.8	39.0	17.7	17.8	4.2	0.9	0.9	3.0
57-110	0.54	21.6	37.9	303.6	211.9	9.0	3.1	1.4	1.4	0.3	0.1	0.1	0.2
57-120A/B/C	0.00	65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-130	0.10	1.16	0.4	3.0	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-140	0.10	1.55	0.5	4.0	2.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-150	0.43	35.68	50.0	400.2	279.3	11.8	4.1	1.8	1.9	0.4	0.1	0.1	0.3
57-160	0.10	1.89	0.6	4.9	3.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61-010	0.55	2.86	5.1	41.0	28.6	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
62-010	0.45	27.84	40.9	327.1	228.3	9.7	3.3	1.5	1.5	0.4	0.1	0.1	0.3
63-010	0.45	388.79	571.1	4,568.4	3,188.4	135.1	46.4	21.0	21.1	5.0	1.0	1.1	3.5
63-020	0.00	11.91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64-100	0.45	24.92	36.4	291.2	203.2	8.6	3.0	1.3	1.3	0.3	0.1	0.1	0.2
64-110	0.45	6.01	8.8	70.3	49.1	2.1	0.7	0.3	0.3	0.1	0.0	0.0	0.1
64-120	0.45	16.04	23.4	187.6	130.9	5.5	1.9	0.9	0.9	0.2	0.0	0.0	0.1
64-130	0.45	2.44	3.6	28.5	19.9	0.8	0.3	0.1	0.1	0.0	0.0	0.0	0.0
65-010	0.00	18.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65-020	0.53	38.46	66.1	528.9	369.1	15.6	5.4	2.4	2.4	0.6	0.1	0.1	0.4
70-010	0.46	6.23	9.3	74.3	51.8	2.2	0.8	0.3	0.3	0.1	0.0	0.0	0.1
70-015	0.45	11.69	17.1	136.7	95.4	4.0	1.4	0.6	0.6	0.1	0.0	0.0	0.1
70-020	0.45	37.55	54.9	439.1	306.5	13.0	4.5	2.0	2.0	0.5	0.1	0.1	0.3
70-025	0.00	3.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-030	0.45	13.48	19.7	157.5	109.9	4.7	1.6	0.7	0.7	0.2	0.0	0.0	0.1
70-035	0.45	4.53	6.6	53.0	37.0	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
70-040	0.45	2.42	3.5	28.3	19.8	0.8	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-045	0.00	0.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-050	0.45	17.41	25.5	203.6	142.1	6.0	2.1	0.9	0.9	0.2	0.0	0.0	0.2
70-055	0.46	333.43	502.7	4,021.8	2,806.9	119.0	40.8	18.5	18.6	4.4	0.9	1.0	3.1
70-060	0.45	3.53	5.2	41.3	28.8	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
70-065	0.45	1.89	2.8	22.1	15.4	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-070	0.45	5.8	8.5	67.8	47.3	2.0	0.7	0.3	0.3	0.1	0.0	0.0	0.1
70-075	0.43	5	7.0	56.1	39.1	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
70-080	0.46	11.96	17.9	143.6	100.2	4.2	1.5	0.7	0.7	0.2	0.0	0.0	0.1
70-085	0.45	229.48	333.4	2,667.3	1,861.5	78.9	27.1	12.3	12.3	2.9	0.6	0.7	2.0
70-090	0.45	18.57	27.1	217.2	151.6	6.4	2.2	1.0	1.0	0.2	0.0	0.1	0.2
70-095	0.45	9.99	14.6	116.8	81.5	3.5	1.2	0.5	0.5	0.1	0.0	0.0	0.1
70-100	0.45	9.64	14.1	112.7	78.7	3.3	1.1	0.5	0.5	0.1	0.0	0.0	0.1
70-105	0.45	1.63	2.4	19.1	13.3	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-110	0.45	18.13	26.5	212.0	148.0	6.3	2.2	1.0	1.0	0.2	0.0	0.1	0.2
70-115	0.45	3.71	5.4	43.4	30.3	1.3	0.4	0.2	0.2	0.0	0.0	0.0	0.0
70-120	0.45	4.22	6.2	49.4	34.4	1.5	0.5	0.2	0.2	0.1	0.0	0.0	0.0
70-125	0.00	5.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-130	0.49	34.29	55.0	440.0	307.1	13.0	4.5	2.0	2.0	0.5	0.1	0.1	0.3
70-135	0.45	7.46	10.9	87.2	60.9	2.6	0.9	0.4	0.4	0.1	0.0	0.0	0.1
70-140	0.60	0.78	1.5	12.2	8.5	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-145	0.60	9.19	17.9	143.3	100.0	4.2	1.5	0.7	0.7	0.2	0.0	0.0	0.1
70-150	0.45	4.51	6.6	52.7	36.8	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
70-155	0.45	2.05	3.0	24.0	16.7	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-160	0.45	2.95	4.3	34.5	24.1	1.0	0.4	0.2	0.2	0.0	0.0	0.0	0.0
70-165	0.45	27.77	40.6	324.8	226.7	9.6	3.3	1.5	1.5	0.4	0.1	0.1	0.2
70-170	0.45	23.74	34.7	277.6	193.8	8.2	2.8	1.3	1.3	0.3	0.1	0.1	0.2
70-175	0.46	30.89	45.9	367.1	256.2	10.9	3.7	1.7	1.7	0.4	0.1	0.1	0.3
70-180	0.45	1.14	1.7	13.3	9.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-185	0.45	1.53	2.2	17.9	12.5	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-190	0.17	15.04	8.4	67.3	46.9	2.0	0.7	0.3	0.3	0.1	0.0	0.0	0.1
70-195	0.45	46.02	67.6	541.1	377.7	16.0	5.5	2.5	2.5	0.6	0.1	0.1	0.4
70-200	0.45	31.52	46.1	368.6	257.3	10.9	3.7	1.7	1.7	0.4	0.1	0.1	0.3
70-205	0.45	1.39	2.0	16.3	11.3	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-210	0.45	3.58	5.2	41.9	29.2	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
70-215	0.45	5.93	8.7	69.4	48.4	2.1	0.7	0.3	0.3	0.1	0.0	0.0	0.1

2007 SPRING POLLUTANT LOADINGS BY OUTFALL

2007 SPRING POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (04/01/07 - 05/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Spring Median Event Mean Concentration			12.0	96	67	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation (meters)	0.079												
70-220	0.45	4.54	6.6	53.1	37.1	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
70-225	0.45	4.99	7.3	58.4	40.7	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
70-230	0.45	4.72	6.9	55.2	38.5	1.6	0.6	0.3	0.3	0.1	0.0	0.0	0.0
70-235	0.45	5.04	7.4	58.9	41.1	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
70-240	0.45	4.52	6.6	52.9	36.9	1.6	0.5	0.2	0.2	0.1	0.0	0.0	0.0
70-245	0.44	9.98	14.2	113.9	79.5	3.4	1.2	0.5	0.5	0.1	0.0	0.0	0.1
70-250	0.48	41.27	64.7	517.4	361.1	15.3	5.2	2.4	2.4	0.6	0.1	0.1	0.4
70-255	0.45	45.37	66.3	530.8	370.4	15.7	5.4	2.4	2.5	0.6	0.1	0.1	0.4
70-260	0.46	24.9	37.0	296.2	206.7	8.8	3.0	1.4	1.4	0.3	0.1	0.1	0.2
70-265A/B	0.00	183.65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-270	0.45	4.66	6.8	54.5	38.0	1.6	0.6	0.3	0.3	0.1	0.0	0.0	0.0
70-275	0.45	4.28	6.3	50.1	34.9	1.5	0.5	0.2	0.2	0.1	0.0	0.0	0.0
70-280	0.45	9.39	13.8	110.0	76.8	3.3	1.1	0.5	0.5	0.1	0.0	0.0	0.1
70-285	0.45	19.03	27.8	222.3	155.2	6.6	2.3	1.0	1.0	0.2	0.1	0.1	0.2
70-290	0.45	2.37	3.4	27.5	19.2	0.8	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-295	0.45	7.18	10.5	84.0	58.6	2.5	0.9	0.4	0.4	0.1	0.0	0.0	0.1
70-300	0.10	0.4	0.1	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-305	0.45	12.68	18.4	147.0	102.6	4.3	1.5	0.7	0.7	0.2	0.0	0.0	0.1
70-310	0.00	5.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-315	0.30	5.79	5.6	45.1	31.5	1.3	0.5	0.2	0.2	0.0	0.0	0.0	0.0
70-320	0.44	2.32	3.3	26.5	18.5	0.8	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-325	0.00	2.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-330	0.47	279.41	427.6	3,420.5	2,387.2	101.2	34.7	15.7	15.8	3.7	0.8	0.8	2.6
70-335	0.45	1.99	2.9	23.3	16.2	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-340	0.39	22.25	28.4	227.5	158.8	6.7	2.3	1.0	1.1	0.2	0.1	0.1	0.2
70-345	0.45	3.81	5.6	44.6	31.1	1.3	0.5	0.2	0.2	0.0	0.0	0.0	0.0
70-350	0.49	314.4	504.7	4,037.4	2,817.8	119.4	41.0	18.6	18.7	4.4	0.9	1.0	3.1
70-355	0.45	1.29	1.9	15.1	10.5	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-360	0.45	131.96	194.8	1,558.7	1,087.9	46.1	15.8	7.2	7.2	1.7	0.4	0.4	1.2
70-365	0.45	6.7	9.8	78.4	54.7	2.3	0.8	0.4	0.4	0.1	0.0	0.0	0.1
70-370	0.44	3.75	5.4	43.2	30.1	1.3	0.4	0.2	0.2	0.0	0.0	0.0	0.0
70-375	0.47	7.1	10.9	87.2	60.9	2.6	0.9	0.4	0.4	0.1	0.0	0.0	0.1
70-380	0.45	14.4	21.1	168.4	117.5	5.0	1.7	0.8	0.8	0.2	0.0	0.0	0.1
70-385	0.45	14.97	21.9	175.1	122.2	5.2	1.8	0.8	0.8	0.2	0.0	0.0	0.1
70-390	0.46	58.11	87.4	699.6	488.3	20.7	7.1	3.2	3.2	0.8	0.2	0.2	0.5
70-395	0.43	57.19	79.8	638.4	445.6	18.9	6.5	2.9	3.0	0.7	0.1	0.2	0.5
70-400	0.44	9.67	13.8	110.3	77.0	3.3	1.1	0.5	0.5	0.1	0.0	0.0	0.1
70-405	0.25	7.16	5.8	46.5	32.5	1.4	0.5	0.2	0.2	0.1	0.0	0.0	0.0
70-410	0.43	5.8	8.1	64.6	45.1	1.9	0.7	0.3	0.3	0.1	0.0	0.0	0.0
70-415	0.45	120.75	178.1	1,424.6	994.3	42.1	14.5	6.6	6.6	1.6	0.3	0.3	1.1
70-420	0.45	16.99	24.8	198.7	138.7	5.9	2.0	0.9	0.9	0.2	0.0	0.0	0.2
70-425	0.51	20.63	34.2	274.0	191.2	8.1	2.8	1.3	1.3	0.3	0.1	0.1	0.2
70-430	0.10	6.19	2.0	16.1	11.2	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-435	0.10	9.16	3.0	23.8	16.6	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-440	0.50	34.48	55.6	445.1	310.6	13.2	4.5	2.0	2.1	0.5	0.1	0.1	0.3
70-445	0.45	5.6	8.2	65.5	45.7	1.9	0.7	0.3	0.3	0.1	0.0	0.0	0.1
70-450	0.45	2.65	3.9	31.0	21.6	0.9	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-455	0.00	2.66	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-460	0.45	2.67	3.9	31.2	21.8	0.9	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-465	0.45	2.58	3.8	30.2	21.1	0.9	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-470	0.38	8.55	10.7	85.3	59.6	2.5	0.9	0.4	0.4	0.1	0.0	0.0	0.1
70-475	0.46	229.14	342.7	2,741.3	1,913.2	81.1	27.8	12.6	12.7	3.0	0.6	0.7	2.1
70-480	0.60	0.31	0.6	4.8	3.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-485	0.45	13.36	19.5	156.2	109.0	4.6	1.6	0.7	0.7	0.2	0.0	0.0	0.1
70-490	0.47	48.75	74.3	594.7	415.0	17.6	6.0	2.7	2.8	0.7	0.1	0.1	0.5
70-495	0.45	7.74	11.3	90.5	63.2	2.7	0.9	0.4	0.4	0.1	0.0	0.0	0.1
70-500	0.45	0.56	0.8	6.5	4.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
70-505	0.41	8.12	10.9	86.9	60.6	2.6	0.9	0.4	0.4	0.1	0.0	0.0	0.1
70-510	0.45	41.82	61.3	490.7	342.5	14.5	5.0	2.3	2.3	0.5	0.1	0.1	0.4
70-515	0.47	62.73	95.8	766.1	534.7	22.7	7.8	3.5	3.5	0.8	0.2	0.2	0.6
70-520	0.45	6.05	8.8	70.8	49.4	2.1	0.7	0.3	0.3	0.1	0.0	0.0	0.1
70-525	0.45	6.23	9.1	72.9	50.9	2.2	0.7	0.3	0.3	0.1	0.0	0.0	0.1
70-530	0.45	1.67	2.4	19.5	13.6	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-535	0.45	30.24	44.3	354.5	247.4	10.5	3.6	1.6	1.6	0.4	0.1	0.1	0.3
70-540	0.21	5.1	3.5	28.3	19.7	0.8	0.3	0.1	0.1	0.0	0.0	0.0	0.0
70-545	0.45	1.89	2.8	22.1	15.4	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-550	0.26	1.3	1.1	8.7	6.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
70-555	0.45	1.73	2.5	20.2	14.1	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-560	0.45	3.33	4.9	38.9	27.2	1.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0
70-565	0.24	16.63	13.0	104.0	72.6	3.1	1.1	0.5	0.5	0.1	0.0	0.0	0.1
70-570	0.45	1.23	1.8	14.4	10.0	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-575	0.45	15.39	22.5	179.8	125.5	5.3	1.8	0.8	0.8	0.2	0.0	0.0	0.1
70-580	0.43	119.93	169.0	1,352.1	943.6	40.0	13.7	6.2	6.3	1.5	0.3	0.3	1.0
71-010	0.10	1.12	0.4	2.9	2.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71-020	0.45	14.05	20.5	164.3	114.7	4.9	1.7	0.8	0.8	0.2	0.0	0.0	0.1
71-030	0.45	28.58	42.0	336.1	234.5	9.9	3.4	1.5	1.6	0.4	0.1	0.1	0.3
71-040	0.22	20.93	14.9	119.4	83.3	3.5	1.2	0.5	0.6	0.1	0.0	0.0	0.1

2007 SPRING POLLUTANT LOADINGS BY OUTFALL

2007 SPRING POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (04/01/07 - 05/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Spring Median Event Mean Concentration			12.0	96	67	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation (meters)	**0.079**												
71-050	0.46	120.42	179.2	1,433.3	1,000.3	42.4	14.5	6.6	6.6	1.6	0.3	0.4	1.1
71-060	0.45	3.11	4.5	36.4	25.4	1.1	0.4	0.2	0.2	0.0	0.0	0.0	0.0
71-070	0.00	386.63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71-080	0.46	101.79	150.9	1,207.0	842.4	35.7	12.2	5.6	5.6	1.3	0.3	0.3	0.9
71-090	0.45	6.5	9.4	75.3	52.5	2.2	0.8	0.3	0.3	0.1	0.0	0.0	0.1
71-100	0.10	1.99	0.6	5.2	3.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
72-010	0.18	17.32	9.9	78.8	55.0	2.3	0.8	0.4	0.4	0.1	0.0	0.0	0.1
72-020	0.40	24.7	31.7	253.6	177.0	7.5	2.6	1.2	1.2	0.3	0.1	0.1	0.2
72-030	0.10	5.25	1.7	13.6	9.5	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
72-040	0.42	166.54	225.4	1,802.8	1,258.2	53.3	18.3	8.3	8.3	2.0	0.4	0.4	1.4
72-050	0.10	5.16	1.7	13.4	9.4	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
72-060	0.36	113.04	132.8	1,062.7	741.6	31.4	10.8	4.9	4.9	1.2	0.2	0.3	0.8
72-070	0.10	2.21	0.7	5.7	4.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
72-080	0.60	4.74	9.2	73.9	51.6	2.2	0.7	0.3	0.3	0.1	0.0	0.0	0.1
72-090	0.45	68.71	99.8	798.5	557.3	23.6	8.1	3.7	3.7	0.9	0.2	0.2	0.6
72-100	0.46	68.32	102.8	822.1	573.8	24.3	8.3	3.8	3.8	0.9	0.2	0.2	0.6
72-110	0.10	3.22	1.0	8.4	5.8	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
72-120	0.45	62.98	92.1	736.6	514.1	21.8	7.5	3.4	3.4	0.8	0.2	0.2	0.6
72-130	0.46	58.06	86.1	688.6	480.6	20.4	7.0	3.2	3.2	0.8	0.2	0.2	0.5
72-140	0.10	10.19	3.3	26.5	18.5	0.8	0.3	0.1	0.1	0.0	0.0	0.0	0.0
72-150	0.10	4.76	1.5	12.4	8.6	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
72-160	0.10	4.55	1.5	11.8	8.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0
73-010	0.44	20.76	29.6	236.8	165.3	7.0	2.4	1.1	1.1	0.3	0.1	0.1	0.2
73-020	0.44	57.47	82.6	661.0	461.3	19.6	6.7	3.0	3.1	0.7	0.2	0.2	0.5
73-030	0.10	21.56	7.0	56.0	39.1	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
74-010	0.48	44.39	69.0	552.2	385.4	16.3	5.6	2.5	2.6	0.6	0.1	0.1	0.4
74-020	0.45	4.41	6.4	51.6	36.0	1.5	0.5	0.2	0.2	0.1	0.0	0.0	0.0
75-005	0.45	12.39	18.1	144.7	101.0	4.3	1.5	0.7	0.7	0.2	0.0	0.0	0.1
75-010	0.60	3.65	7.1	56.9	39.7	1.7	0.6	0.3	0.3	0.1	0.0	0.0	0.0
75-020	0.45	1.53	2.2	17.9	12.5	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0
75-030	0.45	8.38	12.3	98.0	68.4	2.9	1.0	0.5	0.5	0.1	0.0	0.0	0.1
75-040	0.45	14.74	21.5	172.4	120.3	5.1	1.7	0.8	0.8	0.2	0.0	0.0	0.1
76-010	0.46	907.31	1,367.2	10,937.3	7,633.3	323.6	111.0	50.4	50.6	12.0	2.5	2.7	8.4
76-020	0.46	88.62	131.2	1,049.5	732.4	31.0	10.6	4.8	4.9	1.1	0.2	0.3	0.8
76-030	0.45	7.55	11.0	88.3	61.6	2.6	0.9	0.4	0.4	0.1	0.0	0.0	0.1
76-040	0.19	4.67	2.8	22.6	15.8	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
76-050	0.00	2.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81-010	0.10	31.17	10.1	81.0	56.5	2.4	0.8	0.4	0.4	0.1	0.0	0.0	0.1
82-010	0.49	23.53	37.2	297.5	207.7	8.8	3.0	1.4	1.4	0.3	0.1	0.1	0.2
82-020	0.45	73.45	108.5	868.2	605.9	25.7	8.8	4.0	4.0	0.9	0.2	0.2	0.7
82-030	0.45	90.04	133.0	1,064.0	742.6	31.5	10.8	4.9	4.9	1.2	0.2	0.3	0.8
82-040	0.46	98.49	148.4	1,187.4	828.7	35.1	12.0	5.5	5.5	1.3	0.3	0.3	0.9
83-010	0.45	6.59	9.6	77.1	53.8	2.3	0.8	0.4	0.4	0.1	0.0	0.0	0.1
83-015	0.45	0.99	1.4	11.6	8.1	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0
83-020	0.43	85.96	121.4	971.3	677.9	28.7	9.9	4.5	4.5	1.1	0.2	0.2	0.7
83-025	0.45	51.23	74.9	599.1	418.1	17.7	6.1	2.8	2.8	0.7	0.1	0.1	0.5
83-030	0.60	0.82	1.6	12.8	8.9	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
83-040	0.10	1.08	0.4	2.8	2.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83-050	0.45	40.4	59.2	473.8	330.7	14.0	4.8	2.2	2.2	0.5	0.1	0.1	0.4
83-060	0.45	10.05	14.7	117.5	82.0	3.5	1.2	0.5	0.5	0.1	0.0	0.0	0.1
83-070	0.10	1.19	0.4	3.1	2.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83-080	0.48	178.63	275.9	2,207.2	1,540.4	65.3	22.4	10.2	10.2	2.4	0.5	0.5	1.7
83-090	0.41	9.16	12.2	97.6	68.1	2.9	1.0	0.4	0.5	0.1	0.0	0.0	0.1
84-010	0.47	21.56	32.9	263.5	183.9	7.8	2.7	1.2	1.2	0.3	0.1	0.1	0.2
85-010	0.10	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPRING SEASONAL SUM (kg)			**43,881.65**	**351,053.20**	**245,005.88**	**10,385.32**	**3,561.73**	**1,616.31**	**1,623.62**	**383.96**	**80.45**	**85.93**	**269.14**

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (06/01/07 - 08/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Summer Median Event Mean Concentration			7.0	98	44	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation (meters)	0.372												
10-010	0.43	113.55	438.8	6,143.2	2,758.2	134.1	35.0	23.7	22.1	3.4	1.2	1.3	2.9
10-020	0.45	7.81	31.5	440.7	197.9	9.6	2.5	1.7	1.6	0.2	0.1	0.1	0.2
10-030	0.10	4.05	3.6	50.8	22.8	1.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0
10-040	0.45	167.42	670.2	9,382.2	4,212.4	204.9	53.5	36.2	33.8	5.2	1.8	2.1	4.5
10-050	0.46	114.18	465.6	6,517.9	2,926.4	142.3	37.2	25.1	23.5	3.6	1.2	1.4	3.1
10-060	0.60	10.5	56.4	790.0	354.7	17.3	4.5	3.0	2.8	0.4	0.1	0.2	0.4
10-070	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-080	0.38	30.66	104.9	1,469.3	659.7	32.1	8.4	5.7	5.3	0.8	0.3	0.3	0.7
10-090A	0.00	0.85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090B	0.00	1.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090C	0.54	12.77	61.9	867.2	389.3	18.9	4.9	3.3	3.1	0.5	0.2	0.2	0.4
10-090D	0.00	4.68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-100	0.36	1392.1	4,523.0	63,321.9	28,430.2	1,382.7	361.2	244.2	228.1	34.9	12.0	13.9	30.4
10-110	0.47	300.11	1,254.1	17,558.0	7,883.2	383.4	100.2	67.7	63.2	9.7	3.3	3.9	8.4
10-120A/B	0.44	372.78	1,453.4	20,347.4	9,135.6	444.3	116.1	78.5	73.3	11.2	3.9	4.5	9.8
10-130	0.45	336.46	1,360.8	19,051.1	8,553.6	416.0	108.7	73.5	68.6	10.5	3.6	4.2	9.1
10-140a	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-140a,b	0.58	220.65	1,137.3	15,922.3	7,148.8	347.7	90.8	61.4	57.4	8.8	3.0	3.5	7.6
10-150	0.47	157.15	660.0	9,240.2	4,148.7	201.8	52.7	35.6	33.3	5.1	1.8	2.0	4.4
10-160	0.00	17	0.4	5.3	2.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-170	0.50	176.01	793.4	11,107.3	4,987.0	242.5	63.4	42.8	40.0	6.1	2.1	2.4	5.3
10-180	0.45	284.26	1,133.9	15,874.3	7,127.2	346.6	90.5	61.2	57.2	8.7	3.0	3.5	7.6
10-190	0.59	14.58	77.3	1,081.9	485.8	23.6	6.2	4.2	3.9	0.6	0.2	0.2	0.5
10-200	0.40	42.44	150.9	2,113.1	948.7	46.1	12.1	8.2	7.6	1.2	0.4	0.5	1.0
10-210	0.49	98.32	432.9	6,061.0	2,721.3	132.4	34.6	23.4	21.8	3.3	1.2	1.3	2.9
10-220	0.56	18.83	94.3	1,320.2	592.7	28.8	7.5	5.1	4.8	0.7	0.3	0.3	0.6
10-230	0.47	235.02	995.1	13,931.7	6,255.0	304.2	79.5	53.7	50.2	7.7	2.6	3.1	6.7
10-240	0.51	103.83	477.8	6,688.9	3,003.2	146.1	38.2	25.8	24.1	3.7	1.3	1.5	3.2
10-250	0.49	242.96	1,063.9	14,894.4	6,687.3	325.2	85.0	57.4	53.7	8.2	2.8	3.3	7.1
10-260	0.56	23.77	118.6	1,660.8	745.7	36.3	9.5	6.4	6.0	0.9	0.3	0.4	0.8
10-270	0.47	72.45	307.5	4,305.2	1,932.9	94.0	24.6	16.6	15.5	2.4	0.8	0.9	2.1
10-280	0.44	55.08	219.0	3,065.6	1,376.4	66.9	17.5	11.8	11.0	1.7	0.6	0.7	1.5
10-290	0.10	6.83	6.1	85.7	38.5	1.9	0.5	0.3	0.3	0.0	0.0	0.0	0.0
10-300	0.36	17.74	57.3	802.2	360.2	17.5	4.6	3.1	2.9	0.4	0.2	0.2	0.4
10-310	0.47	60.29	255.0	3,570.3	1,603.0	78.0	20.4	13.8	12.9	2.0	0.7	0.8	1.7
10-320	0.45	341.99	1,383.9	19,374.9	8,698.9	423.1	110.5	74.7	69.8	10.7	3.7	4.3	9.3
10-330	0.35	21.61	68.1	952.8	427.8	20.8	5.4	3.7	3.4	0.5	0.2	0.2	0.5
10-340	0.45	20.74	83.8	1,173.5	526.9	25.6	6.7	4.5	4.2	0.6	0.2	0.3	0.6
10-350	0.60	28.16	151.1	2,114.9	949.6	46.2	12.1	8.2	7.6	1.2	0.4	0.5	1.0
10-360	0.59	29.02	154.1	2,156.8	968.4	47.1	12.3	8.3	7.8	1.2	0.4	0.5	1.0
10-370	0.59	14.46	76.4	1,069.1	480.0	23.3	6.1	4.1	3.9	0.6	0.2	0.2	0.5
10-380	0.45	14.38	57.3	802.8	360.4	17.5	4.6	3.1	2.9	0.4	0.2	0.2	0.4
10-390	0.49	41.97	185.4	2,595.1	1,165.1	56.7	14.8	10.0	9.3	1.4	0.5	0.6	1.2
10-400A	0.10	1.07	1.0	13.4	6.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0
10-400B	0.47	17.66	74.6	1,044.4	468.9	22.8	6.0	4.0	3.8	0.6	0.2	0.2	0.5
10-400C	0.57	50.25	254.7	3,565.3	1,600.8	77.9	20.3	13.8	12.8	2.0	0.7	0.8	1.7
10-410A	0.50	46.22	206.1	2,885.5	1,295.5	63.0	16.5	11.1	10.4	1.6	0.5	0.6	1.4
10-410B	0.32	21.29	60.3	844.7	379.3	18.4	4.8	3.3	3.0	0.5	0.2	0.2	0.4
10-410C	0.53	22.8	107.8	1,509.1	677.6	33.0	8.6	5.8	5.4	0.8	0.3	0.3	0.7
10-410D	0.60	27.34	147.0	2,057.9	924.0	44.9	11.7	7.9	7.4	1.1	0.4	0.5	1.0
10-410E	0.58	256.04	1,319.7	18,476.1	8,295.4	403.5	105.4	71.3	66.6	10.2	3.5	4.1	8.9
10-410F	0.59	37.92	199.8	2,797.2	1,255.9	61.1	16.0	10.8	10.1	1.5	0.5	0.6	1.3
10-420A	0.27	23.05	56.3	787.7	353.7	17.2	4.5	3.0	2.8	0.4	0.1	0.2	0.4
10-420B	0.00	10.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420C	0.00	7.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420D	0.00	20.73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420E	0.59	127.89	672.3	9,411.5	4,225.6	205.5	53.7	36.3	33.9	5.2	1.8	2.1	4.5
10-430A	0.00	8.14	0.2	2.6	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430B	0.53	54.72	261.9	3,666.7	1,646.3	80.1	20.9	14.1	13.2	2.0	0.7	0.8	1.8
10-430C	0.48	44.83	192.9	2,700.7	1,212.6	59.0	15.4	10.4	9.7	1.5	0.5	0.6	1.3
10-430D	0.49	85.79	377.8	5,288.9	2,374.6	115.5	30.2	20.4	19.1	2.9	1.0	1.2	2.5
10-430E	0.56	86.66	432.8	6,059.8	2,720.7	132.3	34.6	23.4	21.8	3.3	1.2	1.3	2.9
10-430F	0.10	377.97	338.6	4,739.9	2,128.1	103.5	27.0	18.3	17.1	2.6	0.9	1.0	2.3
10-430G	0.50	125.89	558.8	7,823.8	3,512.7	170.8	44.6	30.2	28.2	4.3	1.5	1.7	3.8
10-430H	0.49	33.18	146.0	2,044.6	918.0	44.6	11.7	7.9	7.4	1.1	0.4	0.4	1.0
10-430I	0.59	32.61	171.9	2,407.1	1,080.7	52.6	13.7	9.3	8.7	1.3	0.5	0.5	1.2
10-430J	0.43	532.36	2,069.3	28,970.5	13,007.2	632.6	165.3	111.7	104.4	16.0	5.5	6.4	13.9
10-430K	0.48	337.06	1,442.1	20,189.7	9,064.8	440.9	115.2	77.9	72.7	11.1	3.8	4.4	9.7
10-430L	0.45	84.4	340.8	4,770.8	2,142.0	104.2	27.2	18.4	17.2	2.6	0.9	1.0	2.3
10-430M	0.54	75.94	368.9	5,165.2	2,319.1	112.8	29.5	19.9	18.6	2.8	1.0	1.1	2.5
10-430N	0.44	26.43	105.1	1,471.3	660.6	32.1	8.4	5.7	5.3	0.8	0.3	0.3	0.7
10-430O	0.00	109.53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430P	0.00	229.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430Q	0.10	8.03	7.2	100.7	45.2	2.2	0.6	0.4	0.4	0.1	0.0	0.0	0.0
10-430R	0.47	150.32	629.4	8,812.1	3,956.5	192.4	50.3	34.0	31.7	4.9	1.7	1.9	4.2
10-430S	0.10	5.15	4.6	64.6	29.0	1.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0
10-430T	0.46	262.47	1,074.7	15,046.0	6,755.3	328.6	85.8	58.0	54.2	8.3	2.9	3.3	7.2

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (06/01/07 - 08/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Summer Median Event Mean Concentration			7.0	98	44	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation (meters)	**0.372**												
10-430U	0.47	431.37	1,815.5	25,417.0	11,411.7	555.0	145.0	98.0	91.6	14.0	4.8	5.6	12.2
10-430V	0.46	329.11	1,370.3	19,184.5	8,613.5	418.9	109.4	74.0	69.1	10.6	3.6	4.2	9.2
10-440A	0.46	23.18	95.1	1,331.7	597.9	29.1	7.6	5.1	4.8	0.7	0.3	0.3	0.6
10-440B	0.49	34.23	151.1	2,115.4	949.8	46.2	12.1	8.2	7.6	1.2	0.4	0.5	1.0
10-440C/D	0.00	56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-440E	0.51	831.25	3,828.9	53,604.9	24,067.5	1,170.6	305.8	206.8	193.1	29.5	10.2	11.8	25.7
10-440F	0.46	538.85	2,221.4	31,099.0	13,962.8	679.1	177.4	120.0	112.0	17.1	5.9	6.8	14.9
10-450A	0.00	343.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-450B	0.52	3.41	15.8	220.9	99.2	4.8	1.3	0.9	0.8	0.1	0.0	0.0	0.1
10-450C	0.59	55.64	296.0	4,143.5	1,860.4	90.5	23.6	16.0	14.9	2.3	0.8	0.9	2.0
10-450D	0.45	4.62	18.6	260.7	117.1	5.7	1.5	1.0	0.9	0.1	0.0	0.1	0.1
10-450E	0.44	3.2	12.7	177.4	79.6	3.9	1.0	0.7	0.6	0.1	0.0	0.0	0.1
10-450F	0.46	158.55	652.5	9,134.7	4,101.3	199.5	52.1	35.2	32.9	5.0	1.7	2.0	4.4
10-450G/H	0.48	75.02	322.9	4,520.4	2,029.6	98.7	25.8	17.4	16.3	2.5	0.9	1.0	2.2
10-450I	0.49	243.64	1,072.0	15,008.6	6,738.5	327.7	85.6	57.9	54.1	8.3	2.8	3.3	7.2
10-450J	0.49	17.16	74.6	1,044.7	469.1	22.8	6.0	4.0	3.8	0.6	0.2	0.2	0.5
10-450K	0.58	37.01	192.0	2,688.5	1,207.1	58.7	15.3	10.4	9.7	1.5	0.5	0.6	1.3
10-450L	0.51	213.41	965.5	13,516.6	6,068.7	295.2	77.1	52.1	48.7	7.4	2.6	3.0	6.5
10-460	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460A	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460B	0.52	7.29	33.7	472.4	212.1	10.3	2.7	1.8	1.7	0.3	0.1	0.1	0.2
10-460C/D/F	0.00	159.87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460E	0.49	231.41	1,023.7	14,331.2	6,434.4	312.9	81.7	55.3	51.6	7.9	2.7	3.1	6.9
10-460F	0.49	14.75	65.4	915.1	410.9	20.0	5.2	3.5	3.3	0.5	0.2	0.2	0.4
10-460G	0.51	79.66	364.5	5,102.7	2,291.0	111.4	29.1	19.7	18.4	2.8	1.0	1.1	2.4
10-460H	0.48	12.35	53.0	742.5	333.4	16.2	4.2	2.9	2.7	0.4	0.1	0.2	0.4
10-460I	0.00	72.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460J	0.46	5.36	22.3	311.7	139.9	6.8	1.8	1.2	1.1	0.2	0.1	0.1	0.1
10-460K	0.36	5.48	17.7	247.2	111.0	5.4	1.4	1.0	0.9	0.1	0.0	0.1	0.1
10-460L	0.46	3.5	14.5	203.4	91.3	4.4	1.2	0.8	0.7	0.1	0.0	0.0	0.1
10-460M	0.48	9.55	40.9	573.2	257.3	12.5	3.3	2.2	2.1	0.3	0.1	0.1	0.3
10-460N	0.45	3.85	15.5	217.3	97.5	4.7	1.2	0.8	0.8	0.1	0.0	0.0	0.1
10-460O	0.45	4.15	16.9	236.1	106.0	5.2	1.3	0.9	0.9	0.1	0.0	0.1	0.1
10-460P	0.45	4.34	17.5	244.9	110.0	5.3	1.4	0.9	0.9	0.1	0.0	0.1	0.1
10-460Q	0.56	19.73	99.7	1,395.9	626.7	30.5	8.0	5.4	5.0	0.8	0.3	0.3	0.7
10-460R	0.00	51.51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460S	0.56	233.54	1,180.5	16,526.5	7,420.0	360.9	94.3	63.7	59.5	9.1	3.1	3.6	7.9
10-465	0.10	8.56	7.7	107.3	48.2	2.3	0.6	0.4	0.4	0.1	0.0	0.0	0.1
10-470	0.38	25.6	87.5	1,225.2	550.1	26.8	7.0	4.7	4.4	0.7	0.2	0.3	0.6
10-480	0.58	39.66	206.1	2,885.5	1,295.5	63.0	16.5	11.1	10.4	1.6	0.5	0.6	1.4
10-485	0.00	7.27	0.2	2.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-490	0.43	150.96	586.2	8,206.9	3,684.8	179.2	46.8	31.7	29.6	4.5	1.6	1.8	3.9
10-500A	0.26	26.21	61.6	862.6	387.3	18.8	4.9	3.3	3.1	0.5	0.2	0.2	0.4
10-500B	0.46	8.48	35.0	489.5	219.8	10.7	2.8	1.9	1.8	0.3	0.1	0.1	0.2
10-500C	0.44	111.36	434.3	6,079.7	2,729.7	132.8	34.7	23.5	21.9	3.4	1.2	1.3	2.9
10-500D	0.24	3.83	8.2	114.4	51.3	2.5	0.7	0.4	0.4	0.1	0.0	0.0	0.1
10-500E	0.53	23.34	111.3	1,558.4	699.7	34.0	8.9	6.0	5.6	0.9	0.3	0.3	0.7
10-500F	0.49	12.04	53.3	745.5	334.7	16.3	4.3	2.9	2.7	0.4	0.1	0.2	0.4
10-500G	0.00	112.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-505	0.10	7.85	7.0	98.4	44.2	2.1	0.6	0.4	0.4	0.1	0.0	0.0	0.0
10-510	0.51	62.36	284.1	3,977.7	1,785.9	86.9	22.7	15.3	14.3	2.2	0.8	0.9	1.9
10-520	0.00	139.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-530	0.45	116.15	469.0	6,565.8	2,947.9	143.4	37.5	25.3	23.7	3.6	1.2	1.4	3.1
10-540	0.12	53.9	57.2	800.5	359.4	17.5	4.6	3.1	2.9	0.4	0.2	0.2	0.4
10-550	0.46	25.83	106.4	1,489.7	668.9	32.5	8.5	5.7	5.4	0.8	0.3	0.3	0.7
10-560A/B	0.44	600.63	2,353.7	32,952.4	14,795.0	719.6	188.0	127.1	118.7	18.2	6.3	7.2	15.8
10-570A	0.54	14.64	71.3	998.3	448.2	21.8	5.7	3.9	3.6	0.6	0.2	0.2	0.5
10-570B	0.44	228.18	892.2	12,490.7	5,608.1	272.8	71.2	48.2	45.0	6.9	2.4	2.7	6.0
10-580	0.45	73.39	295.1	4,130.8	1,854.6	90.2	23.6	15.9	14.9	2.3	0.8	0.9	2.0
10-600	0.48	89.24	386.6	5,412.0	2,429.9	118.2	30.9	20.9	19.5	3.0	1.0	1.2	2.6
10-610	0.46	25.6	105.1	1,471.5	660.7	32.1	8.4	5.7	5.3	0.8	0.3	0.3	0.7
10-620	0.00	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630A	0.10	6.24	5.6	78.3	35.1	1.7	0.4	0.3	0.3	0.0	0.0	0.0	0.0
10-630B	0.45	4.68	18.9	264.1	118.6	5.8	1.5	1.0	1.0	0.1	0.1	0.1	0.1
10-630C	0.48	96.03	415.6	5,818.2	2,612.2	127.0	33.2	22.4	21.0	3.2	1.1	1.3	2.8
10-630D	0.45	6.37	25.7	359.5	161.4	7.8	2.1	1.4	1.3	0.2	0.1	0.1	0.2
10-630E	0.45	8.52	34.3	480.8	215.9	10.5	2.7	1.9	1.7	0.3	0.1	0.1	0.2
10-630F	0.54	17.56	85.0	1,189.7	534.1	26.0	6.8	4.6	4.3	0.7	0.2	0.3	0.6
10-630G	0.45	5.9	23.8	332.9	149.5	7.3	1.9	1.3	1.2	0.2	0.1	0.1	0.2
10-630H	0.30	25.63	69.5	973.5	437.1	21.3	5.6	3.8	3.5	0.5	0.2	0.2	0.5
10-630I	0.47	12.48	52.0	727.8	326.8	15.9	4.2	2.8	2.6	0.4	0.1	0.2	0.3
10-630J	0.55	14.69	72.9	1,020.0	457.9	22.3	5.8	3.9	3.7	0.6	0.2	0.2	0.5
10-630K	0.47	95.29	404.0	5,655.7	2,539.3	123.5	32.3	21.8	20.4	3.1	1.1	1.2	2.7
10-630L	0.52	100.42	468.6	6,561.0	2,945.7	143.3	37.4	25.3	23.6	3.6	1.2	1.4	3.1
10-630M	0.50	11.71	52.1	729.1	327.4	15.9	4.2	2.8	2.6	0.4	0.1	0.2	0.3
10-630N	0.45	8.45	34.1	476.8	214.1	10.4	2.7	1.8	1.7	0.3	0.1	0.1	0.2
10-630O	0.36	5.77	18.8	263.4	118.3	5.8	1.5	1.0	0.9	0.1	0.0	0.1	0.1

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (06/01/07 - 08/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Summer Median Event Mean Concentration			7.0	98	44	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation (meters)	**0.372**												
10-630P/Q	0.00	67.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630R	0.33	83.89	251.0	3,513.5	1,577.5	76.7	20.0	13.6	12.7	1.9	0.7	0.8	1.7
10-630S	0.22	37.02	72.1	1,009.2	453.1	22.0	5.8	3.9	3.6	0.6	0.2	0.2	0.5
10-630T	0.56	7.72	38.9	544.6	244.5	11.9	3.1	2.1	2.0	0.3	0.1	0.1	0.3
10-630U	0.52	115.42	540.8	7,571.3	3,399.3	165.3	43.2	29.2	27.3	4.2	1.4	1.7	3.6
10-630V	0.11	33.85	32.0	448.3	201.3	9.8	2.6	1.7	1.6	0.2	0.1	0.1	0.2
10-630W	0.47	23.68	100.5	1,406.7	631.6	30.7	8.0	5.4	5.1	0.8	0.3	0.3	0.7
10-630X	0.44	14.78	58.6	820.0	368.1	17.9	4.7	3.2	3.0	0.5	0.2	0.2	0.4
10-630Y	0.00	112.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630Z	0.47	45.66	192.6	2,695.7	1,210.3	58.9	15.4	10.4	9.7	1.5	0.5	0.6	1.3
10-640	0.46	258.18	1,057.7	14,807.6	6,648.3	323.4	84.5	57.1	53.3	8.2	2.8	3.2	7.1
10-650	0.56	19.53	97.4	1,364.2	612.5	29.8	7.8	5.3	4.9	0.8	0.3	0.3	0.7
10-660	0.46	306.37	1,271.3	17,798.2	7,991.0	388.7	101.5	68.7	64.1	9.8	3.4	3.9	8.5
10-670	0.45	137.88	555.0	7,769.4	3,488.3	169.7	44.3	30.0	28.0	4.3	1.5	1.7	3.7
10-680	0.46	707.95	2,907.6	40,706.7	18,276.5	888.9	232.2	157.0	146.6	22.4	7.7	8.9	19.5
10-690	0.50	70.63	316.5	4,431.1	1,989.5	96.8	25.3	17.1	16.0	2.4	0.8	1.0	2.1
10-700	0.46	222.07	923.7	12,931.6	5,806.0	282.4	73.8	49.9	46.6	7.1	2.5	2.8	6.2
10-710	0.33	29.95	89.4	1,251.2	561.7	27.3	7.1	4.8	4.5	0.7	0.2	0.3	0.6
10-720A	0.44	15.77	62.6	876.9	393.7	19.1	5.0	3.4	3.2	0.5	0.2	0.2	0.4
10-720B	0.48	422.18	1,821.9	25,506.9	11,452.1	557.0	145.5	98.4	91.9	14.1	4.8	5.6	12.2
10-720C	0.43	26.35	101.4	1,418.9	637.1	31.0	8.1	5.5	5.1	0.8	0.3	0.3	0.7
10-720D	0.46	22.95	93.6	1,310.3	588.3	28.6	7.5	5.1	4.7	0.7	0.2	0.3	0.6
10-720E	0.46	18.39	75.1	1,051.0	471.9	23.0	6.0	4.1	3.8	0.6	0.2	0.2	0.5
10-720F	0.48	317.75	1,365.6	19,119.0	8,584.0	417.5	109.1	73.7	68.9	10.5	3.6	4.2	9.2
10-720G	0.00	13.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-720H	0.45	4.55	18.3	256.8	115.3	5.6	1.5	1.0	0.9	0.1	0.0	0.1	0.1
10-720I	0.45	87.27	348.6	4,880.5	2,191.3	106.6	27.8	18.8	17.6	2.7	0.9	1.1	2.3
10-720J	0.36	3.71	11.9	166.2	74.6	3.6	0.9	0.6	0.6	0.1	0.0	0.0	0.1
10-720K	0.55	32.76	161.1	2,255.8	1,012.8	49.3	12.9	8.7	8.1	1.2	0.4	0.5	1.1
10-720L	0.45	4.57	18.4	257.9	115.8	5.6	1.5	1.0	0.9	0.1	0.0	0.1	0.1
20-010	0.42	93.99	353.4	4,948.1	2,221.6	108.1	28.2	19.1	17.8	2.7	0.9	1.1	2.4
20-020	0.44	15.09	59.3	830.1	372.7	18.1	4.7	3.2	3.0	0.5	0.2	0.2	0.4
20-030	0.45	7.95	32.0	448.6	201.4	9.8	2.6	1.7	1.6	0.2	0.1	0.1	0.2
20-040	0.37	6.79	22.7	317.5	142.5	6.9	1.8	1.2	1.1	0.2	0.1	0.1	0.2
20-050	0.00	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-060	0.45	5.91	23.8	333.5	149.7	7.3	1.9	1.3	1.2	0.2	0.1	0.1	0.2
20-070	0.44	39.07	155.2	2,172.4	975.4	47.4	12.4	8.4	7.8	1.2	0.4	0.5	1.0
20-080	0.45	33.72	136.9	1,917.2	860.8	41.9	10.9	7.4	6.9	1.1	0.4	0.4	0.9
20-090	0.55	9.95	49.3	689.7	309.7	15.1	3.9	2.7	2.5	0.4	0.1	0.2	0.3
20-100	0.10	0.99	0.9	12.4	5.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20-110	0.24	216.04	464.3	6,500.0	2,918.3	141.9	37.1	25.1	23.4	3.6	1.2	1.4	3.1
20-120	0.47	10.22	42.8	599.1	269.0	13.1	3.4	2.3	2.2	0.3	0.1	0.1	0.3
20-130	0.45	16.12	65.0	909.7	408.4	19.9	5.2	3.5	3.3	0.5	0.2	0.2	0.4
20-140	0.44	2.97	11.7	164.4	73.8	3.6	0.9	0.6	0.6	0.1	0.0	0.0	0.1
20-150	0.45	14.48	58.4	817.1	366.9	17.8	4.7	3.2	2.9	0.5	0.2	0.2	0.4
20-160	0.54	3.21	15.5	217.5	97.7	4.7	1.2	0.8	0.8	0.1	0.0	0.0	0.1
20-170	0.37	4.94	16.5	230.8	103.6	5.0	1.3	0.9	0.8	0.1	0.0	0.1	0.1
20-180	0.51	5.3	24.0	336.4	151.0	7.3	1.9	1.3	1.2	0.2	0.1	0.1	0.2
20-190	0.45	1.35	5.4	76.2	34.2	1.7	0.4	0.3	0.3	0.0	0.0	0.0	0.0
20-200	0.45	13.84	55.8	781.0	350.7	17.1	4.5	3.0	2.8	0.4	0.1	0.2	0.4
20-210A	0.44	92.9	365.5	5,117.5	2,297.7	111.7	29.2	19.7	18.4	2.8	1.0	1.1	2.5
20-210B	0.50	620.78	2,805.6	39,278.9	17,635.4	857.7	224.0	151.5	141.5	21.6	7.5	8.6	18.8
20-220	0.46	26.38	108.9	1,525.1	684.8	33.3	8.7	5.9	5.5	0.8	0.3	0.3	0.7
20-230	0.00	21.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-240	0.48	30.06	129.7	1,816.2	815.4	39.7	10.4	7.0	6.5	1.0	0.3	0.4	0.9
20-250	0.57	6.28	32.2	450.2	202.2	9.8	2.6	1.7	1.6	0.2	0.1	0.1	0.2
20-260	0.60	3.5	18.8	263.3	118.2	5.8	1.5	1.0	0.9	0.1	0.0	0.1	0.1
20-270	0.48	42.81	182.8	2,559.3	1,149.1	55.9	14.6	9.9	9.2	1.4	0.5	0.6	1.2
20-280	0.54	8.98	43.2	605.2	271.7	13.2	3.5	2.3	2.2	0.3	0.1	0.1	0.3
20-290	0.00	4.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-010	0.45	49.49	198.7	2,781.9	1,249.0	60.7	15.9	10.7	10.0	1.5	0.5	0.6	1.3
40-010	0.45	719.17	2,886.7	40,414.0	18,145.0	882.5	230.5	155.9	145.6	22.3	7.7	8.9	19.4
40-020	0.45	15.36	61.9	866.8	389.2	18.9	4.9	3.3	3.1	0.5	0.2	0.2	0.4
40-030	0.42	51.02	190.9	2,672.8	1,200.0	58.4	15.2	10.3	9.6	1.5	0.5	0.6	1.3
40-040	0.43	65.39	254.3	3,560.5	1,598.6	77.7	20.3	13.7	12.8	2.0	0.7	0.8	1.7
40-050	0.45	10.28	41.4	580.1	260.5	12.7	3.3	2.2	2.1	0.3	0.1	0.1	0.3
40-060	0.45	3.2	12.9	180.6	81.1	3.9	1.0	0.7	0.7	0.1	0.0	0.0	0.1
40-070	0.38	7.98	27.0	378.6	170.0	8.3	2.2	1.5	1.4	0.2	0.1	0.1	0.2
40-080	0.41	60.51	221.4	3,098.9	1,391.4	67.7	17.7	12.0	11.2	1.7	0.6	0.7	1.5
40-090	0.46	20.65	86.0	1,203.8	540.5	26.3	6.9	4.6	4.3	0.7	0.2	0.3	0.6
40-100	0.00	20.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-110	0.44	2.61	10.4	145.3	65.2	3.2	0.8	0.6	0.5	0.1	0.0	0.0	0.1
40-120	0.44	65.87	258.6	3,620.3	1,625.4	79.1	20.7	14.0	13.0	2.0	0.7	0.8	1.7
40-130	0.45	35.01	141.7	1,983.9	890.7	43.3	11.3	7.7	7.1	1.1	0.4	0.4	1.0
40-140	0.35	125.46	390.8	5,470.9	2,456.3	119.5	31.2	21.1	19.7	3.0	1.0	1.2	2.6
40-150	0.47	24.31	103.2	1,444.2	648.4	31.5	8.2	5.6	5.2	0.8	0.3	0.3	0.7
40-160	0.49	30.99	137.2	1,921.2	862.6	42.0	11.0	7.4	6.9	1.1	0.4	0.4	0.9

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (06/01/07 - 08/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Summer Median Event Mean Concentration			7.0	98	44	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation (meters)	0.372												
40-170	0.00	194.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-180	0.54	16.8	81.0	1,134.2	509.2	24.8	6.5	4.4	4.1	0.6	0.2	0.2	0.5
40-190	0.53	65.53	310.4	4,345.3	1,950.9	94.9	24.8	16.8	15.7	2.4	0.8	1.0	2.1
40-200	0.46	24.75	102.5	1,434.9	644.3	31.3	8.2	5.5	5.2	0.8	0.3	0.3	0.7
40-210	0.54	17.26	84.2	1,179.3	529.5	25.8	6.7	4.5	4.2	0.6	0.2	0.3	0.6
40-220	0.47	100.58	421.2	5,896.4	2,647.4	128.8	33.6	22.7	21.2	3.2	1.1	1.3	2.8
40-230	0.44	13.78	54.9	768.7	345.1	16.8	4.4	3.0	2.8	0.4	0.1	0.2	0.4
40-240	0.00	340.86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-250	0.60	1.15	6.2	86.5	38.8	1.9	0.5	0.3	0.3	0.0	0.0	0.0	0.0
40-260	0.45	3.49	14.1	196.9	88.4	4.3	1.1	0.8	0.7	0.1	0.0	0.0	0.1
40-270	0.45	9.59	38.7	541.2	243.0	11.8	3.1	2.1	1.9	0.3	0.1	0.1	0.3
40-280	0.53	12.76	60.1	841.5	377.8	18.4	4.8	3.2	3.0	0.5	0.2	0.2	0.4
40-290	0.51	13.73	63.0	881.6	395.8	19.3	5.0	3.4	3.2	0.5	0.2	0.2	0.4
40-300	0.52	10.38	48.4	678.2	304.5	14.8	3.9	2.6	2.4	0.4	0.1	0.1	0.3
40-310	0.45	97.86	396.8	5,554.9	2,494.0	121.3	31.7	21.4	20.0	3.1	1.1	1.2	2.7
40-320	0.60	9.43	50.7	709.5	318.6	15.5	4.0	2.7	2.6	0.4	0.1	0.2	0.3
40-330	0.59	15.34	81.4	1,140.2	511.9	24.9	6.5	4.4	4.1	0.6	0.2	0.3	0.5
40-340	0.53	35.27	168.4	2,357.1	1,058.3	51.5	13.4	9.1	8.5	1.3	0.4	0.5	1.1
40-350	0.60	8.99	48.3	676.4	303.7	14.8	3.9	2.6	2.4	0.4	0.1	0.1	0.3
40-360	0.60	8.09	43.5	608.7	273.3	13.3	3.5	2.3	2.2	0.3	0.1	0.1	0.3
40-370	0.58	12.41	64.3	900.2	404.2	19.7	5.1	3.5	3.2	0.5	0.2	0.2	0.4
40-380	0.39	24.92	87.8	1,229.5	552.0	26.8	7.0	4.7	4.4	0.7	0.2	0.3	0.6
40-390	0.58	5.72	29.7	416.0	186.8	9.1	2.4	1.6	1.5	0.2	0.1	0.1	0.2
40-400	0.10	1.07	1.0	13.4	6.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0
41-010	0.38	94.73	320.3	4,483.9	2,013.2	97.9	25.6	17.3	16.2	2.5	0.9	1.0	2.2
41-020	0.00	14.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-030	0.50	60.47	271.9	3,806.6	1,709.1	83.1	21.7	14.7	13.7	2.1	0.7	0.8	1.8
41-040	0.57	35.59	182.7	2,557.4	1,148.2	55.8	14.6	9.9	9.2	1.4	0.5	0.6	1.2
41-050	0.60	10.48	56.3	788.5	354.0	17.2	4.5	3.0	2.8	0.4	0.1	0.2	0.4
41-060	0.60	2.95	15.9	222.0	99.7	4.8	1.3	0.9	0.8	0.1	0.0	0.0	0.1
51-010	0.45	29.63	119.8	1,677.0	753.0	36.6	9.6	6.5	6.0	0.9	0.3	0.4	0.8
51-020	0.45	4.55	18.3	256.8	115.3	5.6	1.5	1.0	0.9	0.1	0.0	0.1	0.1
52-010	0.28	45.29	112.1	1,569.5	704.7	34.3	9.0	6.1	5.7	0.9	0.3	0.3	0.8
52-020	0.45	6.09	24.5	343.7	154.3	7.5	2.0	1.3	1.2	0.2	0.1	0.1	0.2
52-030	0.45	7.18	28.9	405.2	181.9	8.8	2.3	1.6	1.5	0.2	0.1	0.1	0.2
52-040	0.41	4.54	16.8	235.3	105.7	5.1	1.3	0.9	0.8	0.1	0.0	0.1	0.1
52-050	0.44	15.3	59.6	834.7	374.7	18.2	4.8	3.2	3.0	0.5	0.2	0.2	0.4
52-060	0.10	3.22	2.9	40.4	18.1	0.9	0.2	0.2	0.1	0.0	0.0	0.0	0.0
52-070	0.42	86.94	329.6	4,613.8	2,071.5	100.7	26.3	17.8	16.6	2.5	0.9	1.0	2.2
52-080	0.24	8.08	17.5	245.2	110.1	5.4	1.4	0.9	0.9	0.1	0.0	0.1	0.1
52-090	0.45	4.89	19.7	276.0	123.9	6.0	1.6	1.1	1.0	0.2	0.1	0.1	0.1
52-100A/B	0.27	11.89	28.4	397.5	178.5	8.7	2.3	1.5	1.4	0.2	0.1	0.1	0.2
52-110	0.45	8.84	35.3	494.9	222.2	10.8	2.8	1.9	1.8	0.3	0.1	0.1	0.2
52-120	0.45	14.74	59.4	831.8	373.5	18.2	4.7	3.2	3.0	0.5	0.2	0.2	0.4
52-130	0.31	7.18	20.2	283.4	127.2	6.2	1.6	1.1	1.0	0.2	0.1	0.1	0.1
53-010	0.45	7.03	28.3	396.7	178.1	8.7	2.3	1.5	1.4	0.2	0.1	0.1	0.2
53-020	0.28	12.38	30.6	429.1	192.6	9.4	2.4	1.7	1.5	0.2	0.1	0.1	0.2
53-030	0.44	11.37	44.5	622.9	279.7	13.6	3.6	2.4	2.2	0.3	0.1	0.1	0.3
53-040	0.45	2.78	11.2	156.9	70.4	3.4	0.9	0.6	0.6	0.1	0.0	0.0	0.1
53-050	0.45	13.66	55.1	770.9	346.1	16.8	4.4	3.0	2.8	0.4	0.1	0.2	0.4
53-060	0.45	20.37	82.1	1,149.5	516.1	25.1	6.6	4.4	4.1	0.6	0.2	0.3	0.6
53-070	0.45	4.89	19.7	276.0	123.9	6.0	1.6	1.1	1.0	0.2	0.1	0.1	0.1
53-080	0.39	5.81	20.5	287.2	129.0	6.3	1.6	1.1	1.0	0.2	0.1	0.1	0.1
53-090	0.46	59.59	245.1	3,431.3	1,540.6	74.9	19.6	13.2	12.4	1.9	0.7	0.8	1.6
53-100	0.00	107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53-110	0.38	4.59	15.8	221.5	99.5	4.8	1.3	0.9	0.8	0.1	0.0	0.0	0.1
53-120A/B	0.46	129.79	529.7	7,415.7	3,329.5	161.9	42.3	28.6	26.7	4.1	1.4	1.6	3.6
53-130	0.45	5.02	20.2	283.3	127.2	6.2	1.6	1.1	1.0	0.2	0.1	0.1	0.1
53-140	0.45	6.36	25.6	358.9	161.1	7.8	2.0	1.4	1.3	0.2	0.1	0.1	0.2
53-150	0.48	90.4	391.8	5,484.8	2,462.5	119.8	31.3	21.2	19.8	3.0	1.0	1.2	2.6
53-160	0.47	252.19	1,068.0	14,951.6	6,713.0	326.5	85.3	57.7	53.9	8.2	2.8	3.3	7.2
53-170	0.36	6.39	20.7	289.2	129.8	6.3	1.6	1.1	1.0	0.2	0.1	0.1	0.1
53-180	0.10	8.09	7.2	101.5	45.5	2.2	0.6	0.4	0.4	0.1	0.0	0.0	0.0
53-190	0.30	11.41	30.7	430.0	193.1	9.4	2.5	1.7	1.5	0.2	0.1	0.1	0.2
54-010A/B	0.44	84.93	331.0	4,633.9	2,080.5	101.2	26.4	17.9	16.7	2.6	0.9	1.0	2.2
54-040A/B	0.49	255.14	1,131.1	15,835.9	7,110.0	345.8	90.3	61.1	57.0	8.7	3.0	3.5	7.6
54-050	0.17	9.27	14.4	202.1	90.8	4.4	1.2	0.8	0.7	0.1	0.0	0.0	0.1
54-060	0.44	32.13	126.4	1,769.9	794.6	38.6	10.1	6.8	6.4	1.0	0.3	0.4	0.8
54-070	0.36	60.8	195.3	2,734.0	1,227.5	59.7	15.6	10.5	9.8	1.5	0.5	0.6	1.3
54-080A/B/C	0.46	414.26	1,696.1	23,745.7	10,661.3	518.5	135.4	91.6	85.5	13.1	4.5	5.2	11.4
54-090	0.10	3.55	3.2	44.5	20.0	1.0	0.3	0.2	0.2	0.0	0.0	0.0	0.0
54-100A/B	0.60	114.24	609.6	8,534.1	3,831.6	186.4	48.7	32.9	30.7	4.7	1.6	1.9	4.1
54-110	0.45	24.55	99.0	1,385.4	622.0	30.3	7.9	5.3	5.0	0.8	0.3	0.3	0.7
54-120	0.46	62.08	254.1	3,557.3	1,597.2	77.7	20.3	13.7	12.8	2.0	0.7	0.8	1.7
54-130	0.10	1.07	1.0	13.4	6.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0
54-140A/B	0.41	113.01	412.9	5,781.2	2,595.6	126.2	33.0	22.3	20.8	3.2	1.1	1.3	2.8
54-150	0.45	55.34	220.8	3,090.5	1,387.6	67.5	17.6	11.9	11.1	1.7	0.6	0.7	1.5

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (06/01/07 - 08/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Summer Median Event Mean Concentration			7.0	98	44	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation (meters)	0.372												
54-160	0.60	2.62	14.1	197.1	88.5	4.3	1.1	0.8	0.7	0.1	0.0	0.0	0.1
54-170	0.59	8.08	43.0	602.5	270.5	13.2	3.4	2.3	2.2	0.3	0.1	0.1	0.3
54-180	0.60	2.82	15.2	212.2	95.3	4.6	1.2	0.8	0.8	0.1	0.0	0.0	0.1
54-190	0.10	2.2	2.0	27.6	12.4	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
54-200	0.10	2.13	1.9	26.7	12.0	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
54-210	0.10	1.14	1.0	14.3	6.4	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0
55-010	0.60	14.98	80.5	1,127.1	506.1	24.6	6.4	4.3	4.1	0.6	0.2	0.2	0.5
55-020	0.60	189.58	1,012.3	14,171.7	6,362.8	309.5	80.8	54.7	51.0	7.8	2.7	3.1	6.8
56-010	0.60	67.62	363.4	5,087.9	2,284.4	111.1	29.0	19.6	18.3	2.8	1.0	1.1	2.4
57-010	0.53	26.1	124.7	1,746.0	783.9	38.1	10.0	6.7	6.3	1.0	0.3	0.4	0.8
57-020	0.00	142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-030	0.45	18.22	73.4	1,028.2	461.6	22.5	5.9	4.0	3.7	0.6	0.2	0.2	0.5
57-040	0.35	39.88	124.7	1,745.2	783.5	38.1	10.0	6.7	6.3	1.0	0.3	0.4	0.8
57-050	0.45	7.9	31.8	445.8	200.2	9.7	2.5	1.7	1.6	0.2	0.1	0.1	0.2
57-060	0.46	26.11	108.2	1,514.2	679.8	33.1	8.6	5.8	5.5	0.8	0.3	0.3	0.7
57-070	0.45	81.33	328.6	4,600.6	2,065.6	100.5	26.2	17.7	16.6	2.5	0.9	1.0	2.2
57-080	0.42	5.54	21.0	293.7	131.8	6.4	1.7	1.1	1.1	0.2	0.1	0.1	0.1
57-090	0.47	77.77	326.9	4,577.0	2,055.0	99.9	26.1	17.7	16.5	2.5	0.9	1.0	2.2
57-100A/B	0.47	313.43	1,326.3	18,568.2	8,336.7	405.5	105.9	71.6	66.9	10.2	3.5	4.1	8.9
57-110	0.54	21.6	104.6	1,464.9	657.7	32.0	8.4	5.7	5.3	0.8	0.3	0.3	0.7
57-120A/B/C	0.00	65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-130	0.10	1.16	1.0	14.5	6.5	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0
57-140	0.10	1.55	1.4	19.4	8.7	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
57-150	0.43	35.68	137.9	1,931.2	867.1	42.2	11.0	7.4	7.0	1.1	0.4	0.4	0.9
57-160	0.10	1.89	1.7	23.7	10.6	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
61-010	0.55	2.86	14.1	197.9	88.8	4.3	1.1	0.8	0.7	0.1	0.0	0.0	0.1
62-010	0.45	27.84	112.7	1,578.3	708.6	34.5	9.0	6.1	5.7	0.9	0.3	0.3	0.8
63-010	0.45	388.79	1,574.6	22,043.9	9,897.3	481.4	125.7	85.0	79.4	12.1	4.2	4.8	10.6
63-020	0.00	11.91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64-100	0.45	24.92	100.4	1,405.0	630.8	30.7	8.0	5.4	5.1	0.8	0.3	0.3	0.7
64-110	0.45	6.01	24.2	339.2	152.3	7.4	1.9	1.3	1.2	0.2	0.1	0.1	0.2
64-120	0.45	16.04	64.7	905.2	406.4	19.8	5.2	3.5	3.3	0.5	0.2	0.2	0.4
64-130	0.45	2.44	9.8	137.7	61.8	3.0	0.8	0.5	0.5	0.1	0.0	0.0	0.1
65-010	0.00	18.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65-020	0.53	38.46	182.3	2,552.2	1,145.9	55.7	14.6	9.8	9.2	1.4	0.5	0.6	1.2
70-010	0.46	6.23	25.6	358.3	160.9	7.8	2.0	1.4	1.3	0.2	0.1	0.1	0.2
70-015	0.45	11.69	47.1	659.7	296.2	14.4	3.8	2.5	2.4	0.4	0.1	0.1	0.3
70-020	0.45	37.55	151.4	2,119.0	951.4	46.3	12.1	8.2	7.6	1.2	0.4	0.5	1.0
70-025	0.00	3.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-030	0.45	13.48	54.3	760.1	341.3	16.6	4.3	2.9	2.7	0.4	0.1	0.2	0.4
70-035	0.45	4.53	18.3	255.6	114.8	5.6	1.5	1.0	0.9	0.1	0.0	0.1	0.1
70-040	0.45	2.42	9.8	136.6	61.3	3.0	0.8	0.5	0.5	0.1	0.0	0.0	0.1
70-045	0.00	0.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-050	0.45	17.41	70.2	982.5	441.1	21.5	5.6	3.8	3.5	0.5	0.2	0.2	0.5
70-055	0.46	333.43	1,386.2	19,406.2	8,713.0	423.8	110.7	74.9	69.9	10.7	3.7	4.3	9.3
70-060	0.45	3.53	14.2	199.2	89.4	4.3	1.1	0.8	0.7	0.1	0.0	0.0	0.1
70-065	0.45	1.89	7.6	106.7	47.9	2.3	0.6	0.4	0.4	0.1	0.0	0.0	0.1
70-070	0.45	5.8	23.4	327.3	147.0	7.1	1.9	1.3	1.2	0.2	0.1	0.1	0.2
70-075	0.43	5	19.3	270.5	121.4	5.9	1.5	1.0	1.0	0.1	0.1	0.1	0.1
70-080	0.46	11.96	49.5	692.9	311.1	15.1	4.0	2.7	2.5	0.4	0.1	0.2	0.3
70-085	0.45	229.48	919.3	12,870.4	5,778.5	281.0	73.4	49.6	46.4	7.1	2.4	2.8	6.2
70-090	0.45	18.57	74.9	1,047.9	470.5	22.9	6.0	4.0	3.8	0.6	0.2	0.2	0.5
70-095	0.45	9.99	40.3	563.8	253.1	12.3	3.2	2.2	2.0	0.3	0.1	0.1	0.3
70-100	0.45	9.64	38.9	544.0	244.2	11.9	3.1	2.1	2.0	0.3	0.1	0.1	0.3
70-105	0.45	1.63	6.6	92.0	41.3	2.0	0.5	0.4	0.3	0.1	0.0	0.0	0.0
70-110	0.45	18.13	73.1	1,023.1	459.4	22.3	5.8	3.9	3.7	0.6	0.2	0.2	0.5
70-115	0.45	3.71	15.0	209.4	94.0	4.6	1.2	0.8	0.8	0.1	0.0	0.0	0.1
70-120	0.45	4.22	17.0	238.1	106.9	5.2	1.4	0.9	0.9	0.1	0.0	0.1	0.1
70-125	0.00	5.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-130	0.49	34.29	151.6	2,122.9	953.2	46.4	12.1	8.2	7.6	1.2	0.4	0.5	1.0
70-135	0.45	7.46	30.1	421.0	189.0	9.2	2.4	1.6	1.5	0.2	0.1	0.1	0.2
70-140	0.60	0.78	4.2	58.7	26.4	1.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0
70-145	0.60	9.19	49.4	691.5	310.5	15.1	3.9	2.7	2.5	0.4	0.1	0.2	0.3
70-150	0.45	4.51	18.2	254.5	114.3	5.6	1.5	1.0	0.9	0.1	0.0	0.1	0.1
70-155	0.45	2.05	8.3	115.7	51.9	2.5	0.7	0.4	0.4	0.1	0.0	0.0	0.1
70-160	0.45	2.95	11.9	166.5	74.7	3.6	0.9	0.6	0.6	0.1	0.0	0.0	0.1
70-165	0.45	27.77	111.9	1,567.1	703.6	34.2	8.9	6.0	5.6	0.9	0.3	0.3	0.8
70-170	0.45	23.74	95.7	1,339.7	601.5	29.3	7.6	5.2	4.8	0.7	0.3	0.3	0.6
70-175	0.46	30.89	126.5	1,771.1	795.2	38.7	10.1	6.8	6.4	1.0	0.3	0.4	0.8
70-180	0.45	1.14	4.6	64.3	28.9	1.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0
70-185	0.45	1.53	6.2	86.3	38.8	1.9	0.5	0.3	0.3	0.0	0.0	0.0	0.0
70-190	0.17	15.04	23.2	324.6	145.7	7.1	1.9	1.3	1.2	0.2	0.1	0.1	0.2
70-195	0.45	46.02	186.5	2,611.2	1,172.4	57.0	14.9	10.1	9.4	1.4	0.5	0.6	1.3
70-200	0.45	31.52	127.1	1,778.7	798.6	38.8	10.1	6.9	6.4	1.0	0.3	0.4	0.9
70-205	0.45	1.39	5.6	78.4	35.2	1.7	0.4	0.3	0.3	0.0	0.0	0.0	0.0
70-210	0.45	3.58	14.4	202.0	90.7	4.4	1.2	0.8	0.7	0.1	0.0	0.0	0.1
70-215	0.45	5.93	23.9	334.6	150.2	7.3	1.9	1.3	1.2	0.2	0.1	0.1	0.2

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (06/01/07 - 08/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Summer Median Event Mean Concentration			7.0	98	44	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation (meters)	0.372												
70-220	0.45	4.54	18.3	256.2	115.0	5.6	1.5	1.0	0.9	0.1	0.0	0.1	0.1
70-225	0.45	4.99	20.1	281.6	126.4	6.1	1.6	1.1	1.0	0.2	0.1	0.1	0.1
70-230	0.45	4.72	19.0	266.4	119.6	5.8	1.5	1.0	1.0	0.1	0.1	0.1	0.1
70-235	0.45	5.04	20.3	284.4	127.7	6.2	1.6	1.1	1.0	0.2	0.1	0.1	0.1
70-240	0.45	4.52	18.2	255.1	114.5	5.6	1.5	1.0	0.9	0.1	0.0	0.1	0.1
70-245	0.44	9.98	39.2	549.4	246.7	12.0	3.1	2.1	2.0	0.3	0.1	0.1	0.3
70-250	0.48	41.27	178.3	2,496.4	1,120.8	54.5	14.2	9.6	9.0	1.4	0.5	0.5	1.2
70-255	0.45	45.37	182.9	2,561.1	1,149.9	55.9	14.6	9.9	9.2	1.4	0.5	0.6	1.2
70-260	0.46	24.9	102.1	1,429.4	641.8	31.2	8.2	5.5	5.1	0.8	0.3	0.3	0.7
70-265A/B	0.00	183.65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-270	0.45	4.66	18.8	263.0	118.1	5.7	1.5	1.0	0.9	0.1	0.0	0.1	0.1
70-275	0.45	4.28	17.3	241.5	108.4	5.3	1.4	0.9	0.9	0.1	0.0	0.1	0.1
70-280	0.45	9.39	37.9	530.8	238.3	11.6	3.0	2.0	1.9	0.3	0.1	0.1	0.3
70-285	0.45	19.03	76.6	1,072.7	481.6	23.4	6.1	4.1	3.9	0.6	0.2	0.2	0.5
70-290	0.45	2.37	9.5	132.6	59.5	2.9	0.8	0.5	0.5	0.1	0.0	0.0	0.1
70-295	0.45	7.18	28.9	405.2	181.9	8.8	2.3	1.6	1.5	0.2	0.1	0.1	0.2
70-300	0.10	0.4	0.4	5.0	2.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-305	0.45	12.68	50.7	709.1	318.4	15.5	4.0	2.7	2.6	0.4	0.1	0.2	0.3
70-310	0.00	5.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-315	0.30	5.79	15.6	217.8	97.8	4.8	1.2	0.8	0.8	0.1	0.0	0.0	0.1
70-320	0.44	2.32	9.1	127.8	57.4	2.8	0.7	0.5	0.5	0.1	0.0	0.0	0.1
70-325	0.00	2.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-330	0.47	279.41	1,178.9	16,505.0	7,410.4	360.4	94.1	63.7	59.5	9.1	3.1	3.6	7.9
70-335	0.45	1.99	8.0	112.3	50.4	2.5	0.6	0.4	0.4	0.1	0.0	0.0	0.1
70-340	0.39	22.25	78.4	1,097.8	492.9	24.0	6.3	4.2	4.0	0.6	0.2	0.2	0.5
70-345	0.45	3.81	15.4	215.0	96.5	4.7	1.2	0.8	0.8	0.1	0.0	0.0	0.1
70-350	0.49	314.4	1,391.5	19,481.6	8,746.9	425.4	111.1	75.1	70.2	10.7	3.7	4.3	9.3
70-355	0.45	1.29	5.2	72.8	32.7	1.6	0.4	0.3	0.3	0.0	0.0	0.0	0.0
70-360	0.45	131.96	537.2	7,521.4	3,376.9	164.2	42.9	29.0	27.1	4.1	1.4	1.7	3.6
70-365	0.45	6.7	27.0	378.1	169.8	8.3	2.2	1.5	1.4	0.2	0.1	0.1	0.2
70-370	0.44	3.75	14.9	208.3	93.5	4.5	1.2	0.8	0.8	0.1	0.0	0.0	0.1
70-375	0.47	7.1	30.1	420.8	188.9	9.2	2.4	1.6	1.5	0.2	0.1	0.1	0.2
70-380	0.45	14.4	58.0	812.6	364.8	17.7	4.6	3.1	2.9	0.4	0.2	0.2	0.4
70-385	0.45	14.97	60.3	844.8	379.3	18.4	4.8	3.3	3.0	0.5	0.2	0.2	0.4
70-390	0.46	58.11	241.1	3,375.7	1,515.6	73.7	19.3	13.0	12.2	1.9	0.6	0.7	1.6
70-395	0.43	57.19	220.0	3,080.5	1,383.1	67.3	17.6	11.9	11.1	1.7	0.6	0.7	1.5
70-400	0.44	9.67	38.0	532.2	238.9	11.6	3.0	2.1	1.9	0.3	0.1	0.1	0.3
70-405	0.25	7.16	16.0	224.5	100.8	4.9	1.3	0.9	0.8	0.1	0.0	0.0	0.1
70-410	0.43	5.8	22.3	311.9	140.0	6.8	1.8	1.2	1.1	0.2	0.1	0.1	0.1
70-415	0.45	120.75	491.0	6,874.1	3,086.3	150.1	39.2	26.5	24.8	3.8	1.3	1.5	3.3
70-420	0.45	16.99	68.5	958.8	430.5	20.9	5.5	3.7	3.5	0.5	0.2	0.2	0.5
70-425	0.51	20.63	94.4	1,322.0	593.5	28.9	7.5	5.1	4.8	0.7	0.3	0.3	0.6
70-430	0.10	6.19	5.5	77.6	34.9	1.7	0.4	0.3	0.3	0.0	0.0	0.0	0.0
70-435	0.10	9.16	8.2	114.9	51.6	2.5	0.7	0.4	0.4	0.1	0.0	0.0	0.1
70-440	0.50	34.48	153.4	2,147.7	964.3	46.9	12.3	8.3	7.7	1.2	0.4	0.5	1.0
70-445	0.45	5.6	22.6	316.0	141.9	6.9	1.8	1.2	1.1	0.2	0.1	0.1	0.2
70-450	0.45	2.65	10.7	149.5	67.1	3.3	0.9	0.6	0.5	0.1	0.0	0.0	0.1
70-455	0.00	2.66	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-460	0.45	2.67	10.8	150.7	67.6	3.3	0.9	0.6	0.5	0.1	0.0	0.0	0.1
70-465	0.45	2.58	10.4	145.6	65.4	3.2	0.8	0.6	0.5	0.1	0.0	0.0	0.1
70-470	0.38	8.55	29.4	411.8	184.9	9.0	2.3	1.6	1.5	0.2	0.1	0.1	0.2
70-475	0.46	229.14	944.8	13,227.6	5,938.9	288.8	75.5	51.0	47.6	7.3	2.5	2.9	6.3
70-480	0.60	0.31	1.7	23.3	10.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-485	0.45	13.36	53.9	753.9	338.5	16.5	4.3	2.9	2.7	0.4	0.1	0.2	0.4
70-490	0.47	48.75	205.0	2,869.4	1,288.3	62.7	16.4	11.1	10.3	1.6	0.5	0.6	1.4
70-495	0.45	7.74	31.2	436.8	196.1	9.5	2.5	1.7	1.6	0.2	0.1	0.1	0.2
70-500	0.45	0.56	2.3	31.6	14.2	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-505	0.41	8.12	29.9	419.2	188.2	9.2	2.4	1.6	1.5	0.2	0.1	0.1	0.2
70-510	0.45	41.82	169.1	2,367.7	1,063.0	51.7	13.5	9.1	8.5	1.3	0.4	0.5	1.1
70-515	0.47	62.73	264.1	3,696.7	1,659.7	80.7	21.1	14.3	13.3	2.0	0.7	0.8	1.8
70-520	0.45	6.05	24.4	341.4	153.3	7.5	1.9	1.3	1.2	0.2	0.1	0.1	0.2
70-525	0.45	6.23	25.1	351.6	157.8	7.7	2.0	1.4	1.3	0.2	0.1	0.1	0.2
70-530	0.45	1.67	6.7	94.2	42.3	2.1	0.5	0.4	0.3	0.1	0.0	0.0	0.0
70-535	0.45	30.24	122.2	1,710.5	768.0	37.4	9.8	6.6	6.2	0.9	0.3	0.4	0.8
70-540	0.21	5.1	9.8	136.5	61.3	3.0	0.8	0.5	0.5	0.1	0.0	0.0	0.1
70-545	0.45	1.89	7.6	106.7	47.9	2.3	0.6	0.4	0.4	0.1	0.0	0.0	0.1
70-550	0.26	1.3	3.0	42.2	18.9	0.9	0.2	0.2	0.2	0.0	0.0	0.0	0.0
70-555	0.45	1.73	7.0	97.6	43.8	2.1	0.6	0.4	0.4	0.1	0.0	0.0	0.0
70-560	0.45	3.33	13.4	187.9	84.4	4.1	1.1	0.7	0.7	0.1	0.0	0.0	0.1
70-565	0.24	16.63	35.8	501.7	225.2	11.0	2.9	1.9	1.8	0.3	0.1	0.1	0.2
70-570	0.45	1.23	5.0	69.4	31.2	1.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0
70-575	0.45	15.39	62.0	867.6	389.5	18.9	4.9	3.3	3.1	0.5	0.2	0.2	0.4
70-580	0.43	119.93	466.0	6,524.1	2,929.2	142.5	37.2	25.2	23.5	3.6	1.2	1.4	3.1
71-010	0.10	1.12	1.0	14.0	6.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0
71-020	0.45	14.05	56.6	792.9	356.0	17.3	4.5	3.1	2.9	0.4	0.2	0.2	0.4
71-030	0.45	28.58	115.8	1,621.6	728.1	35.4	9.2	6.3	5.8	0.9	0.3	0.4	0.8
71-040	0.22	20.93	41.1	576.1	258.7	12.6	3.3	2.2	2.1	0.3	0.1	0.1	0.3

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL

2007 SUMMER POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (06/01/07 - 08/31/07)

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Summer Median Event Mean Concentration			7.0	98	44	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation (meters)	**0.372**												
71-050	0.46	120.42	494.0	6,916.2	3,105.2	151.0	39.5	26.7	24.9	3.8	1.3	1.5	3.3
71-060	0.45	3.11	12.5	175.5	78.8	3.8	1.0	0.7	0.6	0.1	0.0	0.0	0.1
71-070	0.00	386.63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71-080	0.46	101.79	416.0	5,824.3	2,615.0	127.2	33.2	22.5	21.0	3.2	1.1	1.3	2.8
71-090	0.45	6.5	25.9	363.2	163.1	7.9	2.1	1.4	1.3	0.2	0.1	0.1	0.2
71-100	0.10	1.99	1.8	25.0	11.2	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
72-010	0.18	17.32	27.2	380.3	170.8	8.3	2.2	1.5	1.4	0.2	0.1	0.1	0.2
72-020	0.40	24.7	87.4	1,223.9	549.5	26.7	7.0	4.7	4.4	0.7	0.2	0.3	0.6
72-030	0.10	5.25	4.7	65.8	29.6	1.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0
72-040	0.42	166.54	621.4	8,699.2	3,905.8	190.0	49.6	33.6	31.3	4.8	1.7	1.9	4.2
72-050	0.10	5.16	4.6	64.7	29.1	1.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0
72-060	0.36	113.04	366.3	5,127.6	2,302.2	112.0	29.2	19.8	18.5	2.8	1.0	1.1	2.5
72-070	0.10	2.21	2.0	27.7	12.4	0.6	0.2	0.1	0.1	0.0	0.0	0.0	0.0
72-080	0.60	4.74	25.5	356.6	160.1	7.8	2.0	1.4	1.3	0.2	0.1	0.1	0.2
72-090	0.45	68.71	275.2	3,853.0	1,729.9	84.1	22.0	14.9	13.9	2.1	0.7	0.8	1.8
72-100	0.46	68.32	283.3	3,966.8	1,781.0	86.6	22.6	15.3	14.3	2.2	0.8	0.9	1.9
72-110	0.10	3.22	2.9	40.4	18.1	0.9	0.2	0.2	0.1	0.0	0.0	0.0	0.0
72-120	0.45	62.98	253.9	3,554.1	1,595.7	77.6	20.3	13.7	12.8	2.0	0.7	0.8	1.7
72-130	0.46	58.06	237.3	3,322.5	1,491.7	72.6	19.0	12.8	12.0	1.8	0.6	0.7	1.6
72-140	0.10	10.19	9.1	127.8	57.4	2.8	0.7	0.5	0.5	0.1	0.0	0.0	0.1
72-150	0.10	4.76	4.3	59.7	26.8	1.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0
72-160	0.10	4.55	4.1	57.1	25.6	1.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0
73-010	0.44	20.76	81.6	1,142.6	513.0	25.0	6.5	4.4	4.1	0.6	0.2	0.3	0.5
73-020	0.44	57.47	227.8	3,189.7	1,432.1	69.7	18.2	12.3	11.5	1.8	0.6	0.7	1.5
73-030	0.10	21.56	19.3	270.4	121.4	5.9	1.5	1.0	1.0	0.1	0.1	0.1	0.1
74-010	0.48	44.39	190.3	2,664.6	1,196.3	58.2	15.2	10.3	9.6	1.5	0.5	0.6	1.3
74-020	0.45	4.41	17.8	248.9	111.7	5.4	1.4	1.0	0.9	0.1	0.0	0.1	0.1
75-005	0.45	12.39	49.9	698.3	313.5	15.2	4.0	2.7	2.5	0.4	0.1	0.2	0.3
75-010	0.60	3.65	19.6	274.6	123.3	6.0	1.6	1.1	1.0	0.2	0.1	0.1	0.1
75-020	0.45	1.53	6.2	86.3	38.8	1.9	0.5	0.3	0.3	0.0	0.0	0.0	0.0
75-030	0.45	8.38	33.8	472.9	212.3	10.3	2.7	1.8	1.7	0.3	0.1	0.1	0.2
75-040	0.45	14.74	59.4	831.8	373.5	18.2	4.7	3.2	3.0	0.5	0.2	0.2	0.4
76-010	0.46	907.31	3,769.7	52,775.7	23,695.2	1,152.4	301.0	203.6	190.1	29.1	10.0	11.6	25.3
76-020	0.46	88.62	361.7	5,064.0	2,273.7	110.6	28.9	19.5	18.2	2.8	1.0	1.1	2.4
76-030	0.45	7.55	30.4	426.1	191.3	9.3	2.4	1.6	1.5	0.2	0.1	0.1	0.2
76-040	0.19	4.67	7.8	109.0	48.9	2.4	0.6	0.4	0.4	0.1	0.0	0.0	0.1
76-050	0.00	2.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81-010	0.10	31.17	27.9	390.9	175.5	8.5	2.2	1.5	1.4	0.2	0.1	0.1	0.2
82-010	0.49	23.53	102.6	1,435.8	644.6	31.4	8.2	5.5	5.2	0.8	0.3	0.3	0.7
82-020	0.45	73.45	299.2	4,189.3	1,880.9	91.5	23.9	16.2	15.1	2.3	0.8	0.9	2.0
82-030	0.45	90.04	366.7	5,134.2	2,305.1	112.1	29.3	19.8	18.5	2.8	1.0	1.1	2.5
82-040	0.46	98.49	409.3	5,729.7	2,572.5	125.1	32.7	22.1	20.6	3.2	1.1	1.3	2.7
83-010	0.45	6.59	26.6	371.9	167.0	8.1	2.1	1.4	1.3	0.2	0.1	0.1	0.2
83-015	0.45	0.99	4.0	55.9	25.1	1.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0
83-020	0.43	85.96	334.8	4,686.7	2,104.3	102.3	26.7	18.1	16.9	2.6	0.9	1.0	2.2
83-025	0.45	51.23	206.5	2,891.0	1,298.0	63.1	16.5	11.2	10.4	1.6	0.5	0.6	1.4
83-030	0.60	0.82	4.4	61.7	27.7	1.3	0.4	0.2	0.2	0.0	0.0	0.0	0.0
83-040	0.10	1.08	1.0	13.5	6.1	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0
83-050	0.45	40.4	163.3	2,286.1	1,026.4	49.9	13.0	8.8	8.2	1.3	0.4	0.5	1.1
83-060	0.45	10.05	40.5	567.1	254.6	12.4	3.2	2.2	2.0	0.3	0.1	0.1	0.3
83-070	0.10	1.19	1.1	14.9	6.7	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0
83-080	0.48	178.63	760.7	10,650.3	4,781.8	232.6	60.7	41.1	38.4	5.9	2.0	2.3	5.1
83-090	0.41	9.16	33.6	470.7	211.3	10.3	2.7	1.8	1.7	0.3	0.1	0.1	0.2
84-010	0.47	21.56	90.8	1,271.7	570.9	27.8	7.3	4.9	4.6	0.7	0.2	0.3	0.6
85-010	0.10	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUMMER SEASONAL SUM (kg)			**120,995.15**	**1,693,932.04**	**760,540.92**	**36,989.94**	**9,662.33**	**6,533.74**	**6,101.61**	**933.39**	**321.50**	**371.63**	**812.40**

2007 FALL POLLUTANT LOADINGS BY OUTFALL

2007 FALL POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (09/01/07 - 12/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Fall Median Event Mean Concentration			9.0	69	60	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation (meters)	**0.285**												
10-010	0.43	113.55	204.7	1,569.7	1,364.9	40.5	8.7	6.7	6.3	1.6	0.3	0.2	0.7
10-020	0.45	7.81	14.7	112.6	97.9	2.9	0.6	0.5	0.5	0.1	0.0	0.0	0.1
10-030	0.10	4.05	1.7	13.0	11.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-040	0.45	167.42	312.7	2,397.3	2,084.6	61.8	13.3	10.3	9.6	2.5	0.4	0.4	1.1
10-050	0.46	114.18	217.2	1,665.4	1,448.2	43.0	9.2	7.1	6.7	1.7	0.3	0.2	0.8
10-060	0.60	10.5	26.3	201.9	175.5	5.2	1.1	0.9	0.8	0.2	0.0	0.0	0.1
10-070	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-080	0.38	30.66	49.0	375.4	326.5	9.7	2.1	1.6	1.5	0.4	0.1	0.1	0.2
10-090A	0.00	0.85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090B	0.00	1.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-090C	0.54	12.77	28.9	221.6	192.7	5.7	1.2	1.0	0.9	0.2	0.0	0.0	0.1
10-090D	0.00	4.68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-100	0.36	1392.1	2,110.4	16,179.6	14,069.2	417.4	89.8	69.4	64.7	16.6	3.0	2.4	7.6
10-110	0.47	300.11	585.2	4,486.3	3,901.1	115.7	24.9	19.2	17.9	4.6	0.8	0.7	2.1
10-120A/B	0.44	372.78	678.1	5,199.0	4,520.9	134.1	28.9	22.3	20.8	5.3	1.0	0.8	2.5
10-130	0.45	336.46	634.9	4,867.8	4,232.9	125.6	27.0	20.9	19.5	5.0	0.9	0.7	2.3
10-140a	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-140a,b	0.58	220.65	530.7	4,068.4	3,537.7	105.0	22.6	17.5	16.3	4.2	0.8	0.6	1.9
10-150	0.47	157.15	308.0	2,361.0	2,053.0	60.9	13.1	10.1	9.4	2.4	0.4	0.4	1.1
10-160	0.00	17	0.2	1.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-170	0.50	176.01	370.2	2,838.1	2,467.9	73.2	15.8	12.2	11.4	2.9	0.5	0.4	1.3
10-180	0.45	284.26	529.1	4,056.1	3,527.0	104.6	22.5	17.4	16.2	4.2	0.8	0.6	1.9
10-190	0.59	14.58	36.1	276.4	240.4	7.1	1.5	1.2	1.1	0.3	0.1	0.0	0.1
10-200	0.40	42.44	70.4	539.9	469.5	13.9	3.0	2.3	2.2	0.6	0.1	0.1	0.3
10-210	0.49	98.32	202.0	1,548.7	1,346.7	40.0	8.6	6.6	6.2	1.6	0.3	0.2	0.7
10-220	0.56	18.83	44.0	337.3	293.3	8.7	1.9	1.4	1.3	0.3	0.1	0.1	0.2
10-230	0.47	235.02	464.3	3,559.7	3,095.4	91.8	19.8	15.3	14.2	3.7	0.7	0.5	1.7
10-240	0.51	103.83	222.9	1,709.1	1,486.2	44.1	9.5	7.3	6.8	1.8	0.3	0.3	0.8
10-250	0.49	242.96	496.4	3,805.7	3,309.3	98.2	21.1	16.3	15.2	3.9	0.7	0.6	1.8
10-260	0.56	23.77	55.3	424.3	369.0	10.9	2.4	1.8	1.7	0.4	0.1	0.1	0.2
10-270	0.47	72.45	143.5	1,100.0	956.6	28.4	6.1	4.7	4.4	1.1	0.2	0.2	0.5
10-280	0.44	55.08	102.2	783.3	681.1	20.2	4.3	3.4	3.1	0.8	0.1	0.1	0.4
10-290	0.10	6.83	2.9	21.9	19.0	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-300	0.36	17.74	26.7	205.0	178.2	5.3	1.1	0.9	0.8	0.2	0.0	0.0	0.1
10-310	0.47	60.29	119.0	912.3	793.3	23.5	5.1	3.9	3.6	0.9	0.2	0.1	0.4
10-320	0.45	341.99	645.7	4,950.6	4,304.8	127.7	27.5	21.2	19.8	5.1	0.9	0.7	2.3
10-330	0.35	21.61	31.8	243.4	211.7	6.3	1.4	1.0	1.0	0.3	0.0	0.0	0.1
10-340	0.45	20.74	39.1	299.9	260.7	7.7	1.7	1.3	1.2	0.3	0.1	0.0	0.1
10-350	0.60	28.16	70.5	540.4	469.9	13.9	3.0	2.3	2.2	0.6	0.1	0.1	0.3
10-360	0.59	29.02	71.9	551.1	479.2	14.2	3.1	2.4	2.2	0.6	0.1	0.1	0.3
10-370	0.59	14.46	35.6	273.2	237.5	7.0	1.5	1.2	1.1	0.3	0.1	0.0	0.1
10-380	0.45	14.38	26.8	205.1	178.4	5.3	1.1	0.9	0.8	0.2	0.0	0.0	0.1
10-390	0.49	41.97	86.5	663.1	576.6	17.1	3.7	2.8	2.7	0.7	0.1	0.1	0.3
10-400A	0.10	1.07	0.4	3.4	3.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-400B	0.47	17.66	34.8	266.9	232.1	6.9	1.5	1.1	1.1	0.3	0.0	0.0	0.1
10-400C	0.57	50.25	118.8	911.0	792.2	23.5	5.1	3.9	3.6	0.9	0.2	0.1	0.4
10-410A	0.50	46.22	96.2	737.3	641.1	19.0	4.1	3.2	2.9	0.8	0.1	0.1	0.3
10-410B	0.32	21.29	28.2	215.8	187.7	5.6	1.2	0.9	0.9	0.2	0.0	0.0	0.1
10-410C	0.53	22.8	50.3	385.6	335.3	9.9	2.1	1.7	1.5	0.4	0.1	0.1	0.2
10-410D	0.60	27.34	68.6	525.8	457.2	13.6	2.9	2.3	2.1	0.5	0.1	0.1	0.2
10-410E	0.58	256.04	615.8	4,720.9	4,105.1	121.8	26.2	20.3	18.9	4.9	0.9	0.7	2.2
10-410F	0.59	37.92	93.2	714.7	621.5	18.4	4.0	3.1	2.9	0.7	0.1	0.1	0.3
10-420A	0.27	23.05	26.3	201.3	175.0	5.2	1.1	0.9	0.8	0.2	0.0	0.0	0.1
10-420B	0.00	10.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420C	0.00	7.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420D	0.00	20.73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-420E	0.59	127.89	313.7	2,404.8	2,091.1	62.0	13.3	10.3	9.6	2.5	0.4	0.4	1.1
10-430A	0.00	8.14	0.1	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430B	0.53	54.72	122.2	936.9	814.7	24.2	5.2	4.0	3.7	1.0	0.2	0.1	0.4
10-430C	0.48	44.83	90.0	690.1	600.1	17.8	3.8	3.0	2.8	0.7	0.1	0.1	0.3
10-430D	0.49	85.79	176.3	1,351.4	1,175.1	34.9	7.5	5.8	5.4	1.4	0.3	0.2	0.6
10-430E	0.56	86.66	202.0	1,548.4	1,346.4	39.9	8.6	6.6	6.2	1.6	0.3	0.2	0.7
10-430F	0.10	377.97	158.0	1,211.1	1,053.1	31.2	6.7	5.2	4.8	1.2	0.2	0.2	0.6
10-430G	0.50	125.89	260.8	1,999.1	1,738.3	51.6	11.1	8.6	8.0	2.1	0.4	0.3	0.9
10-430H	0.49	33.18	68.1	522.4	454.3	13.5	2.9	2.2	2.1	0.5	0.1	0.1	0.2
10-430I	0.59	32.61	80.2	615.0	534.8	15.9	3.4	2.6	2.5	0.6	0.1	0.1	0.3
10-430J	0.43	532.36	965.5	7,402.4	6,436.8	191.0	41.1	31.8	29.6	7.6	1.4	1.1	3.5
10-430K	0.48	337.06	672.9	5,158.7	4,485.9	133.1	28.6	22.1	20.6	5.3	1.0	0.8	2.4
10-430L	0.45	84.4	159.0	1,219.0	1,060.0	31.4	6.8	5.2	4.9	1.3	0.2	0.2	0.6
10-430M	0.54	75.94	172.1	1,319.8	1,147.6	34.0	7.3	5.7	5.3	1.4	0.2	0.2	0.6
10-430N	0.44	26.43	49.0	375.9	326.9	9.7	2.1	1.6	1.5	0.4	0.1	0.1	0.2
10-430O	0.00	109.53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430P	0.00	229.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-430Q	0.10	8.03	3.4	25.7	22.4	0.7	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-430R	0.47	150.32	293.7	2,251.6	1,957.9	58.1	12.5	9.7	9.0	2.3	0.4	0.3	1.1
10-430S	0.10	5.15	2.2	16.5	14.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-430T	0.46	262.47	501.4	3,844.4	3,343.0	99.2	21.3	16.5	15.4	4.0	0.7	0.6	1.8

2007 FALL POLLUTANT LOADINGS BY OUTFALL

2007 FALL POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (09/01/07 - 12/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Fall Median Event Mean Concentration			9.0	69	60	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation (meters)	**0.285**												
10-430U	0.47	431.37	847.1	6,494.4	5,647.3	167.5	36.0	27.9	26.0	6.7	1.2	1.0	3.1
10-430V	0.46	329.11	639.4	4,901.9	4,262.5	126.5	27.2	21.0	19.6	5.0	0.9	0.7	2.3
10-440A	0.46	23.18	44.4	340.3	295.9	8.8	1.9	1.5	1.4	0.4	0.1	0.1	0.2
10-440B	0.49	34.23	70.5	540.5	470.0	13.9	3.0	2.3	2.2	0.6	0.1	0.1	0.3
10-440C/D	0.00	56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-440E	0.51	831.25	1,786.5	13,696.8	11,910.2	353.3	76.0	58.8	54.8	14.1	2.5	2.0	6.5
10-440F	0.46	538.85	1,036.5	7,946.2	6,909.7	205.0	44.1	34.1	31.8	8.2	1.5	1.2	3.8
10-450A	0.00	343.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-450B	0.52	3.41	7.4	56.5	49.1	1.5	0.3	0.2	0.2	0.1	0.0	0.0	0.0
10-450C	0.59	55.64	138.1	1,058.7	920.6	27.3	5.9	4.5	4.2	1.1	0.2	0.2	0.5
10-450D	0.45	4.62	8.7	66.6	57.9	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
10-450E	0.44	3.2	5.9	45.3	39.4	1.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0
10-450F	0.46	158.55	304.4	2,334.0	2,029.6	60.2	13.0	10.0	9.3	2.4	0.4	0.3	1.1
10-450G/H	0.48	75.02	150.7	1,155.0	1,004.4	29.8	6.4	5.0	4.6	1.2	0.2	0.2	0.5
10-450I	0.49	243.64	500.2	3,834.9	3,334.7	98.9	21.3	16.5	15.3	3.9	0.7	0.6	1.8
10-450J	0.49	17.16	34.8	266.9	232.1	6.9	1.5	1.1	1.1	0.3	0.0	0.0	0.1
10-450K	0.58	37.01	89.6	686.9	597.3	17.7	3.8	2.9	2.7	0.7	0.1	0.1	0.3
10-450L	0.51	213.41	450.5	3,453.7	3,003.2	89.1	19.2	14.8	13.8	3.6	0.6	0.5	1.6
10-460	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460A	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460B	0.52	7.29	15.7	120.7	105.0	3.1	0.7	0.5	0.5	0.1	0.0	0.0	0.1
10-460C/D/F	0.00	159.87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460E	0.49	231.41	477.6	3,661.8	3,184.2	94.5	20.3	15.7	14.6	3.8	0.7	0.5	1.7
10-460F	0.49	14.75	30.5	233.8	203.3	6.0	1.3	1.0	0.9	0.2	0.0	0.0	0.1
10-460G	0.51	79.66	170.1	1,303.8	1,133.8	33.6	7.2	5.6	5.2	1.3	0.2	0.2	0.6
10-460H	0.48	12.35	24.7	189.7	165.0	4.9	1.1	0.8	0.8	0.2	0.0	0.0	0.1
10-460I	0.00	72.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460J	0.46	5.36	10.4	79.6	69.2	2.1	0.4	0.3	0.3	0.1	0.0	0.0	0.0
10-460K	0.36	5.48	8.2	63.2	54.9	1.6	0.4	0.3	0.3	0.1	0.0	0.0	0.0
10-460L	0.46	3.5	6.8	52.0	45.2	1.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0
10-460M	0.48	9.55	19.1	146.5	127.3	3.8	0.8	0.6	0.6	0.2	0.0	0.0	0.1
10-460N	0.45	3.85	7.2	55.5	48.3	1.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0
10-460O	0.45	4.15	7.9	60.3	52.5	1.6	0.3	0.3	0.2	0.1	0.0	0.0	0.0
10-460P	0.45	4.34	8.2	62.6	54.4	1.6	0.3	0.3	0.3	0.1	0.0	0.0	0.0
10-460Q	0.56	19.73	46.5	356.7	310.1	9.2	2.0	1.5	1.4	0.4	0.1	0.1	0.2
10-460R	0.00	51.51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-460S	0.56	233.54	550.8	4,222.7	3,671.9	108.9	23.4	18.1	16.9	4.3	0.8	0.6	2.0
10-465	0.10	8.56	3.6	27.4	23.9	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-470	0.38	25.6	40.8	313.1	272.2	8.1	1.7	1.3	1.3	0.3	0.1	0.0	0.1
10-480	0.58	39.66	96.2	737.3	641.1	19.0	4.1	3.2	2.9	0.8	0.1	0.1	0.3
10-485	0.00	7.27	0.1	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-490	0.43	150.96	273.5	2,097.0	1,823.5	54.1	11.6	9.0	8.4	2.2	0.4	0.3	1.0
10-500A	0.26	26.21	28.7	220.4	191.7	5.7	1.2	0.9	0.9	0.2	0.0	0.0	0.1
10-500B	0.46	8.48	16.3	125.1	108.8	3.2	0.7	0.5	0.5	0.1	0.0	0.0	0.1
10-500C	0.44	111.36	202.6	1,553.4	1,350.8	40.1	8.6	6.7	6.2	1.6	0.3	0.2	0.7
10-500D	0.24	3.83	3.8	29.2	25.4	0.8	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10-500E	0.53	23.34	51.9	398.2	346.3	10.3	2.2	1.7	1.6	0.4	0.1	0.1	0.2
10-500F	0.49	12.04	24.8	190.5	165.6	4.9	1.1	0.8	0.8	0.2	0.0	0.0	0.1
10-500G	0.00	112.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-505	0.10	7.85	3.3	25.2	21.9	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-510	0.51	62.36	132.6	1,016.3	883.8	26.2	5.6	4.4	4.1	1.0	0.2	0.2	0.5
10-520	0.00	139.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-530	0.45	116.15	218.8	1,677.7	1,458.8	43.3	9.3	7.2	6.7	1.7	0.3	0.3	0.8
10-540	0.12	53.9	26.7	204.5	177.9	5.3	1.1	0.9	0.8	0.2	0.0	0.0	0.1
10-550	0.46	25.83	49.7	380.7	331.0	9.8	2.1	1.6	1.5	0.4	0.1	0.1	0.2
10-560A/B	0.44	600.63	1,098.2	8,419.8	7,321.6	217.2	46.7	36.1	33.7	8.7	1.6	1.3	4.0
10-570A	0.54	14.64	33.3	255.1	221.8	6.6	1.4	1.1	1.0	0.3	0.0	0.0	0.1
10-570B	0.44	228.18	416.3	3,191.5	2,775.3	82.3	17.7	13.7	12.8	3.3	0.6	0.5	1.5
10-580	0.45	73.39	137.7	1,055.5	917.8	27.2	5.9	4.5	4.2	1.1	0.2	0.2	0.5
10-600	0.48	89.24	180.4	1,382.9	1,202.5	35.7	7.7	5.9	5.5	1.4	0.3	0.2	0.7
10-610	0.46	25.6	49.0	376.0	326.9	9.7	2.1	1.6	1.5	0.4	0.1	0.1	0.2
10-620	0.00	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630A	0.10	6.24	2.6	20.0	17.4	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10-630B	0.45	4.68	8.8	67.5	58.7	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
10-630C	0.48	96.03	193.9	1,486.6	1,292.7	38.4	8.3	6.4	5.9	1.5	0.3	0.2	0.7
10-630D	0.45	6.37	12.0	91.8	79.9	2.4	0.5	0.4	0.4	0.1	0.0	0.0	0.0
10-630E	0.45	8.52	16.0	122.9	106.8	3.2	0.7	0.5	0.5	0.1	0.0	0.0	0.1
10-630F	0.54	17.56	39.6	304.0	264.3	7.8	1.7	1.3	1.2	0.3	0.1	0.0	0.1
10-630G	0.45	5.9	11.1	85.1	74.0	2.2	0.5	0.4	0.3	0.1	0.0	0.0	0.0
10-630H	0.30	25.63	32.4	248.7	216.3	6.4	1.4	1.1	1.0	0.3	0.0	0.0	0.1
10-630I	0.47	12.48	24.3	186.0	161.7	4.8	1.0	0.8	0.7	0.2	0.0	0.0	0.1
10-630J	0.55	14.69	34.0	260.6	226.6	6.7	1.4	1.1	1.0	0.3	0.0	0.0	0.1
10-630K	0.47	95.29	188.5	1,445.1	1,256.6	37.3	8.0	6.2	5.8	1.5	0.3	0.2	0.7
10-630L	0.52	100.42	218.7	1,676.4	1,457.8	43.2	9.3	7.2	6.7	1.7	0.3	0.3	0.8
10-630M	0.50	11.71	24.3	186.3	162.0	4.8	1.0	0.8	0.7	0.2	0.0	0.0	0.1
10-630N	0.45	8.45	15.9	121.8	105.9	3.1	0.7	0.5	0.5	0.1	0.0	0.0	0.1
10-630O	0.36	5.77	8.8	67.3	58.5	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0

2007 FALL POLLUTANT LOADINGS BY OUTFALL

2007 FALL POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (09/01/07 - 12/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Fall Median Event Mean Concentration			9.0	69	60	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation (meters)	**0.285**												
10-630P/Q	0.00	67.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630R	0.33	83.89	117.1	897.8	780.7	23.2	5.0	3.9	3.6	0.9	0.2	0.1	0.4
10-630S	0.22	37.02	33.6	257.9	224.2	6.7	1.4	1.1	1.0	0.3	0.0	0.0	0.1
10-630T	0.56	7.72	18.1	139.1	121.0	3.6	0.8	0.6	0.6	0.1	0.0	0.0	0.1
10-630U	0.52	115.42	252.3	1,934.6	1,682.2	49.9	10.7	8.3	7.7	2.0	0.4	0.3	0.9
10-630V	0.11	33.85	14.9	114.5	99.6	3.0	0.6	0.5	0.5	0.1	0.0	0.0	0.1
10-630W	0.47	23.68	46.9	359.4	312.5	9.3	2.0	1.5	1.4	0.4	0.1	0.1	0.2
10-630X	0.44	14.78	27.3	209.5	182.2	5.4	1.2	0.9	0.8	0.2	0.0	0.0	0.1
10-630Y	0.00	112.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-630Z	0.47	45.66	89.8	688.8	598.9	17.8	3.8	3.0	2.8	0.7	0.1	0.1	0.3
10-640	0.46	258.18	493.5	3,783.6	3,290.0	97.6	21.0	16.2	15.1	3.9	0.7	0.6	1.8
10-650	0.56	19.53	45.5	348.6	303.1	9.0	1.9	1.5	1.4	0.4	0.1	0.1	0.2
10-660	0.46	306.37	593.2	4,547.7	3,954.5	117.3	25.2	19.5	18.2	4.7	0.8	0.7	2.1
10-670	0.45	137.88	258.9	1,985.2	1,726.2	51.2	11.0	8.5	7.9	2.0	0.4	0.3	0.9
10-680	0.46	707.95	1,356.7	10,401.1	9,044.5	268.3	57.7	44.6	41.6	10.7	1.9	1.6	4.9
10-690	0.50	70.63	147.7	1,132.2	984.5	29.2	6.3	4.9	4.5	1.2	0.2	0.2	0.5
10-700	0.46	222.07	431.0	3,304.2	2,873.2	85.2	18.3	14.2	13.2	3.4	0.6	0.5	1.6
10-710	0.33	29.95	41.7	319.7	278.0	8.2	1.8	1.4	1.3	0.3	0.1	0.0	0.2
10-720A	0.44	15.77	29.2	224.1	194.8	5.8	1.2	1.0	0.9	0.2	0.0	0.0	0.1
10-720B	0.48	422.18	850.1	6,517.3	5,667.3	168.1	36.2	28.0	26.1	6.7	1.2	1.0	3.1
10-720C	0.43	26.35	47.3	362.5	315.3	9.4	2.0	1.6	1.5	0.4	0.1	0.1	0.2
10-720D	0.46	22.95	43.7	334.8	291.1	8.6	1.9	1.4	1.3	0.3	0.1	0.0	0.2
10-720E	0.46	18.39	35.0	268.5	233.5	6.9	1.5	1.2	1.1	0.3	0.0	0.0	0.1
10-720F	0.48	317.75	637.2	4,885.2	4,248.0	126.0	27.1	21.0	19.5	5.0	0.9	0.7	2.3
10-720G	0.00	13.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-720H	0.45	4.55	8.6	65.6	57.0	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
10-720I	0.45	87.27	162.7	1,247.0	1,084.4	32.2	6.9	5.3	5.0	1.3	0.2	0.2	0.6
10-720J	0.36	3.71	5.5	42.5	36.9	1.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0
10-720K	0.55	32.76	75.2	576.4	501.2	14.9	3.2	2.5	2.3	0.6	0.1	0.1	0.3
10-720L	0.45	4.57	8.6	65.9	57.3	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
20-010	0.42	93.99	164.9	1,264.3	1,099.4	32.6	7.0	5.4	5.1	1.3	0.2	0.2	0.6
20-020	0.44	15.09	27.7	212.1	184.4	5.5	1.2	0.9	0.8	0.2	0.0	0.0	0.1
20-030	0.45	7.95	15.0	114.6	99.7	3.0	0.6	0.5	0.5	0.1	0.0	0.0	0.1
20-040	0.37	6.79	10.6	81.1	70.5	2.1	0.5	0.3	0.3	0.1	0.0	0.0	0.0
20-050	0.00	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-060	0.45	5.91	11.1	85.2	74.1	2.2	0.5	0.4	0.3	0.1	0.0	0.0	0.0
20-070	0.44	39.07	72.4	555.1	482.7	14.3	3.1	2.4	2.2	0.6	0.1	0.1	0.3
20-080	0.45	33.72	63.9	489.9	426.0	12.6	2.7	2.1	2.0	0.5	0.1	0.1	0.2
20-090	0.55	9.95	23.0	176.2	153.2	4.5	1.0	0.8	0.7	0.2	0.0	0.0	0.1
20-100	0.10	0.99	0.4	3.2	2.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-110	0.24	216.04	216.6	1,660.8	1,444.2	42.8	9.2	7.1	6.6	1.7	0.3	0.2	0.8
20-120	0.47	10.22	20.0	153.1	133.1	3.9	0.8	0.7	0.6	0.2	0.0	0.0	0.1
20-130	0.45	16.12	30.3	232.4	202.1	6.0	1.3	1.0	0.9	0.2	0.0	0.0	0.1
20-140	0.44	2.97	5.5	42.0	36.5	1.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0
20-150	0.45	14.48	27.2	208.8	181.6	5.4	1.2	0.9	0.8	0.2	0.0	0.0	0.1
20-160	0.54	3.21	7.2	55.6	48.3	1.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0
20-170	0.37	4.94	7.7	59.0	51.3	1.5	0.3	0.3	0.2	0.1	0.0	0.0	0.0
20-180	0.51	5.3	11.2	86.0	74.7	2.2	0.5	0.4	0.3	0.1	0.0	0.0	0.0
20-190	0.45	1.35	2.5	19.5	16.9	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
20-200	0.45	13.84	26.0	199.6	173.5	5.1	1.1	0.9	0.8	0.2	0.0	0.0	0.1
20-210A	0.44	92.9	170.6	1,307.6	1,137.0	33.7	7.3	5.6	5.2	1.3	0.2	0.2	0.6
20-210B	0.50	620.78	1,309.1	10,036.3	8,727.2	258.9	55.7	43.1	40.1	10.3	1.9	1.5	4.7
20-220	0.46	26.38	50.8	389.7	338.9	10.1	2.2	1.7	1.6	0.4	0.1	0.1	0.2
20-230	0.00	21.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-240	0.48	30.06	60.5	464.1	403.5	12.0	2.6	2.0	1.9	0.5	0.1	0.1	0.2
20-250	0.57	6.28	15.0	115.0	100.0	3.0	0.6	0.5	0.5	0.1	0.0	0.0	0.1
20-260	0.60	3.5	8.8	67.3	58.5	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
20-270	0.48	42.81	85.3	653.9	568.6	16.9	3.6	2.8	2.6	0.7	0.1	0.1	0.3
20-280	0.54	8.98	20.2	154.6	134.5	4.0	0.9	0.7	0.6	0.2	0.0	0.0	0.1
20-290	0.00	4.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-010	0.45	49.49	92.7	710.8	618.1	18.3	3.9	3.0	2.8	0.7	0.1	0.1	0.3
40-010	0.45	719.17	1,346.9	10,326.3	8,979.4	266.4	57.3	44.3	41.3	10.6	1.9	1.5	4.9
40-020	0.45	15.36	28.9	221.5	192.6	5.7	1.2	1.0	0.9	0.2	0.0	0.0	0.1
40-030	0.42	51.02	89.1	682.9	593.9	17.6	3.8	2.9	2.7	0.7	0.1	0.1	0.3
40-040	0.43	65.39	118.7	909.7	791.1	23.5	5.0	3.9	3.6	0.9	0.2	0.1	0.4
40-050	0.45	10.28	19.3	148.2	128.9	3.8	0.8	0.6	0.6	0.2	0.0	0.0	0.1
40-060	0.45	3.2	6.0	46.1	40.1	1.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0
40-070	0.38	7.98	12.6	96.7	84.1	2.5	0.5	0.4	0.4	0.1	0.0	0.0	0.0
40-080	0.41	60.51	103.3	791.8	688.5	20.4	4.4	3.4	3.2	0.8	0.1	0.1	0.4
40-090	0.46	20.65	40.1	307.6	267.5	7.9	1.7	1.3	1.2	0.3	0.1	0.0	0.1
40-100	0.00	20.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-110	0.44	2.61	4.8	37.1	32.3	1.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0
40-120	0.44	65.87	120.7	925.0	804.4	23.9	5.1	4.0	3.7	1.0	0.2	0.1	0.4
40-130	0.45	35.01	66.1	506.9	440.8	13.1	2.8	2.2	2.0	0.5	0.1	0.1	0.2
40-140	0.35	125.46	182.3	1,397.9	1,215.6	36.1	7.8	6.0	5.6	1.4	0.3	0.2	0.7
40-150	0.47	24.31	48.1	369.0	320.9	9.5	2.0	1.6	1.5	0.4	0.1	0.1	0.2
40-160	0.49	30.99	64.0	490.9	426.9	12.7	2.7	2.1	2.0	0.5	0.1	0.1	0.2

2007 FALL POLLUTANT LOADINGS BY OUTFALL

2007 FALL POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (09/01/07 - 12/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Fall Median Event Mean Concentration			9.0	69	60	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation (meters)	**0.285**												
40-170	0.00	194.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-180	0.54	16.8	37.8	289.8	252.0	7.5	1.6	1.2	1.2	0.3	0.1	0.0	0.1
40-190	0.53	65.53	144.8	1,110.3	965.5	28.6	6.2	4.8	4.4	1.1	0.2	0.2	0.5
40-200	0.46	24.75	47.8	366.6	318.8	9.5	2.0	1.6	1.5	0.4	0.1	0.1	0.2
40-210	0.54	17.26	39.3	301.3	262.0	7.8	1.7	1.3	1.2	0.3	0.1	0.0	0.1
40-220	0.47	100.58	196.5	1,506.6	1,310.1	38.9	8.4	6.5	6.0	1.6	0.3	0.2	0.7
40-230	0.44	13.78	25.6	196.4	170.8	5.1	1.1	0.8	0.8	0.2	0.0	0.0	0.1
40-240	0.00	340.86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-250	0.60	1.15	2.9	22.1	19.2	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
40-260	0.45	3.49	6.6	50.3	43.8	1.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0
40-270	0.45	9.59	18.0	138.3	120.2	3.6	0.8	0.6	0.6	0.1	0.0	0.0	0.1
40-280	0.53	12.76	28.0	215.0	187.0	5.5	1.2	0.9	0.9	0.2	0.0	0.0	0.1
40-290	0.51	13.73	29.4	225.3	195.9	5.8	1.3	1.0	0.9	0.2	0.0	0.0	0.1
40-300	0.52	10.38	22.6	173.3	150.7	4.5	1.0	0.7	0.7	0.2	0.0	0.0	0.1
40-310	0.45	97.86	185.1	1,419.3	1,234.2	36.6	7.9	6.1	5.7	1.5	0.3	0.2	0.7
40-320	0.60	9.43	23.6	181.3	157.6	4.7	1.0	0.8	0.7	0.2	0.0	0.0	0.1
40-330	0.59	15.34	38.0	291.3	253.3	7.5	1.6	1.2	1.2	0.3	0.1	0.0	0.1
40-340	0.53	35.27	78.6	602.3	523.7	15.5	3.3	2.6	2.4	0.6	0.1	0.1	0.3
40-350	0.60	8.99	22.5	172.8	150.3	4.5	1.0	0.7	0.7	0.2	0.0	0.0	0.1
40-360	0.60	8.09	20.3	155.5	135.2	4.0	0.9	0.7	0.6	0.2	0.0	0.0	0.1
40-370	0.58	12.41	30.0	230.0	200.0	5.9	1.3	1.0	0.9	0.2	0.0	0.0	0.1
40-380	0.39	24.92	41.0	314.1	273.2	8.1	1.7	1.3	1.3	0.3	0.1	0.0	0.1
40-390	0.58	5.72	13.9	106.3	92.4	2.7	0.6	0.5	0.4	0.1	0.0	0.0	0.1
40-400	0.10	1.07	0.4	3.4	3.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-010	0.38	94.73	149.4	1,145.7	996.3	29.6	6.4	4.9	4.6	1.2	0.2	0.2	0.5
41-020	0.00	14.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41-030	0.50	60.47	126.9	972.6	845.8	25.1	5.4	4.2	3.9	1.0	0.2	0.1	0.5
41-040	0.57	35.59	85.2	653.4	568.2	16.9	3.6	2.8	2.6	0.7	0.1	0.1	0.3
41-050	0.60	10.48	26.3	201.5	175.2	5.2	1.1	0.9	0.8	0.2	0.0	0.0	0.1
41-060	0.60	2.95	7.4	56.7	49.3	1.5	0.3	0.2	0.2	0.1	0.0	0.0	0.0
51-010	0.45	29.63	55.9	428.5	372.6	11.1	2.4	1.8	1.7	0.4	0.1	0.1	0.2
51-020	0.45	4.55	8.6	65.6	57.0	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
52-010	0.28	45.29	52.3	401.0	348.7	10.3	2.2	1.7	1.6	0.4	0.1	0.1	0.2
52-020	0.45	6.09	11.5	87.8	76.4	2.3	0.5	0.4	0.4	0.1	0.0	0.0	0.0
52-030	0.45	7.18	13.5	103.5	90.0	2.7	0.6	0.4	0.4	0.1	0.0	0.0	0.0
52-040	0.41	4.54	7.8	60.1	52.3	1.6	0.3	0.3	0.2	0.1	0.0	0.0	0.0
52-050	0.44	15.3	27.8	213.3	185.5	5.5	1.2	0.9	0.9	0.2	0.0	0.0	0.1
52-060	0.10	3.22	1.3	10.3	9.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
52-070	0.42	86.94	153.8	1,178.9	1,025.1	30.4	6.5	5.1	4.7	1.2	0.2	0.2	0.6
52-080	0.24	8.08	8.2	62.7	54.5	1.6	0.3	0.3	0.3	0.1	0.0	0.0	0.0
52-090	0.45	4.89	9.2	70.5	61.3	1.8	0.4	0.3	0.3	0.1	0.0	0.0	0.0
52-100A/B	0.27	11.89	13.2	101.6	88.3	2.6	0.6	0.4	0.4	0.1	0.0	0.0	0.0
52-110	0.45	8.84	16.5	126.4	109.9	3.3	0.7	0.5	0.5	0.1	0.0	0.0	0.1
52-120	0.45	14.74	27.7	212.5	184.8	5.5	1.2	0.9	0.9	0.2	0.0	0.0	0.1
52-130	0.31	7.18	9.4	72.4	63.0	1.9	0.4	0.3	0.3	0.1	0.0	0.0	0.0
53-010	0.45	7.03	13.2	101.4	88.1	2.6	0.6	0.4	0.4	0.1	0.0	0.0	0.0
53-020	0.28	12.38	14.3	109.6	95.3	2.8	0.6	0.5	0.4	0.1	0.0	0.0	0.1
53-030	0.44	11.37	20.8	159.2	138.4	4.1	0.9	0.7	0.6	0.2	0.0	0.0	0.1
53-040	0.45	2.78	5.2	40.1	34.9	1.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
53-050	0.45	13.66	25.7	197.0	171.3	5.1	1.1	0.8	0.8	0.2	0.0	0.0	0.1
53-060	0.45	20.37	38.3	293.7	255.4	7.6	1.6	1.3	1.2	0.3	0.1	0.0	0.1
53-070	0.45	4.89	9.2	70.5	61.3	1.8	0.4	0.3	0.3	0.1	0.0	0.0	0.0
53-080	0.39	5.81	9.6	73.4	63.8	1.9	0.4	0.3	0.3	0.1	0.0	0.0	0.0
53-090	0.46	59.59	114.4	876.7	762.4	22.6	4.9	3.8	3.5	0.9	0.2	0.1	0.4
53-100	0.00	107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53-110	0.38	4.59	7.4	56.6	49.2	1.5	0.3	0.2	0.2	0.1	0.0	0.0	0.0
53-120A/B	0.46	129.79	247.1	1,894.8	1,647.7	48.9	10.5	8.1	7.6	1.9	0.4	0.3	0.9
53-130	0.45	5.02	9.4	72.4	62.9	1.9	0.4	0.3	0.3	0.1	0.0	0.0	0.0
53-140	0.45	6.36	12.0	91.7	79.7	2.4	0.5	0.4	0.4	0.1	0.0	0.0	0.0
53-150	0.48	90.4	182.8	1,401.4	1,218.6	36.2	7.8	6.0	5.6	1.4	0.3	0.2	0.7
53-160	0.47	252.19	498.3	3,820.3	3,322.0	98.6	21.2	16.4	15.3	3.9	0.7	0.6	1.8
53-170	0.36	6.39	9.6	73.9	64.2	1.9	0.4	0.3	0.3	0.1	0.0	0.0	0.0
53-180	0.10	8.09	3.4	25.9	22.5	0.7	0.1	0.1	0.1	0.0	0.0	0.0	0.0
53-190	0.30	11.41	14.3	109.9	95.5	2.8	0.6	0.5	0.4	0.1	0.0	0.0	0.1
54-010A/B	0.44	84.93	154.4	1,184.0	1,029.6	30.5	6.6	5.1	4.7	1.2	0.2	0.2	0.6
54-040A/B	0.49	255.14	527.8	4,046.3	3,518.5	104.4	22.5	17.4	16.2	4.2	0.8	0.6	1.9
54-050	0.17	9.27	6.7	51.6	44.9	1.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0
54-060	0.44	32.13	59.0	452.2	393.2	11.7	2.5	1.9	1.8	0.5	0.1	0.1	0.2
54-070	0.36	60.8	91.1	698.6	607.5	18.0	3.9	3.0	2.8	0.7	0.1	0.1	0.3
54-080A/B/C	0.46	414.26	791.4	6,067.3	5,276.0	156.5	33.7	26.0	24.3	6.2	1.1	0.9	2.9
54-090	0.10	3.55	1.5	11.4	9.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
54-100A/B	0.60	114.24	284.4	2,180.6	1,896.1	56.3	12.1	9.4	8.7	2.2	0.4	0.3	1.0
54-110	0.45	24.55	46.2	354.0	307.8	9.1	2.0	1.5	1.4	0.4	0.1	0.1	0.2
54-120	0.46	62.08	118.6	908.9	790.4	23.4	5.0	3.9	3.6	0.9	0.2	0.1	0.4
54-130	0.10	1.07	0.4	3.4	3.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54-140A/B	0.41	113.01	192.7	1,477.2	1,284.5	38.1	8.2	6.3	5.9	1.5	0.3	0.2	0.7
54-150	0.45	55.34	103.0	789.7	686.7	20.4	4.4	3.4	3.2	0.8	0.1	0.1	0.4

2007 FALL POLLUTANT LOADINGS BY OUTFALL

2007 FALL POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (09/01/07 - 12/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Fall Median Event Mean Concentration			9.0	69	60	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation (meters)	**0.285**												
54-160	0.60	2.62	6.6	50.4	43.8	1.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0
54-170	0.59	8.08	20.1	153.9	133.9	4.0	0.9	0.7	0.6	0.2	0.0	0.0	0.1
54-180	0.60	2.82	7.1	54.2	47.1	1.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0
54-190	0.10	2.2	0.9	7.0	6.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54-200	0.10	2.13	0.9	6.8	5.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54-210	0.10	1.14	0.5	3.7	3.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55-010	0.60	14.98	37.6	288.0	250.4	7.4	1.6	1.2	1.2	0.3	0.1	0.0	0.1
55-020	0.60	189.58	472.3	3,621.1	3,148.7	93.4	20.1	15.5	14.5	3.7	0.7	0.5	1.7
56-010	0.60	67.62	169.6	1,300.0	1,130.5	33.5	7.2	5.6	5.2	1.3	0.2	0.2	0.6
57-010	0.53	26.1	58.2	446.1	387.9	11.5	2.5	1.9	1.8	0.5	0.1	0.1	0.2
57-020	0.00	142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-030	0.45	18.22	34.3	262.7	228.4	6.8	1.5	1.1	1.1	0.3	0.0	0.0	0.1
57-040	0.35	39.88	58.2	445.9	387.7	11.5	2.5	1.9	1.8	0.5	0.1	0.1	0.2
57-050	0.45	7.9	14.9	113.9	99.1	2.9	0.6	0.5	0.5	0.1	0.0	0.0	0.1
57-060	0.46	26.11	50.5	386.9	336.4	10.0	2.1	1.7	1.5	0.4	0.1	0.1	0.2
57-070	0.45	81.33	153.3	1,175.5	1,022.2	30.3	6.5	5.0	4.7	1.2	0.2	0.2	0.6
57-080	0.42	5.54	9.8	75.0	65.2	1.9	0.4	0.3	0.3	0.1	0.0	0.0	0.0
57-090	0.47	77.77	152.5	1,169.5	1,016.9	30.2	6.5	5.0	4.7	1.2	0.2	0.2	0.6
57-100A/B	0.47	313.43	618.8	4,744.4	4,125.6	122.4	26.3	20.4	19.0	4.9	0.9	0.7	2.2
57-110	0.54	21.6	48.8	374.3	325.5	9.7	2.1	1.6	1.5	0.4	0.1	0.1	0.2
57-120A/B/C	0.00	65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-130	0.10	1.16	0.5	3.7	3.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-140	0.10	1.55	0.6	5.0	4.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57-150	0.43	35.68	64.4	493.4	429.1	12.7	2.7	2.1	2.0	0.5	0.1	0.1	0.2
57-160	0.10	1.89	0.8	6.1	5.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61-010	0.55	2.86	6.6	50.6	44.0	1.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0
62-010	0.45	27.84	52.6	403.3	350.7	10.4	2.2	1.7	1.6	0.4	0.1	0.1	0.2
63-010	0.45	388.79	734.7	5,632.5	4,897.8	145.3	31.3	24.2	22.5	5.8	1.0	0.8	2.7
63-020	0.00	11.91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64-100	0.45	24.92	46.8	359.0	312.2	9.3	2.0	1.5	1.4	0.4	0.1	0.1	0.2
64-110	0.45	6.01	11.3	86.7	75.4	2.2	0.5	0.4	0.3	0.1	0.0	0.0	0.0
64-120	0.45	16.04	30.2	231.3	201.1	6.0	1.3	1.0	0.9	0.2	0.0	0.0	0.1
64-130	0.45	2.44	4.6	35.2	30.6	0.9	0.2	0.2	0.1	0.0	0.0	0.0	0.0
65-010	0.00	18.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65-020	0.53	38.46	85.1	652.1	567.1	16.8	3.6	2.8	2.6	0.7	0.1	0.1	0.3
70-010	0.46	6.23	11.9	91.5	79.6	2.4	0.5	0.4	0.4	0.1	0.0	0.0	0.0
70-015	0.45	11.69	22.0	168.6	146.6	4.3	0.9	0.7	0.7	0.2	0.0	0.0	0.1
70-020	0.45	37.55	70.6	541.4	470.8	14.0	3.0	2.3	2.2	0.6	0.1	0.1	0.3
70-025	0.00	3.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-030	0.45	13.48	25.3	194.2	168.9	5.0	1.1	0.8	0.8	0.2	0.0	0.0	0.1
70-035	0.45	4.53	8.5	65.3	56.8	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-040	0.45	2.42	4.6	34.9	30.3	0.9	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-045	0.00	0.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-050	0.45	17.41	32.7	251.0	218.3	6.5	1.4	1.1	1.0	0.3	0.0	0.0	0.1
70-055	0.46	333.43	646.8	4,958.5	4,311.8	127.9	27.5	21.3	19.8	5.1	0.9	0.7	2.3
70-060	0.45	3.53	6.6	50.9	44.3	1.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0
70-065	0.45	1.89	3.6	27.3	23.7	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-070	0.45	5.8	10.9	83.6	72.7	2.2	0.5	0.4	0.3	0.1	0.0	0.0	0.0
70-075	0.43	5	9.0	69.1	60.1	1.8	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-080	0.46	11.96	23.1	177.0	154.0	4.6	1.0	0.8	0.7	0.2	0.0	0.0	0.1
70-085	0.45	229.48	428.9	3,288.6	2,859.6	84.8	18.3	14.1	13.2	3.4	0.6	0.5	1.6
70-090	0.45	18.57	34.9	267.8	232.8	6.9	1.5	1.1	1.1	0.3	0.0	0.0	0.1
70-095	0.45	9.99	18.8	144.0	125.3	3.7	0.8	0.6	0.6	0.1	0.0	0.0	0.1
70-100	0.45	9.64	18.1	139.0	120.9	3.6	0.8	0.6	0.6	0.1	0.0	0.0	0.1
70-105	0.45	1.63	3.1	23.5	20.4	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-110	0.45	18.13	34.1	261.4	227.3	6.7	1.5	1.1	1.0	0.3	0.0	0.0	0.1
70-115	0.45	3.71	7.0	53.5	46.5	1.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0
70-120	0.45	4.22	7.9	60.8	52.9	1.6	0.3	0.3	0.2	0.1	0.0	0.0	0.0
70-125	0.00	5.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-130	0.49	34.29	70.8	542.4	471.7	14.0	3.0	2.3	2.2	0.6	0.1	0.1	0.3
70-135	0.45	7.46	14.0	107.6	93.5	2.8	0.6	0.5	0.4	0.1	0.0	0.0	0.1
70-140	0.60	0.78	2.0	15.0	13.0	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-145	0.60	9.19	23.0	176.7	153.6	4.6	1.0	0.8	0.7	0.2	0.0	0.0	0.1
70-150	0.45	4.51	8.5	65.0	56.5	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-155	0.45	2.05	3.9	29.6	25.7	0.8	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-160	0.45	2.95	5.5	42.5	37.0	1.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0
70-165	0.45	27.77	52.2	400.4	348.2	10.3	2.2	1.7	1.6	0.4	0.1	0.1	0.2
70-170	0.45	23.74	44.6	342.3	297.7	8.8	1.9	1.5	1.4	0.4	0.1	0.1	0.2
70-175	0.46	30.89	59.0	452.6	393.5	11.7	2.5	1.9	1.8	0.5	0.1	0.1	0.2
70-180	0.45	1.14	2.1	16.4	14.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-185	0.45	1.53	2.9	22.1	19.2	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-190	0.17	15.04	10.8	82.9	72.1	2.1	0.5	0.4	0.3	0.1	0.0	0.0	0.0
70-195	0.45	46.02	87.0	667.2	580.2	17.2	3.7	2.9	2.7	0.7	0.1	0.1	0.3
70-200	0.45	31.52	59.3	454.5	395.2	11.7	2.5	1.9	1.8	0.5	0.1	0.1	0.2
70-205	0.45	1.39	2.6	20.0	17.4	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-210	0.45	3.58	6.7	51.6	44.9	1.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0
70-215	0.45	5.93	11.2	85.5	74.4	2.2	0.5	0.4	0.3	0.1	0.0	0.0	0.0

2007 FALL POLLUTANT LOADINGS BY OUTFALL

2007 FALL POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (09/01/07 - 12/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Fall Median Event Mean Concentration			9.0	69	60	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation (meters)	**0.285**												
70-220	0.45	4.54	8.5	65.5	56.9	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-225	0.45	4.99	9.4	72.0	62.6	1.9	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-230	0.45	4.72	8.9	68.1	59.2	1.8	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-235	0.45	5.04	9.5	72.7	63.2	1.9	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-240	0.45	4.52	8.5	65.2	56.7	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-245	0.44	9.98	18.3	140.4	122.1	3.6	0.8	0.6	0.6	0.1	0.0	0.0	0.1
70-250	0.48	41.27	83.2	637.9	554.7	16.5	3.5	2.7	2.6	0.7	0.1	0.1	0.3
70-255	0.45	45.37	85.4	654.4	569.0	16.9	3.6	2.8	2.6	0.7	0.1	0.1	0.3
70-260	0.46	24.9	47.6	365.2	317.6	9.4	2.0	1.6	1.5	0.4	0.1	0.1	0.2
70-265A/B	0.00	183.65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-270	0.45	4.66	8.8	67.2	58.4	1.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-275	0.45	4.28	8.0	61.7	53.7	1.6	0.3	0.3	0.2	0.1	0.0	0.0	0.0
70-280	0.45	9.39	17.7	135.6	117.9	3.5	0.8	0.6	0.5	0.1	0.0	0.0	0.1
70-285	0.45	19.03	35.8	274.1	238.3	7.1	1.5	1.2	1.1	0.3	0.1	0.0	0.1
70-290	0.45	2.37	4.4	33.9	29.5	0.9	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-295	0.45	7.18	13.5	103.5	90.0	2.7	0.6	0.4	0.4	0.1	0.0	0.0	0.0
70-300	0.10	0.4	0.2	1.3	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-305	0.45	12.68	23.6	181.2	157.6	4.7	1.0	0.8	0.7	0.2	0.0	0.0	0.1
70-310	0.00	5.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-315	0.30	5.79	7.3	55.7	48.4	1.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0
70-320	0.44	2.32	4.3	32.6	28.4	0.8	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-325	0.00	2.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-330	0.47	279.41	550.1	4,217.2	3,667.2	108.8	23.4	18.1	16.9	4.3	0.8	0.6	2.0
70-335	0.45	1.99	3.7	28.7	25.0	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-340	0.39	22.25	36.6	280.5	243.9	7.2	1.6	1.2	1.1	0.3	0.1	0.0	0.1
70-345	0.45	3.81	7.2	54.9	47.8	1.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0
70-350	0.49	314.4	649.3	4,977.8	4,328.5	128.4	27.6	21.4	19.9	5.1	0.9	0.7	2.4
70-355	0.45	1.29	2.4	18.6	16.2	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-360	0.45	131.96	250.7	1,921.8	1,671.1	49.6	10.7	8.2	7.7	2.0	0.4	0.3	0.9
70-365	0.45	6.7	12.6	96.6	84.0	2.5	0.5	0.4	0.4	0.1	0.0	0.0	0.0
70-370	0.44	3.75	6.9	53.2	46.3	1.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0
70-375	0.47	7.1	14.0	107.5	93.5	2.8	0.6	0.5	0.4	0.1	0.0	0.0	0.1
70-380	0.45	14.4	27.1	207.6	180.6	5.4	1.2	0.9	0.8	0.2	0.0	0.0	0.1
70-385	0.45	14.97	28.2	215.9	187.7	5.6	1.2	0.9	0.9	0.2	0.0	0.0	0.1
70-390	0.46	58.11	112.5	862.5	750.0	22.3	4.8	3.7	3.5	0.9	0.2	0.1	0.4
70-395	0.43	57.19	102.7	787.1	684.4	20.3	4.4	3.4	3.1	0.8	0.1	0.1	0.4
70-400	0.44	9.67	17.7	136.0	118.2	3.5	0.8	0.6	0.5	0.1	0.0	0.0	0.1
70-405	0.25	7.16	7.5	57.4	49.9	1.5	0.3	0.2	0.2	0.1	0.0	0.0	0.0
70-410	0.43	5.8	10.4	79.7	69.3	2.1	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-415	0.45	120.75	229.1	1,756.4	1,527.3	45.3	9.7	7.5	7.0	1.8	0.3	0.3	0.8
70-420	0.45	16.99	32.0	245.0	213.0	6.3	1.4	1.1	1.0	0.3	0.0	0.0	0.1
70-425	0.51	20.63	44.1	337.8	293.7	8.7	1.9	1.4	1.4	0.3	0.1	0.1	0.2
70-430	0.10	6.19	2.6	19.8	17.2	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-435	0.10	9.16	3.8	29.4	25.5	0.8	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-440	0.50	34.48	71.6	548.8	477.2	14.2	3.0	2.4	2.2	0.6	0.1	0.1	0.3
70-445	0.45	5.6	10.5	80.7	70.2	2.1	0.4	0.3	0.3	0.1	0.0	0.0	0.0
70-450	0.45	2.65	5.0	38.2	33.2	1.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
70-455	0.00	2.66	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-460	0.45	2.67	5.0	38.5	33.5	1.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
70-465	0.45	2.58	4.9	37.2	32.3	1.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0
70-470	0.38	8.55	13.7	105.2	91.5	2.7	0.6	0.5	0.4	0.1	0.0	0.0	0.0
70-475	0.46	229.14	440.8	3,379.8	2,939.0	87.2	18.8	14.5	13.5	3.5	0.6	0.5	1.6
70-480	0.60	0.31	0.8	6.0	5.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-485	0.45	13.36	25.1	192.6	167.5	5.0	1.1	0.8	0.8	0.2	0.0	0.0	0.1
70-490	0.47	48.75	95.6	733.2	637.5	18.9	4.1	3.1	2.9	0.8	0.1	0.1	0.3
70-495	0.45	7.74	14.6	111.6	97.0	2.9	0.6	0.5	0.4	0.1	0.0	0.0	0.1
70-500	0.45	0.56	1.1	8.1	7.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70-505	0.41	8.12	14.0	107.1	93.1	2.8	0.6	0.5	0.4	0.1	0.0	0.0	0.1
70-510	0.45	41.82	78.9	605.0	526.1	15.6	3.4	2.6	2.4	0.6	0.1	0.1	0.3
70-515	0.47	62.73	123.2	944.6	821.4	24.4	5.2	4.1	3.8	1.0	0.2	0.1	0.4
70-520	0.45	6.05	11.4	87.2	75.9	2.3	0.5	0.4	0.3	0.1	0.0	0.0	0.0
70-525	0.45	6.23	11.7	89.8	78.1	2.3	0.5	0.4	0.4	0.1	0.0	0.0	0.0
70-530	0.45	1.67	3.1	24.1	20.9	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-535	0.45	30.24	57.0	437.0	380.0	11.3	2.4	1.9	1.7	0.4	0.1	0.1	0.2
70-540	0.21	5.1	4.6	34.9	30.3	0.9	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-545	0.45	1.89	3.6	27.3	23.7	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
70-550	0.26	1.3	1.4	10.8	9.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
70-555	0.45	1.73	3.3	24.9	21.7	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-560	0.45	3.33	6.3	48.0	41.8	1.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0
70-565	0.24	16.63	16.7	128.2	111.5	3.3	0.7	0.5	0.5	0.1	0.0	0.0	0.1
70-570	0.45	1.23	2.3	17.7	15.4	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70-575	0.45	15.39	28.9	221.7	192.8	5.7	1.2	1.0	0.9	0.2	0.0	0.0	0.1
70-580	0.43	119.93	217.4	1,667.0	1,449.6	43.0	9.3	7.2	6.7	1.7	0.3	0.2	0.8
71-010	0.10	1.12	0.5	3.6	3.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71-020	0.45	14.05	26.4	202.6	176.2	5.2	1.1	0.9	0.8	0.2	0.0	0.0	0.1
71-030	0.45	28.58	54.0	414.3	360.3	10.7	2.3	1.8	1.7	0.4	0.1	0.1	0.2
71-040	0.22	20.93	19.2	147.2	128.0	3.8	0.8	0.6	0.6	0.2	0.0	0.0	0.1

2007 FALL POLLUTANT LOADINGS BY OUTFALL

2007 FALL POLLUTANT LOADINGS BY OUTFALL - KILOGRAMS (09/01/07 - 12/31/07

OUTFALL	RUNOFF COEFF.	ACRES	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Fall Median Event Mean Concentration			9.0	69	60	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation (meters)	**0.285**												
71-050	0.46	120.42	230.5	1,767.2	1,536.7	45.6	9.8	7.6	7.1	1.8	0.3	0.3	0.8
71-060	0.45	3.11	5.8	44.8	39.0	1.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
71-070	0.00	386.63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71-080	0.46	101.79	194.1	1,488.2	1,294.1	38.4	8.3	6.4	6.0	1.5	0.3	0.2	0.7
71-090	0.45	6.5	12.1	92.8	80.7	2.4	0.5	0.4	0.4	0.1	0.0	0.0	0.0
71-100	0.10	1.99	0.8	6.4	5.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72-010	0.18	17.32	12.7	97.2	84.5	2.5	0.5	0.4	0.4	0.1	0.0	0.0	0.0
72-020	0.40	24.7	40.8	312.7	271.9	8.1	1.7	1.3	1.3	0.3	0.1	0.0	0.1
72-030	0.10	5.25	2.2	16.8	14.6	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
72-040	0.42	166.54	289.9	2,222.8	1,932.8	57.3	12.3	9.5	8.9	2.3	0.4	0.3	1.1
72-050	0.10	5.16	2.2	16.5	14.4	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
72-060	0.36	113.04	170.9	1,310.2	1,139.3	33.8	7.3	5.6	5.2	1.3	0.2	0.2	0.6
72-070	0.10	2.21	0.9	7.1	6.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72-080	0.60	4.74	11.9	91.1	79.2	2.4	0.5	0.4	0.4	0.1	0.0	0.0	0.0
72-090	0.45	68.71	128.4	984.5	856.1	25.4	5.5	4.2	3.9	1.0	0.2	0.1	0.5
72-100	0.46	68.32	132.2	1,013.6	881.4	26.1	5.6	4.3	4.1	1.0	0.2	0.2	0.5
72-110	0.10	3.22	1.3	10.3	9.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
72-120	0.45	62.98	118.4	908.1	789.7	23.4	5.0	3.9	3.6	0.9	0.2	0.1	0.4
72-130	0.46	58.06	110.7	848.9	738.2	21.9	4.7	3.6	3.4	0.9	0.2	0.1	0.4
72-140	0.10	10.19	4.3	32.7	28.4	0.8	0.2	0.1	0.1	0.0	0.0	0.0	0.0
72-150	0.10	4.76	2.0	15.3	13.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
72-160	0.10	4.55	1.9	14.6	12.7	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
73-010	0.44	20.76	38.1	291.9	253.9	7.5	1.6	1.3	1.2	0.3	0.1	0.0	0.1
73-020	0.44	57.47	106.3	815.0	708.7	21.0	4.5	3.5	3.3	0.8	0.2	0.1	0.4
73-030	0.10	21.56	9.0	69.1	60.1	1.8	0.4	0.3	0.3	0.1	0.0	0.0	0.0
74-010	0.48	44.39	88.8	680.8	592.0	17.6	3.8	2.9	2.7	0.7	0.1	0.1	0.3
74-020	0.45	4.41	8.3	63.6	55.3	1.6	0.4	0.3	0.3	0.1	0.0	0.0	0.0
75-005	0.45	12.39	23.3	178.4	155.2	4.6	1.0	0.8	0.7	0.2	0.0	0.0	0.1
75-010	0.60	3.65	9.2	70.2	61.0	1.8	0.4	0.3	0.3	0.1	0.0	0.0	0.0
75-020	0.45	1.53	2.9	22.1	19.2	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0
75-030	0.45	8.38	15.8	120.8	105.1	3.1	0.7	0.5	0.5	0.1	0.0	0.0	0.1
75-040	0.45	14.74	27.7	212.5	184.8	5.5	1.2	0.9	0.9	0.2	0.0	0.0	0.1
76-010	0.46	907.31	1,758.9	13,484.9	11,726.0	347.9	74.9	57.8	53.9	13.9	2.5	2.0	6.4
76-020	0.46	88.62	168.8	1,293.9	1,125.2	33.4	7.2	5.6	5.2	1.3	0.2	0.2	0.6
76-030	0.45	7.55	14.2	108.9	94.7	2.8	0.6	0.5	0.4	0.1	0.0	0.0	0.1
76-040	0.19	4.67	3.6	27.9	24.2	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0
76-050	0.00	2.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81-010	0.10	31.17	13.0	99.9	86.8	2.6	0.6	0.4	0.4	0.1	0.0	0.0	0.0
82-010	0.49	23.53	47.9	366.9	319.0	9.5	2.0	1.6	1.5	0.4	0.1	0.1	0.2
82-020	0.45	73.45	139.6	1,070.4	930.8	27.6	5.9	4.6	4.3	1.1	0.2	0.2	0.5
82-030	0.45	90.04	171.1	1,311.9	1,140.7	33.8	7.3	5.6	5.2	1.3	0.2	0.2	0.6
82-040	0.46	98.49	191.0	1,464.0	1,273.1	37.8	8.1	6.3	5.9	1.5	0.3	0.2	0.7
83-010	0.45	6.59	12.4	95.0	82.6	2.5	0.5	0.4	0.4	0.1	0.0	0.0	0.0
83-015	0.45	0.99	1.9	14.3	12.4	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
83-020	0.43	85.96	156.2	1,197.5	1,041.3	30.9	6.6	5.1	4.8	1.2	0.2	0.2	0.6
83-025	0.45	51.23	96.4	738.7	642.3	19.1	4.1	3.2	3.0	0.8	0.1	0.1	0.3
83-030	0.60	0.82	2.1	15.8	13.7	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0
83-040	0.10	1.08	0.5	3.5	3.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83-050	0.45	40.4	76.2	584.1	507.9	15.1	3.2	2.5	2.3	0.6	0.1	0.1	0.3
83-060	0.45	10.05	18.9	144.9	126.0	3.7	0.8	0.6	0.6	0.1	0.0	0.0	0.1
83-070	0.10	1.19	0.5	3.8	3.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83-080	0.48	178.63	355.0	2,721.3	2,366.3	70.2	15.1	11.7	10.9	2.8	0.5	0.4	1.3
83-090	0.41	9.16	15.7	120.3	104.6	3.1	0.7	0.5	0.5	0.1	0.0	0.0	0.1
84-010	0.47	21.56	42.4	324.9	282.5	8.4	1.8	1.4	1.3	0.3	0.1	0.0	0.2
85-010	0.10	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FALL SEASONAL SUM (kg)			**56,455.11**	**432,822.50**	**376,367.39**	**11,165.57**	**2,402.48**	**1,856.75**	**1,731.29**	**445.37**	**80.29**	**64.61**	**204.49**

Comparision of Seasonal-based Loadings and Annual-based Outfall Loadings

Season	Precipitation meters	Precipitation inches	BOD mg\l	TSS mg\l	TDS mg\l	TKN mg\l	NH3-N mg\l	NO2-NO3 mg\l	TP mg\l	TDP mg\l	Cu mg\l	Pb mg\l	Zn mg\l
Winter/snowmelt Median Event Mean Concentration			20.0	123	1291	7.72	1.76	0.361	0.727	0.195	0.048	0.022	0.200
Precipitation	**0.135**	**5.32**											
Winter/snowmelt Season Sum (kilograms)			125,456	771,553	8,098,172	48,426	11,040	2,264	4,560	1,223	300	137	1,255
Spring Median Event Mean Concentration			12.0	96	67.0	2.84	0.974	0.442	0.444	0.105	0.022	0.024	0.074
Precipitation	**0.079**	**3.10**											
Spring Season Sum (kilograms)			43,882	351,053	245,006	10,385	3,562	1,616	1,624	384	80	86	269
Summer Median Event Mean Concentration			7.0	98	44.0	2.14	0.559	0.378	0.353	0.054	0.019	0.022	0.047
Precipitation	**0.372**	**14.66**											
Summer Season Sum (kilograms)			120,995	1,693,932	760,541	36,990	9,662	6,534	6,102	933	322	372	812
Fall Median Event Mean Concentration			9.0	69.0	60.0	1.78	0.383	0.296	0.276	0.071	0.013	0.010	0.033
Precipitation	**0.285**	**11.24**											
Fall Season Sum (kilograms)			56,455	432,822	376,367	11,166	2,402	1,857	1,731	445	80	65	204
Summation of Seasan Totals (kilograms)	**0.871**	**34.32**	346,788	3,249,361	9,480,086	106,967	26,667	12,271	14,017	2,986	782	659	2,541
Mean Flow Weighted Mean Concentration - all 2007 sites			17	180	737	4.43	0.970	0.496	0.472	0.108	0.036	0.034	0.133
Precipitation	**0.871**	**34.32**											
ANNUAL SUMMATION (kilograms)			688,562	7,290,655	29,851,180	179,431	39,289	20,090	19,118	4,374	1,438	1,357	5,387
ANNUAL POLLUTANT LOADINGS BY RECEIVING WATER (kilograms)			761,741	8,065,491	43,171,721	198,501	43,464	21,015	21,150	4,839	1,591	1,501	5,960

CITY OF MINNEAPOLIS
STORMWATER MANAGEMENT ORDINANCE SUMMARY

Ordinance: On November 24, 1999 the Minneapolis City Council amended Title 3 of the Minneapolis Code of Ordinances, relating to Air Pollution and Environmental Protection, by adding Chapter 54, entitled "*Stormwater Management*". The Chapter 54 ordinance establishes requirements for projects with land disturbing activities on sites greater than one (1) acre, including phased or connected actions, and for existing stormwater devices.

Goals: The purpose of this ordinance is to minimize negative impacts of storm water runoff rates, volumes and quality on Minneapolis lakes, streams, wetlands, and the Mississippi River by guiding future significant development and redevelopment activity, and by assuring long-term effectiveness of existing and future storm water management constructed facilities. Chapter 54 Ordinance specifies that stormwater management standards be set according to the receiving water body, and the table below lists discharge requirements by receiving water. The standards include but are not limited to:

- Reductions of suspended solids for Mississippi River discharges
- Controlled rate of runoff for discharges to streams, areas prone to flooding and areas with infrastructure limitations
- A reduction in nutrients for stormwater discharging to Minneapolis lakes, rivers and wetlands

Minneapolis Development Review: Stormwater Management Plans are required for all construction projects greater than 1 acre in size. These plans are reviewed through the "Minneapolis Development Review" process. Responsibility for ongoing operation and maintenance is one component of the Stormwater Management Plan.

Registration: Stormwater devices shall be registered with the City of Minneapolis Department of Regulatory Services, with an annual permit being required for each registered stormwater device.

Stormwater 'Buyout' for off-site management, in lieu of on-site treatment:
This option is reserved for only those sites that demonstrate that performance of on-site stormwater management is not feasible. With approval of the City Engineer, the Chapter 54 Ordinance allows developers to contribute to the construction of a regional stormwater facility in lieu of on-site treatment/management. Final plan approval is conditional on payment received.

For the complete text of the *Chapter 54 Ordinance* requirements, see the Minneapolis Storm and Surface Water Management web site:
http://www.ci.minneapolis.mn.us/stormwater/fee/requirements_chapter54.asp

Receiving Waters	Total Discharge Requirements
All receiving waters	70% removal of total suspended solids
Brownie Lake	10% phosphorus load reduction
Cedar Lake	40% phosphorus load reduction
Lake of the Isles	20% phosphorus load reduction
Lake Calhoun	30% phosphorus load reduction
Lake Harriet	20% phosphorus load reduction
Powderhorn Lake	30% phosphorus load reduction
Lake Hiawatha	42% phosphorus load reduction
Lake Nokomis	25% phosphorus load reduction
Loring Park Pond	0% phosphorus load increase
Webber Pond	0% phosphorus load increase
Wirth Lake[1]	30% phosphorus load reduction
Spring Lake	30% phosphorus load reduction
Crystal Lake[2]	30% phosphorus load reduction
Diamond Lake	30% phosphorus load reduction
Grass Lake	30% phosphorus load reduction
Birch Pond	0% phosphorus load increase
Ryan Lake	30% phosphorus load reduction
Other wetlands	30% phosphorus load reduction
Mississippi River	70% removal of total suspended solids
Minneapolis streams	No increase in rate of runoff from site

[1] Wirth Lake is not within the limits of the City of Minneapolis
[2] Crystal Lake in located in Robbinsdale, but receives run-off from Minneapolis

City of Minneapolis

Erosion Control Site Inspection Form

Inspector: _____

Site Plan ID	DATE	TIME

PROJECT

LOCATION

Site Status ☐ Open Site ☐ Complete – needs Final Inspection, permanent vegetation

Please check items that apply and inspector add site specific notations for all work items (All work items shall be completed within 24 hours (1 day) or permits may be revoked and/or Site Shut Down) (MCO 52.290):

☐ Failed or maintenance required perimeter controls; silt fence, bio filter, other_____

☐ Failed or maintenance required rock construction entrance

☐ Failed or maintenance required inlet protection device(s)

☐ Clean streets, sidewalks or paved surfaces of sediment

☐ Other

☐ Comments:

_____

_____

_____

If erosion or sediment loss is extreme and posing an environmental concern contact the **Public Works Erosion Control Inspector at 612-673-2258**

Site Contact:_____ Site Phone:_____

Site Supervisor Signature: _____

REV 12/07

Impacts of Erosion and Sediment from Construction Sites

Each year 80 million tons of sediment from construction sites enters our lakes, streams and rivers. On an acre for acre usage, construction sites export sediment at 20 to 1,000 times the rate of other land uses.[1]

Stopping erosion before it happens is essential. "*Erosion*" is the displacement of soil, for example by rain falling on unprotected slopes that have been cleared of vegetation, by driving on unprotected areas, or any other means. Once it has been displaced, it is considered to be "sediment". Once erosion has occurred, it is extremely difficult to remove the suspended soil in the runoff. Surface water runoff from vegetated areas generally does not exceed 10 to 20 percent of the rainfall. Without vegetation, surface water runoff may be as high as 60 to 70 percent.[2]

- Excavating and clearing vegetation at the construction site increases the volume and velocity of the runoff and erosion. Attached to the sediment are fertilizers, pesticides, heavy metals, and oil and grease.
- Sediment suspended in runoff blocks sunlight needed by aquatic plants, reduces survival rates for fish eggs, interferes with fish breeding habits, and clogs and damages fish gills.[3]
- Phosphorus and nitrogen in fertilizer can stimulate overgrowth of aquatic plants resulting in the depletion of dissolved oxygen[4] and fish kills.
- Pesticides, heavy metals, and oil and grease not only accumulate in the bottom of lakes, streams, and rivers but also in plants and other aquatic organisms.[5]
- Sediment also can build up in storm sewers, catch basins, and other storm drainage devices which will then require additional maintenance.[6]

Simple and easy to install and maintain erosion control and sediment control devices can be found at the following web sites:

Urban Small Sites Best Management Practice Manual, Chapter 3:
http://www.metrocouncil.org/environment/Watershed/bmp/manual.htm

For information on erosion control, or have additional questions, see the Minneapolis Erosion & Sediment Control website: http://www.ci.minneapolis.mn.us/stormwater/classroom-resources/erosioncontrollinks.asp or call (612) 673-2406.

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[1] *Environmental Assessment for Proposed Effluent Guidelines and Standards for the Construction and Development Category.* United States Environmental Protection Agency. June 2002. Page 2-2.
http://www.epa.gov/guide/construction/envir/C&D_Envir_Assessmt_proposed.pdf

[2] *Using Vegetation for Erosion Control on Construction Sites.* Oklahoma Cooperative Extension Services, Division of Agriculture Sciences and Natural Resources, Oklahoma State University. Page1514/2.
http://www.agweb.okstate.edu/pearl/wqs/f-1514.pdf

[3] *Construction Site Soil Erosion and Sediment Control.* Illinois Environmental Protection Agency. March 1999.

[4] *What's Your WQ-IQ?* Larimer County Engineering Department. July 2002.
http://www.co.larimer.co.us/engineering/NPDES/july2002web.pdf

[5] *Environmental Assessment for Proposed Effluent Guidelines and Standards for the Construction and Development Category.* United States Environmental Protection Agency. June 2002. Page 2-11 and 2-13.
http://www.epa.gov/guide/construction/envir/C&D_Envir_Assessmt_proposed.pdf

[6] 6. *Construction Site Soil Erosion and Sediment Control.* Illinois Environmental Protection Agency. March 1999.

CITY OF MINNEAPOLIS
EROSION & SEDIMENT CONTROL ORDINANCE SUMMARY

Ordinance: On May 16, 1996 the Minneapolis City Council amended Title 3 of the Minneapolis Code of Ordinances relating to Air Pollution and Environmental Protection by adding Chapter 52 entitled "Erosion and Sediment Control for Land Disturbance Activities". This Ordinance regulates everyone who disturbs topsoil. It is designed to ensure that soil does not leave the excavation site or enter any storm drain system on either private property or the public right of way.

Requirements: All sites disturbing topsoil are subject to erosion control compliance under the Ordinance. Sites disturbing more than five cubic yards or 500 square feet of topsoil, including utility excavations and any residential or commercial demolition projects, need an Erosion & Sediment Control Permit prior to commencement of work. Those demolition and construction sites greater 5,000 square feet also require an approved erosion control plan before the Permit can be issued.

Review: For any project that goes through the Minneapolis Development Review (MDR) process, an erosion control plan is required and the Erosion & Sediment Control Permit is a component of the MDR process. For any project over 5,000 square feet that does not go through MDR, the review and approval of Erosion & Sediment Control is administered by Minneapolis Public Works, Surface Water & Sewers division.

Enforcement: Ongoing site inspections are by done by Minneapolis Public Works and Regulatory Services. Inspectors finding sites in violation of the ordinance may issue a warning notice, citation or a "***Stop Work Order***" for the entire project or a specified part. Failure to comply is a misdemeanor, and each day constitutes a separate offense. Failure of the permittee to comply with the Ordinance will constitute a violation and will be considered a nuisance pursuant to laws of Minnesota. The issuing authority may cancel the Permit and proceed with the necessary restoration of the site at the expense of the owner.

For the complete text of the Ordinance, Fee Schedule and related information see the City 0f Minneapolis Stormwater web site:
http://www.ci.minneapolis.mn.us/stormwater/classroom-resources/erosioncontrollinks.asp

52.100. Erosion and Sediment Control Plan. Land disturbance activities which are in excess of either five thousand (5,000) square feet or five hundred (500) cubic yards of earth moved require an erosion and sedimentation control plan approved by the City Engineer. These plans shall be drawn to an appropriate scale and shall include sufficient information to evaluate the environmental characteristics of the affected areas, the potential impacts of the proposed grading on water resources, and measures proposed to minimize soil erosion and off-site sedimentation. The owner/developer shall perform all clearing, grading, drainage, construction, and development in strict accordance with the approved plan. In addition, the following information shall be included in any plan:

1. An indication of the scale used.
2. The name, address and telephone number of the developer, permit holder or responsible party of the property where the land disturbing activity is proposed.
3. A signed statement on the plan by the owner, developer, and contractor that all clearing, grading, construction, or development will be done pursuant to the plan.
4. Suitable contours for the existing and proposed topography.
5. The proposed grading or land disturbance activity including and specific limits of disturbance.
6. Clear and definite delineation of any areas of vegetation or trees to be saved.
7. Construction entrance, including details and location.
8. Standard Minneapolis Erosion Control Notes[1]
9. Existing and proposed storm drainage system.
10. Erosion and sediment control provisions to minimize on-site erosion and prevent off-site sedimentation, including provisions to preserve topsoil and limit disturbance.
11. Design details for both temporary and permanent erosion control structures including inlet protection.
12. Construction of perimeter erosion control devices where need to prevent sediment from leaving the site.
13. Details of temporary and permanent stabilization measures to be implemented following initial soil disturbance or re-disturbance. This stabilization shall be completed within fourteen (14) days of disturbance.
14. Specifications for implementation and maintenance of final erosion control structures.
15. Removal of temporary erosion control devices after site has been stabilized.
16. The City Engineer may require any additional information or data deemed appropriate and/or may impose such conditions thereto as may be deemed necessary to ensure compliance with the provisions of this chapter, the Manual of Standards, or the preservation of public health and safety.

Also see http://www.ci.minneapolis.mn.us/government/ordinances.asp for complete listing of all plan sheet requirements.

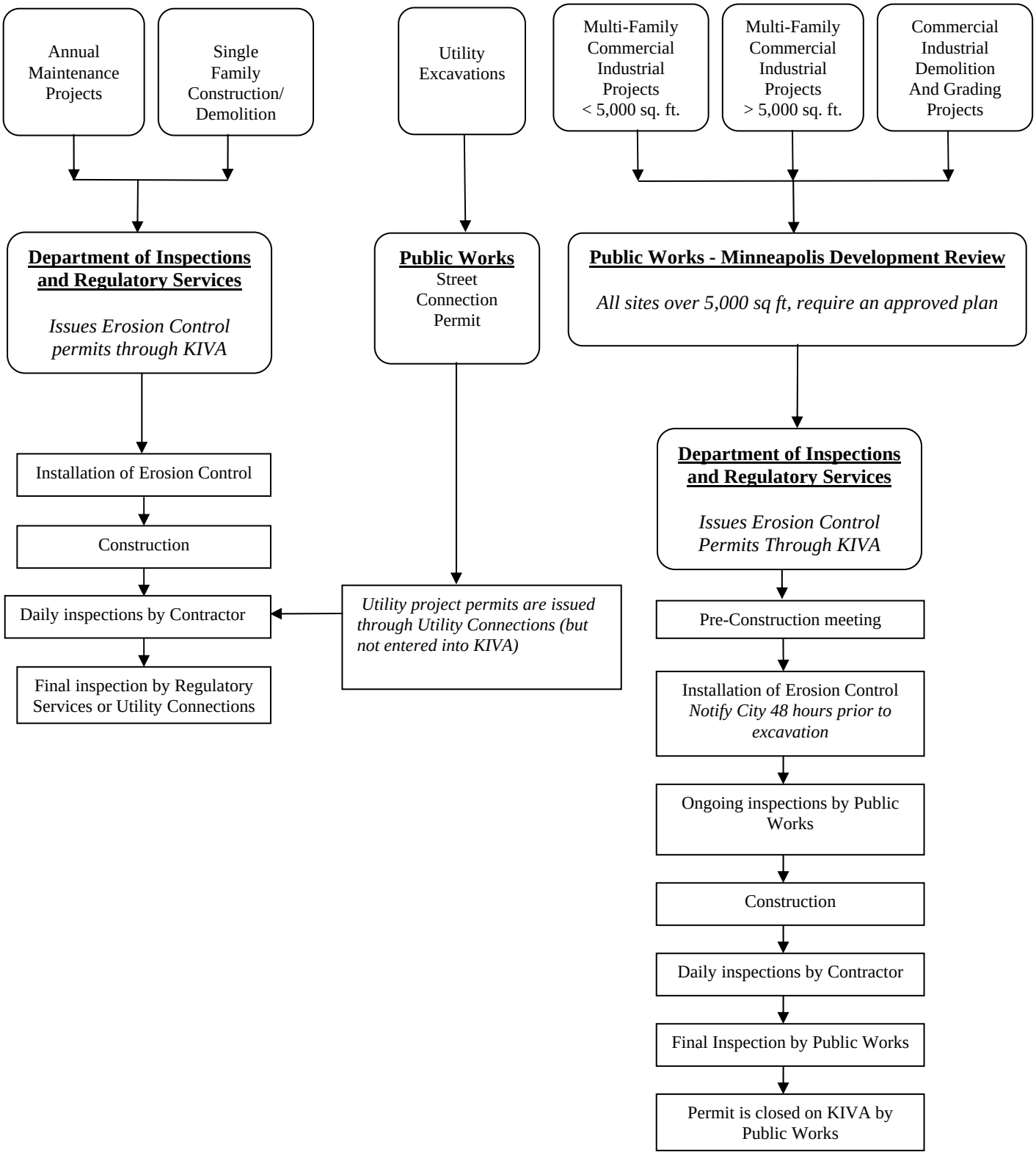
The applicant may propose the use of any erosion and sediment control techniques in a Final Plan, provided such techniques are effective and approved by Minneapolis Public Works Surface Water & Sewers

1 Dated February 4, 2008

MINNEAPOLIS STANDARD EROSION CONTROL NOTES (April 1, 2008)

1) CONTRACTOR MUST NOTIFY CITY OF MINNEAPOLIS PUBLIC WORKS ENGINEERING SERVICES (612-673-2258) 48 HOURS PRIOR TO ANY LAND DISTURBANCES. FAILURE TO DO SO MAY RESULT IN THE REVOCATION OF PERMIT AND A STOP WORK ORDER BEING ISSUED.
2) Install perimeter erosion control at the locations shown on the plans prior to beginning construction. (Hay bales are not an acceptable perimeter control)
3) Before beginning construction, install a TEMPORARY ROCK CONSTRUCTION ENTRANCE at each point where vehicles exit the construction site. Use 2 inch or greater diameter rock in a layer at least 6 inches thick across the entire width of the entrance. Extend the rock entrance at least 50 feet into the construction zone. Use a geo-textile fabric beneath the aggregate in order to prevent migration of soil into the rock from below
4) Remove all soils and sediments tracked or otherwise deposited onto public and private pavement areas. Removal shall be on a daily basis when tracking occurs. Sweeping may be ordered by at any time if conditions warrant. Sweeping shall be maintained throughout the duration of the construction and done in a manner to prevent dust being blown to adjacent properties.
5) Install inlet protection at all public and private catch basin inlets, which receive runoff from the disturbed areas. Catch basin inserts are required in undisturbed areas that receive runoff from disturbed areas. Staked silt fence or other approved BMP's in disturbed areas not subject to public vehicle traffic may be acceptable. NOTE: HAY BALES OR FILTER FABRIC WRAPPING THE GRATES ARE NOT EFFECTIVE OR AN ACCEPTABLE FORM OF INLET PROTECTION.
6) Locate soil or dirt stockpiles no less than 25 feet from any public or private roadway or drainage channel. If remaining for more than seven days, stabilize the stockpiles by mulching, vegetative cover, tarps, or other means. Control erosion from all stockpiles by placing silt barriers around the piles. Temporary stockpiles located on paved surfaces must be no less than two feet from the drainage/gutter line and shall be covered if left more than 24 hours.
7) Maintain all temporary erosion and sediment control devices in place until the contributing drainage area has been stabilized. Inspect temporary erosion and sediment control devices on a daily basis and replace deteriorated, damaged, or rotted erosion control devices immediately.
8) Temporarily or permanently stabilize all denuded areas which have been finish-graded, and all denuded areas in which grading or site building construction operations are not actively underway against erosion due to rain, wind and running water within 14 days or sooner as specified in MCO 52.100. Use seeding and mulching, erosion control matting, and/or sodding and staking in green space areas. Use early application of gravel base on areas to be paved.
9) Remove all temporary synthetic, structural, non-biodegradable erosion and sediment control devices after the site has undergone final stabilization and permanent vegetation has been established, minimum vegetation establishment is 70% cover, maintain all temporary erosion control devices until 70% established cover is achieved.
10) Ready mixed concrete and concrete batch plants prohibited within the public right of way, designate concrete mixing/washout locations in the erosion control plan. Under no circumstances may washout water drain onto the public right of way or into the public storm sewer

CITY OF MINNEAPOLIS
EROSION CONTROL PERMITTING PROCESS
APRIL 1, 2008



Source: Minneapolis Public Works – Surface Water & Sewers

Erosion & Sediment Control Requirements & 2007 Fee Schedule

		Fees – prior to April 1, 2007	Fees - Effective April 1, 2007
Erosion and sediment control plan review and inspection fees (utilities):			
Per lineal foot disturbed	**91.910 Table A**	$0.13	$0.13
Minimum fee	**91.4**	$62.00	$63.25
Erosion and sediment control plan review and inspection fees (Multi-family, commercial, and industrial):			
500 square feet or less	**91.910 Table B**	No fee	No fee
501 square feet or more	**91.910 Table B**	$315.00	$321.00
676 square feet or less detached garage	**91.910 Table C**	No fee	No fee
Erosion and sediment control plan review and inspection fees (Single-family Residential):			
500 square feet or less	**91.910 Table C**	No fee	No fee
501 to 3,000 square feet	**91.910 Table C**	$95.00	$97.00
3,001 square feet or more	**91.910 Table C**	$95.00	$97.00
3,001 square feet or more, for each additional 1,000 square feet	**91.910 Table C**	$30.00	$31.00
Erosion and sediment control plan review and inspection fees (Demolition Only):			
Single-family residential	**91.910 Table D**	$95.00	$97.00
All others	**91.910 Table D**	$190.00	$194.00
Erosion and sediment control plan review and inspection fees (Maintenance Projects):			
Annual permit	**91.910 Table E**	$315.00	$321.00
Other Inspections and fees:			
Inspection outside of normal business hours. (Minimum charge 2 hours or total hourly cost to city which ever is the greatest.)	**91.910 Table E**	$95 per hour	$97.00

Erosion Control Inlet Protection Products & Links

This list of manufactured BMP's may provide guidance for erosion control protection on existing storm drain inlets. Minneapolis Public Works Department does not endorse or approve the listed products for a specific application. Compliance with Chapter 52 of the Minneapolis Code *(Erosion and Sediment Control Ordinance)* is determined by the conditions found upon inspection. Additionally hay bales are not an approved means of inlet protection and are not approved as a BMP for construction projects in the City of Minneapolis.

Type A

Inlet protection to be utilized around field inlets until permanent stabilization methods has been established. Inlet protection Type A may also be utilized on pavement inlets before installation of curb and gutter or pavement.

- *Road Drain* – WIMCO, Shakopee, MN (952) 445-4071
- *Stream Guard* - Foss Environmental, Seattle, WA
- *Erosion Control Shroud* - Royal Concrete Pipe, Stacy, MN
- *Silt Sack* - ACF Environmental, Richmond, VA
- *Stream Guard* (sediment only) - Foss Environmental, Seattle, WA
- *Verti*Pro* - Alpine Stormwater Management, Grove City, OH

Type B

Inlet protection will be utilized without curb heads.

- *Dandybag* - Dandy Products, Grove City, OH

Type C

Inlet protection will be utilized on street inlets with curb heads.

- *Beaver Dam* - Dandy Products, Grove City, OH
- *Road Drain Curb and Gutter* - WIMCO, Shakopee, MN (952) 445-4071
- *Silt Screen* - Alpine Stormwater Management, Grove City, OH

Type D

Inlet protection to be utilized at culvert inlets until permanent stabilization methods has been established.

Erosion Control Inlet Protection Products & Links

Product Web Links:

General

http://www.suntreetech.com/products/

http://www.emeraldseedandsupply.com/erosioncontrol/

http://www.stormwater-products.com/

Grate Inlet Protection

http://www.suntreetech.com/products/

http://stormdrainfilters.com/

Curb Inlet Protection

http://www.acfenvironmental.com/display_category.php?cid=72

http://www.dandyproducts.com/

Inlet Inserts

http://www.suntreetech.com/products/

http://www.siltsaver.com/

Minneapolis Erosion and Sediment Control Reference Guide

Additional materials for compliance to Minneapolis Chapter 52 Erosion and Sediment Control Ordinance provided by Minneapolis erosion and sediment control inspections. The list below contains web page information of additional source data for erosion control design, products, certifications, educational opportunities, and other government agency requirements. This is not a complete listing of non-profits or government agency sites, but provides the user a starting point in locating additional information about erosion and sediment control.

The information contained in the web pages is intended to serve as a resource guide and Minneapolis does not guarantee the content of the web pages. Each site is unique and may need to provide additional erosion and sediment controls to remain compliant.

Chapter 52 Erosion and Sediment Control for Land Disturbance Activities has been in effect since June 15, 1996. Site location or size may require additional erosion control permits from other agencies (MCWD, MPCA) or work in right of ways under the jurisdiction of other permitting authorities (MnDOT, Hennepin County, Metropolitan Council), to name a few, there may be other required permits that must be issued and not listed here, the contractor/owner is responsible to have all required permits clearly posted on site during normal working hours.

Metropolitan Council Erosion and Sediment Control / Stormwater Management:

http://www.metrocouncil.org/environment/Watershed/bmp/manual.htm - BMP Manual

Minnesota Pollution Control Agency (MPCA)

http://www.pca.state.mn.us/water/index.html

http://www.pca.state.mn.us/rulesregs/index.html - Rules and regulations

http://www.pca.state.mn.us/water/stormwater/stormwater-rules.html - Rule making changes pages

http://www.pca.state.mn.us/water/stormwater/stormwater-c.html - NPDES permit info

http://www.pca.state.mn.us/water/stormwater/stormwater-c.html#factsheets - Fact sheets and guidance tools

http://www.pca.state.mn.us/water/pubs/sw-bmpmanual.html - Protecting water quality in Urban Areas Manual

MnDOT

http://www.dot.state.mn.us/environment/erosioncontrol/index.html - Erosion Control

http://www.dot.state.mn.us/environment/erosioncontrol/specs.html - Standard specifications

http://www.dot.state.mn.us/environment/erosioncontrol/app_products_sources.html - Approved products and sources – erosion control

http://www.dot.state.mn.us/environment/erosioncontrol/seedmixes.html - Seed mixes

http://www.dot.state.mn.us/environment/tech_memos.html#erosion - Technical memorandums

American Public Works Association (APWA)

http://www.apwa.net - Several stormwater available publications, erosion control, etc.

City of Minneapolis

http://www.ci.minneapolis.mn.us/stormwater/ - Minneapolis Stormwater web page

http://www.ci.minneapolis.mn.us/public-works/plates-home.asp - Standard Plates

http://www.ci.minneapolis.mn.us/stormwater/classroom-resources/erosioncontrollinks.asp - Development Standard Erosion and Sediment Control Notes

http://www.ci.minneapolis.mn.us/cityhall/laws/ordinances/ - Minneapolis ordinances

Minnesota Erosion Control Association (MECA)

http://www.mnerosion.org/ - Training and development non-profit organization promoting erosion and sediment control, listings of vendor resources for erosion and sediment control, etc.

Minnehaha Creek Watershed District

http://www.minnehahacreek.org/permit_req.php

http://www.minnehahacreek.org/permit_process.php - Permit application process

http://www.minnehahacreek.org/rules.php - Rules

http://www.minnehahacreek.org/bmps.php - Best management practices

http://www.minnehahacreek.org/permit_links.php - Permit links for other agencies

University of Minnesota

http://www.erosion.umn.edu/ - Erosion and sediment control certification program

http://www.mnltap.umn.edu/resources/erosion.html - Local Technical Assistance Program

US EPA

http://www.epa.gov/owow/nps/roadshwys.html - Non-point source pollution

http://cfpub1.epa.gov/npdes/pubs.cfm?program_id=6 - US EPA Publications

http://cfpub1.epa.gov/npdes/docs.cfm?document_type_id=3&view=Fact%20Sheets%20and%20Outreach%20Materials&program_id=6&sort=name - Fact sheets and outreach materials

Board of Water and Soil Resources (BWSR)

http://www.bwsr.state.mn.us/

Minnesota Department of Natural Resources (DNR)

http://www.dnr.state.mn.us/index.html

United States Army Corps of Engineers (St Paul District)

http://www.mvp.usace.army.mil/

Certified Professionals in Erosion and Sediment Control (CPESC)

http://www.cpesc.net/ - A national certification training program for erosion & sediment control design and inspection

International BMP Database

http://www.bmpdatabase.org/ - Database of Best Management Practices

International Erosion Control Association (IECA)

http://www.ieca.org/ - Global views and training sessions for ESC

Construction Industry Compliance Assistance

http://www.cicacenter.org/ - EPA regulations, water, air, hazardous materials, links to state permits and requirements.

Chapter 54 Stormwater Management Plan Submittal Checklist

1) A cover sheet stamped and signed by a professional engineer, indicating that all plans and supporting documentation have been reviewed and approved, certifying the submitted plans comply with the requirements of the ordinance.
2) A narrative summary of the stormwater plan.
3) Maps of existing and proposed watersheds, sub-watersheds, Tc/Tt[1] flow paths, soil types, hydrologic soil groups, land uses/cover type and runoff curve numbers within the site and draining into the site from adjacent properties.
4) Location of existing and proposed stormwater discharge points.
5) Delineation and labeling of all proposed impervious areas and accompanying area computations in tabular form.
6) Pre-development, pre-settlement and post-development hydrology data for each watershed, including both peak flows and volume. All assumptions used in developing the input parameters shall be clearly stated and cross-referenced to the maps.
7) Final design drawings of all proposed stormwater BMPs with sufficient clarity for those responsible for site grading, including:
   A) Plan views showing the proposed BMP locations, in combination with the site plan map.
   B) Detailed cross-sections and profiles for each BMP showing critical design features, side slopes, structures, soil profiles and elevations, including seasonal water table.
   C) Detailed drawings or material specifications for inlets or outlets.
8) Detailed construction notes explaining necessary procedures for proper implementation of the plan, including planting and landscaping specifications, timing and sequencing of construction and any temporary measures needed to protect BMPs during the construction phase.
9) Detailed construction inspection plan, outlining the critical elements in the plan that need to be surveyed or inspected by a representative of the project engineer and the timing and notification requirements involved. (identification of responsible party).
10) Final operations and maintenance plan in accordance with ordinance requirements. For more information on stormwater BMP forms, please visit this website: http://www.ci.minneapolis.mn.us/stormwater/fee/bmp-forms.asp
11) Hydraulic data summaries for all proposed pipes or channels.
12) Location and dimensions of proposed drainage easements. Easements must be recorded to preserve major stormwater flow paths, specify maintenance responsibilities, restrict buildings/structures and prevent any grading, filling or other activities that might obstruct flow.
13) BMP design data for each proposed BMP, showing how it complies with applicable technical standards and the requirements of the Chapter 54

[1] Time of Concentration / Time of Travel

Minneapolis
City of Lakes

City of Minneapolis Development Review
Water Resources and Sewers Site Plan Check List

Site plans will not be approved without the following items:

- Detail complete site drainage (including rooftops and interior drains) through contours or spot elevations. Stormwater may not run over the public sidewalk, into the sanitary sewer or onto adjacent properties.

- Show all proposed, existing or abandoned storm drains and sanitary sewers, including pipe size and material. All abandoned connections must be cut and plugged at the main and curb per city requirements.

- Erosion & Sediment Control Plan is required for all sites disturbing more than 5,000 square feet: http://www.ci.minneapolis.mn.us/stormwater/classroom-resources/erosioncontrollinks.asp

- Public or private storm drains and sanitary sewers in the public right-of-way adjacent to the development site.

- Compliance with Chapter 54 of the Minneapolis Code of Ordinances *Stormwater Management.* Projects on sites over one acre must provide a stormwater management report that includes design details of all BMP's, calculations, inspection, operations and maintenance plans.[1] http://www.ci.minneapolis.mn.us/stormwater/fee/requirements_chapter54.asp.

- Additional items may be requested depending on site characteristics, proximity to identified flood areas and infrastructure constraints.

For further information contact on Water Resource related requirements please contact:
Paul Chellsen, Supervising Engineering Technician II
Minneapolis Public Works, Surface Water and Sewers Division
(612) 673-2406 or cellular (612) 597-4468
paul.chellsen@ci.minneapolis.mn.us

[1] Low Impact Development (LID) techniques are encouraged on all new and redevelopment projects. These techniques use natural vegetation and small-scale treatment systems to treat and infiltrate stormwater runoff close to where it originates. By reducing impervious surfaces property owners will reduce the amount of stormwater runoff generated and provide for a reduction in their stormwater utility fee. LID practices include but are not limited to Green Roofs, Bioretention, Pervious or Paving, Trees and soil amendments. For more information on Stormwater design and low impact development please visit: http://proteus.pca.state.mn.us/water/stormwater/stormwater-manual.html#current

DISCOVERY PHASE | PRELIMINARY REVIEW PHASE | DEVELOPER PLAN PREPARATION PHASE | QA PHASE | FORMAL PLAN REVIEW PHASE | PERMIT / BUILDING PHASE | INSPECTION PHASE | COMPLIANCE PHASE

THE DISCOVERY PHASE INVOLVES THE DEVELOPMENT COORDINATOR WORKING WITH THE CUSTOMER TO DETERMINE THE NEEDS OF THE PROJECT. BY THE END OF THE DISCOVERY PHASE THE DEVELOPMENT COORDINATOR WILL HAVE DETERMINED WHAT REVIEW PROCESSES THE PROJECT WILL BE SUBJECT TO.

DURING THE PRELIMINARY REVIEW PHASE THE PROPOSED PROJECT IS EXAMINED BY A NUMBER OF DISCIPLINES FOR ADHERENCE TO CITY DESIGN, ZONING AND PLANNING STANDARDS. DEPENDING ON THE NATURE OF THE PROJECT, IT MAY REQUIRE REVIEW BY PUBLIC WORKS (PDR) (i.e. ALL NEW CONSTRUCTION) AND A CURSORY REVIEW BY ZONING AND PLANNING. HOWEVER, IF THE PROJECT HAS ZONING CHANGES (BOARD OF ADJUSTMENTS) AND OR CONDITIONAL USE REQUIREMENTS (CITY PLANNING COMMISSION) IT MAY INVOLVE MORE EXTENSIVE REVIEW SERVICES.

THE PLAN PREPARATION PHASE IS THE PERIOD THAT INVOLVES THE CUSTOMER CREATING / CHANGING BUILDING PLANS TO INCLUDE THE RESULTS OF THE REVIEWS. THIS MAY INCLUDE A NUMBER OF SUBMISSIONS BASED ON THE NUMBER OF REVIEW MODIFICATIONS REQUESTED AND IN THE CASE OF "DESIGN DEVELOPMENT" THE NUMBER AND COMPLEXITY OF DESIGN CHANGES TO THE PROJECT. THROUGH THIS PHASE, THE DEVELOPMENT COORDINATOR SERVES AS THE PRIMARY POINT OF CONTACT FOR THE CUSTOMER; S/HE FOLLOWS UP AND COORDINATES ALL ACTIVITIES BETWEEN OTHER ONE STOP SERVICES AND THE CUSTOMER

ONCE THE PLANS HAVE BEEN COMPLETED AND ALL CHANGES MADE, THEY ARE READY FOR FORMAL REVIEW. PRIOR TO THIS ACTIVITY, THE DEVELOPMENT COORDINATOR PROVIDES A FINAL QUALITY CHECK TO ENSURE ALL REQUESTED CHANGES HAVE BEEN MADE.

THE FORMAL PLAN REVIEW PROVIDES ALL DISCIPLINES WITHIN THE ONE STOP DEPARTMENT INVOLVED IN THE PROJECT THE OPPORTUNITY TO FORMALLY REVIEW ALL DETAILS OF THE PROJECT. IN MOST CASES THE PROJECT IS APPROVED AND PERMITS ISSUED,.

AT THIS STAGE ALL REQUIRED PERMITS RELATED TO THE PROJECT ARE ISSUED AND THE CUSTOMER CAN BEGIN DEVELOPMENT

AS DEVELOPMENT CONTINUES, THE PERMITTED WORK MUST BE INSPECTED. MANY ITERATIONS OF INSPECTION TAKE PLACE DURING PROJECT DEVELOPMENT.

ONCE ALL PERMITTED WORK HAS BEEN INSPECTED AND APPROVED, A CERTIFICATE OF OCCUPANCY IS GRANTED AND THE DEVELOPMENT MAY NOW BE USED AS INTENDED.

A — CONSTRUCTION CODE SERVICES

BUILDING application completed for repair or replacement for 1-2 dwelling unit residential structures

Exterior Building
Plumbing
Electrical

B — PLANS REVIEWED FOR REGULATORY COMPLIANCE — RSPR — REGULATORY REVIEW SERVICES

C — CIVIL (PW) REVIEW SERVICES — PLANS REVIEWED FOR COMPLIANCE — PDR

D — LAND USE REVIEW SERVICES

E — DESIGN REVIEW SERVICES

DEVELOPMENT COORDINATOR determines proper application procedures & plan submittal requirements.

DISCOVERY

START

CUSTOMER INTERNAL OR EXTERNAL

Submits PLANS, APPLICATIONS, REQUESTS FOR INFORMATION

PREPARE
CUSTOMER SUBMITS BUILDING / PROJECT PLANS FOR REVIEW
MODIFY
SUBMIT
REVIEW

PDR AND CPC MAY BE CONDUCTED IN PARALLEL

30-45 DAYS
MINOR SUBDIVISIONS

45-60 DAYS
REZONING
CONDITIONAL USE PERMITS
ZONING SITE PLAN REVIEW
SUBDIVISION PLATS & REG. LAND SURVEYS
CHANGES & EXPANSION OF NON-CONFORMING USE
LOCATION & DESIGN REVIEW
MORATORIA & WAIVERS
VARIANCES
APPEALS

60-120 DAYS
STREET ALLEY VACATIONS

BOARD OF ADJUSTMENT — BOA

CITY PLANNING COMMISSION — CPC

QUALITY REVIEW

PLAN REVIEW
- BUILDING
- BUSINESS LICENSE
- ENVIRONMENTAL HEALTH
- FIRE
- HPC
- PUBLIC WORKS, ET AL.

Development Coordinator routes plans to appropriate City Depts for review and approval

REVISIONS? NO / YES

RESUBMIT

QA

Developer revises plans per comments from ONE STOP SERVICES

PERMITS ISSUED
Building
Plumbing
Mechanical
Electrical
Sprinkler
Elevator

BUILDING CONSTRUCTION INSPECTED BY All disciplines

CERTIFICATE OF OCCUPANCY ISSUED (3)

END

A 30-day Temporary Certificate of Occupancy may be issued by DC if all safety-related code items have been resolved.

7 - 10 DAYS	30 - 120 DAYS	UP TO 12 MONTHS	10 DAYS	1 - 120 DAYS	DETERMINED BY PROJECT	DETERMINED BY PROJECT	1 DAY

MINNEAPOLIS DEVELOPMENT REVIEW SERVICES

Source: Minneapolis Development Review

Appendix A26

PROJECT	DESCRIPTION	FILENAME	PREPARED BY
MINNEAPOLIS DEVELOPMENT REVIEW	MDR PROCESSES - ROADMAP	ROADMAP 11X17.VSD	M. S. ALLEN
PROCESS ID	**REVISED**	**PAGE**	**DATE**
PROCESS ROADMAP	2/6/2007	1 OF 12	2/7/2005

RESOLUTION 2006R-619
By Ostrow

Designating the utility rates for water, sewer, stormwater, solid waste, and recycling services effective with water meters read on and after January 1, 2007.

Resolved by The City Council of The City of Minneapolis:

Effective with utility billings for water meters read from and after January 1, 2007, the meter rates for water are hereby fixed and shall be collected as follows:

Charges commence when the street valve is turned on for water service.

(a) Two dollars and sixty-seven cents ($2.67) per one hundred (100) cubic feet for customers not otherwise mentioned, within the limits of the City of Minneapolis.
(b) Two dollars and sixty-seven cents ($2.67) per one hundred (100) cubic feet to the United States Government within the city limits, and outside of or adjacent to the city limits, such rates and upon such terms as may be agreed upon by the city and the United States Government.
(c) Two dollars and sixty-seven cents ($2.67) per one hundred (100) cubic feet to the University of Minnesota, the United States Veterans' Hospital, the metropolitan airports commission for service to Minneapolis-St. Paul International Airport, and all city-owned property.
(d) Two dollars and seventy-six cents ($2.76) per one hundred (100) cubic feet to municipalities and villages outside the corporate limits of the city where service to such municipalities or villages is given through a master meter.
(e) Two dollars and eighty-two cents ($2.82) per one hundred (100) cubic feet to municipalities, municipal corporations, villages and customers outside the corporate limits of the city where service is furnished through individual customer meters.
(f) Rates for municipalities, municipal corporations and villages, which are established by contract, shall continue on the existing contract basis.
(g) Under the above rates no meter shall pay a less sum per billing period or fraction thereof for the use of water than the following:

Net Minimum Meter Size	Net Minimum Monthly Bill	Quarterly Bill
5/8-inch	$ 2.00	$ 6.00
3/4-inch	$ 2.40	$ 7.20
1-inch	$ 4.80	$ 14.40
1 1/2-inch	$ 8.85	$ 26.55
2-inch	$ 14.00	$ 42.00
3-inch	$ 27.00	$ 81.00
4-inch	$ 50.00	$ 150.00
6-inch	$ 95.00	$ 285.00
8-inch	$ 135.00	$ 405.00
10-inch	$ 191.00	$ 573.00
12-inch	$ 231.00	$ 693.00

(i) The minimum bill for an owner occupied residential development serviced by a combined fire/general service line shall be a multiple of the number of units served, times the minimum charge for a three-fourth (3/4) inch meter.
(j) All fire standpipes, supply pipes and automatic sprinkler pipes with detector meters, direct meters or non-metered, shall be assessed according to size of connection at the following rates each per annum for the service and inspection of the fire protection pipes and meters installed, as follows:

1½ inch pipe connection	$ 30.00
2 inch pipe connection	$ 30.00
3 inch pipe connection	$ 36.00
4 inch pipe connection	$ 48.00
6 inch pipe connection	$ 72.00

8 inch pipe connection	$ 120.00
10 inch pipe connection	$ 180.00
12 inch pipe connection	$ 300.00

When the seal of any of the valves connecting with such fire protection pipes shall be broken, it shall be forthwith resealed by the superintendent of the waterworks. All connections for fire systems must have a post indicator valve installed at the curb if ordered by the superintendent of the waterworks. (Code 1960, As Amend., § 606.030; Ord. of 12-28-73, § 1)

The sanitary sewer rates and stormwater service rate shall be applied to utility billings for water meters read from and after January 1, 2007.

Sanitary Sewer Rate

The sanitary sewer rates to be charged properties within and outside the City of Minneapolis that are served directly by the City of Minneapolis sewer system and that are all served either directly or indirectly by the sewage disposal system constructed, maintained and operated by the Metropolitan Council Environmental Services under and pursuant to Minnesota Statutes Sections 473.517, 473.519 and 473.521, Sub. 2, are hereby set as follows:

(a) The sanitary sewer rate applicable inside the City of Minneapolis is two dollars and thirty cents ($2.30) per one hundred (100) cubic feet. The minimum sanitary sewer rate shall be two dollars ($2.00) per month.
(b) The sanitary sewer rate applicable outside the City of Minneapolis for all sewage flow generated is two dollars and thirty cents ($2.30) per one hundred (100) cubic feet. The minimum sanitary sewer rate shall be six dollars ($ 6.00) per month. Sanitary sewer only service shall be thirteen dollars ($13.00) per month.
(c) The sanitary sewer charge for residential property not exceeding three (3) residential units shall be based on the volume of water used during the winter season which is defined as a four (4) month period between November 1 and March 31.
(d) The sanitary sewer charge for residential property exceeding three (3) residential units and all other commercial and industrial property shall be based on measured sewage volume or the total water volume used during the billing period as is appropriate.

Stormwater Rate

The stormwater rate, subject to the provisions in Chapter 510, of the Minneapolis Code of Ordinances, is imposed on each and every Single-Family Residential Developed Property, Other Residential Developed Property, Non-Residential Developed Property, and Vacant Property, other than Exempt Property, and the owner and non-owner users, and is herby set as follows:
(a) The Equivalent Stormwater Unit (ESU) rate is nine dollars and seventy-seven cents ($9.77). The ESU measurement is 1,530 square feet of impervious area.
(b) The stormwater rate imposed on Single-Family Residential Developed Properties shall be categorized into three tiers based on the estimated amount of impervious area as follows:

High – Single-Family Residential Developed Property – greater than one thousand five hundred and seventy-eight (1,578) square feet of estimated impervious area. The ESU shall be 1.25 and the stormwater rate set at twelve dollars and twenty-one cents ($12.21).
Medium – Single-Family Residential Developed Property – equal to or greater than one thousand four hundred and eighty-five (1,485) square feet and less than or equal to one thousand five hundred and seventy-eight (1,578) square feet of estimated impervious area. The ESU shall be 1.00 and the stormwater rate set at nine dollars and seventy-seven cents ($9.77).
Low – Single-Family Residential Developed Property – less than one thousand four hundred and eighty-five (1,485) square feet of estimated impervious area. The ESU shall be .75 and the stormwater rate set at seven dollars and thirty-three cents ($7.33).

(c) Stormwater charges for all other properties will be based on the following calculation:
(Gross Lot Size in sq.ft. X Runoff Coefficient) ÷ 1,530 sq. ft.= # of ESU # of ESU X $ 9.77 = Monthly Fee
The runoff coefficient assumed for each land use category is shown below.

Land Use Coefficient Applied

Bar-Rest.-Entertainment	.75
Car Sales Lot	.95
Cemetery w/Monuments	.20
Central Business District	1.00
Common Area	.20
Garage or Miscellaneous Res.	.55
Group Residence	.75
Industrial Warehouse-Factory	.90
Industrial railway	.85
Institution-School-Church	.90
Misc. Commercial	.90
Mixed Comm.-Res-Apt	.75
Multi-Family Apartment	.75
Multi-Family Residential	.40
Office	.91
Parks & Playgrounds	.20
Public Accommodations	.91
Retail	.91
Single Family Attached	.75
Single Family Detached	ESU
Sport or Recreation Facility	.20
Utility	.90
Vacant Land Use	.20
Vehicle Related Use	.90

Solid waste and recycling variable rate charges associated with water meter read dates from and after January 1, 2007, the charges shall be as follows:
(a) The base unit charge shall be twenty-three dollars ($23.00) per dwelling unit per month.
(b) The recycling reduction shall be seven dollars ($7.00) per dwelling unit per month for the units whose occupants qualify as participating in the city's recycling program.
(c) The cart disposal charge shall be two dollars ($2.00) per month for each small cart.
(d) The cart disposal charge shall be four dollars ($4.00) per month for each large cart assigned to a dwelling unit.

Adopted 12/11/2006

CHAPTER 510. STORMWATER MANAGEMENT SYSTEM AND OPERATION OF A STORMWATER UTILITY

510.10. **Definitions.** In addition to the words, terms and phrases elsewhere defined in this chapter, the following words, terms and phrases as used in this chapter shall have the following meanings:

Bonds means revenue or general obligation bonds, notes, loans or other debt obligations heretofore or hereafter issued to finance the costs of improvements and/or operations and maintenance.

Building permit means a permit issued by the director of inspections that permits construction of a structure.

City means City of Minneapolis, Minnesota.

City council means governing body of the city.

Costs of capital improvements means costs incurred in providing capital improvements to the stormwater management system or any portion thereof including, without limitation, the cost of alteration, enlargement, extension, improvement, construction, reconstruction, testing and development of the stormwater management system; insurance premiums for insurance taken out and maintained during construction, professional services and studies connected thereto; principal and interest on bonds heretofore or hereafter issued, acquisition of real and personal property by purchase, lease, donation, condemnation or otherwise for the stormwater management system or for its protection; and costs associated with purchasing equipment, computers, furniture, etc., that are necessary for the operation of the system or the utility.

Debt service means an amount equal to the sum of (i) all interest payable on bonds during a fiscal year, plus (ii) any principal installments payable on the bonds during that fiscal year.

Developed property means real property, other than undisturbed property; provided that, property used for agricultural uses, upon which no dwelling unit is located, shall not constitute developed property for purposes of this chapter.

Director means the city engineer/director of the public works department for the City of Minneapolis or the director's designee.

Dwelling unit means one or more rooms, designed, occupied or intended for occupancy as a separate living quarter, with a single complete kitchen facility, sleeping area and bathroom provided within the unit for the exclusive use of a single household.

Equivalent stormwater unit (ESU) means a unit of measure that is equal to the average impervious area of single-family residential developed property that falls within the medium class, with a single-family detached dwelling unit located thereon and within the city's limits, as established by city council resolution or ordinance, as provided for herein.

Equivalent stormwater unit rate or *ESU rate* means the storm sewer charge imposed on single-family residential developed property within the medium class, as established by city council resolution or ordinance, as provided herein.

Exempt property means public rights-of-way, public trails, public streets, public alleys, public sidewalks, railroad tracks that are not in railroad yards, and also means public lands and/or easements upon which the stormwater management system is constructed and/or located.

Fiscal year means a twelve-month period commencing on the first day of January of any year or such other twelve-month period adopted as the fiscal year of the city.

Impervious area means the number of square feet of hard surface areas that either prevent or retard the entry of water into the soil matrix, as it entered under natural conditions as undisturbed property, and/or cause water to run off the surface in greater quantities or at an increased rate of flow from that present

under natural conditions as undisturbed property, including, but not limited to, roofs, roof extensions, driveways, pavement and athletic courts.

Other residential developed property means developed property upon which two (2) or more family and/or multi-family dwellings are located.

Non-residential developed property means developed property other than single residential developed property and other residential developed property.

Operating budget means the annual stormwater utility operating budget adopted by the city for the succeeding fiscal year.

Operations and maintenance means, without limitation, the current expenses, paid or secured, of operation, maintenance, repair and minor replacement of the system, as calculated in accordance with generally accepted accounting practice. This shall include, without limiting the generality of the foregoing, cost of studies related to the operation of the system; costs of the study performed heretofore in relation to establishing storm sewer charges for the stormwater utility and other start up costs of the stormwater utility; costs related to the national pollutant discharge elimination system permit study, application, negotiation and implementation, including public education and outreach, as mandated by federal and state laws and regulations and the costs of obtaining and complying with all other permits required by law, insurance premiums, administrative expenses, equipment costs, including professional services, labor costs and the cost of materials and supplies used for current operations.

Revenues means all rates, fees, assessments, rentals or other charges or other income received by the stormwater utility in connection with the management and operation of the system, including amounts received from the investment or deposit of monies in any fund or account, as calculated in accordance with generally accepted accounting practices.

Runoff coefficients means those numbers approved by the city council that are used to estimate the impervious area for each non-single family classified property. A list of the coefficients used for the city is found in Table 1 that is incorporated herein.

Single-family residential developed property means developed property upon which single-family detached dwellings are located.

Stormwater charge means a charge authorized by this chapter, Minnesota Statutes 2004, Section 444.075, and other applicable law, and further as set forth in resolution or ordinance heretofore or hereafter adopted or hereafter amended by the city council, which is established to pay operation and maintenance, costs of capital improvements, debt service associated with the stormwater management system and other costs included in the operating budget.

Stormwater management system, *sewer system* or *system* means storm sewers that exist at the time the ordinance codified in this chapter is adopted or that are hereafter established and all appurtenances necessary in the maintaining and operating of the same, including, but not limited to pumping stations; enclosed storm sewers; outfall sewers; surface drains; street, curb and alley improvements associated with storm or surface water improvements; natural and manmade wetlands; channels; ditches; rivers; streams; wet and dry bottom basins; pocket ponds; multiple pond systems; settling basins; infiltration trenches or basins; filter systems; bio-retention areas; dry or wet swales; grass channels; roof top detention; skimming devices; grit chambers and other flood control facilities; and works for the collection, transportation, conveyance, pumping, treatment, controlling, storing, managing, and disposing storm or surface water or pollutants originating from or carried by storm or surface water.

Stormwater utility or *utility* means the utility created by this chapter to operate, maintain and improve the stormwater management system and for all other purposes set forth in this chapter.

Undisturbed property means real property that has not been altered from its natural condition in a manner that disturbed or altered the topography or soils on the property to the degree that the entrance of water into the soil matrix is prevented or retarded.

Vacant land means real property upon which there is no structure, as shown in the records of the city assessor's office, which is not designed for or regularly used for commercial residential purposes, and which is not used in connection with another piece of property. Vacant land includes undisturbed property and land with no building used as a community garden. (2004-Or-132, § 1, 11-5-04)

510.20. Creation of stormwater utility. Pursuant to the provisions of Minnesota Statutes 2004, Section 444.075, the city's general home rule powers, its nuisance powers, police powers and all other authorized powers, the city council does establish a stormwater utility and stormwater management system and declares its intention to operate, construct, maintain, repair and replace the stormwater management system and operate the stormwater utility. (2004-Or-132, § 1, 11-5-04)

510.30. Findings and determinations. The city finds that the elements of the stormwater management system that provides for the collection, conveyance, detention/retention, treatment and release of stormwater, the reduction of hazard to property and life resulting from stormwater runoff, improvement in general health and welfare through reduction of undesirable stormwater conditions and improvement to the water quality in the storm and surface water system and its receiving waters are of benefit and provide services to all property within the city. It is further found, determined and declared that this chapter is in furtherance of and implements the goals and strategies of the local surface water management plan, the annual Combined Sewer Overflow (CSO) report and the city's National Pollutant Discharge Elimination System (NPDES) permit. (2004-Or-132, § 1, 11-5-04)

510.40. Administration. The stormwater utility, under the supervision of the director, shall have the power to:

(1) Administer the acquisition, design, construction, maintenance, operation, extension and replacement of the stormwater management system, including real and personal property that is or will become a part of or protect the system.

(2) Prepare regulations, as needed, to implement this chapter, and forward those regulations to the city council for consideration and adoption, and adopt those procedures, as are desirable, to implement adopted regulations or to carry out other responsibilities of the utility.

(3) Administer and enforce this chapter and all regulations, guidelines and procedures adopted relating to the design, construction, maintenance, operation and alteration of the stormwater management system, including, but not limited to, the flow rate, volume, quality and/or velocity of the stormwater conveyed thereby.

a. Advise the city council on matters relating to the stormwater management system.

b. Develop and review plans concerning creation, design, construction, extension and replacement of the system and make recommendations to the city council related thereto.

c. Inspect private systems, as necessary, to determine the compliance of those systems with this chapter and any regulations adopted pursuant hereto.

d. Make recommendations to the city council concerning the adoption of ordinances, resolutions, guidelines and regulations to protect and maintain water quality within the stormwater management system in compliance with water quality standards established by state, county, regional and/or federal agencies, as now adopted or hereafter adopted or amended.

e. Analyze the cost of services and benefits provided by the stormwater management system and the structure of fees, service charges, fines and other revenues of the stormwater utility at least once each year.

f. Make recommendations to the city council concerning the cost of service and benefits provided by the stormwater management system and structure of fees, service charges, fines and other revenues of the stormwater utility.

g. Analyze the appropriateness of providing credits against the stormwater charge for owners of property who employ structural or non-structural best management practices or other stormwater management practices on-site that significantly reduce the quantity or improve the quality of stormwater run-off from their property that enters the system and make recommendations to the city council regarding the provision of these credits.

h. Administer programs established pursuant hereto or pursuant to ordinances, resolutions, regulations or guidelines hereafter adopted by the city council that provide for credits and/or incentives that reduce stormwater charges imposed against properties. (2004-Or-132, § 1, 11-5-04)

510.50. Operating budget. The city shall, as part of its annual budget process, adopt an operating budget for the stormwater utility for the next following fiscal year. The operating budget shall be prepared in conformance with the state budget law, city policy and generally accepted accounting practices. The initial operating budget commences January 1, 2005, and ends December 31, 2005. (2004-Or-132, § 1, 11-5-04)

510.60. Stormwater charge. (a) *Stormwater charge established*. Subject to the provisions of this chapter, there is imposed on each and every single-family residential developed property, other residential developed property and non-residential developed property, and vacant property, other than exempt property, and the owner and non-owner users thereof, a stormwater charge. In the event the owner and non-owner user of a particular developed property are not the same, the liability for the owner and non-owner user for the stormwater charge attributable to the developed property shall be joint and several liability. This stormwater charge shall be determined and set by the provisions of this chapter in accordance with the ESU and ESU rate, which is established by ordinance or resolution of the city council and which may be amended from time to time by the city council.

(1) *Stormwater charge for single-family residential developed property.* Three (3) classes of single-family residential developed property are established to account for the wide range of the amount of impervious area that exists on individual single-family residential developed properties in the city. The three (3) single-family customer classes are based on statistical sampling of estimated impervious area as developed from the city assessor's single-family residential developed real estate property records which includes: foundation square footage, garage stalls, estimation of driveway square footage and foundation square footage of any outbuildings/other improvements. Classification of the single-family residential developed customer class properties into the three (3) customer classes is made based on estimated impervious area. Single-family residential developed properties will be assigned to one of three (3) single-family residential customer classes. The three (3) single-family residential customer classes are as follows:

a. Single-family residential developed property/high -- greater than one thousand five hundred seventy-eight (1,578) square feet of estimated impervious area.
b. Single-family residential developed property/medium -- equal to or greater than one thousand four hundred eighty-five (1,485) square feet and less than or equal to one thousand five hundred seventy-eight (1,578) square feet of estimated impervious area.
c. Single-family residential developed property/low -- less than one thousand four hundred eighty-five (1,485) square feet of estimated impervious area.

The stormwater charge for each of these classes shall be as follows:

TABLE INSET:

High.....	1.25 % of an ESU
Medium.....	1 ESU
Low.....	.75 % of an ESU

In the event of a newly constructed dwelling unit, the charge for the stormwater charge attributable to that dwelling unit shall commence upon the issuance of the building permit for that dwelling unit.

(2) *Stormwater charge for other residential developed property* . The stormwater charge for other residential developed property shall be the ESU rate multiplied by the numerical factor obtained by multiplying the gross area of a property by the runoff coefficient for the other residential developed property, as set forth in Table 1 (the actual coefficient will be defined at the time of the annual rate adoption) and then dividing the above product by the ESU, as this ESU is

established by City Council resolution or ordinance ((gross square footage X runoff coefficient)/ESU = ## ESU). In the event of a newly constructed dwelling unit, the stormwater charge attributable to that dwelling unit shall commence upon the issuance of the building permit for that dwelling unit.

(3) *Stormwater charge for non-residential developed property.* The stormwater charge for non-residential developed property shall be the ESU rate multiplied by the number of ESU's for each individual non-residential developed property. The number of ESU's for each individual non-residential developed property shall be obtained by multiplying the gross area of each individual property by the runoff coefficient for the customer class that is the most similar to the use to which that individual non-residential developed property is currently being put, as set forth in Table 1 (the actual coefficient will be defined at the time of the annual rate adoption) and then dividing the above product by the ESU, as this ESU is established by city council resolution or ordinance ((gross square footage X runoff coefficient)/ESU = ## ESU)). The minimum stormwater charge for any non-residential developed property shall be in an amount equal to that of one (1) ESU. In the event of newly developed non-residential developed property, the stormwater charge attributable to that development shall commence upon the issuance of the building permit. In the event of additional development to property that is already developed property, the charge for the stormwater charge attributable to that additional development shall commence upon the issuance of the building permit.

(4) *Stormwater charge for vacant property.* The stormwater charge for vacant property shall be the ESU rate multiplied by the number of ESU's for each individual vacant property. The number of ESU's for each individual vacant property shall be obtained by multiplying the gross area of each individual property by the runoff coefficient for the vacant property class, as set forth in Table 1 (the actual coefficient will be defined at the time of the annual rate adoption) and then dividing the above product by the ESU, as this ESU is established by city council resolution or ordinance ((gross square footage X runoff coefficient)/ESU = ## ESU)). There is no minimum stormwater charge for vacant property.

(b) *Stormwater charge calculation*. The director shall initially, and from time to time, determine the class of residential developed property into which each individual residential developed property falls to establish the stormwater charge, based on the impervious area of the parcel as shown in the single-family records maintained by the city assessor's office. The stormwater charge for other residential developed property, for non-residential developed property, and for vacant property in the city shall be calculated as provided for subsection (a)(2), (3) & (4). The director shall make the initial calculation with respect to existing other residential developed property, non-residential developed property, and vacant property and may from time to time change this calculation from the information and data deemed pertinent by the director. With respect to property proposed to be non-residential developed property, the applicant for development approval shall submit square footage impervious area calculations, in accordance with the submission requirements for the application being submitted, as set forth in the applicable section of Title 20 of this Code.

(c) *Stormwater charge credit*. A system of credits, which may reduce the stormwater charge that is imposed, as provided for above, is hereby established. A credit shall be granted for developed or undeveloped property pursuant to the rules provided for herein. The director shall, pursuant to the rules provided for herein, grant a credit to those owners or non-owner users of properties, against which stormwater charges are imposed, who employ structural or non-structural best management practices or other stormwater management practices on-site that significantly reduce the quantity or significantly improve the quality of stormwater run-off from their property that enters the system. The director shall propose rules providing guidelines for the awarding of credits. The council shall approve, or approve as modified, these rules for the awarding of credits. The rules shall be consistent with this section. A credit also shall be granted in a percentage amount set by said city council pursuant to the rules for properties with respect to which a final plan or final plat has been approved or other final development approval has been granted by the city, on or before the effective date of this ordinance, which requires the construction of an on-site structural or non-structural best management practices or other stormwater management practices that significantly reduce the quantity or improve the quality of stormwater run-off from their property that enters the system, provided that, the practices are constructed and/or operational within one (1)year from the date of the applicable final approval. The credit shall begin in the fiscal year that the practice becomes operational. The credit for the first year, however, shall be prorated to reflect the

number of months of the first fiscal year that the practices are operational, where appropriate. (2004-Or-132, § 1, 11-5-04)

510.70. Appeal procedure. (a) Owners of residential developed property, non-residential developed property or vacant property, with respect to which a stormwater charge has been imposed, that disagree:

(1) With the class into which their single-family residential developed property is placed;
(2) With the calculation of the stormwater charge;
(3) With whether their property is benefited by the stormwater utility; or
(4) With whether their property is entitled to a credit or the continuation of a credit or on the amount of a credit;

may appeal the calculation or finding to a designee of the director by giving written notice of the appeal to the director at the director's customary offices within the (10) days of notice of that determination.

The director's designee assigned to hear such appeal shall not be a person that is regularly assigned to utility billing or the stormwater utility. Appeals from the calculation or finding to the designee of the director, as delineated herein above are separate and distinct from the billing complaint procedures established by Sections 509.920 and 509.930 of this Code.

(b) The director's designee shall give written notice of the time and place for the review requested, pursuant to subsection (a) hereof, to the appealing owner or non-owner user. The review shall be held within fifteen (15) days of receipt by the director of the written appeal. In addition to any oral presentation, appellant shall state all grounds supporting the appeal in writing, attaching any exhibits, such as photographs, drawings or maps and affidavits that support the claim. In addition, the appellant shall submit a land survey prepared by a registered surveyor showing dwelling units, total property area, type of surface material and impervious area, as appropriate, and any other information that the director shall designate in writing to the appellant. The director may waive the submission of a land survey, if director determines that the survey is not necessary to make a determination on the appeal.

(c) The burden of proof shall be on the appellant to demonstrate, by clear and convincing evidence, that the determination of the director, from which the appeal is being taken, is erroneous.

(d) The filing of a notice of appeal shall not stay the imposition, calculation or duty to pay the stormwater charge. The appellant shall pay the stormwater charge, as stated in the billing.

(e) Within fifteen (15) days of the review, the director's designee shall send a written copy of the designee's decision to the appellant with a copy to the director.

(f) If the appellant believes this decision is in error, the appellant may file a written request for a review by the city council based on the written record by filing a request with the city clerk with a copy to the director. The request for review shall be reviewed based on the written record by a committee or subcommittee of the city council, or by a person appointed by the city council, or any designated combination thereof, within thirty (30) days of the filing of the request. The report of the committee, subcommittee and/or other reviewer shall be referred to the full council and be acted upon by the full council within thirty (30) days of the review. The decision of the city council on appeal is subject to judicial review, as provided by the laws of the state.

(g) If the director's designee's determines, upon appeal, that appellant should not pay a charge, pay a charge amount less than the amount appealed from, receive a credit or receive a greater credit than the credit appealed from or the city council, upon appeal, so determines, the city shall issue a check to the appellant in the appropriate amount within ten (10) days of the date of the applicable decision, provided the charge has, as required herein, been paid by the appellant. (2004-Or-132, § 1, 11-5-04)

510.80. Stormwater charge collection.(a) The stormwater charge shall be billed and collected by the city. The stormwater charge shall be shown as a separate item on the billing from the sewer utility charge levied and assessed pursuant to Section 511.290. In the event the owner and non-owner of a particular developed property are not the same, the liability for the owner and non-owner user for the stormwater charge attributable to the developed property shall be joint and severable. The same administrative procedures for special assessments shall be applied to the stormwater charge, as are applied for water use under Chapter 509 of this Code.

(b) Pursuant to Minnesota Laws 1973, Chapter 320, whenever payment remains in default for a stormwater charge, the city council may annually levy an assessment equal to the unpaid costs, including penalty and interest against each developed property that is not exempt property and upon which the stormwater charge is unpaid. (2004-Or-132, § 1, 11-5-04)

510.90. Stormwater fund. Stormwater charges collected by the city shall be paid into a fund that is hereby created and shall be known as the "Stormwater Fund." This fund shall be used for the purpose of paying costs of capital improvements, administration of the stormwater utility, operation and maintenance and debt service of the stormwater management system and to carry out all other purposes of the utility. (2004-Or-132, § 1, 11-5-04)

510.100. Equivalent stormwater unit (ESU) rate. The ESU and the ESU rate that is used to determine the charge for each class of residential developed property, other residential developed property, non-residential developed property, and vacant property shall be as established in an ordinance or a resolution heretofore adopted or hereafter adopted by the city council, and as thereafter amended. (2004-Or-132, § 1, 11-5-04)

510.110. Severability. In the event that any portion or section of this chapter is determined to be invalid, illegal or unconstitutional by a court of competent jurisdiction, the decision shall in no manner affect the remaining portions or sections of this chapter, which shall remain in full force and effect.

Table 1 - Ordinance

TABLE INSET:

LAND USE	RANGE
Bar - Rest.- Entertainment	**.60--.75**
Car Sales Lot	**.60--.95**
Cemetery w/Monuments	**.10--.25**
Central Business District	**.85--1.00**
Common Area	**.10--.25**
Garage or Misc. Residential	**.30--.55**
Group Residence	**.60--.75**
Industrial Warehouse- Factory	**.50--.90**
Industrial Railway	**.50--.90**
Institution- School.- Church	**.60--.95**
Misc. Commercial	**.60--.95**
Mixed Commercial- Residential - Apt.	**.60--.75**
Multi-Family Apartment	**.60--.75**
Multi-Family Residential	**.35--.50**
Office	**.60--.95**
Parks & Playgrounds	**.10--.25**
Public Accommodations	**.60--.95**
Retail	**.60--.95**
Single Family Attached	**.60--.75**
Single Family Detached	**ESU**
Sport or Recreation Facility	**.60--.95**
Utility	**.50--.90**
Vacant Land Use	**.10--.25**
Vehicle Related Use	**.60--.90**

(2004-Or-132, § 1, 11-5-04; 2005-Or-102, § 1, 11-4-05)

Minneapolis Stormwater Utility Fee

Frequently Asked Questions

What is Stormwater?

Stormwater is runoff from a rainstorm or melting snow. City landscapes - unlike forests, wetlands, and grasslands that trap water and allow it to filter slowly into the ground - contain great areas of impermeable asphalt and concrete surfaces that prevent water from seeping into the ground. Because of this, large amounts of water accumulate above the surface. This water will run off before eventually entering into our lakes, rivers and streams.

Why is it important to manage stormwater?

Minneapolis, like other communities, needs to manage stormwater to protect people's homes and properties, the environment, lakes, streams, rivers. If this is not done, stormwater will cause flooding, pooling, erosion and pollution. Heavy rains that flood streets and yards can result in property damage. Stormwater runoff also picks up pollutants and debris from streets, parking lots, yards carries them into our streams, rivers and lakes.

What is the stormwater utility fee on my bill?

The stormwater utility fee pays for the City's current stormwater system and annual maintenance costs. This helps to prevent and correct stormwater runoff problems throughout Minneapolis. All properties within the city limits, with very limited exceptions, are charged a monthly stormwater utility fee. This fee had existed in the past, but prior to 2005 had been included as part of a combined sanitary sewer/stormwater fee. By establishing a separate stormwater charge based on impervious area, the current system divides stormwater fees fairly among owners of different property types and charges only for the estimated demand that each property would place on the system .

How does the City's stormwater credit program encourage helpful environmental practices?

The stormwater fee incorporates opportunities for property owners to reduce their stormwater bill by taking environmentally friendly steps. Stormwater utility fee reductions, also called credits, are available to those who are using or installing stormwater management tools/practices on their properties. Installing rain gardens or other materials, such as impervious pavers, allows stormwater to soak into the ground, rather than run into storm sewers.

How can I get a stormwater credit on my utility bill?

Credit guidelines and application forms can be found on the on the City of Minneapolis stormwater web site . If you need additional information, please contact 612-673-1114.

How is the stormwater fee calculated?

The stormwater utility fee is charged on a per unit basis. Each ESU (**E**quivalent **S**tormwater **U**nit) is 1,530 square feet of impervious area on a property. The impervious area was calculated based on the size of the property, as well as the current use. Single family properties are billed using one of the following rates:

High	1.25 ESU	$12.82
Medium	1.00 ESU	$10.26
Low	.75 ESU	$7.69

All other properties are billed as follows: (Gross Lot Size in square ft. X Runoff Coefficient) / 1,530 square ft = # of ESU's

What is impervious area: Surfaces where water can not flow through freely.

Examples of impervious surfaces include, but are not limited to the following:

- Building footprints
- Driveways
- Sidewalks
- Parking lots
- Other paved areas

Impervious area may also include gravel and dirt areas that are compacted by frequent vehicular traffic or the frequent use of heavy equipment.

CITY OF MINNEAPOLIS
PUBLIC WORKS DEPARTMENT
Street Maintenance Division
Standard Operating Procedure for Vehicle Related Spills (VRS)
June 1, 2006

The purpose of this document is to provide detailed standard operating procedures for the clean up of VRS sites and the management/disposal of the impacted spill debris.

DEFINITION of TERMS:

MPCA: Minnesota Pollution Control Agency

MEM: Minneapolis Environmental Management (also historically known as Minneapolis Pollution Control)

MSMD: Minneapolis (Public Works) Street Maintenance Division

VRM: Vehicle Related Material: Petroleum products or other vehicle fluids that are inherently related to vehicular operations. This does not include materials that are being transported by a vehicle, unless the material is clearly labeled as being one of the aforementioned products.

VT: Volumetric Threshold: Minnesota has a 5 gallon minimum quantity for reporting petroleum spills. Spill of all other chemical or material in any quantity is reportable.

Spill debris: Sand that has been placed to absorb VRM and subsequently recovered for disposal.

Scenario Number 1: MPCA informs MEM of a VRS

The driver of a vehicle involved in a spill is responsible for notifying the MPCA Duty Officer, if the VT is exceeded. The Duty Officer will immediately notify the MPCA Emergency Response Unit. If the spill is of the size and nature that the Emergency Response Unit determines should be handled by MEM, the MPCA will notify MEM and provide them with the details relating to the spill incident. The MEM representative will make a determination based on the information provided by the MPCA on how to proceed, and if appropriate (typically VRM in manageable quantities), contacts MSMD.

The MSMD will dispatch personnel with appropriate equipment to apply sand to the spill site. The sand will be given a period of time in which to absorb the VRM. The sand (spill debris) will then be removed by means of a street sweeper, and deposited at the established disposal site in a designated VRM spill debris pile. If a secondary sanding is required, the procedure will remain the same.

Since the volume of the spill is greater than 5 gallons, a Hazardous Material Spill Data form (see Appendix A) must be completed as soon as possible (i.e. within 24 hours or the next business day). The completed form will be sent to the MEM as soon as possible. A final report on the action(s) taken will be sent to the MPCA from MEM.

Spill Debris Pile Management

Arrangements for disposal of the spill debris pile will be a collaborative effort by the MSMD and the Engineering Laboratory. As the spill debris pile reaches a size that becomes difficult to manage within the boundaries of the disposal site, the Engineering Laboratory will be contacted. The spill debris pile will be mechanically blended and the Laboratory will select representative samples for laboratory analysis, as required by MPCA regulations. The sampling and testing will require approximately one week to complete. After receiving the laboratory analysis data, the spill debris will be disposed of in a manner pre-approved by the MPCA and the Minneapolis Procurement Division.

Scenario Number II: The MSMD discovers a VRS

MSMD personnel discover a spill or are informed of a potential VRM spill from sources other than MEM or MPCA. After arriving at the scene, they will determine whether the incident is a VRM spill, (possibly from a vehicle collision, a spill from a labeled container, etc.) and will determine if the volume of the spill is greater than the VT (5 gallons).

- Less than 5 gallons: If the spill quantity is judged to be less than 5 gallons, no contact with MEM is necessary. Sand will be applied and the procedure will continue as described in Scenario I (i.e. subsequent sanding/sweeping and stockpiling into the spill debris pile). A Hazardous Materials Spill Data form must be completed for record and documentation purposes and retained at MSMD, but is not to be sent to MEM.

- 5 gallons or more: If the MSMD representative determines that a volume of 5 gallons or more of VRM has been spilled, MSMD must contact MEM or MPCA. The same procedures for clean up and reporting (using the Hazardous Material Spill Data form) as in Scenario I will be followed. This form must be sent to MEM.

For both cases, the disposal of the VRM spill debris pile is as detailed in Scenario I.

Potential Modification to Scenario I and II

Regulatory officials may require separate stockpiling of spill debris from specific spill incidents. Separate sampling and laboratory analysis will be required in these cases. This may also be requested to create a distinct tracking mechanism of a given spill of significant quantities and/or from a billable source. This scenario will be determined on a case-by-case basis. The process for disposal will be the same as previous scenarios.

Scenario Number III: The MSMD becomes aware of a spill of unknown material or composition

The MSMD shall contact MEM before taking any action to clean up a spill of unknown composition. MEM will manage these spills through their contracts with private entities specializing in these activities, or manage and coordinate the cleanup with the MSMD. If MEM cannot be contacted, the MPCA Duty Officer should be contacted immediately.

ADDITIONAL INFORMATION

1. Currently the disposal site for spill debris is at the Linden Yard site. The material shall be placed in two 20 cubic-yard leak-proof roll-off containers with a counter-balanced lockable lids at the City Site.

2. List of Potential Contacts:

- **Minnesota Pollution Control Agency (MPCA)**
  Duty Officer: 651-649-5451; 24 hours a day, seven days a week
- **Minneapolis Environmental Management (MEM**)
  Steve Kennedy: 612-685-8528 (work)
  Tom Frame: 612-673-8501 (work)
  Gayle Prest: 612-673-2931 (work)
  Emergency after-hours contacts:
  Tom Frame: 612-754-0762
  Gayle Prest: 612-827-1984
- **Engineering Laboratory**
  Kevin Danen: 673-5627 (work)
  Joe Klejwa: 673-5608 (work)
  Paul Urseth: 673-5622 (work)
- **Minneapolis Street Maintenance Division (MSMD)**
  Steve Collin: 673-5720 (work)
  John Wargin: 673-5720 (work)
  24 hours a day, seven days a week: 673-5720

3. MSMD will be responsible for any billing of outside parties for services rendered for the clean up/disposal of a spill event. The MSMD, MEM and the Engineering Laboratory will develop a system for tracking cost associated with these operations. This information will be distributed, as it becomes available.

4. This is a statement of policies and procedures, which will be revised and updated, as new information becomes available.

CITY OF MINNEAPOLIS - STREET DEPARTMENT

OIL AND HAZARDOUS MATERIAL SPILL DATA

DATE OF REPORT	TIME OF REPORT	NAME & ADDRESS OF RESPONSIBLE PARTY
DATE OF INCIDENT	TIME OF INCIDENT	
TYPE OF POLLUTANT	QUANTITY	CAUSE OF SPILL
PRECISE LOCATION		PERSON MAKING REPORT/PHONE NUMBER
AREAS AFFECTED		PARTY REPORTING SPILL TO STREET DEPT.
PROBABLE FLOW DIRECTION	SOIL TYPE	OTHERS CONTACTED: MPLS. PCA_____ MN PCA_____ FIRE DEPT_____ POLICE_____ OTHER_____
WATERS POTENTIALLY AFFECTED		
EFFECTS OF SPILL/ IMMEDIATE DANGER TO HUMAN LIFE, PROPERTY		PROXIMITY OF WELLS, SEWER, BASEMENTS
ACTION TAKEN TO DATE		IS THIS FIRST NOTICE REGARDING SPILL?
CONTAINMENT OF SPILL		WHO SHOULD BE CONTACTED FOR FURTHER INFORMATION? PHONE NO.
CLEAN-UP TO DATE: MATERIAL USED_____ LOADER USED_____ TRUCKS USED_____ PICK-UP TRUCK USED_____ MACHINE SWEEPER USED_____ LABOR: FOREMAN HOURS_____ SR. MAINT. MAN_____ JR. MAINT. MAN_____ OTHER_____		COMMENTS?

ORIGINAL: When job completed, send immediately to Street Accounting.
COPY 1 : Send to Street Accounting with daily time when labor/eq. first used.
COPY 2 : PCA NOTIFICATION COPY - send immediately(first available interoffice mailing) to Tom Frame, Licenses – Environmental Management, PSC, Room 414

STREET JOB#_____

LABOR COST $_____
EQUIP COST $_____
MAT'L COST $_____
TOTAL COST $_____

SPECIFICATION FOR DISPOSAL OF SPILL DEBRIS FROM VEHICLE RELATED SPILLS

City of Minneapolis
Department of Public Works

DEFINITIONS:

- **VRM:** Vehicle Related Material: Petroleum products and other vehicle fluids that are inherently related to vehicular operations. This does not include materials that are being transported by a vehicle, unless the material is clearly labeled as being one of the aforementioned products.

- **SPILL DEBRIS:** Sand that has been placed to absorb VRM and subsequently recovered for disposal.

- **CONTRACT PERIOD:** The contract period shall be from July 1, 2004 to June 30, 2007.

SCOPE:

These specifications cover the loading, transportation and disposal of spill debris from a central site located within the City of Minneapolis. The "Contractor" for the purposes of this specification, refers to a permitted landfill facility that has been approved by the appropriate regulatory agencies.

GENERAL:

The City of Minneapolis expects to generate an estimated 500 cubic yards of spill debris during the contract period. This quantity is only an estimate of the City's requirement for said contract period, and may be increased or reduced in any amount without any adjustment in unit price. The primary source of this material is from the results of clean-up operations following vehicular collisions or accidental discharge from vehicles.

The spill debris will consist primarily of sand used to absorb VRM from City streets, as well as plastic sheeting used during the storage process. The Contractor will be required to transport and dispose of all such materials that have been stored at the City facility. The only acceptable disposal method for the spill debris shall be placement into or used as daily cover at a certified and fully permitted landfill facility.

SCOPE OF SERVICES:

The Contractor shall:

- Provide two (2) 20 cubic-yard leak-proof roll-off containers with a counter-balanced lockable lid for the duration of the contract period at the City of Minneapolis Linden Yard Site, or any other designated site within the City of Minneapolis. The City of Minneapolis will provide Contractor access to this container throughout the contract period.
- When a container is filled with spill debris, the City of Minneapolis will mechanically blend the material in the container and perform sampling and laboratory analysis in accordance with Minnesota Pollution Control Agency Guidance Documents. Any additional analyses required by the Contractor shall be stated in the proposal.
- The City of Minneapolis will forward all pertinent analytical laboratory results to the Contractor.
- The Contractor shall state in the proposal, the length of time needed, following receipt of the laboratory test results, before the full container is transported to the Contractors facility.

- The City of Minneapolis will contact the Contractor, once a roll-off container is full and sampling/ analyses has begun. It shall be the responsibility of the Contractor to provide a replacement container for subsequent and interim spill debris storage. There must be, at all times, adequate space in a container available for the storage of spill debris at the City of Minneapolis facility.

The Contractor shall obtain all proper permits and manifests for the loading, transporting, and disposal of the spill debris. The contractor shall load and haul all such material to an approved disposal site. The disposal method shall be approved by the appropriate regulatory agency(s). The Contractor shall provide documentation of all required approvals to the City of Minneapolis prior to acceptance of the material. The Contractor shall also provide the City with any and all documentation required by regulatory agencies, following the disposal of the spill debris.

CONTENT OF PROPOSALS:

The following required information shall accompany each bid:

- Location of landfill site.
- Cost per ton of material for disposal, utilizing the aforementioned 20 cubic-yard roll-off containers.
- Cost per ton of material for disposal when the material is stockpiled without the use of a roll-off container. (Minimum stockpile being 10 tons)
- The cost per ton for Superfund/CERCLA indemnification (include limits).
- Cost per day for two (2) 20 cubic-yard leak-proof roll-off containers with a counter-balanced lockable lid at the Minneapolis site.
- Cost for the option, at the sole discretion of the city, of extending this agreement for each of two additional years.
- List of subcontractors and functions.
- Qualification and experience of Contractor and all subcontractors

The bid will be based on a per ton (2000 pound) basis, which will include all transportation, permitting and regulatory cost. All loads shall be weighed on scales certified by the State of Minnesota

GENERAL TERMS AND CONDITIONS:

The following are the general terms and conditions, supplemental to those contained elsewhere in these specifications, which responding Contractors must comply with in order to be consistent with the requirements for the specification. Any deviation from these or any other stated requirements must be listed as exceptions on the bid sheet.

Once the bid forms are submitted in response to these specifications, they become the property of the City of Minneapolis, whether or not the bid is accepted. The City shall have the right to use any ideas presented in any bid submitted.

Representatives of the City of Minneapolis will review all bids received. An interview may be part of the evaluation process. Factors, upon which the proposal will be judged include, but are not limited to, the following:

- Residual risk to the City of Minneapolis following disposal.
- Expressed understanding of the project objective.
- Cost of disposal.
- Project work plan, including level of detail.
- Qualification of both the Contractors assigned personnel, and subcontractors.

CITY'S RIGHTS:

The City reserves the right to reject any or all proposals or parts of proposals, to accept part or all of proposal on the basis considerations other than lowest cost, and to create a project of lesser or greater expense and reimbursement that described in this proposal, or the respondent's reply

based on the component prices submitted. The City also reserves the right to cancel the Agreement without penalty, if circumstances arise which prevent the City from completing the project. In addition, the City reserves the right to re-bid for any phase of this work.

HOLD HARMLESS:

The Contractor agrees to defend, indemnify and hold harmless the City, its officer and employees, from any liabilities, claims, damages, costs, judgments, and expenses, including attorney's fees, resulting directly or indirectly from an act or omission of the contractor, it's employees, agents or employees of subcontractors, in the performance of this contract or by reason of the failure of the contractor to fully perform, in any respect, all of its obligation under this contract.

The City agrees to defend and hold harmless insofar as the law allows the Contractor, its officers and employees, from any liabilities, claims, damages, cost, judgements, and expenses, including attorney's fees, resulting directly or indirectly from an act or omission of the City or its employees in the performance under this contract or by reason of the failure of the city to fully perform its obligations under this contract.

INTEREST OF MEMBERS OF CITY:

The Contractor represents and agrees that no member of the governing body, officer, employee or agency of the City has any interest, financial or otherwise, direct or indirect, in the Agreement.

EQUAL OPPORTUNITY STATEMENT:

Contractor agrees to comply with the provisions of all applicable federal, state and City of Minneapolis statutes, ordinances and regulations pertaining to civil rights and nondiscrimination including without limitation Minnesota Statute, Section 181.59 and Chapter 363 and Minneapolis code of Ordinances, Chapter 139, incorporated herein by reference.

AFFIRMATIVE ACTION:

Persons who are authorized to enter into contractual relationships with the City are encouraged to review the City's policies on Affirmative Action.

NON-DISCRIMINATION:

The Contractor will not discriminate against any employee or applicant for employment because of race, color, creed, religion, ancestry, sex, national origin, affectional preference, disability, age, marital status or status regard to public assistance or as a disabled veteran or veteran of the Vietnam era. Such prohibition against discrimination shall include, but no limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and section for training, including apprenticeship.

The Contractor shall agree to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the City, setting forth this nondiscrimination clause. In addition, the Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment with regard to race, creed, religion, ancestry, sex, national origin, affectional preference, disability, age, marital status or status wit regard to public assistance or status as a disabled veteran or veteran of the Vietnam era, and comply in all other aspects with the requirements of the Minneapolis Code, Chapter 139.

CONTRACT INCORPORATION OF PROPOSAL CONTENTS:

The contents of the proposal and any clarifications or modification to the contract thereof submitted by the successful proposer may, at the City's option, become part of the Agreement obligation and be incorporated by reference into the ensuing contract.

INSURANCE:

This agreement shall be effective only upon the approval by the City of acceptable evidence of the insurance detailed below. Such insurance secured by the Contractor shall be issued by insurance companies acceptable to the City and admitted in Minnesota. The insurance specified may be in a policy or policies of insurance, primary or excess. Such insurance shall be in force on the date of the execution of the agreement and shall remain continuously in force for the duration of the contract period.

The Contractor and its subcontractors shall secure and maintain the following insurance:

a) Worker's Compensation insurance that meets the statutory obligations with Coverage B – Employer's Liability limits of at least $100,000 each accident, $500,000 disease – policy limit and $100,000 disease each employee.

b) Commercial General Liability insurance with limits of at least $500,000 general aggregate, $500,000 products – completed operations $500,000 personal and advertising injury, $500,000 each occurrence $50,000 fire damage, and $5,000 medical expense any one person. The policy shall be on an "occurrence" basis, shall include contractual liability coverage and the City shall be named an additional insured.

c) Commercial Automobile Liability insurance covering all owned, non-owned and hired automobiles with limits of at least $500,000 per accident.

Acceptance of the insurance by the City shall not relieve, limit or decrease the liability of the Contractor. Any policy deductible or retention shall be the responsibility of the Contractor. The Contractor shall control any special unusual hazards and be responsible for any damages that result from those hazards. The City does not represent that the insurance requirements are sufficient to protect the Contractor's interest or provide adequate coverage.

Evidence of coverage is to be provided on a City provided Certificate or Insurance. A thirty- (30) day written notice is required if the policy is canceled, not renewed or materially changed.

The Contractor shall require all of its subcontractors to comply with this provision.

The Contractor shall not assign any interest in the Agreement, and shall not transfer any interest in the same (whether by assignment or novation) without the prior written approval of the City, provided, however, that claims for money due or to become due to the contractor may be assigned to a bank, trust company or other financial institution, or to a Trustee in Bankruptcy without such approval. Notice to any such assignment or transfer shall be furnished promptly to the City.

COMPLIANCE REQUIREMENTS

All Contractors hired by the City of Minneapolis are required to abide by the regulations of the Americans with Disabilities Act of 1990 (ADA) which prohibits discrimination against individuals with disabilities. The Contractor will not discriminate against any employee or applicant for employment because their disability and will take affirmative action to insure that all employment practices are free from such discrimination. Such employment practices include but are not limited to the following: Hiring, promotion, demotion, transfer, recruitment, or recruitment advertising, layoff, discharge, compensation and fringe benefits, classification referral and training. The ADA also requires contractor associated with the City of Minneapolis to provide qualified applicants and employees with disabilities with reasonable accommodations that do not impose undue hardship. Contractors also agree to post in conspicuous areas accessible to employees and applicants, notices of their policy on nondiscrimination.

In the event the Contractor's noncompliance with the nondiscrimination clauses of this agreement, this agreement may be cancelled, terminated, or suspended, in whole or part, and the Contractor may be declared ineligible by the Minneapolis City Council from any further participation in City contracts in addition to other remedies as provided by law.

Grit Chambers Inspected - 2007

Grit ID	Location	Date Inspected	Inspection Frequency
1	UPTON AV N & 53RD AV N	5/15/2007	2X
1	UPTON AV N & 53RD AV N	9/17/2007	2X
2	RUSSELL AV N & 53RD AV N	5/15/2007	2X
2	RUSSELL AV N & 53RD AV N	9/17/2007	2X
3	SHERIDAN AV N, N OF 52ND AV N	5/11/2007	2X
3	SHERIDAN AV N, N OF 52ND AV N	9/17/2007	2X
4	RUSSELL AV N, NORTH OF 52ND AV N	5/15/2007	2X
4	RUSSELL AV N, NORTH OF 52ND AV N	9/17/2007	2X
5	PENN AV N & 52ND AV N	4/23/2007	2X
5	PENN AV N & 52ND AV N	9/17/2007	2X
6	PENN AV N & 52ND AV N	4/23/2007	1X
7	OLIVER AV N & 52ND AV N	5/14/2007	1X
8	NEWTON AV N & SHINGLE CREEK PKWY	5/30/2007	1X
9	OLIVER AV N & 51ST AV N	5/14/2007	1X
10	MORGAN AV N & 51ST AV N	4/23/2007	1X
11	KNOX AV N & 51ST AV N	5/4/2007	1X
12	KNOX AV N & 50TH AV N	5/29/2007	1X
13	IRVING AV N & 50TH AV N	5/29/2007	1X
14	JAMES AV N, N OF 49TH AV N	5/4/2007	1X
15	21ST AV N & 1ST ST N	6/1/2007	1X
16	XERXES AV N & 14TH AV N	7/23/2007	1X
17	XERXES AV N & GLENWOOD AV	6/4/2007	1X
18	MORGAN AV N & CHESTNUT AV	5/16/2007	1X
19	GIRARD AV N & CURRIE AV N	6/4/2007	1X
21	LAKE OF THE ISLES PKWY & LOGAN AV	6/5/2007	1X
22	W 22ND ST & JAMES AV S	6/5/2007	1X
24	DREW AV S & W LAKE ST	6/5/2007	1X
25	EXCELSIOR BLVD & MARKET PL	6/5/2007	1X
26	W LAKE ST & ALDRICH AV S	6/5/2007	1X
27	W 32ND ST & BRYANT AV S	6/5/2007	1X
28	W 33RD ST & HOLMES	6/5/2007	2X
28	W 33RD ST & HOLMES	6/14/2007	2X
29	W 33RD ST & GIRARD AV S	6/14/2007	1X
30	YORK AV S & W LAKE CALHOUN PKWY	6/25/2007	2X
30	YORK AV S & W LAKE CALHOUN PKWY	8/9/2007	2X
31	CHOWEN AV S & W 41ST ST	6/27/2007	1X
32	E 42ND ST & BLOOMINGTON AV S	6/18/2007	2X
32	E 42ND ST & BLOOMINGTON AV S	7/3/2007	2X
33	E 43RD ST & PARK AV S	6/11/2007	1X
34	W 44TH ST & LAKE HARRIET PKWY	6/12/2007	1X
35	E 44TH ST & OAKLAND AV S	6/12/2007	1X
36	E 46TH ST & 31ST AV S	6/20/2007	1X
37	46TH AV S & GODFREY RD	5/2/2007	2X
37	46TH AV S & GODFREY RD	7/3/2007	2X
38	W 47TH ST & YORK AV S	4/13/2007	2X
38	W 47TH ST & YORK AV S	6/12/2007	2X
39	W 47TH ST & WASHBURN AV S	6/12/2007	1X
40	W 47TH ST & LAKE HARRIET PKWY	6/12/2007	1X
41	W 48TH ST & YORK AV S	4/13/2007	2X
41	W 48TH ST & YORK AV S	9/17/2007	2X

Grit Chambers Inspected - 2007

Grit ID	Location	Date Inspected	Inspection Frequency
42	QUEEN AV S & LAKE HARRIET PKWY	6/27/2007	1X
43	16TH AV S & E MINNEHAHA PKWY	7/3/2007	1X
44	SHERIDAN AV S & W 50TH ST	6/12/2007	1X
45	JAMES AV S & MINNEHAHA CREEK	6/12/2007	1X
46	MORGAN AV S & W 53RD ST	6/8/2007	2X
46	MORGAN AV S & W 53RD ST	9/24/2007	2X
47	E 55TH ST & PORTLAND AV S	6/13/2007	1X
48	E 56TH ST & PORTLAND AV S	6/13/2007	1X
49	E 57TH ST & PORTLAND AV S	6/13/2007	1X
50	E 57TH ST & PORTLAND AV S	6/13/2007	1X
51	GIRARD AV S BETWEEN W 59TH ST & W 60TH ST	6/12/2007	1X
52	E 59TH ST & 12TH AV S	6/4/2007	2X
52	E 59TH ST & 12TH AV S	7/2/2007	2X
53	GIRARD AV S & W 60TH ST	6/13/2007	1X
54	GIRARD AV S, W 60TH ST - DUPONT AV S	4/18/2007	1X
55	GRASS LAKE TERRACE, GIRARD TO JAMES AV S	6/12/2007	1X
56	GRASS LAKE SERVICE ROAD BEHIND #6035 JAMES AV S	6/18/2007	1X
57	GRASS LAKE SERVICE ROAD BEHIND #6077 JAMES AV S	6/18/2007	1X
58	GRASS LAKE SERVICE ROAD BEHIND #1416 W 61ST ST	6/18/2007	1X
59	W 61ST ST & GRASS LAKE SERVICE ROAD	6/18/2007	1X
60	IRVING AV S & W 61ST ST	6/25/2007	1X
61	E RIVER RD & CECIL ST	6/27/2007	2X
61	E RIVER RD & CECIL ST	10/9/2007	2X
62	HIAWATHA PARK REFECTORY TURN-A-ROUND	7/3/2007	1X
63	33RD AV N & 1ST ST N/RAILROAD TRACKS	5/29/2007	1X
64	26TH AV N & PACIFIC (N TRANSFER STATION)	5/15/2007	1X
66	MAPLE PLACE & ISLAND AV E	6/29/2007	1X
67	DELASALLE DR & ISLAND AV E	6/29/2007	1X
68	ISLAND AV W - 300' S OF MAPLE PLACE	5/29/2007	2X
68	ISLAND AV W - 300' S OF MAPLE PLACE	6/29/2007	2X
69	EASTMAN AV & ISLAND AV W	6/29/2007	1X
70	ROYALSTON & 5TH AV N	6/4/2007	1X
71	THE MALL & E LAKE OF THE ISLES PKWY	6/25/2007	1X
72	S OF 37TH AV NE & ST ANTHONY PKWY	6/27/2007	1X
73	4552 KNOX AV N (IN ALLEY BEHIND)	5/30/2007	1X
74	STEVENS AV S, 300' S OF MINNEHAHA CREEK	6/15/2007	1X
76	MARKET PLAZA & EXCELSIOR BLVD	4/12/2007	1X
77	ALLEY - 38TH TO 39TH ST & NICOLLET TO BLAISDELL AV	5/9/2007	2X
77	ALLEY - 38TH TO 39TH ST & NICOLLET TO BLAISDELL AV	8/2/2007	2X
78	SHINGLE CREEK WETLAND - W SIDE	5/30/2007	1X
79	SHINGLE CREEK WETLAND - E SIDE	5/30/2007	1X
80	WOODLAWN BLVD & E 50TH ST	6/4/2007	2X
80	WOODLAWN BLVD & E 50TH ST	8/2/2007	2X
81	WOODLAWN BLVD & E 53RD ST	5/2/2007	2X
81	WOODLAWN BLVD & E 53RD ST	8/6/2007	2X
82	12TH AV S & POWDERHORN TERRACE	6/25/2007	1X
83	13TH AV S & POWDERHORN TERRACE	6/25/2007	1X
84	3421 15TH AV S (180' W OF CL)	4/30/2007	4X
84	3421 15TH AV S (180' W OF CL)	6/26/2007	4X
84	3421 15TH AV S (180' W OF CL)	8/10/2007	4X

Grit Chambers Inspected - 2007

Grit ID	Location	Date Inspected	Inspection Frequency
84	3421 15TH AV S (180' W OF CL)	10/11/2007	4X
85	3329 14TH AV S	6/25/2007	3X
85	3329 14TH AV S	6/26/2007	3X
85	3329 14TH AV S	10/18/2007	3X
86	13TH AV S & E 35TH ST	6/25/2007	2X
86	13TH AV S & E 35TH ST	10/11/2007	2X
87	3318 10TH AV S	6/25/2007	2X
87	3318 10TH AV S	10/12/2007	2X
88	ACROSS THE STREET FROM 702, N BD. VAN WHITE BLVD	5/30/2007	1X
88	ACROSS THE STREET FROM 702, N BD. VAN WHITE BLVD	9/13/2007	1X
89	ACROSS THE STREET FROM 706, N BD. VAN WHITE BLVD	5/30/2007	2X
89	ACROSS THE STREET FROM 706, N BD. VAN WHITE BLVD	9/13/2007	2X
90	10TH AV N & ALDRICH AV N (S.W.C.)	5/20/2007	2X
90	10TH AV N & ALDRICH AV N (S.W.C.)	9/10/2007	2X
91	S BD. VAN WHITE BLVD, 200' S OF 8TH AV N	4/25/2007	2X
91	S BD. VAN WHITE BLVD, 200' S OF 8TH AV N	9/13/2007	2X
92	ACROSS THE STREET FROM 701, S BD. VAN WHITE BLVD	4/25/2007	2X
92	ACROSS THE STREET FROM 701, S BD. VAN WHITE BLVD	9/4/2007	2X
93	S BD. VAN WHITE BLVD, 250' S OF 10TH AV N	5/24/2007	3X
93	S BD. VAN WHITE BLVD, 250' S OF 10TH AV N	9/12/2007	3X
93	S BD. VAN WHITE BLVD, 250' S OF 10TH AV N	9/17/2007	3X
94	10TH AV N & N BD. VAN WHITE BLVD (S.W.C.)	5/30/2007	2X
94	10TH AV N & N BD. VAN WHITE BLVD (S.W.C.)	9/6/2007	2X
95	WEST SIDE OF ALDRICH AV N & 9TH AV N	5/20/2007	2X
95	WEST SIDE OF ALDRICH AV N & 9TH AV N	9/10/2007	2X
96	8TH AV N & N BD. VAN WHITE BLVD (N.E.C.)	5/30/2007	2X
96	8TH AV N & N BD. VAN WHITE BLVD (N.E.C.)	9/7/2007	2X
97	29TH AV & LOGAN AV - N STORMWATER DET. POND (E & W)	4/24/2007	2X
97	29TH AV & LOGAN AV - N STORMWATER DET. POND (E & W)	7/30/2007	2X
98	MALMQUIST LN. & HUMBOLDT N	5/15/2007	1X
99	SHINGLE CREEK DR. & HUMBOLDT N	5/15/2007	1X
100	S OF 49TH AV N & HUMBOLDT N	5/14/2007	1X
101	N OF 49TH AV N & HUMBOLDT N	5/14/2007	2X
101	N OF 49TH AV N & HUMBOLDT N	9/13/2007	2X
110	W CALHOUN PKWY 100' N OF RICHFIELD RD.	6/7/2007	2X
110	W CALHOUN PKWY 100' N OF RICHFIELD RD.	9/14/2007	2X
111	RICHFIELD RD. NEAR W CORNER OF THE PKG LOT	6/15/2007	2X
111	RICHFIELD RD. NEAR W CORNER OF THE PKG LOT	9/14/2007	2X
112	W 36TH ST. 30' W OF CALHOUN PKWY	6/18/2007	2X
112	W 36TH ST. 30' W OF CALHOUN PKWY	9/14/2007	2X
113	20' E OF VAN WHITE MEM. BLVD (N.B.) & 5TH AV N (1016 - 5TH AV N)	6/4/2007	2X
113	20' E OF VAN WHITE MEM. BLVD (N.B.) & 5TH AV N (1016 - 5TH AV N)	9/10/2007	2X
114	DUPONT AV N & 4TH AV N	6/1/2007	2X
114	DUPONT AV N & 4TH AV N	9/7/2007	2X
115	VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	5/30/2007	3X
115	VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	9/11/2007	3X
115	VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	10/22/2007	3X
116	400' N (60' INTO POND) VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	5/31/2007	2X
116	400' N (60' INTO POND) VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	9/11/2007	2X
117	300' N (WEST SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	5/31/2007	2X

Grit Chambers Inspected - 2007

Grit ID	Location	Date Inspected	Inspection Frequency
117	300' N (WEST SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	9/11/2007	2X
118	200' N (POND SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 10TH AV N	6/1/2007	2X
118	200' N (POND SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 10TH AV N	9/17/2007	2X
119	11TH AV N & VAN WHITE BLVD (N.B.)	5/31/2007	2X
119	11TH AV N & VAN WHITE BLVD (N.B.)	9/13/2007	2X
120	VAN WHITE MEM. BLVD (S.B.) (160' S OF FREMONT AV N, E SIDE OF STREET)	6/5/2007	2X
120	VAN WHITE MEM. BLVD (S.B.) (160' S OF FREMONT AV N, E SIDE OF STREET)	9/12/2007	2X
121	50' N (E SIDE) OF VAN WHITE MEM. BLVD (S.B.) & FREMONT AV N	6/1/2007	2X
121	50' N (E SIDE) OF VAN WHITE MEM. BLVD (S.B.) & FREMONT AV N	9/12/2007	2X
122	MINNEHAHA PKWY @ 39TH AV S N SIDE OF PKWY	7/3/2007	1X
123	COLUMBUS AV S SOUTH OF E 37TH ST REROUTE - no as-builts	3/20/2007	1X
124	COLUMBUS AV S - CHICAGO AV S ALLEY	3/21/2007	1X
125	COLUMBUS AV S ACROSS FROM #3644	3/29/2007	1X
126	E 37TH ST & COLUMBUS S	3/21/2007	1X
127	E 37TH ST & COLUMBUS S	3/21/2007	1X
128	W 27TH ST & LAKE OF THE ISLES PKWY	6/19/2007	1X
133	ALLEY DRY WELL, BETWEEN HUMBOLDT/IRVING AV S & W 25TH ST/26TH ST	6/22/2007	1X
134	W 22ND ST @ E LAKE OF THE ISLES BLVD	6/5/2007	2X
134	W 22ND ST @ E LAKE OF THE ISLES BLVD	9/13/2007	2X
136	111 22ND AV N (ALLEY BTWN 1ST ST N & 2ND ST N AT VACATED 21ST AV N)	5/30/2007	1X
137	W 44TH ST @ LAKE HARRIET PKWY E (Installed on ex. 54" rcp)	6/25/2007	1X
138	EWING AV S BETWEEN W FRANKLIN AV & W 22ND ST	6/19/2007	1X
139	EWING AV S @ W FRANKLIN AV - Pending as-built info	5/30/2007	2X
139	EWING AV S @ W FRANKLIN AV - Pending as-built info	6/19/2007	2X
140	E LAKE ST WEST OF 14TH AV S (Hennepin County const. Lake St.)	3/27/2007	1X
141	W LAKE ST E OF 14TH AV S (Hennepin County const. Lake St.)	3/27/2007	1X
142	18TH AV S SOUTH OF E LAKE ST (Hennepin County const. Lake St.)	6/22/2007	1X
143	LONGFELLOW AV S SOUTH OF E LAKE ST (Hennepin County const. Lake St.)	6/22/2007	1X
144	31ST AV S N OF E LAKE ST (Hennepin County const.. Lake St.)	1/26/2007	2X
144	31ST AV S N OF E LAKE ST (Hennepin County const.. Lake St.)	6/22/2007	2X
145	CEDAR & MINNEHAHA PKWY (20' S of S Minnehaha curb & 5' W of W Cedar curb)	4/27/2007	1X
			2X

Grit Chambers Cleaned - 2007

Grit ID	Location	Date Cleaned	Cleaning Frequency
1	UPTON AV N & 53RD AV N	5/15/2007	1X
2	RUSSELL AV N & 53RD AV N	5/15/2007	1X
3	SHERIDAN AV N, N OF 52ND AV N	5/11/2007	1X
5	PENN AV N & 52ND AV N	4/23/2007	1X
6	PENN AV N & 52ND AV N	4/23/2007	1X
10	MORGAN AV N & 51ST AV N	4/23/2007	1X
11	KNOX AV N & 51ST AV N	5/4/2007	1X
15	21ST AV N & 1ST ST N	6/1/2007	1X
16	XERXES AV N & 14TH AV N	7/24/2007	1X
17	XERXES AV N & GLENWOOD AV	6/5/2007	1X
18	MORGAN AV N & CHESNUT AV	5/16/2007	1X
21	LAKE OF THE ISLES PKWY & LOGAN AV	6/7/2007	1X
22	W 22ND ST & JAMES AV S	6/7/2007	1X
24	DREW AV S & W LAKE ST	6/13/2007	1X
28	W 33RD ST & HOLMES	6/14/2007	2X
28	W 33RD ST & HOLMES	6/14/2007	2X
29	W 33RD ST & GIRARD AV S	6/15/2007	1X
30	YORK AV S & W LAKE CALHOUN PARKWAY	8/9/2007	1X
32	E 42ND ST & BLOOMINGTON AV S	6/18/2007	2X
32	E 42ND ST & BLOOMINGTON AV S	7/23/2007	2X
33	E 43RD ST & PARK AV S	6/11/2007	1X
34	W 44TH ST & LAKE HARRIET PARKWAY	6/21/2007	1X
36	E 46TH ST & 31ST AV S	6/20/2007	1X
37	46TH AV S & GODFREY RD	7/30/2007	1X
38	W 47TH ST & YORK AV S	4/16/2007	2X
38	W 47TH ST & YORK AV S	6/12/2007	2X
40	W 47TH ST & LAKE HARRIET PARKWAY	6/20/2007	1X
41	W 48TH ST & YORK AV S	6/12/2007	2X
41	W 48TH ST & YORK AV S	9/17/2007	2X
43	16TH AV S & E MINNEHAHA PKWY	7/20/2007	1X
46	MORGAN AV S & W 53RD ST	6/11/2007	2X
46	MORGAN AV S & W 53RD ST	9/24/2007	2X
47	E 55TH ST & PORTLAND AV S	6/14/2007	1X
48	E 56TH ST & PORTLAND AV S	6/14/2007	1X
49	E 57TH ST & PORTLAND AV S	6/14/2007	1X
50	E 57TH ST & PORTLAND AV S	6/14/2007	1X
51	GIRARD AV S BETWEEN W 59TH ST & W 60TH ST	6/13/2007	1X
52	E 59TH ST & 12TH AV S	7/2/2007	1X
53	GIRARD AV S & W 60TH ST	6/13/2007	1X
55	GRASS LAKE TERRACE, GIRARD TO JAMES AV S	6/12/2007	1X
56	GRASS LAKE SERVICE ROAD BEHIND #6035 JAMES AV S	6/18/2007	1X
57	GRASS LAKE SERVICE ROAD BEHIND #6077 JAMES AV S	6/18/2007	1X
58	GRASS LAKE SERVICE ROAD BEHIND #1416 W 61ST ST	6/18/2007	1X
59	W 61ST ST & GRASS LAKE SERVICE ROAD	6/18/2007	1X
61	E RIVER RD & CECIL ST	7/6/2007	2X

Grit Chambers Cleaned - 2007

Grit ID	Location	Date Cleaned	Cleaning Frequency
61	E RIVER RD & CECIL ST	10/9/2007	2X
62	HIAWATHA PARK REFECTORY TURN-A-ROUND	7/13/2007	1X
68	W ISLAND - 300' S OF MAPLE PLACE	5/29/2007	1X
72	S OF 37TH AV NE & ST ANTHONY PKWY	7/12/2007	1X
77	ALLEY - 38TH TO 39TH ST & NICOLLET TO BLAISDELL AV	5/9/2007	2X
77	ALLEY - 38TH TO 39TH ST & NICOLLET TO BLAISDELL AV	8/2/2007	2X
79	SHINGLE CREEK WETLAND - EAST SIDE	6/4/2007	1X
80	WOODLAWN BLVD & E 50TH ST	8/2/2007	1X
81	WOODLAWN BLVD & E 53RD ST	8/6/2007	1X
82	12TH AV S & POWDERHORN TERRACE	6/29/2007	1X
83	13TH AV S & POWDERHORN TERRACE	6/28/2007	1X
84	3421 15TH AV S (180' W OF CL)	4/30/2007	3X
84	3421 15TH AV S (180' W OF CL)	6/26/2007	3X
84	3421 15TH AV S (180' W OF CL)	10/11/2007	3X
85	3329 14TH AV S	6/26/2007	2X
85	3329 14TH AV S	10/22/2007	2X
86	13TH AV S & E 35TH ST	6/27/2007	2X
86	13TH AV S & E 35TH ST	10/11/2007	2X
87	3318 10TH AV S	6/28/2007	2X
87	3318 10TH AV S	10/12/2007	2X
88	ACROSS THE STREET FROM 702, N BD. VAN WHITE BLVD.	9/13/2007	1X
89	ACROSS THE STREET FROM 706, N BD. VAN WHITE BLVD.	9/13/2007	1X
90	10TH AV N & ALDRICH AV N (S.W.C.)	9/10/2007	1X
91	S BD. VAN WHITE BLVD., 200' S OF 8TH AV N	9/13/2007	1X
92	ACROSS THE STREET FROM 701, S BD. VAN WHITE BLVD.	4/25/2007	2X
92	ACROSS THE STREET FROM 701, S BD. VAN WHITE BLVD.	9/4/2007	2X
93	S BD. VAN WHITE BLVD., 250' S OF 10TH AV N	5/24/2007	3X
93	S BD. VAN WHITE BLVD., 250' S OF 10TH AV N	9/12/2007	3X
93	S BD. VAN WHITE BLVD., 250' S OF 10TH AV N	9/17/2007	3X
94	10TH AV N & N BD. VAN WHITE BLVD. (S.W.C.)	5/30/2007	2X
94	10TH AV N & N BD. VAN WHITE BLVD. (S.W.C.)	9/6/2007	2X
95	WEST SIDE OF ALDRICH AV N & 9TH AV N	5/23/2007	2X
95	WEST SIDE OF ALDRICH AV N & 9TH AV N	9/10/2007	2X
96	8TH AV N & N BD. VAN WHITE BLVD. (N.E.C.)	5/30/2007	2X
96	8TH AV N & N BD. VAN WHITE BLVD. (N.E.C.)	9/7/2007	2X
97	29TH AV & LOGAN AV - N STORM WATER DET. POND (E & W)	4/24/2007	2X
97	29TH AV & LOGAN AV - N STORM WATER DET. POND (E & W)	8/30/2007	2X
101	N OF 49TH AV N & HUMBOLDT N	9/13/2007	1X1
110	W. CALHOUND PARKWAY 100' N OF RICHFIELD RD.	6/7/2007	2X
110	W. CALHOUND PARKWAY 100' N OF RICHFIELD RD.	9/14/2007	2X
111	RICHFIELD RD. NEAR W. CORNER OF THE PARKING LOT	6/15/2007	2X
111	RICHFIELD RD. NEAR W. CORNER OF THE PARKING LOT	9/14/2007	2X
112	W. 36TH ST. 30' W. OF CALHOUN PARKWAY	6/18/2007	2X
112	W. 36TH ST. 30' W. OF CALHOUN PARKWAY	9/14/2007	2X
113	20' EAST OF VAN WHITE MEM. BLVD (N.B.) & 5TH AV N (1016 - 5TH AV N)	6/4/2007	2X

Grit Chambers Cleaned - 2007

Grit ID	Location	Date Cleaned	Cleaning Frequency
113	20' EAST OF VAN WHITE MEM. BLVD (N.B.) & 5TH AV N (1016 - 5TH AV N)	9/10/2007	2X
114	DUPONT AV N & 4TH AV N	6/1/2007	2X
114	DUPONT AV N & 4TH AV N	9/7/2007	2X
115	VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	5/30/2007	3X
115	VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	9/11/2007	3X
115	VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	10/22/2007	3X
116	400' NORTH (60' INTO POND) VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	5/31/2007	2X
116	400' NORTH (60' INTO POND) VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	9/11/2007	2X
117	300' NORTH (WEST SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	5/31/2007	2X
117	300' NORTH (WEST SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 4TH AV N	9/11/2007	2X
118	200' NORTH (POND SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 10TH AV N	6/1/2007	2X
118	200' NORTH (POND SIDE) OF VAN WHITE MEM. BLVD (S.B.) & 10TH AV N	9/17/2007	2X
119	11TH AV N & VAN WHITE BLVD (N.B.)	5/31/2007	2X
119	11TH AV N & VAN WHITE BLVD (N.B.)	9/13/2007	2X
120	VAN WHITE MEM. BLVD (S.B.) (160' S of Fremont Av N - E side of st.)	6/5/2007	2X
120	VAN WHITE MEM. BLVD (S.B.) (160' S of Fremont Av N - E side of st.)	9/12/2007	2X
121	50' NORTH (EAST SIDE) OF VAN WHITE MEM. BLVD (S.B.) & FREMONT AV N	6/1/2007	2X
121	50' NORTH (EAST SIDE) OF VAN WHITE MEM. BLVD (S.B.) & FREMONT AV N	9/12/2007	2X
122	MINNEHAHA PARKWAY @ 39TH AV S N SIDE OF PKWY	7/20/2007	1X
123	COLUMBUS AV S SOUTH OF E 37TH ST REROUTE	3/21/2007	1X
124	COLUMBUS AV S - CHICAGO AV S ALLEY	3/21/2007	1X
125	COLUMBUS AV S ACROSS FROM #3644	3/21/2007	1X
126	E 37TH ST & COLUMBUS S	3/21/2007	1X
127	E 37TH ST & COLUMBUS S	3/21/2007	1X
128	W 27TH ST & LAKE OF THE ISLES PKWY	6/22/2007	1X
133	ALLEY DRY WELL, BETWEEN HUMBOLDT/IRVING AV S & W 25TH ST/26TH ST	6/22/2007	1X
134	W 22ND ST @ E LAKE OF THE ISLES BLVD, no as-builts	6/6/2007	2X
134	W 22ND ST @ E LAKE OF THE ISLES BLVD, no as-builts	9/13/2007	2X
136	111 22ND AV N (ALLEY BETWEEN 1ST & 2ND ST N AT VACATED 21ST AV N)	5/30/2007	1X
137	W 44TH ST @ LAKE HARRIET PKWY EAST (Installed on existing 54" RCP)	6/28/2007	1X
138	EWING AV S BETWEEN W. FRANKLIN AV & W 22ND ST	6/19/2007	1X
139	EWING AV S @ W FRANKLIN AV	5/30/2007	2X
139	EWING AV S @ W FRANKLIN AV	6/19/2007	2X
142	18TH AV S SOUTH OF E LAKE ST (Hennepin County const. Lake St.)	6/25/2007	1X
143	LONGFELLOW AV S SOUTH OF E LAKE ST (Hennepin County const. Lake St.)	6/26/2007	1X
144	31ST AV S NORTH OF E LAKE ST (Hennepin County const.. Lake St.)	6/25/2007	1X
145	CEDAR AV & E MINNEHAHA PKWY (20' S. of S. Minnehaha curb & 5' W. of W Cedar curb)	4/27/2007	1X

Sediment Removed From Grit Chambers 2007

Grit ID	Location	Route	Sediment Removed (cu. yds)	Date Cleaned
61	E RIVER RD & CECIL ST	E	10	10/9/2007
61	E RIVER RD & CECIL ST	E	12	7/6/2007
68	W ISLAND - 300' S OF MAPLE PLACE	E	1.5	5/29/2007
72	S OF 37TH AVE NE & ST ANTHONY PKWY	E	12	7/12/2007
	EAST ROUTE TOTAL GRIT REMOVED IN CUBIC YARDS		**35.5**	
1	UPTON AVE N & 53RD AVE N	N	2	5/15/2007
2	RUSSELL AVE N & 53RD AVE N	N	2	5/15/2007
3	SHERIDAN AVE N, N OF 52ND AVE N	N	4	5/11/2007
5	PENN AVE N & 52ND AVE N	N	2	4/23/2007
6	PENN AVE N & 52ND AVE N	N	2	4/23/2007
10	MORGAN AVE N & 51ST AVE N	N	1	4/23/2007
11	KNOX AVE N & 51ST AVE N	N	3.5	5/4/2007
15	21ST AVE N & 1ST ST N	N	20	6/1/2007
16	XERXES AVE N & 14TH AVE N	N	45	7/24/2007
17	XERXES AVE N & GLENWOOD AVE	N	8.5	6/5/2007
18	MORGAN AVE N & CHESNUT AVE	N	3.5	5/16/2007
79	SHINGLE CREEK WETLAND - EAST SIDE	N	10	6/4/2007
88	ACROSS THE STREET FROM 702, NO. BD. VAN WHITE BLVD.	N	0.5	9/13/2007
89	ACROSS THE STREET FROM 706, NO. BD. VAN WHITE BLVD.	N	0.5	9/13/2007
90	10TH AVE. NO. & ALDRICH AVE. NO. (S.W.C.)	N	2	9/10/2007
91	SO. BD. VAN WHITE BLVD., 200' SO. OF 8TH AVE. NO.	N	0.5	9/13/2007
92	ACROSS THE STREET FROM 701, SO. BD. VAN WHITE BLVD.	N	1.5	9/4/2007
92	ACROSS THE STREET FROM 701, SO. BD. VAN WHITE BLVD.	N	3	4/25/2007
93	SO. BD. VAN WHITE BLVD., 250' SO. OF 10TH AVE. NO.	N	0.5	9/17/2007
93	SO. BD. VAN WHITE BLVD., 250' SO. OF 10TH AVE. NO.	N	2	5/24/2007
93	SO. BD. VAN WHITE BLVD., 250' SO. OF 10TH AVE. NO.	N	2.5	9/12/2007
94	10TH AVE. NO. & NO. BD. VAN WHITE BLVD. (S.W.C.)	N	2	9/6/2007
94	10TH AVE. NO. & NO. BD. VAN WHITE BLVD. (S.W.C.)	N	2.5	5/30/2007
95	WEST SIDE OF ALDRICH AVE. NO. & 9TH AVE. NO.	N	2.5	5/23/2007
95	WEST SIDE OF ALDRICH AVE. NO. & 9TH AVE. NO.	N	4	9/10/2007
96	8TH AVE. NO. & NO. BD. VAN WHITE BLVD. (N.E.C.)	N	2	5/30/2007
96	8TH AVE. NO. & NO. BD. VAN WHITE BLVD. (N.E.C.)	N	2	9/7/2007
97	29TH AVE. & LOGAN AVE. - NO. STORM WATER DET. POND (E & W)	N	4	8/30/2007
97	29TH AVE. & LOGAN AVE. - NO. STORM WATER DET. POND (E & W)	N	9	4/24/2007

Sediment Removed From Grit Chambers 2007

Grit ID	Location	Route	Sediment Removed (cu. yds)	Date Cleaned
101	NO. OF 49TH AVE. NO. & HUMBOLDT NO.	N	1	9/13/2007
113	20' EAST OF VAN WHITE MEM. BLVD (N.B.) AND 5TH AVE N (1016 - 5TH AVE N)	N	1	9/10/2007
113	20' EAST OF VAN WHITE MEM. BLVD (N.B.) AND 5TH AVE N (1016 - 5TH AVE N)	N	1.5	6/4/2007
114	DUPONT AVE. NO. & 4TH AVE. NO.	N	1	9/7/2007
114	DUPONT AVE. NO. & 4TH AVE. NO.	N	4	6/1/2007
115	VAN WHITE MEM. BLVD (S.B.) AND 4TH AVE N	N	1	9/11/2007
115	VAN WHITE MEM. BLVD (S.B.) AND 4TH AVE N	N	2	10/22/2007
115	VAN WHITE MEM. BLVD (S.B.) AND 4TH AVE N	N	2.5	5/30/2007
116	400' NORTH (60' INTO POND) VAN WHITE MEM. BLVD (S.B.) AND 4TH AVE N	N	0.5	9/11/2007
116	400' NORTH (60' INTO POND) VAN WHITE MEM. BLVD (S.B.) AND 4TH AVE N	N	1.5	5/31/2007
117	300' NORTH (WEST SIDE) OF VAN WHITE MEM. BLVD (S.B.) AND 4TH AVE N	N	0.5	9/11/2007
117	300' NORTH (WEST SIDE) OF VAN WHITE MEM. BLVD (S.B.) AND 4TH AVE N	N	4	5/31/2007
118	200' NORTH (POND SIDE) OF VAN WHITE MEM. BLVD (S.B.) AND 10TH AVE N	N	1	9/17/2007
118	200' NORTH (POND SIDE) OF VAN WHITE MEM. BLVD (S.B.) AND 10TH AVE N	N	7	6/1/2007
119	11TH AVE N AND VAN WHITE BLVD (N.B.)	N	1	9/13/2007
119	11TH AVE N AND VAN WHITE BLVD (N.B.)	N	2	5/31/2007
120	VAN WHITE MEM. BLVD (S.B.) (160' so. of fremont ave. no. on the e. side of the street)	N	0.5	9/12/2007
120	VAN WHITE MEM. BLVD (S.B.) (160' so. of fremont ave. no. on the e. side of the street)	N	1	6/5/2007
121	50' NORTH (EAST SIDE) OF VAN WHITE MEM. BLVD (S.B.) AND FREMONT AVE N	N	0.5	9/12/2007
121	50' NORTH (EAST SIDE) OF VAN WHITE MEM. BLVD (S.B.) AND FREMONT AVE N	N	1.5	6/1/2007
136	111 22ND AVE N (ALLEY BETWEEN 1ST ST N AND 2ND ST N AT VACATED 21ST AVE N)	N	2	5/30/2007
139	EWING AVE S @ W FRANKLIN AVE - Pending as-built info	N	0.5	6/19/2007
139	EWING AVE S @ W FRANKLIN AVE - Pending as-built info	N	1.5	5/30/2007
	NORTH ROUTE TOTAL GRIT REMOVED IN CUBIC YARDS		**183.5**	
32	E 42ND ST & BLOOMINGTON AVE S	S	4	7/23/2007
32	E 42ND ST & BLOOMINGTON AVE S	S	5	6/18/2007
36	E 46TH ST & 31ST AVE S	S	5	6/20/2007
37	46TH AVE S & GODFREY RD	S	3.5	7/30/2007
43	16TH AVE S & E MINNEHAHA PKWY	S	4.5	7/20/2007
52	E 59TH ST & 12TH AVE S	S	3.5	7/2/2007
62	HIAWATHA PARK REFECTORY TURN-A-ROUND	S	1.5	7/13/2007
80	WOODLAWN BLVD & E 50TH ST	S	1.5	8/2/2007
81	WOODLAWN BLVD & E 53RD ST	S	2	8/6/2007
82	12TH AVE S & POWDERHORN TERRACE	S	3	6/29/2007

Sediment Removed From Grit Chambers 2007

Grit ID	Location	Route	Sediment Removed (cu. yds)	Date Cleaned
83	13TH AVE S & POWDERHORN TERRACE	S	5	6/28/2007
84	3421 15TH AVE S (180' W OF CL)	S	2	4/30/2007
84	3421 15TH AVE S (180' W OF CL)	S	4	6/26/2007
84	3421 15TH AVE S (180' W OF CL)	S	4	10/11/2007
85	3329 14TH AVE S	S	0.5	10/22/2007
85	3329 14TH AVE S	S	3	6/26/2007
86	13TH AVE S & E 35TH ST	S	5	6/27/2007
86	13TH AVE S & E 35TH ST	S	5	10/11/2007
87	3318 10TH AVE S	S	3	10/12/2007
87	3318 10TH AVE S	S	4.5	6/28/2007
122	MINNEHAHA PARKWAY @ 39TH AVE S N SIDE OF PKWY	S	4	7/20/2007
142	18TH AVE S SOUTH OF E LAKE ST (Hennepin County const. Lake St.)	S	0.5	6/25/2007
143	LONGFELLOW AVE S SOUTH OF E LAKE ST (Hennepin County const. Lake St.)	S	3	6/26/2007
144	31ST AVE S NORTH OF E LAKE ST (Hennepin County const.. Lake St.)	S	2	6/25/2007
145	CEDAR AVE S AND E MINNEHAHA PARKWAY (20' S. of S. curb of Minnehaha & 5' W. of W. curb of Cedar)	S	10	4/27/2007
	SOUTH ROUTE TOTAL GRIT REMOVED IN CUBIC YARDS		**89**	
21	LAKE OF THE ISLES PKWY & LOGAN AVE	SW	10	6/7/2007
22	W 22ND ST & JAMES AVE S	SW	1.5	6/7/2007
24	DREW AVE S & W LAKE ST	SW	3	6/13/2007
28	W 33RD ST & HOLMES	SW	7	6/14/2007
28	W 33RD ST & HOLMES	SW	7	6/14/2007
29	W 33RD ST & GIRARD AVE S	SW	9	6/15/2007
30	YORK AVE S & W LAKE CALHOUN PARKWAY	SW	1.5	8/9/2007
33	E 43RD ST & PARK AVE S	SW	1.5	6/11/2007
34	W 44TH ST & LAKE HARRIET PARKWAY	SW	4	6/21/2007
38	W 47TH ST & YORK AVE S	SW	1	6/12/2007
38	W 47TH ST & YORK AVE S	SW	2	4/16/2007
40	W 47TH ST & LAKE HARRIET PARKWAY	SW	4	6/20/2007
41	W 48TH ST & YORK AVE S	SW	0.5	9/17/2007
41	W 48TH ST & YORK AVE S	SW	2	6/12/2007
46	MORGAN AVE S & W 53RD ST	SW	16	6/11/2007
46	MORGAN AVE S & W 53RD ST	SW	36.5	9/24/2007
47	E 55TH ST & PORTLAND AVE S	SW	2	6/14/2007
48	E 56TH ST & PORTLAND AVE S	SW	2	6/14/2007
49	E 57TH ST & PORTLAND AVE S	SW	3	6/14/2007
50	E 57TH ST & PORTLAND AVE S	SW	4	6/14/2007
51	GIRARD AVE S BETWEEN W 59TH ST & W 60TH ST	SW	3.5	6/13/2007
53	GIRARD AVE S & W 60TH ST	SW	2	6/13/2007
55	GRASS LAKE TERRACE, GIRARD TO JAMES AVE S	SW	5	6/12/2007
56	GRASS LAKE SERVICE ROAD BEHIND #6035 JAMES AVE S	SW	2	6/18/2007

Sediment Removed From Grit Chambers 2007

Grit ID	Location	Route	Sediment Removed (cu. yds)	Date Cleaned
57	GRASS LAKE SERVICE ROAD BEHIND #6077 JAMES AVE S	SW	1.5	6/18/2007
58	GRASS LAKE SERVICE ROAD BEHIND #1416 W 61ST ST	SW	1	6/18/2007
59	W 61ST ST & GRASS LAKE SERVICE ROAD	SW	1	6/18/2007
77	ALLEY - 38TH TO 39TH ST & NICOLLET TO BLAISDELL AVE	SW	1	5/9/2007
77	ALLEY - 38TH TO 39TH ST & NICOLLET TO BLAISDELL AVE	SW	1	8/2/2007
110	W. CALHOUND PARKWAY 100' NO. OF RICHFIELD RD.	SW	0.5	9/14/2007
110	W. CALHOUND PARKWAY 100' NO. OF RICHFIELD RD.	SW	1	6/7/2007
111	RICHFIELD RD. NEAR W. CORNER OF THE PARKING LOT	SW	0.5	9/14/2007
111	RICHFIELD RD. NEAR W. CORNER OF THE PARKING LOT	SW	1	6/15/2007
112	W. 36TH ST. 30' W. OF CALHOUN PARKWAY	SW	1	6/18/2007
112	W. 36TH ST. 30' W. OF CALHOUN PARKWAY	SW	1	9/14/2007
123	COLUMBUS AVE S SOUTH OF E 37TH ST REROUTE	SW	1.5	3/21/2007
124	COLUMBUS AVE S - CHICAGO AVE S ALLEY	SW	1	3/21/2007
125	COLUMBUS AVE S ACROSS FROM #3644	SW	1.5	3/21/2007
126	E 37TH ST AND COLUMBUS S	SW	1	3/21/2007
127	E 37TH ST AND COLUMBUS S	SW	1	3/21/2007
128	W 27TH ST AND LAKE OF THE ISLES PKWY	SW	3	6/22/2007
133	ALLEY DRY WELL, BETWEEN HUMBOLDT/IRVING AVE S AND W 25TH ST/26TH ST, no as-builts	SW	2	6/22/2007
134	W 22ND ST @ E LAKE OF THE ISLES BLVD	SW	1	9/13/2007
134	W 22ND ST @ E LAKE OF THE ISLES BLVD	SW	5.5	6/6/2007
137	W 44TH ST @ LAKE HARRIET PKWY EAST (Installed on existing 54" RCP)	SW	6	6/28/2007
138	EWING AVE S BETWEEN W. FRANKLIN AVE AND W 22ND ST	SW	0.5	6/19/2007
	SOUTHWEST ROUTE TOTAL GRIT REMOVED IN CUBIC YARDS		**164.5**	
	ADDITION TO THE SOUTH ROUTE FOR CONTRACT GRIT REMOVAL AND MAINTENANCE		**162**	
	TOTAL GRIT REMOVED FROM ALL ROUTES IN CUBIC YARDS		**634.5**	

Outfalls Inspected 2007

Outfall ID	Route	Location	Date
10-320	E	3rd Ave NE	7/25/2007
10-350	E	1st Ave NE	7/20/2007
10-360	E	East Hennepin (on Nicollet Island)	7/20/2007
10-370	E	East Hennepin Ave	7/20/2007
10-390	E	3rd Ave SE	7/20/2007
10-440	E	Approx 20' E of 35W bridge across Miss R, N bank	6/5/2007
10-450	E	Approx 140' E of 10th Ave SE bridge across Miss R, N bank	6/5/2007
10-460	E	Approx 230' S of RR bridge across from 10-465	6/5/2007
10-520	E	U of M Outfall	5/31/2007
10-560A	E	E River Rd @ I-94 (S of bridge)	5/30/2007
10-560B	E	26th Ave SE Bridal Vail Creek Tunnel	5/30/2007
10-580	E	Seymour Ave SE	5/30/2007
10-600	E	Cecil St SE	5/30/2007
20-040	N	52nd Ave N (Oliver Ave N)	2/12/2007
20-050	N	Newton Ave N	2/12/2007
20-060	N	51st Ave N (Newton Av N)	2/12/2007
20-090	N	50th Ave N (James Ave N)	2/14/2007
20-100	N	49th Av N (Ryan Creek)	2/14/2007
20-110	N	49 AV N (Ryan Creek)	2/14/2007
20-130	N	48th Ave N (Humboldt Ave N)	2/14/2007
20-140	N	47th Ave N (Shingle Creek Pkwy)	1/2/2007
20-150	N	47th Ave N (Girard Ave N)	2/14/2007
20-170	N	Fremont Ave N (Shingle Creek Pkwy)	2/2/2007
20-180	N	46th Ave N (MALMQUIST Lane)	2/2/2007
20-190	N	46th Ave N (Shingle Creek Pkwy)	2/7/2007
20-200A	N	Dupont Av N (Shingle Creek Pkwy)	2/7/2007
20-200B	N	Dupont Av N (Shingle Creek Pkwy)	2/7/2007
20-210A	N	45th Ave N (Dupont Ave N)	2/2/2007
20-210B	N	44th Ave N (Soo Line RR)	1/30/2007
20-220	N	45th Ave N (Colfax Ave N)	1/2/2007
20-230	N	Webber Pkwy and 43rd Ave N (goes through park to Shingle Creek)	1/30/2007
20-240	N	Weber Pkwy (Aldrich Ave N)	1/30/2007
20-250	N	Lyndale Ave N (S of Creek)	1/30/2007
20-260	N	Lyndale Ave N (N of Creek)	1/30/2007
20-270	N	I- 94 (S of Creek)	1/31/2007
20-280	N	I-94 (E of I-94 at Creek)	1/31/2007
20-290	N	I-94 (N of Creek)	1/31/2007
21-095	N	49th Ave N and James Ave N (extended)	2/14/2007
40-120	N	Newton Av N (S of Bassett Creek)	1/2/2007
70-250	S	34th Av S '150 N of E M' haha Pkwy (s bank)	7/11/2007
70-445	S	E 46th St @ 28th Av S	4/24/2007
70-465	S	30th Av S 500' N of E M ' haha Pkwy (s bank)	7/26/2007
70-580	S	Godfrey Rd @ 46th Av S (extended)	7/11/2007
72-110	S	Nokomis Pkwy 600' W of Cedar Av S	6/19/2007
73-010	S	E 61st St @ Bloomington Av S	6/19/2007
73-020	S	E 61st St @ Bloomington Av S	6/19/2007
73-030	S	North Shore of Taft Lake	6/19/2007
74-010	S	Hwy 62 at NW Shore of Mother Lake	6/19/2007

Outfalls Inspected 2007

Outfall ID	Route	Location	Date
74-020	S	59 1/2 St E at 26th Ave S	6/19/2007
75-010	S	Highway 62 frontage Rd @ 15th Av S	6/20/2007
75-020	S	E 60th St 50' W of 15th Av S	6/20/2007
75-030	S	14th Av S @ E 59th St	6/20/2007
75-040	S	E 59th St @ 12th Av S	6/20/2007
76-010	S	27th Av S @ E44th St	7/25/2007
76-020	S	E 44th St @ 27th Av S	7/26/2007
76-030	S	E 45th St @ 28th Av S	7/25/2007
76-040	S	E 46th St @ 28th Av S	7/25/2007
82-010	S	Powderhorn Terrace @ 12th Av S	6/20/2007
82-020	S	15th Av S 300' S of E 34th St	6/20/2007
82-030	S	E 35th St @ 13th Av S	6/20/2007
82-040	S	10th Av S 200' S of E 33rd St	6/20/2007
53-050	SW	Lake of the Isles Parkway (West 24th ST)	6/4/2007
53-060	SW	Lake of the Isles Parkway (Penn Av S)	6/4/2007
53-070	SW	Lake of the Isles Parkway (Newton Av S)	6/4/2007
53-080	SW	Lake of the Isles Parkway (Oliver Av S)	6/4/2007
53-090	SW	West 21st St @ Lake of the Isles Blvd	6/4/2007
53-100	SW	Lake of the Isles Blvd @Franklin Av	6/4/2007
53-110	SW	Lake of the Isles Blvd @Franklin Av	6/4/2007
53-120	SW	Lake of the Isles Pkwy @ West 22nd St	6/4/2007
53-130	SW	Lake of the Isles Pkwy @ West 25th St	6/4/2007
53-140	SW	Lake of the Isles Pkwy @ West 26th St	6/4/2007
53-150	SW	Lake of the Isles Pkwy @ Euclid Place	6/4/2007
53-160	SW	Lake of the Isles Pkwy @ West 27th St	6/4/2007
53-170	SW	Lake of the Isles Pkwy @ '250' SW of James Av S	6/4/2007
53-180	SW	Lake of the Isles Pkwy @ '500' W of Lagoon	6/4/2007
53-190	SW	Lake of the Isles Pkwy @ West 28th St	6/4/2007
54-010	SW	E. Isles Pkwy at The Mall	6/4/2007
70-015	SW	W 54th St 150' E of Zenith Av S	7/31/2007
70-020	SW	York Av S @ W 54th St (extended)	7/31/2007
70-025	SW	Xerxes Av S @ 54th St	7/31/2007
70-075	SW	Queen Av S @ W 53rd St S	7/30/2007
70-080	SW	Penn Av S - S Bank of Creek	7/30/2007
70-090	SW	W 52nd St - W Bank of Creek	7/30/2007
70-095	SW	W 52nd St -E Bank of Creek	7/30/2007
70-100	SW	300' SE of Newton Av S @ W 51st St	7/30/2007
70-105	SW	Morgan Av S '500' N of W 52nd St	7/30/2007
70-110	SW	Morgan Av S @ 51st St	7/30/2007
70-115	SW	Logan Av S at W M' haha Pkwy (south bank)	7/31/2007
70-120	SW	Logan Av S at W M' haha Pkwy (north bank)	7/31/2007
70-125	SW	Knox Av S @ W M' haha Pkwy (south)	7/31/2007
70-195	SW	Fremont Av S @ W M' haha Pkwy (east bank)	8/1/2007
70-200	SW	Girard Av S @ W M' haha Pkwy	8/1/2007
70-205	SW	W M 'haha Pkwy 250' W of Emerson Av S (east bank)	8/1/2007
70-210	SW	W M 'haha Pkwy @ Fremont Av S (extended)	8/1/2007
70-220	SW	Dupont Av S @ W M' haha Pkwy (south bank)	8/1/2007
70-225	SW	Dupont Av S @ W M' haha Pkwy (northbank)	8/1/2007
70-230	SW	Colfax Av S @ W M 'haha Pkwy (north bank)	8/1/2007

Outfalls Inspected 2007

Outfall ID	Route	Location	Date
70-240	SW	Bryant Av S @ W M' haha Pkwy (south bank)	8/1/2007
70-245	SW	Aldrich Av S @ W M"haha Pkwy (north bank)	8/1/2007
71-060	SW	Diamond Lake Lane @ E 59th St	7/30/2007
71-070	SW	W 58th St @ Clinton Av S	7/30/2007
83-010	SW	W 61st St @ Grass Lake Terrace	4/10/2007
83-012	SW	100 ft nw of 83-010 along shore line	4/10/2007
83-015	SW	S Shore of Grass Lake @ Grass Lake Terrace	4/10/2007
83-020	SW	Road btwn W 61st St & Grass Lake Terrace	4/10/2007
83-025	SW	Road btwn W 61st St & Grass Lake Terrace	4/10/2007
83-030	SW	W Grass Lake Terr. @ SW corner of Grass Lake	4/10/2007
83-040	SW	W Grass Lake Terr. @ W shore of Grass Lake	4/10/2007
83-050	SW	W 59th St (extended) @ Grass Lake Terrace	4/10/2007
83-060	SW	Girard Av S 250' S Grass Lake Terrace	4/10/2007
83-070	SW	Girard Av S @ W 60th St	4/10/2007
83-080	SW	Girard Av S 250' N of Dupont Av S	4/10/2007
83-090	SW	Dupont Av S @ Girard Av S	4/10/2007
		TOTAL OUTFALLS INSPECTED ON ALL ROUTES	**113**

Outfalls Needing Attention 2007

Outfall ID	Location	Date	Comments Or Repairs Needed	Work Done	Date Completed
20-140	47th Ave N (Shingle Creek Pkwy)	1/2/2007	corrugated pipe needs replacement	replaced 60' of 12" corrugated pipe with pvc and applied rip rap	6/18/2007
20-150	47th Ave N (Girard Ave N)	2/14/2007	needs rip rap	placed rip rap around outlet and cut back pipe 2'	12/12/2007
20-190	46th Ave N (Shingle Creek Pkwy)	2/7/2007	cut pipe back and rip rap	cut corrugated pipe and installed rip rap	12/13/2007
20-200A	Dupont Av N (Shingle Creek Pkwy)	2/7/2007	cut pipe back and rip rap	cut pipe and installed rip rap	12/14/2007
20-200B	Duptont Av N (Shingle Creek Pkwy)	2/7/2007	needs rip rap	placed rip rap at site	12/14/2007
20-220	45th Ave N (Colfax Ave N)	1/2/2007	corrugated pipe needs replacement	replaced 30' of 30" corrugated pipe with RCP and applied rip rap	6/25/2007
40-120	Newton Av N (S of Bassett Creek)	1/2/2007	corrugated pipe needs replacement and cave-in needs repair	WILL BE DONE IN EARLY 2008	
70-250	34th Av S '150 N of E Minnehaha Pkwy (s bank)	7/11/2007	cave-in over pipe 50' south of outlet	WILL BE DONE IN EARLY 2008	
70-445	E 46th St @ 28th Av S	4/24/2007	extensive repairs needed, pipe has separated and the bank is washing out, undermining the next section of pipe	installed 10' of new pipe and rocked with rip rap	5/2/2007
70-465	30th Av S 500' N of E Minnehaha Pkwy (s bank)	7/26/2007	corrugated pipe is rotted away from the manhole by foot bridge and there is undermining of the manhole	removed corrugated and replaced with 10" pvc and rebuilt manhole and restored bank	8/7/2007
75-010	Highway 62 Frontage Road @ 15th Av S	6/20/2007	section of pipe is undermined and separated along with some of the fill having washed away	added one section of 12" rcp, 8' long and installed fileter fabric and rip rap	8/21/2007
53-090	West 21st St @ Lake of the Isles Blvd	6/4/2007	re-rod grate needs to be removed and replaced	WILL BE DONE IN EARLY 2008	

City of Minneapolis
2008 Stormwater Education and Outreach Program Budget

Mississippi Watershed Management Organization (MWMO)	
Implement Multicultural Study: Develop, produce and distribute multicultural video-based programming for Limited English Proficiency communities. (Produce in Hmong, Vietnamese, Lao (three primary Asian languages in Minneapolis, and also in English and Cambodian)	$13,340
Minneapolis Park & Recreation Board (MPRB) Outreach Activities	
Stormwater education at two to three community/neighborhood events per week. Active learning stormwater education programs at recreation centers and along Mississippi River. Provide touring multilingual electronic kiosks. Develop and install interpretive panels at key stormwater sites. Stormwater programs and projects for Earth Day event.	$54,500
Minneapolis Park & Recreation Board (MPRB) Monitoring Activities	
NPDES Permit and BMP Monitoring	$175,000
Minneapolis/Metro Blooms Program	
Rain garden educational workshops. Affordable on-site consultation for rain gardens. Utility bill education inserts. Correct boulevard garden design and local event sponsorship.	$29,000
Pilot program -- educational outreach with faith-based organizations	$5,749
Emmons Olivier Resources	
Rain barrel USEPA Quality Assurance monitoring and reporting	$11,500
Public Works Staff & Administration	
Stormwater education and outreach program development, development of maps and publications, website development	$50,000
Contractor to be determined	
Development of publications	$68,000
Total	**$407,089**

Source: Minneapolis Public Works – Surface Water Sewers

2008 NPDES Stormwater Permit
Monitoring Budget

		QUANTITY	UNIT COST	FRINGE	EXTENSION	2008	2009	2010	2011	2012
labor										
water quality specialists		1,500	$25.45	$12.45	$56,850.00					
environmental intern		250	$13.43	$4.13	$4,390.00					
environmental coordinator		400	$32.39	$13.82	$18,484.00					
environmental manager		25	$45.81	$15.12	$1,523.25					
	subtotal					*$81,247.25*	$83,278.43	$85,360.39	$87,494.40	$89,681.76
equipment and supplies						$25,500.00	$26,137.50	$26,790.94	$27,460.71	$28,147.23
lab analyses						$15,500.00	$15,887.50	$16,284.69	$16,691.80	$17,109.10
				TOTAL		**$122,247.3**	**$125,303.43**	**$128,436.02**	**$131,646.92**	**$134,938.1**
Monitoring Manual Update (2009 only)										
water quality specialist		80	$25.45	$12.45	$3,032.00					
environmental coordinator		15	$32.39	$13.82	$693.15					
				TOTAL			**$3,725.15**			
	STORMWATER MONITORING PROGRAM SUBTOTAL					**$122,247.3**	**$129,028.58**	**$128,436.02**	**$131,646.92**	**$134,938.1**
	Program Contingency			10%		$12,224.73	$12,902.86	$12,843.60	$13,164.69	$13,493.81
	STORMWATER MONITORING PROGRAM TOTAL					**$134,471.98**	**$141,931.44**	**$141,279.62**	**$144,811.61**	**$148,431.9**
		MPRB		**25%**		**$33,617.99**	**$35,482.86**	**$35,319.90**	**$36,202.90**	**$37,107.97**
		MPLS		**75%**		**$100,853.98**	**$106,448.58**	**$105,959.71**	**$108,608.71**	**$111,323.92**

Source: Minneapolis Park Recreation Board

Environmental Services NPDES Expenditures (2003 - 2012)

Year	FTE's	Wages	Fringes	Total
2003	4	$488,762.14	$108,377.35	$597,139.49
2004	4.5	$486,472.38	$117,106.73	$603,579.11
2005	4.5	$513,986.73	$131,662.51	$645,649.24
2006	4.5	$520,498.00	$147,081.87	$667,579.87
2007	4.5	$494,800.66	$133,798.56	$628,599.22
2008	4.5	$504,696.67	$160,558.27	$665,254.95
2009	4.5	$514,790.61	$192,669.93	$707,460.53
2010	4.5	$525,086.42	$231,203.91	$756,290.33
2011	4.5	$535,588.15	$277,444.69	$813,032.84
2012	4.5	$546,299.91	$332,933.63	$879,233.54

- 2003, 2004, 2005, 2006 and 2007 are actual expenditures
- 2003, 2004, 2005, 2006 and 2007 are actual staff levels working on NPDES programs
- 2008 staffing is current staff level working on NPDES programs at the start of the year
- 2008, 2009, 2010, 2011 and 2012 wages assume a 2% rate increase
- 2008, 2009, 2010, 2011 and 2012 fringe assumes 20% of wage
- 2008, 2009, 2010, 2011 and 2012 staffing assumes no changes
- Costs include: labor, administrative and fringe
- Costs not included: contractual services, operating costs, equipment

Source: Minneapolis Regulatory Services

Street Maintenance 2007 Costs and 5-Yr Budget

(NPDES activities: Roadways and Illicit Discharges)

Code	Activity	2007 Actual	2008 Budget	2009 Budget	2010 Budget	2011 Budget	2012 Budget
C05	Spring Clean up	1,400,983	1,471,032	1,515,163	1,560,618	1,607,437	1,655,660
C10	Summer Sweeping	908,041	953,443	982,046	1,011,508	1,041,853	1,073,109
C15	Fall Clean up	1,466,933	1,540,280	1,586,488	1,634,083	1,683,105	1,733,598
C20	Storm Water Activity	80,791	84,831	87,375	89,997	92,697	95,478
C25	Sweep Loop & Bus Dist	169,530	178,007	183,347	188,847	194,513	200,348
C45	Misc. Street Sweep	11,030	11,582	11,929	12,287	12,655	13,035
C55	Clean Paved Cntr Islnd	78,341	82,258	84,726	87,268	89,886	92,582
K45	WFU- Sweeping	263,229	276,390	284,682	293,223	302,019	311,080
	Subtotal	4,378,878	4,597,822	4,735,757	4,877,829	5,024,164	5,174,889
D05	Mach. Sweep Alleys	303,193	318,353	327,903	337,740	347,873	358,309
	Subtotal	303,193	318,353	327,903	337,740	347,873	358,309
I05	Clean CB's & Drains	32,409	34,029	35,050	36,102	37,185	38,300
I25	Flood Control	0	0	0	0	0	0
	Subtotal	32,409	34,029	35,050	36,102	37,185	38,300
J09	Special Events	1,748	1,835	1,890	1,947	2,006	2,066
J10	Misc. (storms)	351,040	368,592	379,650	391,039	402,770	414,854
J15	Waste Disposal	183,858	193,051	198,842	204,808	210,952	217,280
J20	Dump Maint.	1,232	1,294	1,332	1,372	1,414	1,456
A01	Supervision	73,878	77,572	79,899	82,296	84,765	87,308
A09	Work Comp Claims	8,587	9,016	9,287	9,565	9,852	10,148
A08	HVSL (JV from Admin.)	337,756	354,644	365,283	376,242	387,529	399,155
A30	Misc. Expense	91,976	96,575	99,472	102,456	105,530	108,696
	Other Tasks	333,927	350,623	361,142	371,976	383,136	394,630
	Subtotal	1,384,002	1,453,202	1,496,798	1,541,702	1,587,953	1,635,592
	TOTAL	**6,098,482**	**6,403,406**	**6,595,508**	**6,793,374**	**6,997,175**	**7,207,090**
	Percent change from prev. year	-6%	5%	3%	3%	3%	3%

Source: Minneapolis Public Works - Street Maintenance

Street Maintenance 2007 Costs and 5-Yr Budget

(NPDES activities: Roadways and Illicit Discharges)

Code	Activity	2006 Actual	2007 Budget	2008 Budget	2009 Budget	2010 Budget	2011 Budget
C05	Spring Clean up	1,076,193	1,125,018	1,181,269	1,204,895	1,228,993	1,253,572
C10	Summer Sweeping	1,050,214	1,097,861	1,152,754	1,175,809	1,199,325	1,223,312
C15	Fall Clean up	1,215,295	1,270,431	1,333,953	1,360,632	1,387,845	1,415,602
C20	Storm Water Activity	215,407	225,180	236,439	241,168	245,991	250,911
C25	Sweep Loop & Bus Dist	306,872	320,794	336,834	343,571	350,442	357,451
C45	Misc. Street Sweep	38,832	40,593	42,623	43,476	44,345	45,232
C55	Clean Paved Cntr Islnd	36,874	38,547	40,474	41,284	42,109	42,951
K45	WFU- Sweeping	342,303	357,833	375,725	383,239	390,904	398,722
	Subtotal	4,281,991	4,476,258	4,700,071	4,794,072	4,889,954	4,987,753
D05	Mach. Sweep Alleys	280,169	292,880	307,524	313,675	319,948	326,347
	Subtotal	280,169	292,880	307,524	313,675	319,948	326,347
I05	Clean CB's & Drains	87,422	91,388	95,958	97,877	99,834	101,831
I25	Flood Control	0	0	0	0	0	0
	Subtotal	87,422	91,388	95,958	97,877	99,834	101,831
J09	Special Events	42,996	44,946	47,194	48,137	49,100	50,082
J10	Misc. (storms)	10,751	11,238	11,800	12,036	12,277	12,523
J15	Waste Disposal	394,002	411,877	432,471	441,121	449,943	458,942
J20	Dump Maint.	157,078	164,204	172,414	175,863	179,380	182,967
A01	Supervision	84,698	88,541	92,968	94,827	96,724	98,658
A09	Work Comp Claims	124,404	130,048	136,550	139,281	142,067	144,908
A08	HVSL (JV from Admin.)	331,344	346,377	363,695	370,969	378,389	385,956
A30	Misc. Expense	199,707	208,767	219,206	223,590	228,061	232,623
	Other Tasks	506,507	529,486	555,961	567,080	578,422	589,990
	Subtotal	1,851,486	1,935,485	2,032,259	2,072,904	2,114,362	2,156,649
	TOTAL	**6,501,067**	**6,796,011**	**7,135,812**	**7,278,528**	**7,424,098**	**7,572,580**
	Percent change from prev. year	10%	5%	5%	2%	2%	2%

NOTE: This is the 2007 version. It will be substituted on-line with the 2008 version as soon as it becomes available.

Source: Minneapolis Public Works - Street Maintenance

NPDES 5 year Budget
Storm Drains

	2007 Actual see Note	2008	2009	2010	2011	2012
Storm Drain Operation and Control						
Maintenance						
CIPP Lining Storm		$ 36,050	$ 37,132	$ 38,245	$ 39,393	$ 40,575
Storm Drain Cleaning		$ 746,750	$ 769,153	$ 792,227	$ 815,994	$ 840,474
Storm MSA		$ 185,400	$ 190,962	$ 196,691	$ 202,592	$ 208,669
Storm CSA		$ 144,200	148,526	$ 152,982	$ 157,571	$ 162,298
Storm STH		$ 25,750	$ 26,523	$ 27,318	$ 28,138	$ 28,982
Minor Repair		$ 190,550	$ 196,267	$ 202,154	$ 208,219	$ 214,466
Major Repair/ Emergencies		$ 412,000	$ 424,360	$ 437,091	$ 450,204	$ 463,710
Special Jobs		206,000	212,180	218,545	225,102	231,855
Park Board Storm		$ 77,250	$ 79,567	$ 81,955	$ 84,413	$ 86,946
Capital Improvements		$ 6,700,000	$ 5,500,000	$ 7,000,000	**$** 7,500,000	$ 7,000,000
SUBTOTAL		**$ 8,723,950**	**$ 7,584,670**	**$ 9,147,208**	**$ 9,711,626**	**$ 10,002,975**
Structural Controls Maintenance and Operation						
Maintenance						
Grit Chambers		$ 257,500	$ 265,225	$ 273,182	$ 281,377	$ 289,819
Outfalls		$ 97,850	$ 100,786	$ 103,809	$ 106,924	$ 110,132
Pump Stations		$ 180,250	$ 185,658	$ 191,227	$ 196,964	$ 202,873
Holding Ponds		$ 216,300	$ 222,789	$ 229,473	$ 236,357	$ 243,448
Capital Improvements		$ 500,000	$ 250,000	$ 250,000	**$** 250,000	$ 500,000
SUBTOTAL		**$ 1,001,900**	**$ 1,024,458**	**$ 1,047,691**	**$ 1,021,622**	**$ 1,052,271**
Storm Drain Dedicated Overhead						
Maintenance						
Admin		$ 385,220	$ 396,776	$ 408,679	$ 420,940	$ 433,568
Yard / Shop		$ 139,050	$ 143,221	$ 147,518	$ 151,943	$ 156,501
Capital Improvements		$	$	$	$	$
Admin		463,500	477,405	491,727	506,478	521,672
Yard / Shop		360,555	371,315	382,454	393,928	405,746
SUBTOTAL		$ **1,348,325**	**$ 1,388,717**	**$ 1,430,378**	**$ 1,473,289**	**$ 1,517,488**
TOTAL MAINTENANCE		**3,300,120**	**3,399,125**	**3,501,096**	**3,606,131**	**3,714,315**
TOTAL CAPITAL IMPR		**8,024,055**	**6,598,720**	**8,124,181**	**8,650,406**	**8,427,418**
TOTAL		**11,074,175**	**9,997,845**	**11,625,277**	**12,206,537**	**12,572,733**

NOTE: Due to changes in City's financial accounting system between 2007 and 2008, accurate Actual Costs for 2007 were not available. This omission should be fixed before the next Annual Report, at which time we will report both 2007 and 2008 Actual Costs.

Source: Minneapolis Public Works - Surface Water Sewers

NPDES

Program Administration
Public Works Department Surface Water & Sewers Division

	2007 Actual Costs see Note
PLAN REVIEW	
EROSION & SEDIMENT CONTROL	
STORMWATER UTILITY FEE ORDINANCE ADMINISTRATION	
DATABASE MANAGEMENT	
REGULATORY AGENCY REPORTS & REQUESTS	
SPECIAL INITIATIVES	
WATER QUALITY/STORMWATER EDUCATION	
XP-SWMM STORMWATER MODELING	
TRAINING & SEMINARS	
GENERAL COORDINATION & ADMINISTRATION	
TOTAL	

NOTE: Due to changes in City's financial accounting system between 2007 and 2008, accurate Actual Costs for 2007 were not available. This situation will be fixed before the next Annual Report, at which time we will report both 2007 and 2008 Actual Costs.

Source: Minneapolis Public Works - Surface Water Sewers

City of Minneapolis
Flood Mitigation Program 2007 Costs Six-Year Budget

	Project	2007 Actual Expenditures SEE NOTE	2008 Appropriation	2009 Proposed	2010 Proposed	2011 Proposed	2012 Proposed	2013 and beyond
W 54th St - Boulevard retention & porous pavement	PV043		$455,000					
Flood Area 21 -- Bloomington Pond	SW034							
city funding	SW034				$446,000			
other funding: Minnehaha Creek Watershed District	SW034				$4,393,000			
Flood Area 22 -- Sibley Field	SW033							
city funding	SW033			$500,000	$278,000			
other funding: USEPA	SW033			$840,000				
other funding: Minnehaha Creek Watershed District	SW033			$873,000	$2,734,000			
Flood Area 29/30 - W 52nd St & Chowen Av S to Lake Harriet	SW018							
city funding	SW018				$900,000	$1,052,000		
other funding: Minnehaha Creek Watershed District	SW018				$2,388,000	$5,525,000		
Lake Hiawatha Blue Water Partnership Flood Control Project	SW031		$390,000					
I-35W Storm Tunnel Reconstruction	SW032				$150			
city funding	SW032						$1,035,000	$12,000,000
other funding: MnDOT	SW032						X	
Flood Area 5 -- Victory Memorial Pkwy to 40th Av N to Girard Av N to 30th Av N	SW038							$13,900,000

NOTE: Due to changes in City's financial accounting system between 2007 and 2008, accurate Actual Costs for 2007 were not available.
This situation will be fixed before the next Annual Report, at which time we will report both 2007 and 2008 Actual Costs.

Source: Minneapolis Public Works - Surface Water Sewers

Activities & Responsible Departments, by Section of Report

Structural Controls Maintenance and Operation	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Inspect controls (grit chambers, ponds, pump stations, other controls) at least 2 times a year. Adjust inspection frequency after 2 years to prevent pollutants being conveyed to the receiving water. Inspect 20% of outfalls on a rotating basis. Perform maintenance and repairs as needed, or provide a schedule for work required. Document inspection results, date, prior weather conditions, sediment storage and capacity remaining
Storm Sewer System Operation and Quality Control	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Maintain all facilities or systems in good working order and operate as efficiently as possible. Provide adequate operating staff to insure compliance with the conditions of this permit.
Disposal of Removed Substances from Structural Controls	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Dispose of removed substances in a way to prevent pollution and comply with applicable regulations. Document quantity of removed substances and categorize by structural control source, type of substance, and season.
New Developments and Construction	*Responsible department:* Regulatory Services Environmental Management, and Public Works Surface Water & Sewers Division
	Activities: Use a planning process (site plan review) to regulate construction, and require erosion control and stormwater management.
Roadways	*Responsible department:* Public Works Transportation Maintenance & Repair Division
	Activities: Sweep at least twice a year. Document frequency, methods, quantity of material picked up (categorize by season and/or material), disposal of materials. Use known practices to minimize runoff of deicing materials from application and handling activities. Document quantity of materials used each year. Minimize runoff of deicing materials from storage – document location and condition of all storage facilities, planned improvements.
Flood Control	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Design flood control projects to minimize the impacts on the water quality of the receiving water. When planning repairs, improvements, or changes for flood control devices, evaluate the feasibility of retrofitting the existing devices to provide additional pollutant removal from stormwater discharges.
Pesticides and Fertilizers	*Responsible department:* Minneapolis Park & Recreation Board
	Activities: Implement a city wide education program regarding the proper application of pesticides and fertilizers. Conduct a pilot project to investigate the use of pesticides and fertilizers on City facilities.
Illicit Discharges and Improper Disposal to Storm Sewer System	*Responsible department:* Regulatory Services Environmental Management, Public Works Transportation Maintenance & Repair Division, Public Works Surface Water & Sewers Division
	Activities: Provide appropriate control measures for non-stormwater discharges. Conduct field screening annually in 20% of the drainage areas. Prohibit disposal of motor vehicle fluids & household chemical wastes. Report number of spills and unauthorized discharges that occurred and the response to the spills. Educate staff regarding the duty to notify the Department of Public Safety Duty Officer. Adopt notification protocol for response and containment of materials.
Storm Sewer Design for New Construction	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Design & construct new storm drain and BMPs to capture runoff and pollutants.
Public Education	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Conduct a public education program to promote, publicize, and facilitate the proper management of stormwater discharges.
Public Participation Process	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Adopt a process to allow for public input into the development of priorities and activities necessary to maintain compliance with this permit. Conduct a public hearing or other meeting where the opportunities for public testimony is available prior to annual report submittal & notify all governmental entities with jurisdiction over activities related to stormwater management in the area. Include a formal resolution from the City Council adopting the report with a summary of the public input received and the City's response.
Coordination with Other Governmental Entities	*Responsible department:* Public Works Surface Water & Sewers Division
	Activities: Submit an annual report by June 1 of each year describing how the different governmental entities are cooperating and coordinating efforts in managing stormwater related activities in the drainage area including goals for each cooperative effort, where and how the activity will be performed, & schedule for implementation.
Stormwater Monitoring	*Responsible department:* Minneapolis Park and Recreation Board
	Activities: Conduct runoff monitoring. Provide analysis of data collected.