

**City of Monterey Urban Watch Storm Drain Monitoring Program
Date Results June-October 2004**

Appendices

Appendix 1

Table 1	2004 Parameter Average-Minimum-Maximum	Quantitative and measured data
Table 2	2004 Parameter Maximum	Quantitative data
Table 3	2004 Parameter Frequency	Quantitative and measured data
Table 4	2004 Parameter Frequency	Qualitative data
Table 5	2004 Parameter Bacteria counts	Quantitative data

Appendix 2

Table 6	2004 Field Data	Represents all data collected on all field visits.
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Urban Watch Positive Results Average-Min-Max Table

Summary Table 1

	Detergent Avg ppm	Min	Max	Ammonia Nitrogen Avg ppm	Min	Max	Chlorine Avg ppm	Min	Max	Orthophosphates* Avg ppm	Min	Max
Major Sherman	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Twin 51s	0.2	0.1	0.7	0.5	0.1	1.0	0.2	0.2	0.6	0.53	0.33	0.88
San Carlos	0.2	0.1	0.4	0.2	0.1	0.5	0.2	0.2	0.2	0.26	0.04	0.53
Steinbeck Plaza	0.6	0.1	1.6	0.8	0.1	4.0	0.2	0.2	0.2	0.64	0.13	0.90
Library	0.1	0.1	0.5	0.2	0.1	0.3	0.2	0.2	0.2	0.23	0.06	0.53

	pH Avg.	Min	Max	Air Temp Avg.	Min	Max	Water Temp Avg.	Min	Max
Major Sherman	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0
Twin 51s	7.2	7.0	7.5	20.2	15.3	27.8	20.3	17.5	18.8
San Carlos	7.5	7.0	8.0	20.6	16.2	21.0	18.7	16.2	21.0
Steinbeck Plaza	7.4	7.0	7.5	20.7	15.8	24.7	19.6	17.3	27.8
Library	7.3	7.0	7.5	19.1	14.9	22.4	16.4	14.1	19.0

	Conductivity Avg. (uS)	Min	Max	Flow Width Avg	Min	Max	Flow Depth Avg	Min	Max
Major Sherman	0	0	0	0	0.0	0.0	0	0.0	0.0
Twin 51s	2584	500	5000	25.7	16.0	37.5	1.5	1.0	3.0
San Carlos	2456	900	4300	7.1	1.0	23.0	0.7	0.1	3.0
Steinbeck Plaza	1495	800	3200	15.6	7.0	25.0	1.1	0.1	6.0
Library	2868	1900	3500	24.2	3.0	87.0	2.1	1.0	3.8

* as PO4 CCAMP action level

Urban Watch Monitoring Maximum Values**Summary Table 2**

	Ammonia Nitrogen (ppm)	Chlorine (ppm)	Copper (ppm)	Detergents (ppm)	Orthophosphates (ppm)
WQO:	0.025	N/A	.03ppm	0.00	0.12
Minimal Detection Limit:	>0.1	>0.2	>0.0	>0.1	>0.0*
Major Sherman	0.0	0.0	0.0	0.0	0.0
Twin 51s	1.0	0.6	0.3	0.7	2.7
San Carlos	0.5	0.2	0.1	0.4	1.6
Steinbeck Plaza	4.0	0.2	0.0	1.6	2.8
Library	0.3	0.2	0.0	0.5	1.6

WQO= Water Quality Objective

* as PO4 CCAMP action level

Urban Watch Monitoring Frequency Values

Summary Table 3

	Detergents (ppm)	Ammonia Nitrogen (ppm)
Major Sherman	0 of 0	0 of 0
Twin 51s	9 of 20	17 of 20
San Carlos	9 of 20	8 of 20
Steinbeck Plaza	16 of 20	11 of 20
Library	2 of 20	8 of 20

	Copper (ppm)	Chlorine (ppm)	Presence of flow
Major Sherman	0 of 0	0 of 0	0 of 20
Twin 51s	1 of 20	1 of 20	20 of 20
San Carlos	1 of 20	0 of 20	20 of 20
Steinbeck Plaza	0 of 20	0 of 20	20 of 20
Library	0 of 20	0 of 20	20 of 20

	Conductivity (uS)*	Orthophosphates (mg/L)**	Turbidity (>Low)[†]
Major Sherman	0 of 0	0 of 0	0 of 0
Twin 51s	19 of 20	14 of 16	0 of 20
San Carlos	18 of 19	3 of 15	2 of 20
Steinbeck Plaza	17 of 20	13 of 16	0 of 20
Library	19 of 19	2 of 16	0 of 20

Example of how to read these values: "7 of 8" detergents were detected 7 times of the 8 times measured at Site X.

* Conductivity "frequency" refers to the number of times over detectable range of 1999 microS.

** Orthophosphate "frequency" refers to the number of times over detectable range of 0.37 mg/L as Phosphate (PO4)

[†] Turbidity visual assessment based upon Low/Med/or High values

Urban Watch Monitoring Frequency Values**Summary Table 4**

	trash	sewage
Major Sherman	0 of 0	0 of 0
Twin 51s	19 of 20	1 of 20
San Carlos	14 of 20	0 of 20
Steinbeck Plaza	19 of 20	4 of 20
Library	14 of 20	0 of 20

	oil sheen	surface scum
Major Sherman	0 of 0	0 of 0
Twin 51s	0 of 20	3 of 20
San Carlos	0 of 20	1 of 20
Steinbeck Plaza	0 of 20	0 of 20
Library	0 of 20	7 of 20

	odor	color
Major Sherman	0 of 0	0 of 0
Twin 51s	0 of 20	7 of 20
San Carlos	0 of 20	9 of 20
Steinbeck Plaza	0 of 20	8 of 20
Library	0 of 20	6 of 20

Example of how to read these values: "7 of 8" detergents were detected 7 times of the 8 times measured at Site X.

Urban Watch Bacteria Monitoring Results (MPN/100ml)**Summary Table 5**

7/28/2004

Parameter	WQO	Major Sherman	Twin 51's	San Carlos	Steinbeck	Library
E.coli (MPN/100ml)	= 400	no flow	1,396	7,270	15,531	448
Total Coliform (MPN/100ml)	= 10,000	no flow	>24,192	>24,192	>24,192	8,164

8/17/2004

Parameter	WQO	Major Sherman	Twin 51's	San Carlos	Steinbeck	Library
E.coli (MPN/100ml)	= 400	no flow	422	550	>241,920	6,260
Total Coliform (MPN/100ml)	= 10,000	no flow	39,726	>48,380	>241,920	25,993

9/7/2004

Parameter	WQO	Major Sherman	Twin 51's	San Carlos	Steinbeck	Library
E.coli (MPN/100ml)	= 400	no flow	141,360	17,328	6,896	462
Total Coliform (MPN/100ml)	= 10,000	no flow	>241,920	>48,384	>48,384	10,344

MSD4	6/8/2004	17:1 5	0	0.5	8.0	29.0	18.7		18.3		2.4 0	240 0	8.0	1	0	0	0	0.4 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 2	0.5 3
MSD4	6/11/2004	13:2 0	0	0.3	7.5	20.0	20.3		17.4		2.2 0	220 0	7.5	1	0	0	0	0.2 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	0.4 0
MSD4	6/23/2004	17:1 5	0	1.0	23.0	28.0	19.9		17.8			185 5	7.5	1	0	0	0	0.2 0	0.2 0	0.0 0	0.1 0	Med	0	BCS9 1	0.7 7
MSD4	6/25/2004	17:4 2	0	0.3	10.0	28.0	21.5		18.2		2.2 0	220 0	8.0	1	0	0	0	0.3 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	0.1 3
MSD4	7/6/2004	16:5 5	0	3.0	11.0	56.0	18.6	65.5	18.4	65.2	2.0 0	200 0	7.5	1	0	0	0	0.1 0	0.2 0	0.1 0	0.1 0	Low	0	BCS3 6	0.4 6
MSD4	7/8/2004	11:0 6	0	3.0	12.0	67.0	18.6	65.4	18.3	65.0	2.0 0	200 0	7.5	1	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS1 07	0.4 0
MSD4	7/20/2004	16:4 5	0	0.3	10.0	19.0	21.1		21.0		0.9 0	900	7.5	1	0	0	1	0.1 0	0.2 0	0.0 0	0.2 5	High	0	BCS9 2	
MSD4	7/21/2004	15:4 0	0	0.2	8.0	24.0	20.8		19.3		2.1 0	210 0		0	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	
MSD4	8/4/2004	16:2 1	0	1.0	6.0	44.0	20.2		19.1		2.9 0	290 0	7.5	1	0	0	0	0.1 0	0.2 0	0.0 0	0.2 5	Low	0	BCS3 6	0.4 7
MSD4	8/6/2004	15:3 0	0	0.5	2.0	18.0	23.2	73.7	19.1	66.3	2.8 0	280 0	7.5	1	0	0	0	0.2 0	0.2 0	0.0 0	0.5 0	Low	0	BCS9 3	
MSD4	8/17/2004	13:4 0	0	0.2	3.0	20.0	22.0		20.5		1.8 0	180 0	7.5	0	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	0.8 5
MSD4	8/19/2004	13:3 4	0	0.5	8.0	23.0	22.0		20.1		3.5 0	350 0	7.5	0	0	0	0	0.1 0	0.2 0	0.0 0	0.2 5	Low	0	BCS9 3	0.6 3
MSD4	8/30/2004	15:2 5	0	0.1	2.0	68.0	20.6		18.9		2.3 0	230 0	7.5	1	0	0	0	0.3 0	0.2 0	0.0 0	0.2 5	Low	0	BCS4 8	0.8 9
MSD4	9/1/2004	15:0 0	0	0.1	2.5	41.0	22.4		20.5		1.8 0	180 0	7.5	1	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	0.8 3
MSD4	9/14/2004	14:1 5	0	0.5	1.0	37.0	26.0		19.7		1.8 0	180 0	7.5	1	0	0	0	0.2 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	1.4 4
MSD4	9/16/2004	14:2 9	0		4.5	10.0	20.7		19.3				7.5	0	0	0	0	0.1 0	0.2 0	0.0 0	0.2 5	Low	0	BCS9 3	
MSD4	9/27/2004	16:2 7	0	0.5	7.0	16.5	18.5		17.4		3.1 0	310 0	8.0	1	0	0	0	0.3 0	0.2 0	0.0 0	0.1 0	Low	0	BCS3 6	1.6 3
MSD4	9/30/2004	9:41	0	0.1	9.0	40.0	16.2		16.6		3.6 0	360 0	7.0	1	0	0	0	0.2 0	0.2 0	0.0 0	0.1 0	Low	0	BCS3 6	1.5 2
MSD4	10/12/2004	15:2 4	0	0.2	3.2	8.5	21.4	70.5	16.2	61.1	4.3 0	430 0	7.0	0	0	0	0	0.1 0	0.2 0	0.0 0	0.2 5	Low	0	BCS9 3	1.0 3
MSD4	10/14/2004	15:2 4	0	0.1	5.0	28.0	19.4		17.5		3.1 0	310 0	7.5	0	0	0	0	0.1 0	0.2 0	0.0 0	0.2 5	Low	0	BCS9 3	

MSD5	6/8/2004	17:4 3	0	0.6	7.0	8.0	17.1		17.4		1.3 0	130 0	7.5	1	0	0	0	0.5 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 2	1.1 5
MSD5	6/11/2004	12:2 0	0	0.6	17.5	20.0	20.5		27.8		1.4 0	140 0	7.5	1	0	0	0	0.6 0	0.2 0	0.0 0	0.5 0	Low	0	BCS9 3	1.8 2
MSD5	6/23/2004	17:3 8	0	0.5	16.0	22.0	17.8		17.5		2.3 0	230 0	7.5	1	1	0	0	1.6 0	0.2 0	0.0 0	1.0 0	Low	0	BCS9 3	2.6 1

MSD5	6/25/2004	16:5 0	0	0	25. 0	29.0	20. 3		17. 3		3.2 0	320 0	7. 5	1	1	0	0	0.2 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	0.8 7
MSD5	7/6/2004	16:2 3	0	3. 0	19. 0	26.0	18. 4	65. 1	18. 3	64. 9	1.3 0	130 0	7. 5	1	0	0	0	0.4 0	0.2 0	0.0 0	0.1 0	Low	0	BCS3 6	2.2 2
MSD5	7/8/2004	10:4 7	0	6. 0	15. 0	24.0	18. 2	64. 8	19. 3	66. 8	0.8 0	800 0	7. 0	1	0	0	0	0.3 0	0.2 0	0.0 0	0.5 0	Low	0	BCS3 6	0.5 1
MSD5	7/20/2004	16:2 0	0	0. 5	16. 0	23.0	20. 4		19. 2		1.6 0	160 0	7. 5	1	1	0	0	0.1 0	0.2 0	0.0 0	2.0 0	Low	0	BCS9 3	
MSD5	7/21/2004	15:2 0	0	0. 5	16. 0	25.0	21. 0		19. 2		1.6 0	160 0	7. 5	1	0	0	0	0.9 0	0.2 0	0.0 0	2.0 0	Low	0	BCS9 3	
MSD5	8/4/2004	15:5 6	0	0. 5	11. 0	18.0	20. 3		19. 2		1.3 0	130 0	7. 0	1	0	0	0	0.4 0	0.2 0	0.0 0	0.5 0	Low	0	BCS3 6	2.6 9
MSD5	8/6/2004	16:0 0	0	0. 8	17. 0	35.0	21. 6	70. 8	19. 7	67. 4	1.5 0	150 0	7. 5	1	0	0	0	1.2 0	0.2 0	0.0 0	0.5 0	Low	0	BCS9 3	2.7 3
MSD5	8/17/2004	13:1 5	0	1. 0	13. 0	24.0	23. 2		20. 5		1.4 0	140 0	7. 5	1	1	0	0	0.2 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	
MSD5	8/19/2004	13:1 0	0	1. 5	18. 0	28.0	21. 3		19. 9		1.5 0	150 0	7. 0	1	0	0	0	0.5 0	0.2 0	0.0 0	4.0 0	Low	0	BCS9 3	1.4 5
MSD5	8/30/2004	15:1 1	0	2. 0	13. 0	17.0	21. 1		19. 3		1.5 0	150 0	7. 0	1	0	0	0	0.1 0	0.2 0	0.0 0	0.2 5	Low	0	BCS3 6	2.7 2
MSD5	9/1/2004	14:4 5	0	0. 5	14. 0	18.5	23. 3		20. 7		1.3 0	130 0	7. 5	1	0	0	0	1.6 0	0.2 0	0.0 0	0.1 0	Low	0	BCS6 7	2.3 5
MSD5	9/14/2004	14:4 0	0	0. 5	11. 0	22.0	23. 5		20. 3		1.4 0	140 0	7. 5	1	0	0	0	0.8 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	2.7 5
MSD5	9/16/2004	14:1 0	0	0. 5	13. 0	25.0	22. 3		20. 3		1.3 0	130 0	7. 5	0	0	0	0	0.9 0	0.2 0	0.0 0	0.7 5	Low	0	BCS9 1	2.7 5
MSD5	9/27/2004	16:0 7	0	0. 1	12. 0	19.0	19. 2		18. 6		1.9 0	190 0	7. 0	1	0	0	0	0.9 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	2.6 7
MSD5	9/30/2004	9:18	0	1. 5	24. 0	34.0	15. 8		20. 0		0.8 0	800 0	7. 0	1	0	0	0	0.2 0	0.2 0	0.0 0	0.1 0	Low	0	BCS3 6	0.4 0
MSD5	10/12/2004	14:4 7	0	0. 5	16. 0	21.0	24. 7	76. 5	17. 8	64. 1	1.7 0	170 0	7. 5	1	0	0	0	0.1 0	0.2 0	0.0 0	4.0 0	Low	0	BCS9 3	1.6 5
MSD5	10/14/2004	14:4 4	0	1. 2	18. 0	23.0	23. 3		19. 0		0.8 0	800 0	7. 5	1	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	

LIBRA-31	6/8/2004	16:4 5	0	2. 5	34. 0	61.0	19. 6		16. 4		2.6 0	260 0	7. 5	1	0	0	0	0.5 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 7	0.6 9
LIBRA-31	6/11/2004	13:0 0	0	1. 3	17. 0	32.0	14. 9		14. 1		2.9 0	290 0	7. 0	0	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS3 6	0.5 7
LIBRA-31	6/23/2004	16:2 5	0	2. 0	10. 0	57.0	18. 6		15. 6		2.3 0	230 0	7. 5	1	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	0.1 7
LIBRA-31	6/25/2004	17:0 0	0	1. 5	3.0	63.0	20. 8		16. 3		2.5 0	250 0	7. 5	0	0	0	1	0.2 0	0.2 0	0.0 0	0.1 0	Low	0	BCS9 3	0.5 2
LIBRA-31	7/6/2004	16:4 1	0	1. 5	5.0	95.0					2.7 0	270 0	7. 0	1	0	0	0	0.1 0	0.2 0	0.0 0	0.1 0	Low	0	BCS1 20	0.9 0
LIBRA-31	7/8/2004	10:5 9	0	3. 0	35. 0	120. 0	17. 4		15. 2		3.1 0	310 0	7. 0	1	0	0	0	0.1 0	0.2 0	0.0 0	0.2 5	Low	0	BCS3 6	0.4 6
LIBRA-31	7/20/2004	16:5	0	1. 30.	119. 21.		17.		17.		2.9	290	7.	1	0	0	1	0.1	0.2	0.0	0.2	Low	0	BCS9	

		0		5	0	0	7		5		0	0	5				0	0	0	5			3		
LIBRA-31	7/21/2004	15:4 5	0	3. 5	26. 0	130. 0	18. 3		17. 2		2.6 0	260 0	7. 5	1	0	0	1	0	0	0	0	Low	0	BCS9 3	
LIBRA-31	8/4/2004	16:2 7	0	2. 0	10. 0	99.0	19. 3	66. 7	17. 3	63. 1	2.9 0	290 0	7. 5	1	0	0	1	0	0	0	0	Low	0	BCS3 6	1.1 4
LIBRA-31	8/6/2004	16:4 5	0	1. 8	4.0	135. 0	21. 1	70. 9	19. 0	66. 2	3.0 0	300 0	7. 5	0	0	0	1	0	0	0	0	Low	0	BCS9 3	
LIBRA-31	8/17/2004	13:1 5	0	3. 5	50. 0	54.0	19. 5	67. 1	17. 6	63. 6	3.1 0	310 0	7. 5	0	0	0	1	0	0	0	0	Low	0	BCS9 3	0.4 0
LIBRA-31	8/19/2004	13:3 5	0	3. 8	87. 0	131. 0	18. 8	66. 0	16. 4	61. 5	3.1 0	310 0	7. 5	1	0	0	1	0	0	0	0	Low	0	BCS9 3	1.6 4
LIBRA-31	8/30/2004	15:0 5	0	1. 2	10. 0	143. 0	18. 0		16. 9		3.0 0	300 0	7. 0	0	0	0	0	0	0	0	0	Low	0	BCS3 6	0.5 1
LIBRA-31	9/1/2004	14:4 6	0	1. 5	20. 0	143. 0	20. 4		18. 5		1.9 0	190 0	7. 0	1	0	0	0	0	0	0	0	Low	0	BCS9 3	0.4 3
LIBRA-31	9/14/2004	13:3 9	0	1. 0	15. 0	138. 0	22. 4	72. 4	16. 4	61. 5	3.1 0	310 0	7. 0	1	0	0	0	0	0	0	0	Low	0	BCS9 3	0.8 5
LIBRA-31	9/16/2004	14:1 5	0	1. 5	11. 0	127. 0	18. 1	64. 5	16. 5		3.0 0	300 0	7. 0	1	0	0	0	0	0	0	0	Low	0	BCS9 3	0.7 4
LIBRA-31	9/27/2004	16:0 0	0	2. 0	20. 0	71.0	16. 7		15. 2				7. 0	1	0	0	0	0	0	0	0	Low	0	BCS9 3	0.7 7
LIBRA-31	9/30/2004	9:26	0	3. 0	33. 0	81.0	14. 9		14. 8		3.5 0	350 0	7. 5	0	0	0	0	0	0	0	0	Low	0	BCS9 3	0.6 6
LIBRA-31	10/12/2004	14:4 4	0	1. 5	25. 0	42.0	22. 2		16. 1		3.2 0	320 0	7. 0	1	0	0	0	0	0	0	0	Low	0	BCS9 3	0.7 0
LIBRA-31	10/14/2004	14:5 4	0	2. 0	38. 0	78.0	20. 1	68. 1	15. 5	59. 9	3.1 0	310 0	7. 0	1	0	0	0	0	0	0	0	Low	0	BCS9 3	

Note: MAJOR-31 - No flow during monitoring dates listed