

Appendix E Summary Listing of Overflow Retention Facilities (Used for CSO Treatment)

ORF		General / Design					Maintenance Practices					Construction Costs ENR 3577 (\$ millions)	Annual O & M Costs ENR 3577 (\$ thousand)	Notes		
City/State	Facility	Treatment Capacity (mgd)	Basin Volume (mg)	Design Criteria	Disinfection	Above or Below Ground	Operation Since	Equipment	Sampling After Storm	Maintenance After Storm	Routine Maintenance				Number Of Staff	Hours
Somerville MA	Cottage Farm	233			Y, NaOCI		1971	Screening, skimming sedimentation/detention and disinfection								
Somerville MA	Prison Point	323			Y, NaOCI		1980	Screening, skimming sedimentation/detention and disinfection								
Wayne Co. MI	Inkster		3.1	20 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1997	First flush tank followed by 2 detention tanks operating in parallel, tipping buckets, disinfection system, no dechlorination, mech. bar screens and skimming baffles for floatables control, wet scrubber odor control system		Remove screenings, check pumps, check chem feed system, check total residual chlorine, flush basin with water		ave of 1.4 full time staff and 2-3 people after storm	Staffed 8hrs/day	20.4		
Wayne Co. MI	Dearborn Heights		2.7	30 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1997	3 detention tanks in parallel, tipping buckets, disinfection system, no dechlorination, mech. bar screens and skimming baffles for floatables control, wet scrubber odor control system				ave of 1.4 full time staff and 2-3 people after storm	Staffed 8hrs/day	21.2		
Oakland Co. MI	Birmingham		5.5 (9.6 with tunnel)	30 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1997	Storage in series with an 11' tunnel, flushing trough for solids from basin floor, flushing system to backwash horizontal effluent screens disinfection system, no dechlorination, wet scrubber odor control system, skimming baffles for floatables control						40.9	425.5	
DWSD MI	Hubbell Southfield		22		Y, NaOCI		1999	Two open trapezoidal storage tanks in series automated flushing system, disinfection system, no dechlorination, wet scrubber odor control system, mech. bar screens and skimming baffle for floatables control						51.9		
DWSD MI	Puritan-Fenkell		2.8	20 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1999	Two storage tanks operating in parallel, tipping buckets flushing system and wall mounted hose bibs, disinfection system, no dechlorination, wet scrubber odor control system, mech. bar screens and skimming baffles for floatables control						17.2		
DWSD MI	Seven Mile		2.2	30 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1998	Two storage tanks operating in parallel, tipping buckets flushing system and wall mounted hose bibs, disinfection system, no dechlorination, wet scrubber odor control system, mech. bar screens and skimming baffles for floatables control						14.5		
River Rouge MI	River Rouge		5.2	30 min detention, 10-yr, 1-hr storm	Y, NaOCI	below	1999	Two storage compartments in series, disinfection system, no dechlorination, mech. bar screens for floatables control, wet scrubber odor control system						27.0		
Wayne Co. MI	Redford		1.9	20 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1997	Swirl concentrator followed by 2 parallel storage compartments, tipping buckets, disinfection system, no dechlorination, mech. bar screens and skimming baffles for floatables control, wet scrubber odor control system						15.7		

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Oakland Co. MI	Acacia Park		4.5	30 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1997	Two storage tanks, flushing trough for solids from basin floor, flushing system to backwash horizontal effluent screens, disinfection system, no dechlorination, wet scrubber odor control system, skimming baffles for floatables control							16.0	238.0		
Oakland Co. MI	Bloomfield Village		10.2	20 min detention, 1-yr, 1-hr storm	Y, NaOCI	below	1997	Storage in series with sedimentation and disinfection facilities							33.2	575.0		
NYC NY	Spring Creek Auxiliary WPCP	13	15		Y, NaOCI	above	1988	Retention basins, disinfection, bar screens, dewatering pumps, traveling water bridges and spray water pumps	Residual Chlorine, BOD, SS, settleable solids, pH, and cyanide	Basin cleaning, flush NaOCL feed piping, basin cleaning, remove screenings	Pumps, ventilation equipment, gas sensors for confined space entry	5 Full time + additional help during basin cleaning	7 AM-3PM, not 24 hr operation	22.2		Basin cleaning alone should take 16 hrs (2 people/ 8 hr shift). Upgrade going out for bid soon		
Dorchester MA	Fox Point	129			Y, NaOCI		1990	Screening, detention, disinfection										
Dorchester MA	Commercial Point	194			Y, NaOCI		1991	Screening, detention, disinfection										
Grand Rapids MI	Market Avenue		30.5	10 yr-1hr storm			1992	Offline facility, mech. bar screen, influent pumps, first compartment (covered, 10.68 MG), second compartment (uncovered, 16.68 MG), third compartment (uncovered, 3.14 MG)									47.2	
Richmond VA	Shockhoe & Diversion System		41	1 month design storm, 7500 cfs 1st flush	N		1988	Hydraulic retention, sediment return to sewage system, jet aeration and momentum headers to prevent septicity									590.0	
Auburn NY	WWTF, ORF	25.5		Treat peak hourly flow of 25.5 mgd, max SOR of 3025 gpd#2	Y, NaOCI		1996	Rehabilitated abandoned primary setting tanks, four overflow return pumps (centrifugal), chlorination/dechlorination feed equipment, mechanical mixers, and flush tank									21.2	Each of the five ORF tanks fills uniformly during an overflow event. After the wet-weather flows subside, flow retained in the ORF is pumped to plant headworks. overflow event in excess of available volume are disinfected. Tanks are flushed by manually controlled system using chlorinated plant effluent. ORF provides treatment beyond 25 mgd WWTP capacity.

Source: CDM/C&S, A Joint Venture, 2/10/04