

Rockwall, Texas

Detention Computations for Pond A-1 WBC-20000, SWBC ROCKWALL PH. II

Area	A(ac)=	(A-1)		(A12-A16)		(A18)	
		Undeveloped	Developed	Undeveloped	Developed	Undeveloped	Developed
Runoff Coefficient	C=	0.350	0.750	0.350	0.750	0.350	0.750
Time of Concentration	Tc(min)=	20.0	10.0	20.0	10.0	20.0	10.0

STORM YEAR	I IN/HR	Qundev CFS	I IN/HR	Qin CFS	Qbypass CFS	Qout CFS	REQUIRED	REQUIRED
							AC-FT	CF
5	4.90	3.8	6.10	8.0	1.7	2.2	0.1999	8708.86
10	5.90	4.6	7.10	9.3	1.9	2.7	0.2120	9235.09
25	6.80	5.2	8.30	10.9	2.3	2.9	0.2747	11968.02
50	7.50	5.9	9.00	11.8	2.5	3.4	0.3048	13276.71
100	8.30	6.5	9.80	12.9	2.7	3.8	0.3287	14316.46

Computed Qout CFS	PROVIDED	PROVIDED
	AC-FT	CF
1.9	0.2156	9393.12
2.0	0.2536	11048.88
2.7	0.2870	12500.73
3.3	0.3109	13542.21
3.7	0.3358	14626.20

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-1

Area	A=	City of Rockwall		Bypass
		Undeveloped	Developed	
Runoff Coefficient	C=	0.35	0.75	0.75
Time of Concentration	Tc=	20.0 MIN	10.0 MIN	10.0
Rainfall Intensity	I25=	6.60 IN/HR	8.30 IN/HR	8.30
Peak Rate of Runoff	Q25=	5.2 CFS	10.9 CFS	2.3
Allowable Outflow	Q25=		2.9 CFS	

Tc MIN	I25 IN/HR	Q25 CFS	Inflow CF	Outflow CF	Storage		Required AC-FT
					CF	AC-FT	
5	9.30	12.2	3,670	1,295	2,375	0.055	
10	8.30	10.9	6,551	1,727	4,825	0.111	
15	7.50	9.9	8,880	2,158	6,721	0.154	
20	6.60	8.7	10,419	2,590	7,829	0.180	
30	5.50	7.2	13,023	3,453	9,570	0.220	
40	4.60	6.1	14,523	4,316	10,207	0.234	
50	4.00	5.3	15,786	5,180	10,606	0.243	
60	3.50	4.6	16,575	6,043	10,532	0.242	
70	3.30	4.3	18,233	6,906	11,327	0.260	
80	3.10	4.1	19,575	7,769	11,805	0.271	
90	2.90	3.8	20,601	8,633	11,968	0.275	0.275
100	2.70	3.6	21,311	9,496	11,815	0.271	
110	2.50	3.3	21,706	10,359	11,346	0.260	

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-1

Area	A=	City of Rockwall		Bypass
		Undeveloped	Developed	
Runoff Coefficient	C=	0.35	0.75	0.75
Time of Concentration	Tc=	20.0 MIN	10.0 MIN	10.0
Rainfall Intensity	I100=	8.30 IN/HR	9.80 IN/HR	9.80
Peak Rate of Runoff	Q100=	6.5 CFS	12.9 CFS	2.7
Allowable Outflow	Q100=		3.8 CFS	

Tc MIN	I100 IN/HR	Q100 CFS	Inflow CF	Outflow CF	Storage		Required AC-FT
					CF	AC-FT	
5	10.70	14.1	4,223	1,707	2,516	0.058	
10	9.80	12.9	7,735	2,276	5,459	0.125	
15	9.00	11.8	10,656	2,845	7,810	0.179	
20	8.30	10.9	13,102	3,414	9,688	0.222	
30	6.90	9.1	16,339	4,553	11,786	0.271	
40	5.80	7.6	18,312	5,691	12,621	0.290	
50	5.00	6.6	19,733	6,829	12,904	0.296	
60	4.50	5.9	21,311	7,967	13,344	0.306	
70	4.00	5.3	22,100	9,105	12,995	0.298	
80	3.70	4.9	23,363	10,243	13,120	0.301	
90	3.50	4.6	24,863	11,382	13,481	0.309	
100	3.40	4.5	26,836	12,520	14,316	0.329	0.329
110	3.20	4.2	27,783	13,658	14,125	0.324	
120	3.00	3.9	28,415	14,796	13,619	0.313	
130	2.80	3.7	28,731	15,934	12,796	0.294	

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-1

Area	A=	City of Rockwall		Bypass
		Undeveloped	Developed	
Runoff Coefficient	C=	0.35	0.75	0.75
Time of Concentration	Tc=	20.0 MIN	10.0 MIN	10.0
Rainfall Intensity	I10=	5.90 IN/HR	7.10 IN/HR	7.10
Peak Rate of Runoff	Q10=	4.6 CFS	9.3 CFS	1.9
Allowable Outflow	Q10=		2.7 CFS	

Tc MIN	I10 IN/HR	Q10 CFS	Inflow CF	Outflow CF	Storage		Required AC-FT
					CF	AC-FT	
5	8.30	10.9	3,276	1,197	2,079	0.048	
10	7.10	9.3	5,604	1,596	4,008	0.092	
15	6.50	8.6	7,696	1,995	5,701	0.131	
20	5.90	7.8	9,314	2,394	6,920	0.159	
30	4.80	6.3	11,366	3,192	8,174	0.188	
40	4.00	5.3	12,629	3,990	8,639	0.198	
50	3.50	4.6	13,813	4,788	9,025	0.207	
60	3.00	3.9	14,207	5,586	8,621	0.198	
70	2.80	3.7	15,470	6,384	9,086	0.209	
80	2.60	3.4	16,417	7,182	9,235	0.212	0.212
90	2.40	3.2	17,049	7,980	9,068	0.208	
100	2.20	2.9	17,365	8,778	8,586	0.197	
110	2.00	2.6	17,365	9,576	7,788	0.179	
120	1.80	2.4	17,049	10,375	6,674	0.153	

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-1

Area	A=	City of Rockwall		Bypass
		Undeveloped	Developed	
Runoff Coefficient	C=	0.35	0.75	0.75
Time of Concentration	Tc=	20.0 MIN	10.0 MIN	10.0
Rainfall Intensity	I50=	7.50 IN/HR	9.00 IN/HR	9.00
Peak Rate of Runoff	Q50=	5.9 CFS	11.8 CFS	2.5
Allowable Outflow	Q50=		3.4 CFS	

Tc MIN	I50 IN/HR	Q50 CFS	Inflow CF	Outflow CF	Storage		Required AC-FT
					CF	AC-FT	
5	10.00	13.2	3,947	1,525	2,422	0.056	
10	9.00	11.8	7,104	2,033	5,071	0.116	
15	8.10	10.7	9,590	2,541	7,049	0.162	
20	7.50	9.9	11,840	3,050	8,790	0.202	
30	6.10	8.0	14,444	4,066	10,378	0.238	
40	5.20	6.8	16,417	5,083	11,335	0.260	
50	4.50	5.9	17,759	6,099	11,660	0.268	
60	3.90	5.1	18,470	7,116	11,354	0.261	
70	3.70	4.9	20,443	8,132	12,310	0.283	
80	3.50	4.6	22,100	9,149	12,951	0.297	
90	3.30	4.3	23,442	10,166	13,277	0.305	0.305
100	3.00	3.9	23,679	11,182	12,497	0.287	

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-1

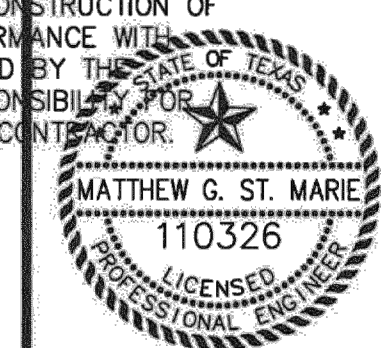
Area	A=	City of Rockwall		Bypass
		Undeveloped	Developed	
Runoff Coefficient	C=	0.35	0.75	0.75
Time of Concentration	Tc=	20.0 MIN	10.0 MIN	10.0
Rainfall Intensity	I5=	4.90 IN/HR	6.10 IN/HR	6.10
Peak Rate of Runoff	Q5=	3.8 CFS	8.0 CFS	1.7
Allowable Outflow	Q5=		2.2 CFS	

Tc MIN	I5 IN/HR	Q5 CFS	Inflow CF	Outflow CF	Storage		Required AC-FT
					CF	AC-FT	
5	7.00	9.2	2,763	969	1,794	0.041	
10	6.10	8.0	4,815	1,292	3,523	0.081	
15	5.50	7.2	6,512	1,615	4,897	0.112	
20	4.90	6.4	7,735	1,938	5,797	0.133	
30	4.10	5.4	9,708	2,584	7,124	0.164	
40	3.40	4.5	10,734	3,230	7,504	0.172	
50	2.80	3.7	11,050	3,876	7,174	0.165	
60	2.60	3.4	12,313	4,522	7,791	0.179	
70	2.40	3.2	13,260	5,168	8,092	0.186	
80	2.30	3.0	14,523	5,814	8,709	0.200	0.200
90	2.10	2.8	14,918	6,460	8,457	0.194	
100	1.90	2.5	14,997	7,106	7,890	0.181	

AS-BUILT RECORD DRAWING

THE INFORMATION ON THESE PLANS HAS BEEN REVIEWED TO REFLECT CHANGES TO PUBLIC IMPROVEMENTS MADE DURING CONSTRUCTION. UNLESS OTHERWISE NOTED, THE CONSTRUCTION OF THE PUBLIC IMPROVEMENTS IS IN GENERAL CONFORMANCE WITH THESE PLANS, BASED UPON INFORMATION PROVIDED BY THE CONTRACTOR AND FIELD VERIFICATIONS. THE RESPONSIBILITY FOR ACCURACY AND COMPLETENESS BELONGS TO THE CONTRACTOR.

Matthew G. St. Marie
 THE JOHN R. MCADAMS COMPANY, INC.
 Date: 09/25/2023



MCADAMS
TBPE: 19762

Drawn By:	CMK
Date:	12/30/2020
Scale:	N/A
Revisions:	
02/11/2021	
03/11/2021	
05/07/2021	
07/12/2021	

09/25/2023 - AS-BUILT

OWNER/DEVELOPER
 SWBC ROCKWALL LP
 6949 SHERRY LANE, SUITE 750
 DALLAS, TEXAS 75225
 Ph. (214) 987-0700
 Contact: Spencer Byington

WBC20000

C3.12

SWBC ROCKWALL PHASE II
 Lot 1, Block A
 SWBC ROCKWALL - ADDITION, PHASE II
 21,275 Acres
 in the
 J.M. ALLEN SURVEY, ABSTRACT NO. NO. 2
 CITY OF ROCKWALL,
 ROCKWALL COUNTY, TEXAS



SWBC ROCKWALL PHASE II

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