DETENTION POND VOLUME

Description	Elevation (Ft. msl)	Depth (Ft.)	Area (S.F.)	Inc. Vol. (C.F.)	Total Vol. (C.F.)	Storage (AC-FT)	Discharge (CFS)
	589.00	0.00	0	0	0	-	-
	589.50	0.50	452	113	113	-	-
	590.00	0.50	1,126	395	508	-	-
	591.00	1.00	1,209	1,168	1,675	-	-
2-Year	591.90	0.90	1,277	1,119	2,794	0.1	7.4
	592.00	0.10	1,284	128	2,922	-	-
	593.00	1.00	1,359	1,322	4,244	-	-
	594.00	1.00	1,427	1,393	5,636	-	-
10-Year	594.20	0.20	1,441	287	5,923	0.1	15.1
	595.00	0.80	1,499	1,176	7,099	-	-
25-Year	595.40	0.40	1,528	606	7,705	0.2	19.7
	596.00	0.60	1,572	930	8,635	-	-
WQSE	596.77	0.77	1,633	1,234	9,869	-	-
	596.78	0.01	5,659	36	9,905	-	-
100-Year	596.80	0.02	5,660	113	10,019	0.2	27.3
	597.00	0.20	5,677	1,134	11,152	-	-
500-Year	597.30	0.30	5,760	1,716	12,868	-	-

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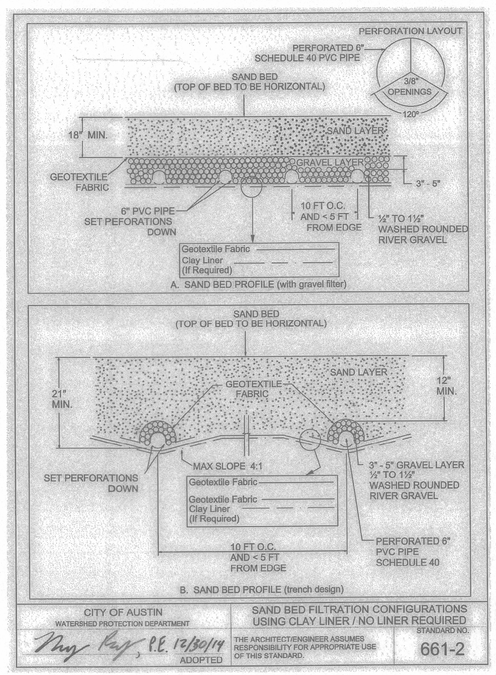
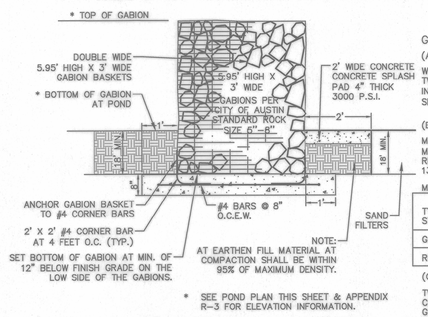
APPENDIX R-3
PARTIAL SEDIMENTATION/FILTRATION POND CALCULATIONS
FOR DEVELOPMENT PERMITS
PATHWAYS AT GOODRICH PLACE, SP-2017-0503C.SH

DRAINAGE AREA DATA:					
Corresponding Drainage Area(s)		*P-1*			
Drainage Area to Control (DA)		3.60	ac.		
Drainage Area Impervious Cover		78%			
Capture Depth (CD)		1.077	in		
WATER QUALITY CONTROL CALCULATIONS:		Required		Provided	
The Water Quality Control is to be **PARTIAL SEDIMENTATION FILTRATION**					
25-year Peak Flow Rate to Control (Q25)	≥	22.30	cfs	25.26	cfs
100-year Peak Flow Rate to Control (Q100)		30.20	cfs		
Water Quality Volume (WQV=CD * DA* 3630)		14074	cf	14503	cf
Maximum Ponding Depth above Sand Bed (H)				3.74	ft
Sedimentation Pond Area				1419	sf
Sedimentation Pond Volume (≥20%WQV)	≥	2900.636	cf	4753	cf
Filtration Pond Area (WQV/(4 + 1.33*H))	≥	1616	sf	2607	sf
Filtration Pond Volume				9750	cf
Water Quality Elevation				596.77	ft msl
Elevation of Splitter/Overflow Weir	≥	596.77	ft msl	596.77	ft msl
Height of Gabion Wall		596.27	ft msl	596.27	ft msl
Gabion Wall under 6 ft (check)	≤	6.00	ft (max)	3.24	ft
Length of Splitter Weir				16.00	ft
Required Head to Pass Q_{100}	≤	1.00	ft (max)	0.681	ft
Pond Freeboard Provided to Pass Q_{100}	≥	0.250	ft (min)	0.299	ft
48 Hour Drawdown Time Orifice Opening diameter (inches)				1.125	in
Drawdown Time COA Calc. Avg. Head (min 48 hrs)	≥	48	hrs	50.00	hrs



NOTE:
THE WIRE MESH SHALL CONSIST OF PLASTIC-COATED (POLYVINLYCHORIDE) GALVANIZED WIRE WITH A DIAMETER OF .0842" FOR REVET MATTRESS AND 0.155" FOR ALL OTHER APPLICATIONS. THE WIRE SALVAGES AND CORNER SHALL BE PLASTIC COATED GALVANIZED WIRE WITH A DIAMETER OF .1305". TIE AND CONNECTING WIRE SHALL BE PLASTIC COATED WIRE WITH A DIAMETER OF .804".



* SEE POND PLAN THIS SHEET & APPENDIX R-3 FOR ELEVATION INFORMATION.

GABION BASKET WALL DETAIL

N.T.S.

GABION MESH

(A) WOVEN MESH

WOVEN MESH SHALL BE OF A UNIFORM NON-RAVELING, DOUBLE TWIST HEXAGONAL PATTERN NOMINALLY OF DIMENSIONS 3.25 INCHES BY 4.5 INCHES (83 MM BY 114 MM). SELVEDGE WIRE SHALL BE 10 GAGS (NOMINAL DIAMETER OF 3.4 MM).

(B) WELDED MESH

MESH OPENING SHALL BE NOMINALLY 3 INCHES (75 MM BY 75 MM). STRENGTH OF WELDS SHALL MEET THE FOLLOWING REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH SECTION 13.4 OF ASTM A-974.

MINIMUM WELD STRENGTH REQUIREMENTS

TYPE OF STRUCTURE	WIRE SIZE (DIAMETER)	MIN. AVERAGE WELD SHEAR STRENGTH
	GAGE (MM)	ENGLISH UNITS (SI UNITS)
GABIONS	12 (2.7)	472 LBF (2.10 kN)
REVET MATTRESS	13.5 (2.2)	292 LBF (1.30 kN)

(C) MANUFACTURING

TWISTED WIRE MESH GABION SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-975, WHILE WELDED WIRE MESH GABIONS SHALL BE MANUFACTURED IN CONFORMANCE WITH ASTM A-974.

COA SPECIFICATION 594S

DRAWDOWN CALCUATIONS FOR A ROUND ORIFICE
USING DYNAMIC HEAD
PROJECT NAME: Pathways at Goodrich Place
FILE PATH:
V:\2220\active\222010805\civil\engineering\Design\pond\Subsurface\(2018-03-05 WQ draw down.xls]Sheet1

ORIFICE DIAMETER =	1.1250 IN.	(1 1/8 IN.	DRILL BIT)	W.Q.V. =	14,503.18 CF
				WQ Elev =	596.77 MSL
CENTER OF				Top of Sand Elev =	593.03 MSL
ORIFICE =	588.72	MSL		Initial Head =	8.05 ft
				Final Head =	4.31 ft

TIME HRS	HEAD FT	OUTFLOW CFS	VOL. CF	dV CF	Total dV CF	H FT	dH FT
0.00	8.05	0.09	14,503.18	339.56	339.56	3.65	0.09
1.00	7.97	0.09	14,163.62	337.70	677.26	3.57	0.09
2.00	7.88	0.09	13,825.92	335.85	1013.11	3.48	0.09
3.00	7.79	0.09	13,490.07	334.00	1347.12	3.39	0.09
4.00	7.71	0.09	13,156.06	332.15	1679.27	3.31	0.09
5.00	7.62	0.09	12,823.91	330.30	2009.57	3.22	0.09
6.00	7.53	0.09	12,493.61	328.45	2338.02	3.14	0.08
7.00	7.45	0.09	12,165.16	326.60	2664.62	3.05	0.08
8.00	7.37	0.09	11,838.56	324.75	2989.36	2.97	0.08
9.00	7.28	0.09	11,513.82	322.90	3312.26	2.89	0.08
10.00	7.20	0.09	11,190.92	321.04	3633.30	2.80	0.08
11.00	7.12	0.09	10,869.88	319.19	3952.49	2.72	0.08
12.00	7.03	0.09	10,550.69	317.34	4269.84	2.64	0.08
13.00	6.95	0.09	10,233.34	315.49	4585.33	2.56	0.08
14.00	6.87	0.09	9,917.85	313.64	4898.96	2.48	0.08
15.00	6.79	0.09	9,604.22	311.79	5210.75	2.40	0.08
16.00	6.71	0.09	9,292.43	309.94	5520.69	2.32	0.08
17.00	6.63	0.09	8,982.49	308.08	5828.77	2.24	0.08
18.00	6.55	0.09	8,674.41	306.23	6135.00	2.16	0.08
19.00	6.47	0.08	8,368.18	304.38	6439.38	2.08	0.08
20.00	6.39	0.08	8,063.80	302.53	6741.91	2.00	0.08
21.00	6.31	0.08	7,761.27	300.68	7042.59	1.92	0.08
22.00	6.24	0.08	7,460.59	298.83	7341.41	1.85	0.08
23.00	6.16	0.08	7,161.77	296.97	7638.39	1.77	0.08
24.00	6.08	0.08	6,864.79	295.12	7933.51	1.69	0.08
25.00	6.01	0.08	6,569.67	293.27	8226.78	1.62	0.08
26.00	5.93	0.08	6,276.40	291.42	8518.20	1.54	0.08
27.00	5.86	0.08	5,984.98	289.57	8807.77	1.47	0.07
28.00	5.78	0.08	5,695.41	287.71	9095.48	1.39	0.07
29.00	5.71	0.08	5,407.70	285.86	9381.34	1.32	0.07
30.00	5.63	0.08	5,121.84	284.01	9665.35	1.25	0.07
31.00	5.56	0.08	4,837.83	282.16	9947.51	1.17	0.07
32.00	5.49	0.08	4,555.67	280.31	10227.82	1.10	0.07
33.00	5.42	0.08	4,275.36	278.45	10506.27	1.03	0.07
34.00	5.34	0.08	3,996.91	276.60	10782.87	0.96	0.07
35.00	5.27	0.08	3,720.31	274.75	11057.62	0.89	0.07
36.00	5.20	0.08	3,445.56	272.90	11330.52	0.82	0.07
37.00	5.13	0.08	3,172.66	271.05	11601.57	0.75	0.07
38.00	5.06	0.07	2,901.61	269.19	11870.76	0.68	0.07
39.00	4.99	0.07	2,632.42	267.34	12138.10	0.61	0.07
40.00	4.92	0.07	2,365.08	265.49	12403.59	0.54	0.07
41.00	4.85	0.07	2,099.59	263.64	12667.22	0.47	0.07
42.00	4.79	0.07	1,835.96	261.78	12929.01	0.41	0.07
43.00	4.72	0.07	1,574.17	259.93	13188.94	0.34	0.07
44.00	4.65	0.07	1,314.24	258.08	13447.01	0.27	0.07
45.00	4.59	0.07	1,056.17	256.23	13703.24	0.21	0.07
46.00	4.52	0.07	799.94	254.37	13957.61	0.14	0.07
47.00	4.45	0.07	545.57	252.52	14210.13	0.08	0.07
48.00	4.39	0.07	293.05	250.67	14460.80	0.01	0.06
49.00	4.32	0.07	42.38	248.81	14709.61	-0.05	0.06
50.00	4.26	0.07	0.00	246.96	14956.57	-0.12	0.06

Know what's below. Call before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

FOR CITY USE ONLY:

SITE PLAN APPROVAL Sheet 32 of 57
FILE NUMBER: SP-2017-0503C.SH / APPLICATION DATE: DECEMBER 11, 2017
APPROVED BY COMMISSION ON: / / UNDER SECTION 118 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81,LDC): / / CASE MANAGER C. DAVIS
PROJECT EXPIRATION DATE (CRD.#070905-A)_____DWPZ ____DDZ ____

Director, Development Services Department

RELEASED FOR GENERAL COMPLIANCE:_____ ZONING: MF-4-CO

Rev. 1_____ Correction 1 _____
Rev. 2_____ Correction 2 _____
Rev. 3_____ Correction 3 _____

FINAL PLAT MUST BE RECORDED BY THE PROJECT EXPIRATION DATE, IF APPLICABLE. SUBSEQUENT SITE PLANS WHICH DO NOT COMPLY WITH THE CODE CURRENT AT THE TIME OF FILING, AND ALL REQUIRED BUILDING PERMITS AND/OR A NOTICE OF CONSTRUCTION (IF A BUILDING PERMIT IS NOT REQUIRED), MUST ALSO BE APPROVED PRIOR TO THE PROJECT EXPIRATION DATE.

Stantec
1905 Aldrich Street, Suite 300
Austin, TX 78723-3544
TBPE # F-8324 TBPLS # 10194230
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Revision	By	Appd.	YY.MM.DD
Issued			

Client/Project
HOUSING AUTHORITY OF THE CITY OF AUSTIN
PATHWAYS AT GOODRICH PLACE
2126 GOODRICH AVENUE
AUSTIN, TEXAS

Title
POND CALCS, NOTES & DETAILS

Permit-Seal
STATE OF TEXAS
DANIEL M. MAHONEY
111560
LICENSED
PROFESSIONAL ENGINEER
7-11-2018

Project Number: 222010805
File Name: 222010805pnd01.dwg

Dwn.	Chkd.	Dsgn.	YY.MM.DD

Drawing No. DWGNO
Revision Sheet
32 of 57

SP-2017-0503C.SH

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2018/07/12 10:03:34 By: rangel, rachel