

DOUPHRATE & ASSOCIATES, INC.  
 ENGINEERING - PROJECT MANAGEMENT - SURVEYING  
 2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087  
 PHONE: (972)771-9004 FAX: (972)771-9005

DRAINAGE AREA MAP / WEIR DETAILS 1 & 2  
 LOT 5, BLOCK A  
 MAVERICK RANCH ADDITION  
 CITY ROCKWALL  
 ROCKWALL COUNTY, TEXAS

REVISION  
 W.L.D.  
 CHECKED  
 GC.W.  
 DRAWN  
 SCALE  
 1" = 30'H  
 1" = V  
 DATE  
 MAY, 2024  
 PROJECT  
 23028  
 41

- LEGEND:
- ⊕ WATER MAIN VALVE
  - ⊕ FIRE HYDRANT
  - SSCO SANITARY SEWER CLEAN-OUT
  - ⊕ SANITARY SEWER MANHOLE
  - ⊕ POWER POLE
  - IRF IRON ROD FOUND
  - WM WATER METER
  - CLF Chainlink Fence
  - OHL OVERHEAD POWER
  - UGE UNDERGROUND ELECTRIC

REVISED TO CONFORM TO CONSTRUCTION RECORDS.  
 DATE: 2-17-26

ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.

POST-CONSTRUCTION DRAINAGE TABLE

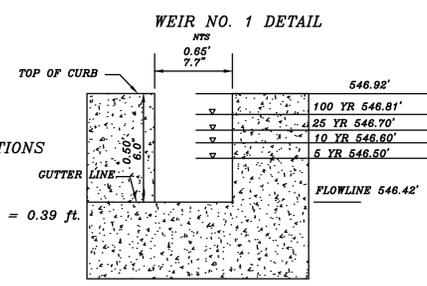
DRAINAGE AREA NO.	ACRES	T.C.	C	I 100 YR.	Q 100 YR.	SUM Q 100 YR.	COMMENTS
1	0.02	10	0.9	9.8	0.18	0.18	DETAINED WEIR 1
2	0.02	"	0.9	"	0.18	0.36	DETAINED WEIR 2
3	0.004	"	0.9	"	0.04	0.36	(BYPASS)
4	0.03	"	0.9	"	0.26	0.63	(BYPASS)
5	0.09	"	0.9	"	0.79	1.42	(BYPASS)
6	0.03	"	0.9	"	0.26	1.68	(BYPASS)
7	0.04	"	0.9	"	0.35	2.03	(BYPASS)
8	0.11	"	0.9	"	0.97	3.00	PASS THROUGH (BYPASS)
9	0.13	"	0.9	"	1.15	4.15	PASS THROUGH (BYPASS)
10	0.18	"	0.9	"	1.59	1.59	PASS THROUGH (BYPASS)
11	0.24	"	0.9	"	3.00	4.59	DETAINED AT WEIR 4
12	0.23	"	0.9	"	0.26	4.85	DETAINED AT WEIR 4
13	0.60	"	0.9	"	5.29	10.14	DETAINED AT WEIR 5

PRE- CONSTRUCTION EXIST CONDITIONS TOTAL ALLOWABLE RELEASE RATE FOR POI-1= 3.84 CFS  
 TOTAL DETAINED FOR POI-1 = 4.15 CFS ( DEVELOPED AREAS 1-9) - 3.84 (RELEASE ALLOWED) = .31 CFS  
 WEIR NO 1 AND WEIR NO 2 WILL EACH DETAIN .16 CFS  
 THEREFORE ALLOWABLE RELEASE RATE FOR WEIR NO 1 (AREAS 8 & 1) = 1.15- .16= .99 CFS  
 ALLOWABLE RELEASE RATE FOR WEIR NO 2 (AREAS 9 & 2) = 1.33- .16= 1.17 CFS

PRE- CONSTRUCTION CONDITIONS TOTAL ALLOWABLE RELEASE RATE FOR POI-2= 4.56 CFS  
 TOTAL DETAINED FOR POI-2 = 10.14 CFS (DEVELOPED AREAS 10,11,12, & 13)- 4.56(RELEASE ALLOWED)= 5.58 CFS  
 THEREFORE COMBINED ALLOWABLE RELEASE RATE FOR WEIR NOs 4 & 5 (AREAS 10-13) = 4.56 cfs

DETENTION WEIR NO 1

DETENTION WEIR NO 2

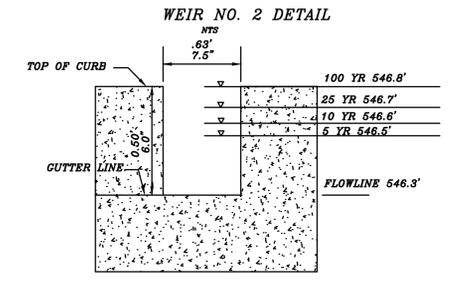


WEIR NO. 1 CALCULATIONS  
 Rectangular Suppressed Weir  
 $Q = 3.33 h_1^{3/2} L$   
 $h_1 = \text{Height of Weir} = 4.7 \text{ in.} = 0.39 \text{ ft.}$   
 $L = \text{Length of Weir}$   
 $.99 = 3.33 (.39)^{1.5} L$   
 $L = 1.23 \text{ ft.} = 14.8 \text{ in.}$

AREAS DETAINED 1 & 8  
 AREAS PREDEVELOPED PASS THROUGH 8  
 DETENTION REQUIRED - 274 cf  
 DETENTION PROVIDED - 274 cf  
 Q DETAINED THRU WEIR= .16 cfs

STORAGE VOLUME STAGE

STORM	d	ELEVATION	VOLUME	Qallowable	Qactual
5 YR	0.08	546.5 ft	102.5 cf	.67 cfs	.67 cfs
10 YR	0.18	546.6 ft	108.7 cf	.79 cfs	.79 cfs
25 YR	0.29	546.7 ft	135.0 cf	.90 cfs	.90 cfs
100 YR	0.39	546.8 ft	202.0 cf	.99 cfs	.99 cfs

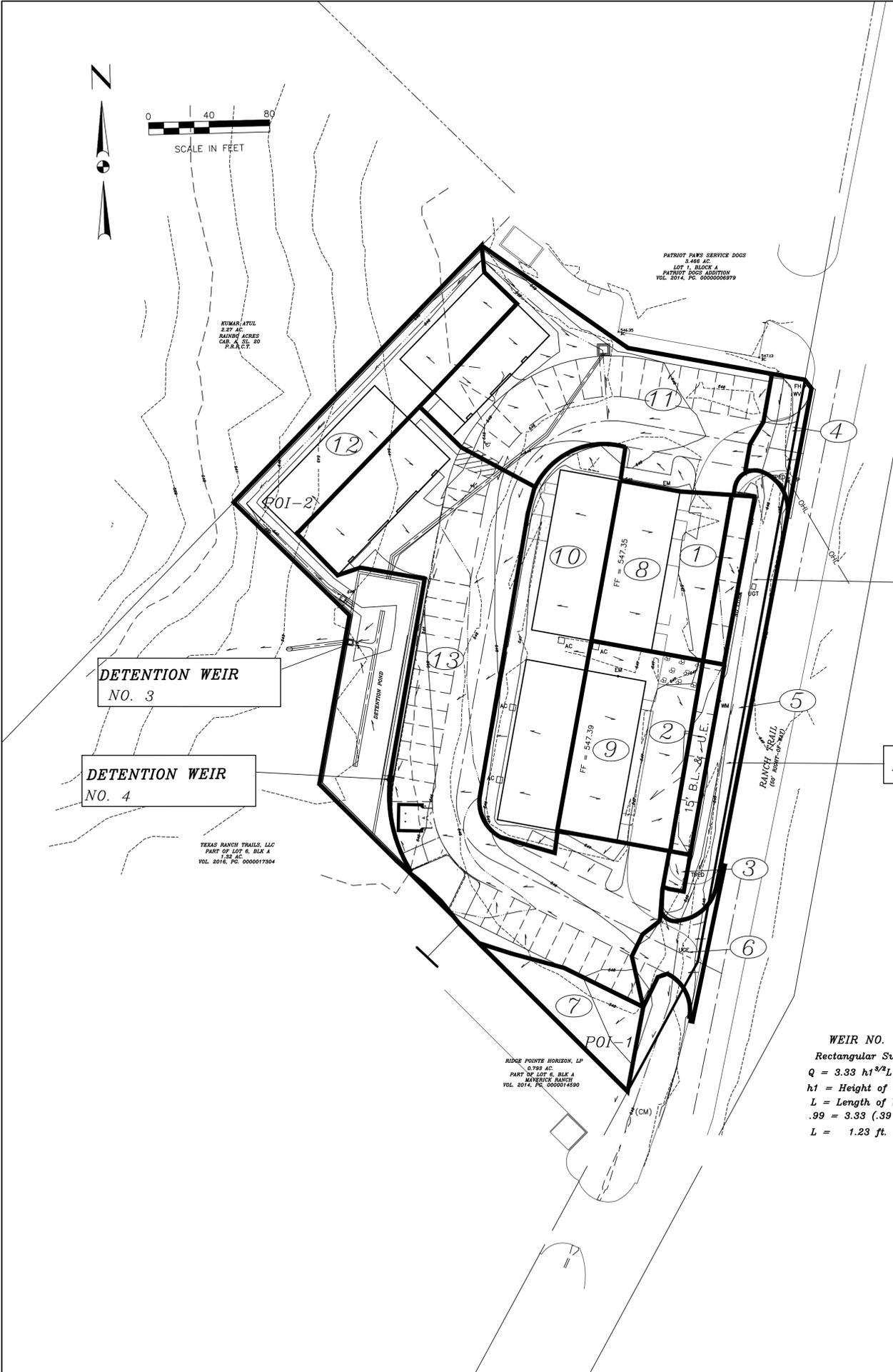


WEIR NO. 2 CALCULATIONS  
 Rectangular Suppressed Weir  
 $Q = 3.33 h_1^{3/2} L$   
 $h_1 = \text{Height of Weir} = 6.0 \text{ in.} = 0.5 \text{ ft.}$   
 $L = \text{Length of Weir}$   
 $1.17 = 3.33 (.50)^{1.5} L$   
 $L = .99 \text{ ft.} = 11.9 \text{ in.}$

AREAS DETAINED 2 & 9  
 AREAS PREDEVELOPED PASS THROUGH 9  
 DETENTION REQUIRED - 292 cf  
 DETENTION PROVIDED - 292 cf  
 Q DETAINED THRU WEIR= .16 CFS

STORAGE VOLUME STAGE

STORM	d	ELEVATION	VOLUME	Qallowable	Qactual
5 YR	0.20	546.5 ft	126.6 cf	.76 cfs	.76 cfs
10 YR	0.30	546.6 ft	133.0 cf	.90 cfs	.90 cfs
25 YR	0.40	546.7 ft	167.0 cf	1.0 cfs	1.0 cfs
100 YR	0.50	546.8 ft	246.5 cf	1.17 cfs	1.17 cfs



SCALE IN FEET  
 0 40 80

PATRIOT PAWS SERVICE DOGS  
 3.468 AC.  
 ADD. 1. BLOCK A  
 PATRIOT DOGS ADDITION  
 VOL. 2014, P.C. 0000006979

KUMAR-ATUL  
 2.87 AC.  
 RAINBOW ACRES  
 C&B. A. 34. 40  
 P.R.A.C.T.

TEXAS RANCH TRAILS, LLC  
 PART OF LOT 6, BLK A  
 1.58 AC.  
 VOL. 2016, P.C. 000017304

RIDGE POINTE HORIZON, LP  
 0.793 AC.  
 PART OF LOT 6, BLK A  
 MAVERICK RANCH  
 VOL. 2014, P.C. 000014690