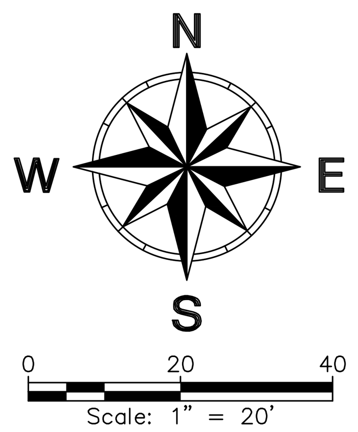


100-YEAR EMERGENCY SPILLWAY CAPACITY CALCULATION			
Channel Height	h	1	ft
Base	b	10	ft
Mannings	n	0.015	
Slope	S	1	%
Right Side Slope	zR	4	ft/ft
Left Side Slope	zL	4	ft/ft
Channel Area	Ch A	14.00	ft^2
Water Area	A	2.72	ft^2
Wetted Perimeter	Wp	12.04	ft
Hydraulic radius	R	0.22596	
Velocity	V	3.68	ft/s
Depth	d	0.247574	ft
Flow Rate	Q_{cap}	116.24	cfs
	Q100	10.00	cfs

Pond Storage				
Elevation	Contour Area	Storage (Incremental)	Storage (Cumulative)	Storage
(ft)	(sq-ft)	(cu-ft)	(cu-ft)	(ac-ft)
584.43	0.00	0.00	0.00	0.00
585	510.00	145.35	145.35	0.00
586	4,307.00	2408.50	2553.85	0.06
587	5,900.00	5103.50	7657.35	0.18
588	7,352.00	6626.00	14283.35	0.33
589	8,940.00	8146.00	22429.35	0.51
590	10,665.00	9802.50	32231.85	0.74
591	12,581.00	11623.00	43854.85	1.01
592	14,701.00	13641.00	57495.85	1.32

Select County:	ROCKWALL
Enter C Value:	0.90
Enter Total Area:	3.976
Starting Flow Line:	584.43
Number of Storm Events:	1

	Table	Storm Event	Q_{max}	WSE	STORAGE (cu-ft)	STORAGE (ac-ft)
Enter Storm Yr Events: (Highest to Lowest) 100, 50, 25, 10, 5, 2, 1	1	100	10	590.75	40,937	0.94
	2	50	9.39	590.29	35,587	0.82
	3	25	9.18	589.62	28,484	0.65
	4	10	8.21	589.24	24,763	0.57
	5	5	6.82	588.84	21,095	0.48
	6					
	7					

Total Pond Area and Composite C value			
Area #	Area (ac)	C Value	C*A
E-3	0.570	0.90	0.513
E-4	0.578	0.90	0.520
E-6	1.383	0.90	1.245
E-7	1.445	0.90	1.301
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
			0.000
Total Pond Drainage Area	3.976		3.578
COMPOSITE C VALUE (total area/sum of C*A)			0.90

GRADING LEGEND

- 629 — EXISTING CONTOURS
- 629 — PROP. CONTOURS
- 629.50tc — Ex. Spot Grade
- 629.50TC / 629.00TP — PROP. TOP OF CURB / PROP. TOP OF PAVEMENT
- 629.00G — PROP. FINISHED GRADE
- FLOW ARROW
- GRADE BREAK

AS-BUILT

THIS RECORD DRAWING IS COMPILATION OF A COPY OF THE SEALED ENGINEERING DRAWING FOR THIS PROJECT; MODIFIED BY ADDENDA, CHANGE ORDERS, AND INFORMATION FURNISHED BY THE CONTRACTOR. THE INFORMATION SHOWN ON THE RECORD DRAWINGS THAT WAS PROVIDED BY THE CONTRACTOR OR OTHERS NOT ASSOCIATED WITH THE DESIGN ENGINEER CANNOT BE VERIFIED FOR ACCURACY OR COMPLETENESS. THE ORIGINAL SEALED DRAWING ARE ON FILE AT THE OFFICES OF WINKELMANN AND ASSOCIATES, INC.

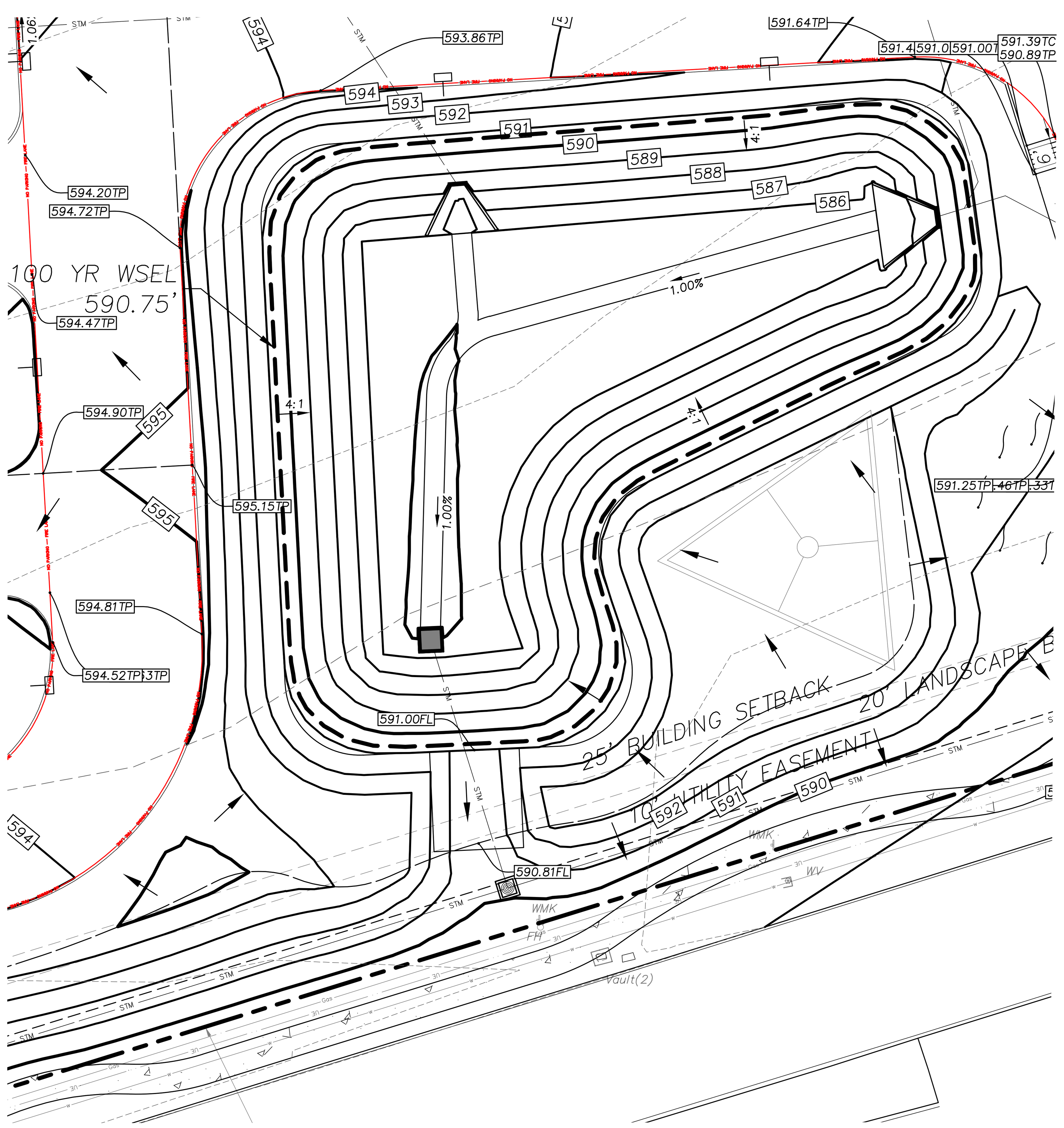
WINKELMANN AND ASSOCIATES, INC. — 04-20-2026 DATE

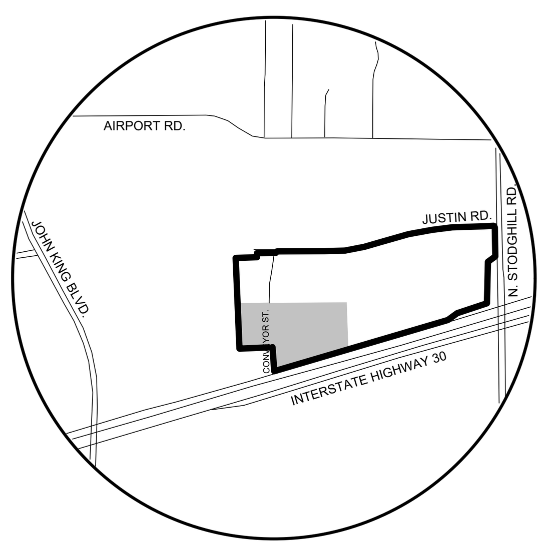
DETENTION POND CALCULATIONS Table 1				Storm Event	Existing Flow Rate		
				100 Year	10 cfs		
MIN	I-100YR	C*	TOTAL AREA (ac)	TOTAL CFS	TOTAL FLOW	OUTFLOW	STORAGE
10	9.80	0.90	3.98	35.07	21041	6000	15041
15	9.00	0.90	3.98	32.21	28985	7500	21485
20	8.30	0.90	3.98	29.70	35641	9000	26641
30	6.90	0.90	3.98	24.69	44444	12000	32444
40	5.80	0.90	3.98	20.75	49811	15000	34811
50	5.00	0.90	3.98	17.89	53676	18000	35676
60	4.50	0.90	3.98	16.10	57970	21000	36970
70	4.00	0.90	3.98	14.31	60117	24000	36117
80	3.70	0.90	3.98	13.24	63552	27000	36552
90	3.50	0.90	3.98	12.52	67632	30000	37632
100	3.40	0.90	3.98	12.17	72999	33000	39999
110	3.20	0.90	3.98	11.45	75576	36000	39576
Detention Storage Required Calculated from City of Rockwall (cubic feet) =							40,937
Detention Storage Required (acre feet) =							0.94
100 Year Water Surface Elevation =							590.75
Pond Elevation Including 2 ft Freeboard =							592.75

		100 -YR STORM PEAK	
WTR Surface Elev.		590.75	
Elevation Difference		6.32	
$Q_{MAXALLOWABLE}$ (cfs)		10	
100 YR	$H_{effective}$ (ft)	H_{A1-WS1}	5.32
	Area (ft^2)	A_1	0.90

SINGLE SIDED

Top of Hole Elev	586.43	4.32 Width = 0.45 ft	100 YR	WSE = 590.75
		Height = 2 ft	Flowline	= 584.43





VICINITY MAP
NOT TO SCALE

BEFORE YOU DIG Texas 811

BENCH MARKS:

BM#1 - "X" cut on the most Westerly Northwest corner of a curb inlet, West curb line of F.M. Highway 3549, ±18.0 feet East of the East property line of Tract 2 and ±5.1 feet North of the North property line of Tract 2.

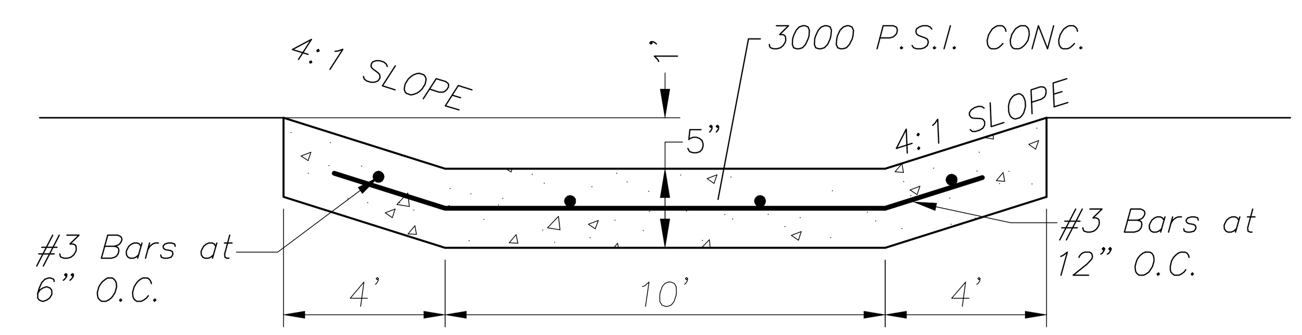
ELEVATION - 605.81 feet

BM#2 - "X" cut on the most Northerly Northwest corner of a curb inlet, West curb line of F.M. Highway 3549, ±81.2 feet East of the East property line of Tract 2 and ±27.3 feet North of the South property line of Tract 2.

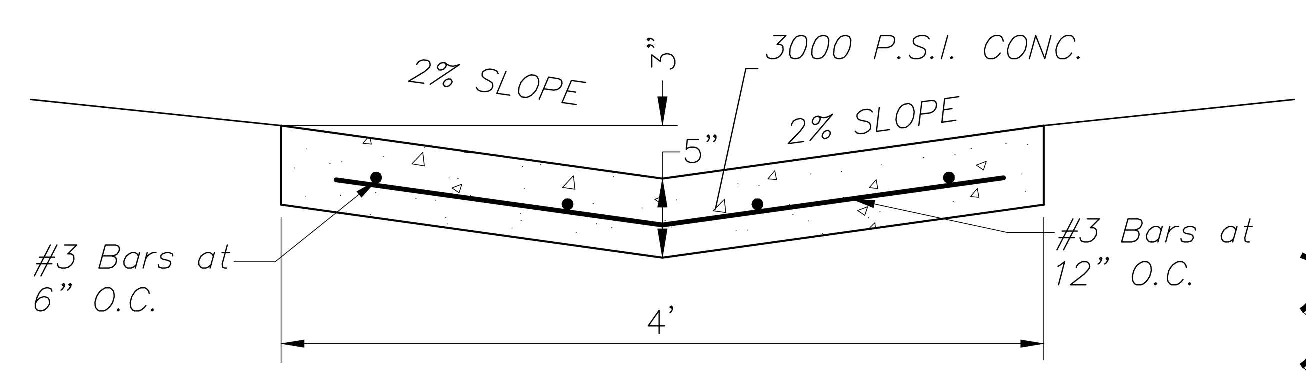
ELEVATION - 593.26 feet

BM#3 - "X" cut on the most Northerly Northwest corner of a curb inlet, North curb line of Interstate Highway 30 (service road), ±10.9 feet South of the South property line and ±33.8 feet Northeast of the most Southerly Southwest corner of Tract 2.

ELEVATION - 587.31 feet



EMERGENCY SPILLWAY
N.T.S.



4' CONCRETE PILOT FLUME (INSIDE POND)
N.T.S.

NOTICES TO CONTRACTOR

EXISTING UNDERGROUND/BURIED PUBLIC, PRIVATE, AND FRANCHISE UTILITIES/FACILITIES AFFECT THIS SITE, AND ARE DEPICTED ON THE PLANS PER THE BEST AVAILABLE INFORMATION AT THE TIME THE PLANS WERE PRODUCED. WINKELMANN & ASSOC., INC. SHALL NOT BE RESPONSIBLE FOR KNOWING THE EXACT LOCATION OF ALL FACILITIES OR DEPICTING EXACT LOCATIONS OF SAID FACILITIES ON THE PLANS BEYOND WHAT IS STATED ABOVE.

CONTRACTOR(S) SHALL CALL "811" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK ON THE SITE, AND SHALL NOT BEGIN ANY EXCAVATION OR DEMOLITION ACTIVITES UNTIL AFTER SAID FACILITIES HAVE BEEN MARKED AND/OR FLAGGED PER "811" OR THE FACILITY OWNERS.

CONTRACTOR(S) SHALL BE WHOLLY RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR TO SAID FACILITIES DUE TO WORK BEING DONE WITHOUT FOLLOWING THE PROCEDURES ABOVE.

No.	DATE	REVISION	APPROV.
1.			
2.			
3.			
4.			
5.			

LAST SAVED BY: CGUIJOSA April 21, 2026

Winkelmann & Associates, Inc.
CONSULTING CIVIL ENGINEERS ■ SURVEYORS
6750 HILLCREST PLAZA DRIVE, SUITE 215
DALLAS, TEXAS 75230
(972) 490-7090
(972) 490-7099 FAX
Texas Engineers Registration No. 89
Texas Surveyors Registration No. 100866-00

COPYRIGHT © 2026, Winkelmann & Associates, Inc.

STATE OF TEXAS — WILLIAM R. WINKELMANN — 120378 — LICENSED PROFESSIONAL ENGINEER

02-25-2025
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY WILLIAM R. WINKELMANN, P.E. # 120378

DETENTION POND 2 PLAN

I-30 FRONTAGE RD & FM 3549
ROCKWALL, TX

IKEA @ ROCKWALL HEIGHTS

63406

C-05.08

G:\634\06\ENGINEERING\Construction Plans\63406-GRD.dwg