

EXISTING DRAINAGE CRITERIA
 $Q=C(I)(A)$

DRAINAGE AREA No.	AREA (acres)	C	Tc (minutes)	STORM FREQUENCY	I ₁₀₀ (inch/hour)	Q ₁₀₀ (cfs)	STORM FREQUENCY	I ₅ (inch/hour)	Q ₅ (cfs)	STORM FREQUENCY	I ₁ (inch/hour)	Q ₁ (cfs)	REMARKS			
DA#1	1.11	0.35	20.00	100 YEAR	8.30	3.22	25 YEAR	6.70	2.60	10 YEAR	5.90	2.29	5 YEAR	4.90	1.90	BY-PASS
DA#2	8.27	0.35	20.00	100 YEAR	8.30	24.02	25 YEAR	6.70	19.39	10 YEAR	5.90	17.08	5 YEAR	4.90	14.18	BY-PASS
DA#3	21.92	0.35	20.00	100 YEAR	8.30	63.68	25 YEAR	6.70	51.40	10 YEAR	5.90	45.26	5 YEAR	4.90	37.59	OFF-SITE TO WEST POND
DA#4	2.72	0.35	20.00	100 YEAR	8.30	7.90	25 YEAR	6.70	6.38	10 YEAR	5.90	5.62	5 YEAR	4.90	4.66	WEST POND
DA#5	33.08	0.35	20.00	100 YEAR	8.30	96.10	25 YEAR	6.70	77.57	10 YEAR	5.90	68.31	5 YEAR	4.90	56.73	ON-SITE TO WEST POND
DA#6	38.10	0.35	20.00	100 YEAR	8.30	110.68	25 YEAR	6.70	89.34	10 YEAR	5.90	78.68	5 YEAR	4.90	65.34	OFF-SITE TO EAST POND
DA#7	4.36	0.35	20.00	100 YEAR	8.30	12.67	25 YEAR	6.70	10.22	10 YEAR	5.90	9.00	5 YEAR	4.90	7.48	EAST POND
DA#8	45.55	0.35	20.00	100 YEAR	8.30	132.32	25 YEAR	6.70	106.81	10 YEAR	5.90	94.06	5 YEAR	4.90	78.12	ON-SITE TO EAST POND
TOTAL	155.11				TOTAL	450.59		TOTAL	363.73		TOTAL	320.30		TOTAL	266.01	

NOTE:
 EXISTING DRAINAGE AREAS FOR DA 5 & DA 8 PER PLANS PREPARED BY: WIER & ASSOCIATES FOR: ROCKWALL TECHNOLOGY PARK PHASE IV DATED: FEBRUARY 2015

PROPOSED DRAINAGE CRITERIA:
 $Q=C(I)(A)$

DRAINAGE AREA No.	AREA (acres)	C	Tc (minutes)	STORM FREQUENCY	I ₁₀₀ (inch/hour)	Q ₁₀₀ (cfs)	STORM FREQUENCY	I ₅ (inch/hour)	Q ₅ (cfs)	STORM FREQUENCY	I ₁ (inch/hour)	Q ₁ (cfs)	REMARKS			
DA#1	1.11	0.35	20.00	100 YEAR	8.30	3.22	25 YEAR	6.70	2.60	10 YEAR	5.90	2.29	5 YEAR	4.90	1.90	BY-PASS
DA#2	8.27	0.35	20.00	100 YEAR	8.30	24.02	25 YEAR	6.70	19.39	10 YEAR	5.90	17.08	5 YEAR	4.90	14.18	BY-PASS
DA#3	21.92	0.35	20.00	100 YEAR	8.30	63.68	25 YEAR	6.70	51.40	10 YEAR	5.90	45.26	5 YEAR	4.90	37.59	OFF-SITE TO WEST POND
DA#4	2.72	0.90	10.00	100 YEAR	9.80	23.99	25 YEAR	8.30	20.32	10 YEAR	7.10	17.38	5 YEAR	6.20	15.18	WEST POND
DA#5	33.08	0.90	10.00	100 YEAR	9.80	291.77	25 YEAR	8.30	247.11	10 YEAR	7.10	211.38	5 YEAR	6.20	184.59	ON-SITE TO WEST POND
DA#6	38.10	0.35	20.00	100 YEAR	8.30	110.68	25 YEAR	6.70	89.34	10 YEAR	5.90	78.68	5 YEAR	4.90	65.34	OFF-SITE TO EAST POND
DA#7	4.36	0.90	10.00	100 YEAR	9.80	39.48	25 YEAR	8.30	32.57	10 YEAR	7.10	27.86	5 YEAR	6.20	24.33	EAST POND
DA#8	47.47	0.90	10.00	100 YEAR	9.80	418.69	25 YEAR	8.30	354.60	10 YEAR	7.10	303.33	5 YEAR	6.20	264.88	ON-SITE TO EAST POND
TOTAL	157.03				TOTAL	974.50		TOTAL	817.34		TOTAL	703.27		TOTAL	608.00	

100 YEAR STORM EVENT EAST DETENTION POND
 ALLOWABLE DRAINAGE CRITERIA
 Q = CIA
 A = 88.01 Acres (DA 6, 7, & 8)
 C = 0.35
 Tc = 20 minutes
 I₁₀₀ = 8.30 in/hr
 Q₁₀₀ = 255.67 cfs (ALLOWABLE DISCHARGE)

25 YEAR STORM EVENT EAST DETENTION POND
 EXISTING DRAINAGE CRITERIA
 Q = CIA
 A = 88.01 Acres
 C = 0.35
 Tc = 20 minutes
 I₂₅ = 6.70 in/hr
 Q₂₅ = 206.38 cfs (ALLOWABLE DISCHARGE)

10 YEAR STORM EVENT EAST DETENTION POND
 EXISTING DRAINAGE CRITERIA
 Q = CIA
 A = 88.01 Acres
 C = 0.35
 Tc = 20 minutes
 I₁₀ = 5.90 in/hr
 Q₁₀ = 181.74 cfs (ALLOWABLE DISCHARGE)

5 YEAR STORM EVENT EAST DETENTION POND
 EXISTING DRAINAGE CRITERIA
 Q = CIA
 A = 88.01 Acres
 C = 0.35
 Tc = 20 minutes
 I₅ = 4.90 in/hr
 Q₅ = 150.94 cfs (ALLOWABLE DISCHARGE)

PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 51.83 Acres (DA 7 & 8) 57.6%
 C = 0.90
 Tc = 10 minutes
 I₁₀₀ = 9.80 in/hr
 Q₁₀₀ = 457.14 cfs (DEVELOPED)
 A = 38.10 Acres (DA 6) 42.4%
 C = 0.35
 Tc = 20 minutes
 I₁₀₀ = 8.30 in/hr
 Q₁₀₀ = 110.68 cfs (UNDEVELOPED)

PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 51.83 Acres (DA 7 & 8) 57.6%
 C = 0.90
 Tc = 10 minutes
 I₂₅ = 8.30 in/hr
 Q₂₅ = 387.17 cfs (DEVELOPED)
 A = 38.10 Acres (DA 6) 42.4%
 C = 0.35
 Tc = 20 minutes
 I₂₅ = 6.70 in/hr
 Q₂₅ = 89.34 cfs (UNDEVELOPED)

PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 51.83 Acres (DA 7 & 8) 57.6%
 C = 0.90
 Tc = 10 minutes
 I₁₀ = 7.10 in/hr
 Q₁₀ = 331.19 cfs (DEVELOPED)
 A = 38.10 Acres (DA 6) 42.4%
 C = 0.35
 Tc = 20 minutes
 I₁₀ = 5.90 in/hr
 Q₁₀ = 78.68 cfs (UNDEVELOPED)

PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 51.83 Acres (DA 7 & 8) 57.6%
 C = 0.90
 Tc = 10 minutes
 I₅ = 4.90 in/hr
 Q₅ = 228.57 cfs (DEVELOPED)
 A = 38.10 Acres (DA 6) 42.4%
 C = 0.35
 Tc = 20 minutes
 I₅ = 6.10 in/hr
 Q₅ = 81.34 cfs (UNDEVELOPED)

TOTAL AREA = 89.93 Acres
 ADJUSTED EAST DETENTION C = 0.67
 TOTAL Q₁₀₀ = 567.82 cfs (TO EAST DETENTION)
 ALLOWABLE Q FROM EAST DETENTION = 255.67 cfs

TOTAL AREA = 89.93 Acres
 ADJUSTED EAST DETENTION C = 0.67
 TOTAL Q₂₅ = 476.51 cfs (TO EAST DETENTION)
 ALLOWABLE Q FROM EAST DETENTION = 206.38 cfs

TOTAL AREA = 89.93 Acres
 ADJUSTED EAST DETENTION C = 0.67
 TOTAL Q₁₀ = 409.87 cfs (TO EAST DETENTION)
 ALLOWABLE Q FROM EAST DETENTION = 181.74 cfs

TOTAL AREA = 89.93 Acres
 ADJUSTED EAST DETENTION C = 0.67
 TOTAL Q₅ = 309.91 cfs (TO EAST DETENTION)
 ALLOWABLE Q FROM EAST DETENTION = 150.94 cfs

WEST DETENTION POND
 EXISTING DRAINAGE CRITERIA
 Q = CIA
 A = 137.56 Acres (DA 3 thru DA 8)
 C = 0.35
 Tc = 20 minutes
 I₁₀₀ = 8.30 in/hr
 Q₁₀₀ = 399.61 cfs (ALLOWABLE DISCHARGE)

WEST DETENTION POND
 EXISTING DRAINAGE CRITERIA
 Q = CIA
 A = 137.56 Acres (DA 3 thru DA 8)
 C = 0.35
 Tc = 20 minutes
 I₂₅ = 6.70 in/hr
 Q₂₅ = 322.58 cfs (ALLOWABLE DISCHARGE)

WEST DETENTION POND
 EXISTING DRAINAGE CRITERIA
 Q = CIA
 A = 137.56 Acres (DA 3 thru DA 8)
 C = 0.35
 Tc = 20 minutes
 I₁₀ = 5.90 in/hr
 Q₁₀ = 284.06 cfs (ALLOWABLE DISCHARGE)

WEST DETENTION POND
 EXISTING DRAINAGE CRITERIA
 Q = CIA
 A = 137.56 Acres (DA 3 thru DA 8)
 C = 0.35
 Tc = 20 minutes
 I₅ = 4.90 in/hr
 Q₅ = 235.92 cfs (ALLOWABLE DISCHARGE)

PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 89.93 Acres (DA 6, 7 & 8) 64.0%
 C = 0.35
 Tc = 20 minutes
 I₁₀₀ = 8.30 in/hr
 Q₁₀₀ = 223.93 cfs (UNDEVELOPED)
 A = 27.63 Acres (DA 4 & 5) 20.0%
 C = 0.90
 Tc = 10 minutes
 I₁₀₀ = 9.80 in/hr
 Q₁₀₀ = 243.61 cfs (DEVELOPED)
 A = 21.92 Acres (DA 3) 16.0%
 C = 0.35
 Tc = 20 minutes
 I₁₀₀ = 8.30 in/hr
 Q₁₀₀ = 63.68 cfs (UNDEVELOPED)

PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 89.93 Acres (DA 6, 7 & 8) 64.0%
 C = 0.35
 Tc = 20 minutes
 I₂₅ = 6.70 in/hr
 Q₂₅ = 210.89 cfs (UNDEVELOPED)
 A = 27.63 Acres (DA 4 & 5) 20.0%
 C = 0.90
 Tc = 10 minutes
 I₂₅ = 8.30 in/hr
 Q₂₅ = 206.40 cfs (DEVELOPED)
 A = 21.92 Acres (DA 3) 16.0%
 C = 0.35
 Tc = 20 minutes
 I₂₅ = 6.70 in/hr
 Q₂₅ = 51.40 cfs (UNDEVELOPED)

PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 89.93 Acres (DA 6, 7 & 8) 64.0%
 C = 0.35
 Tc = 20 minutes
 I₁₀ = 5.90 in/hr
 Q₁₀ = 185.71 cfs (UNDEVELOPED)
 A = 27.63 Acres (DA 4 & 5) 20.0%
 C = 0.90
 Tc = 10 minutes
 I₁₀ = 7.10 in/hr
 Q₁₀ = 176.56 cfs (DEVELOPED)
 A = 21.92 Acres (DA 3) 16.0%
 C = 0.35
 Tc = 20 minutes
 I₁₀ = 5.90 in/hr
 Q₁₀ = 45.26 cfs (UNDEVELOPED)

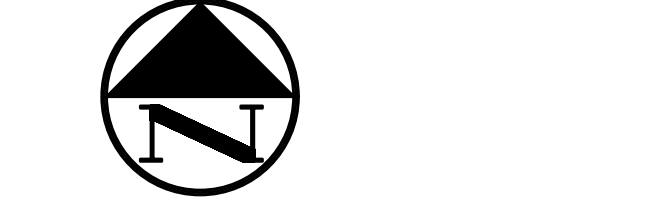
PROPOSED DRAINAGE CRITERIA
 Q = CIA
 A = 89.93 Acres (DA 6, 7 & 8) 64.0%
 C = 0.35
 Tc = 20 minutes
 I₅ = 4.90 in/hr
 Q₅ = 154.23 cfs (UNDEVELOPED)
 A = 27.63 Acres (DA 4 & 5) 20.0%
 C = 0.90
 Tc = 10 minutes
 I₅ = 6.10 in/hr
 Q₅ = 151.69 cfs (DEVELOPED)
 A = 21.92 Acres (DA 3) 16.0%
 C = 0.35
 Tc = 20 minutes
 I₅ = 4.90 in/hr
 Q₅ = 37.59 cfs (UNDEVELOPED)

TOTAL AREA = 139.48 Acres
 ADJUSTED WEST DETENTION C = 0.46
 TOTAL Q₁₀₀ = 531.22 cfs (TO WEST DETENTION)
 ALLOWABLE Q FROM WEST DETENTION = 399.61 cfs

TOTAL AREA = 139.48 Acres
 ADJUSTED WEST DETENTION C = 0.46
 TOTAL Q₂₅ = 468.69 cfs (TO WEST DETENTION)
 ALLOWABLE Q FROM WEST DETENTION = 322.58 cfs

TOTAL AREA = 139.48 Acres
 ADJUSTED WEST DETENTION C = 0.46
 TOTAL Q₁₀ = 407.53 cfs (TO WEST DETENTION)
 ALLOWABLE Q FROM WEST DETENTION = 284.06 cfs

TOTAL AREA = 139.48 Acres
 ADJUSTED WEST DETENTION C = 0.46
 TOTAL Q₅ = 343.51 cfs (TO WEST DETENTION)
 ALLOWABLE Q FROM WEST DETENTION = 235.92 cfs



LEGEND

- PROPERTY LINE
- - - EXISTING DRAINAGE DIVIDE
- - - PROPOSED DRAINAGE DIVIDE
- EX 8
1.00
7.99
EXISTING DRAINAGE AREA ID
AREA IN ACRES
Q₁₀₀ IN CUBIC FEET PER SECOND
- DA 8
1.00
7.99
PROPOSED DRAINAGE AREA ID
AREA IN ACRES
Q₁₀₀ IN CUBIC FEET PER SECOND

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 ATTESTED BY:
 SIGNATURE: *[Signature]*
 ENGINEER OF RECORD: CHET LEUGERS, P.E.
 CONTRACTOR: MILLER-VALENTINE CONSTRUCTION
 DATE REVISED: 09/18/2017

NO.	DATE	REVISION
	09/18/2017	RECORD DRAWINGS
Pacheco Koch		
7557 RAMBLER ROAD, SUITE 1400 DALLAS, TX 75231 972.235.3031 TX REG. ENGINEERING FIRM F-14439 TX REG. SURVEYING FIRM LS-10193005		
DRAINAGE AREA MAP		
ROCKWALL REGIONAL DETENTION POND		
LOT 1, BLOCK B		
ROCKWALL TECHNOLOGY PARK PHASE IV		
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS		
DESIGN	DRAWN	DATE
CTL	RHB	AUG 2016
SCALE	NOTES	FILE
1"=200'		
NO.		
C3.1		