

**LEGEND**

- ⊕ FIRE HYDRANT
- ⊕ WATER METER
- ⊕ MANHOLE
- ⊕ TREE
- ⊕ LIGHT POLE
- +TP600.0 EX. TOP OF PVMT.
- +TC600.0 EX. TOP OF CONC.
- +TG600.0 EX. TOP OF GRND.
- +ETC600.0 EX. TOP OF CURB
- +600.0 FIN. FLR. SPOT ELEV.
- TP600.0 TOP OF PAVEMENT
- TC600.0 TOP OF CONCRETE
- TG600.0 TOP OF GROUND
- 600.0 TOP OF CURB
- 650 PROP. GRADE LINE
- 650- EX. GRADE LINE
- FF FINISHED FLOOR
- ↑ GUY WIRE ANCHOR
- POWER POLE
- STREET/CABLE SIGN
- ⊕ WATER VALVE
- ⊕ UTILITY BOX
- ⊕ WOOD BOLLARD
- ⊕ GAS METER
- ⊕ CURB INLET
- ⊕ GRATE INLET
- ⊕ UTILITY MANHOLE
- ⊕ STORM MANHOLE
- ⊕ SWB MANHOLE
- ⊕ MAIL BOX

**DRAINAGE LEGEND**

- A-1 DRAINAGE AREA DESIGNATION
- 5.00 AREA (ACRES)
- DRAINAGE AREA DIVIDE
- DRAINAGE FLOW ARROW

**DRAINAGE SUMMARY TABLE: (DEVELOPED)**

DRAINAGE AREA NO.	AREA (Acres)	$t_c$ (Time Con.)	C*K Design	$I_s$ (0.1/P.A.)	$I_{25}$ (0.1/P.A.)	$I_{50}$ (0.1/P.A.)	$Q_s$ (cfs)	$Q_{25}$ (cfs)	$Q_{50}$ (cfs)	REMARKS
A-1	0.88	10	0.90	N/A	N/A	9.80	N/A	N/A	7.76	SURFACE TO DRIVE
A-2	0.18	10	0.90	N/A	N/A	9.80	N/A	N/A	1.59	WALMART DETENTION
A-3	0.02	10	0.90	N/A	N/A	9.80	N/A	N/A	0.17	TACO BUENO
A-4	0.06	10	0.90	N/A	N/A	9.80	N/A	N/A	0.53	OUT DRIVE

**DRAINAGE SUMMARY TABLE: (UN DEVELOPED)**

DRAINAGE AREA NO.	AREA (Acres)	$t_c$ (Time Con.)	C*K Design	$I_s$ (0.1/P.A.)	$I_{25}$ (0.1/P.A.)	$I_{50}$ (0.1/P.A.)	$Q_s$ (cfs)	$Q_{25}$ (cfs)	$Q_{50}$ (cfs)	REMARKS
A-1	0.88	20	0.35	N/A	N/A	8.30	N/A	N/A	2.55	OVER LAND FLOW
A-2	0.18	20	0.35	N/A	N/A	8.30	N/A	N/A	0.52	OVER LAND FLOW
A-3	0.02	10	0.35	N/A	N/A	8.30	N/A	N/A	0.06	OVERLAND FLOW
A-4	0.06	10	0.35	N/A	N/A	8.30	N/A	N/A	0.18	OVERLAND FLOW

**STORAGE REQUIREMENTS: (AREA A-1)**  
 7.76 cfs (DEVELOPED) - 2.55 cfs (UNDEVELOPED) = 5.21 cfs  
 REQUIRED DETENTION: 5.21 cfs FOR 10 MINUTES  
 5.21 cfs x 60 SECONDS/MINUTES x 10 MINUTES = 3,126 CUBIC FEET  
 MAXIMUM REQUIRED STORAGE = 7,890 CUBIC FEET (SEE TABLE 1)  
 STORAGE PROVIDED: 7900 CUBIC FEET  
 ALLOWABLE DISCHARGE: 2.55 cfs  
 STORAGE AREA: 11,838 SF @ AVERAGE DEPTH OF 0.60'

**TABLE 1  
MODIFIED RATIONAL METHOD DETENTION DESIGN**

Project Description: WALMART ADDITION, ROCKWALL, TEXAS  
 Project No.: \_\_\_\_\_  
 Date: 04/22/01  
 Checked By: JMC

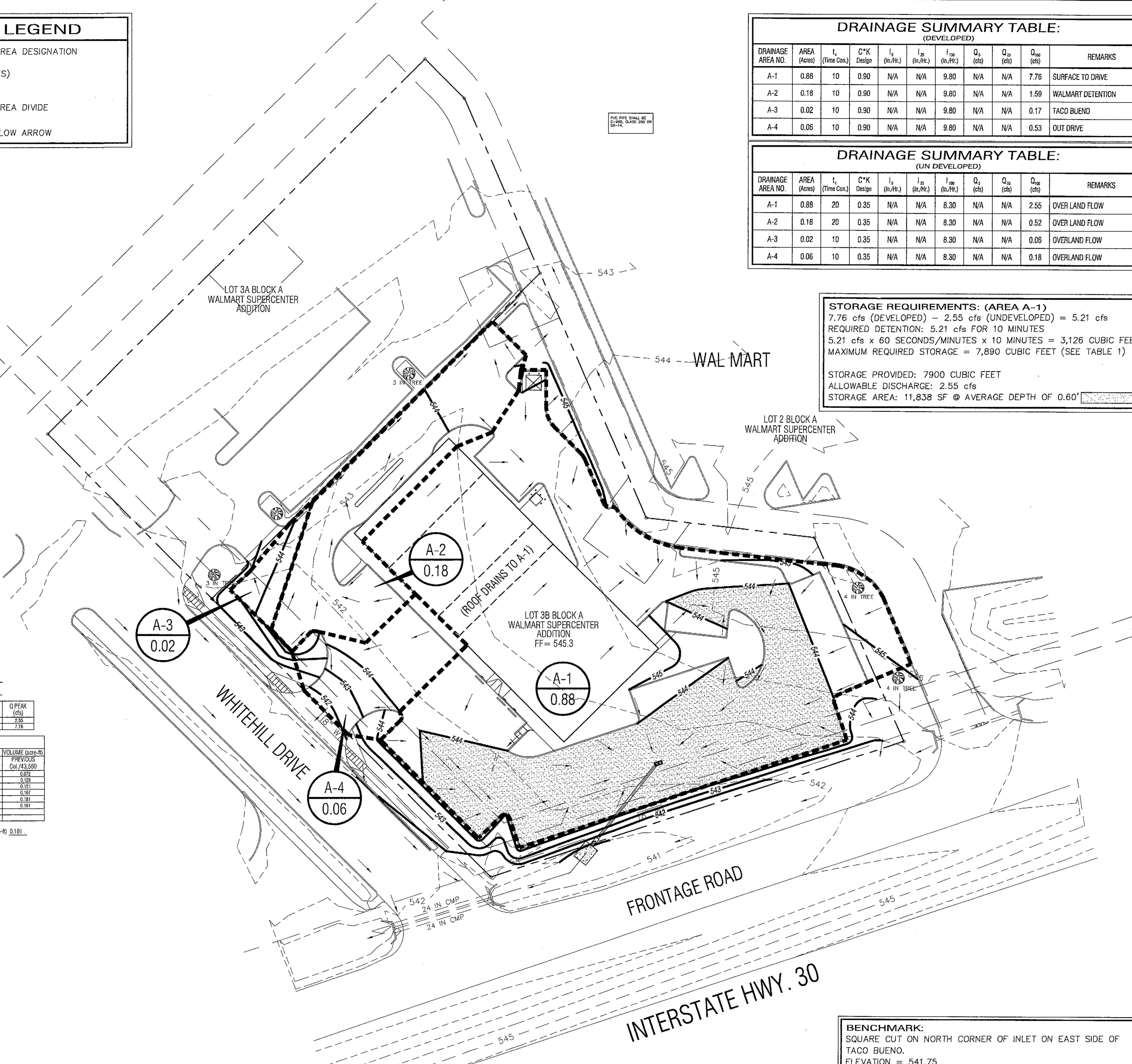
STEP	K	C	RAINFALL INTENSITY, I = 3/(Tc+0.01) * C	A	O PEAK (cfs)
1	1.0	0.50	1.0	0.88	2.55
2	1.0	0.90	1.0	0.88	7.76

TIME STEP	K	C	I (in/hr)	A (acres)	O PEAK (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	REQ. STORAGE (cu ft)	PREVIOUS (cu ft)
10	1.0	0.90	0.90	0.88	7.76	490.0	330.0	150.0	0.00
20	1.0	0.90	0.90	0.88	7.76	980.0	660.0	300.0	150.0
30	1.0	0.90	0.90	0.88	7.76	1470.0	990.0	450.0	300.0
40	1.0	0.90	0.90	0.88	7.76	1960.0	1320.0	600.0	450.0
50	1.0	0.90	0.90	0.88	7.76	2450.0	1650.0	750.0	600.0
60	1.0	0.90	0.90	0.88	7.76	2940.0	1980.0	900.0	750.0

NOTE: 1. The use of the Modified Rational method for detention design, is limited to drainage basins with less than 200 acres.  
 2. The detention pond shall be designed using the 100-year storm peak flows.

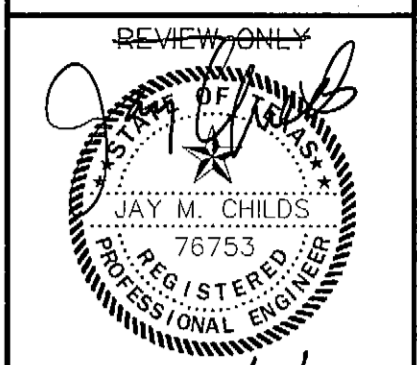
STEP 4. MAX REQUIRED STORAGE (acre-ft) 0.881



**BENCHMARK:**  
 SQUARE CUT ON NORTH CORNER OF INLET ON EAST SIDE OF TACO BUENO.  
 ELEVATION = 541.75

**AS-BUILT**

**dietz engineering**



Signing Date: 5/24/01  
**dietz engineering**  
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 Drawn By: LL  
 Checked By: JMC  
 Revisions:

**SITE RETAIL**  
 DRAINAGE AREA PLAN  
 PLAN VIEW  
 for the  
 City of Rockwall, Texas



NORTH  
 24"x36" Scale: 1" = 30'  
 11"x17" Scale: 1" = 60'  
 Vertical Scale: NA

Project Number: E-SPC-001  
 Issue Date: 24 MAY 2001  
 Sheet Title:  
 DRAINAGE AREA MAP  
 CALCULATIONS

Sheet No.:  
**C1.03**