

**GRADING AND DRAINAGE GENERAL NOTES**

- REFER TO GEOTECHNICAL REPORT FOR REQUIREMENTS REGARDING FILL COMPACTION AND MOISTURE CONTENT.
- UNLESS NOTED, ALL FILL IS TO BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT. FILL TO BE PLACED IN A MAXIMUM OF 6" LIFTS.
- SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A SLOPE NO GREATER THAN 5% AND A CROSS FALL NO GREATER THAN 2% UNLESS NOTED OTHERWISE.
- GRADING OF ALL HANDICAPPED SPACES AND ROUTES TO CONFORM TO STATE, LOCAL AND FEDERAL GUIDELINES.
- UNLESS NOTED, STORM DRAIN LINES MAY BE OF THE FOLLOWING MATERIALS:
  - A. RCP C-76, CLASS III
  - B. ADS N-12
  - C. HANCOCK HI-Q
 AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
6. UNLESS NOTED, GRATE INLET TO BE "AMERICAN INDUSTRIAL PRE-CAST PRODUCTS, INC." PRECAST CATCH BASIN, SIZED AS SHOWN, OF APPROVED EQUAL.
7. FINAL PAVING, CURB AND SIDEWALK ELEVATIONS WILL BE PLACED AT PLUS OR MINUS 0.03 FOOT.
8. REFER TO LANDSCAPE SPECIFICATION FOR SEEDING AND SOODING REQUIREMENTS.
9. ANY CONCRETE, ROCK OR MATERIAL DEEMED UNSUITABLE FOR SUBGRADE, BY ENGINEER, SHALL BE DISPOSED OF OFFSITE AT CONTRACTOR'S EXPENSE.
10. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG ITEM 6.2.10 AND SHALL BE MECHANICALLY COMPACTED IN ACCORDANCE WITH NCTCOG ITEM 6.2.9 TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
11. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG ITEM 6.2.9 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
12. A ROUND MANHOLE COVER MEETING CITY SPECIFICATIONS SHALL BE PLACED IN ALL INLET TOPS. THE MANHOLE COVER SHALL BE PLACED NEAR THE OUTLET PIPE.
13. ALL CONCRETE FOR INLETS AND DRAINAGE STRUCTURES SHALL CONFORM TO NCTCOG ITEM 7.4.5, CLASS "A" UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN STANDARD CITY SPECIFICATIONS.
14. CRUSHED STONE BEDDING OR APPROVED EQUAL SHALL BE PROVIDED BY THE CONTRACTOR WHEN ROCK IS ENCOUNTERED IN TRENCHES. THERE SHALL BE NO ADDITIONAL PAY ITEM OF THE CRUSHED STONE BEDDING.
15. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTORS EXPENSE.

NOTE:  
SEE SHEET C2.0 FOR GRATE INLET DETAILS

**DETENTION NOTES**

- DETENTION HAS BEEN PROVIDED FOR DA # 1-6 IN THE EXISTING DETENTION POND TO THE SOUTH
- DETENTION FOR DA # 7 & 9 WILL BE PROVIDED BY THE ROCKWALL ECONOMIC DEVELOPMENT CORPORATION ON THE REMAINDER OF LOT 3, BLOCK C.
- DETENTION FOR DA 8 WILL BE PROVIDED IN THE TRUCK COURT AREA. WATER RELEASE WILL BE CONTROLLED BY THE GRATE INLETS.

**DETENTION CALCULATIONS (DA #8)**

**EXISTING CONDITIONS**

A = 3.27 Acres  
C = 0.50  
T<sub>c</sub> = 20 min  
I<sub>100</sub> = 8.3 in/hr  
Q<sub>100</sub> = 13.57 cfs (ALLOWABLE DISCHARGE)

**DEVELOPED CONDITIONS**

A = 3.27 Acres  
C = 0.90  
T<sub>c</sub> = 10 min  
I<sub>100</sub> = 9.8 in/hr  
Q<sub>100</sub> = 28.84 cfs

VOLUME REQUIRED = 20,612 cf  
VOLUME PROVIDED = 26,358 cf

**INLET CONTROL**

Q = CA<sup>2/3</sup>T<sup>2/3</sup>  
Q = 4.73 cfs (3 grate inlets provided)  
C = 0.65  
S = 32.2 fps  
h = 1.0 ft  
A = 0.91 sq. ft. (OPEN AREA)  
OPEN AREA OF NO. 20 GRATE = 1.0 sq. ft.

CITY OF ROCKWALL DETENTION BASIN DESIGN  
TP-40

GIVEN: Area = 3.27, Peak C = 10.00, Max Q = 13.57 cfs

RESULT: Maximum Required Storage = 20,612 cf

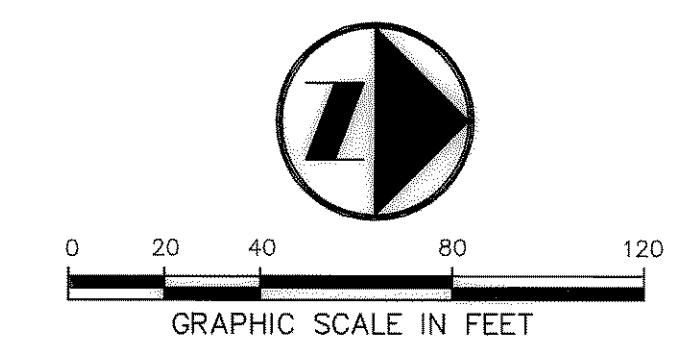
Time	In	Out	Q <sub>in</sub>	Q <sub>out</sub>	Storage
5 min	10.15	0.9	10.15	3.27	20.87 cfs
10 min	9.90	0.9	9.9	3.27	28.84 cfs
15 min	9.10	0.9	9.1	3.27	29.78 cfs
20 min	8.30	0.9	8.3	3.27	24.43 cfs
30 min	6.90	0.9	6.9	3.27	20.01 cfs
40 min	5.80	0.9	5.8	3.27	17.07 cfs
50 min	5.00	0.9	5	3.27	14.72 cfs
60 min	4.30	0.9	4.3	3.27	12.66 cfs
120 min	2.70	0.9	2.7	3.27	7.95 cfs

**BENCHMARKS**

BM 1	"d" CUT FOUND IN CENTER OF A 12" HEADWALL 2230± WEST OF CENTERLINE F.M. 549 AND 70' NORTH OF CENTERLINE S.H. 276	ELEV=581.84
BM 10	"c" CUT SET ON TOP OF CURB CENTER OF RCP INLET WEST SIDE OF INNOVATION DRIVE 420± NORTH OF CENTERLINE OF DISCOVERY BLVD.	ELEV=575.45
BM 11	"d" CUT SET ON TOP OF CURB EAST SIDE OF INNOVATION DRIVE 270± SOUTH OF CENTERLINE OF OBSERVATION TRAIL	ELEV=578.67

**DRAINAGE AREA TABLE:**

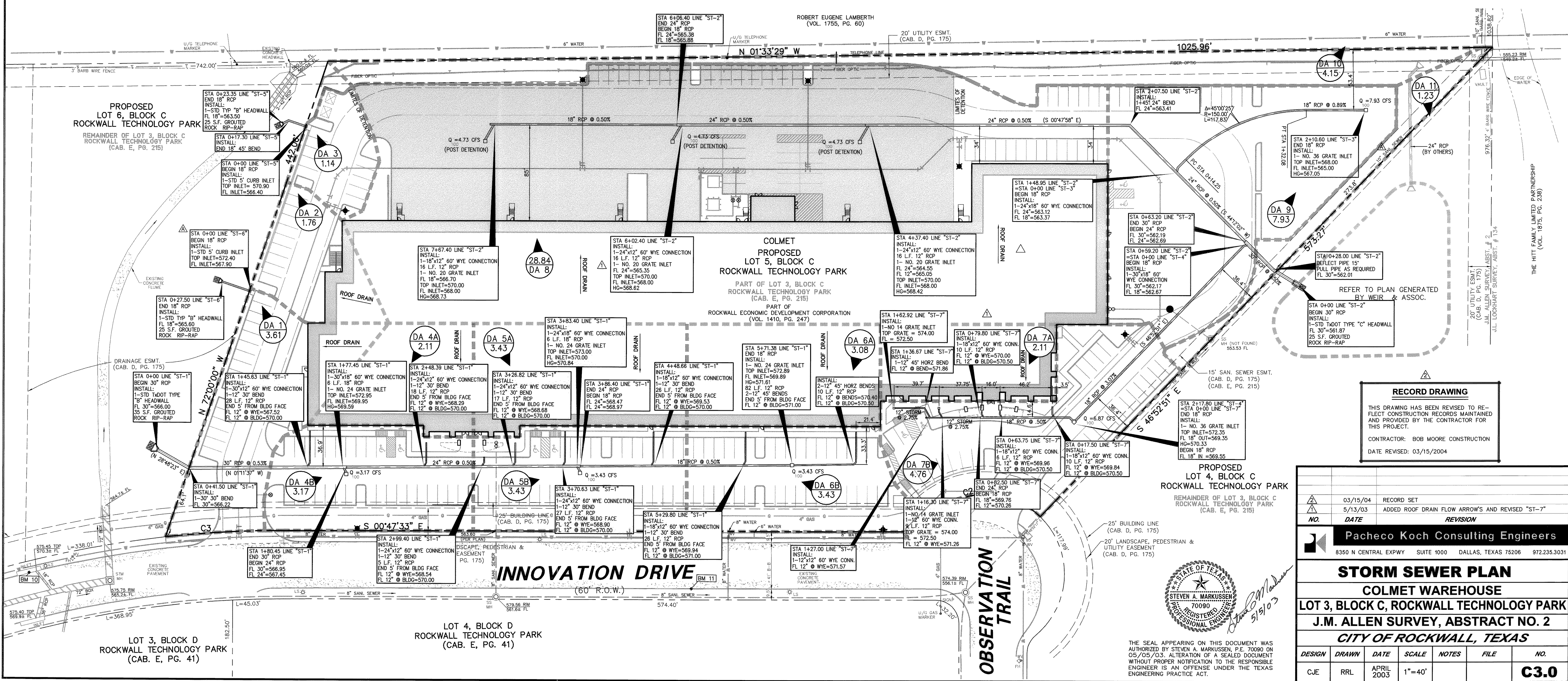
DRAINAGE AREA No.	AREA (acres)	C	T <sub>c</sub> (minutes)	RCP FREQUENCY (inches/hour)	I <sub>100</sub> (cfs)	Q <sub>100</sub> (cfs)	COMMENTS
DA #1	0.41	0.90	10	100 YEAR 9.80	3.61		DRAINS TO PROPOSED CURB INLET
DA #2	0.20	0.90	10	100 YEAR 9.80	1.76		DRAINS TO PROPOSED CURB INLET
DA #3	0.13	0.90	10	100 YEAR 9.80	1.14		DRAINS TO PROPOSED CURB INLET
DA #4A	0.24	0.90	10	100 YEAR 9.80	2.11		DRAINS TO PROPOSED GRATE INLET
DA #4B	0.36	0.90	10	100 YEAR 9.80	3.17		DRAINS TO PROPOSED GRATE INLET
DA #5A	0.39	0.90	10	100 YEAR 9.80	3.43		DRAINS TO PROPOSED GRATE INLET
DA #5B	0.39	0.90	10	100 YEAR 9.80	3.43		DRAINS TO PROPOSED GRATE INLET
DA #6A	0.35	0.90	10	100 YEAR 9.80	3.08		DRAINS TO PROPOSED GRATE INLET
DA #6AB	0.39	0.90	10	100 YEAR 9.80	3.43		DRAINS TO PROPOSED GRATE INLET
DA #7A	0.24	0.90	10	100 YEAR 9.80	2.11		DRAINS TO PROPOSED GRATE INLET
DA #7B	0.54	0.90	10	100 YEAR 9.80	4.78		DRAINS TO PROPOSED GRATE INLET
DA #8	3.27	0.90	10	100 YEAR 9.80	28.84		DRAINS TO PROPOSED GRATE INLETS
DA #9	0.90	0.90	10	100 YEAR 9.80	7.93		DRAINS TO PROPOSED GRATE INLET
DA #10	0.47	0.90	10	100 YEAR 9.80	4.15		SHEET FLOWS WEST
DA #11	0.14	0.90	10	100 YEAR 9.80	1.23		SHEET FLOWS NORTHEAST



**LEGEND**

⊙	BOLLARD
⊕	ELECTRIC METER
⊖	POWER POLE
⊙	LIGHT STANDARD
⊕	WATER METER
⊖	WATER VALVE
⊕	IRRIGATION CONTROL VALVE
⊖	FIRE HYDRANT
⊙	CLEANOUT
⊕	MANHOLE
⊖	GAS METER
⊕	TRAFFIC SIGNAL CONTROL
⊖	TRAFFIC SIGNAL POLE
⊕	TELEPHONE BOX
⊖	TV BOX
⊕	FLAG POLE
⊖	TRAFFIC SIGN
---	PROPERTY LINE
---	FENCE

■ ■ ■ ■ ■ PROPOSED DRAINAGE DIVIDE



**RECORD DRAWING**  
THIS DRAWING HAS BEEN REVISED TO REFLECT CONSTRUCTION RECORDS MAINTAINED AND PROVIDED BY THE CONTRACTOR FOR THIS PROJECT.  
CONTRACTOR: BOB MOORE CONSTRUCTION  
DATE REVISED: 03/15/2004

NO.	DATE	REVISION
03/15/04		RECORD SET
5/13/03		ADDED ROOF DRAIN FLOW ARROWS AND REVISED "ST-7"

**Pacheco Koch Consulting Engineers**  
8350 N CENTRAL EXPWY SUITE 1000 DALLAS, TEXAS 75206 972.235.3031

**STORM SEWER PLAN**  
**COLMET WAREHOUSE**  
**LOT 3, BLOCK C, ROCKWALL TECHNOLOGY PARK**  
**J.M. ALLEN SURVEY, ABSTRACT NO. 2**  
**CITY OF ROCKWALL, TEXAS**

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
CJE	RRL	APRIL 2003	1"=40'			<b>C3.0</b>

JMC:BAW  
03/16/2004  
11:20:08 AM  
C:\DWG-20\2008-02-29\297\DWG\2008-02-29\297V.DWG

COLMET WAREHOUSE

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY STEVEN A. MARKUSSEN, P.E. 70990 ON 05/05/03. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Professional Engineer Seal: Steven A. Markusson, No. 70990, State of Texas, Registered Professional Engineer.