

DRAINAGE AREA A1

EXISTING DRAINAGE DATA:				PROPOSED DRAINAGE DATA:			
Area = 3.23 acres				Area = 3.23 acres Developed Industrial Conditions			
SCS Soil Type D				SCS Soil Type D			
Corvella fine sandy loams				Corvella fine sandy loams			
T ₀ = 87 Min				T ₀ = 15 Min			
C2=0.50	I2=1.59"/hr.	Q2=4.39 cfs		C2=0.74	I2=3.81"/hr.	Q2=28.1 cfs	
C5=0.35	I5=2.02"/hr.	Q5=8.55 cfs		C5=0.78	I5=4.88"/hr.	Q5=32.83 cfs	
C10=0.45	I10=2.33"/hr.	Q10=9.71 cfs		C10=0.73	I10=5.23"/hr.	Q10=33.72 cfs	
C25=0.43	I25=2.78"/hr.	Q25=12.51 cfs		C25=0.80	I25=8.17"/hr.	Q25=45.78 cfs	
C50=0.54	I50=3.11"/hr.	Q50=15.80 cfs		C50=0.82	I50=8.84"/hr.	Q50=52.04 cfs	
C100=0.85	I100=3.45"/hr.	Q100=20.30 cfs		C100=0.84	I100=7.53"/hr.	Q100=58.72 cfs	

NORTH DETENTION POND FOR D.A. A1 & A3

Retention Pond Summary
Pond Bottom = 1288.5 ft
Top Pond Elev = 1291.5 ft
Install 150 I.L. 15" Discharge Pipe at Slope = 1.00%

RETURN PERIOD (YRS)	Q (CFS)	Q (MGD)	MAX. STAGE (D.A. ELEV.)
2	52.54	7.92	1289.18
5	88.09	12.81	1289.80
10	117.82	17.17	1290.10
25	192.00	27.90	1290.45
50	264.59	38.69	1290.72
100	341.82	49.27	1291.00

SUMMARY FOR D.A. A1 & A3

RETURN PERIOD (YRS)	Q (CFS)	Q (MGD)	MAX. STAGE (D.A. ELEV.)
2	52.54	7.92	1289.18
5	88.09	12.81	1289.80
10	117.82	17.17	1290.10
25	192.00	27.90	1290.45
50	264.59	38.69	1290.72
100	341.82	49.27	1291.00

DESCRIPTION:
Lots 1, 2, 7, 8, 9, 10, 11 and 12, Block 7 AND Lots 1, 2, 3, 4 and 5, Block 6, Southwest Industrial Addition, to Wichita, Kansas.

BENCHMARKS:
City of Wichita - Brass disc in concrete near the intersection of Pawnee Street and Sheridan Avenue 53.0 feet South of the centerline of Pawnee Street and 8.0 feet East of the quarter section corner.
Elevation = 1290.69 (NGVD29 datum)

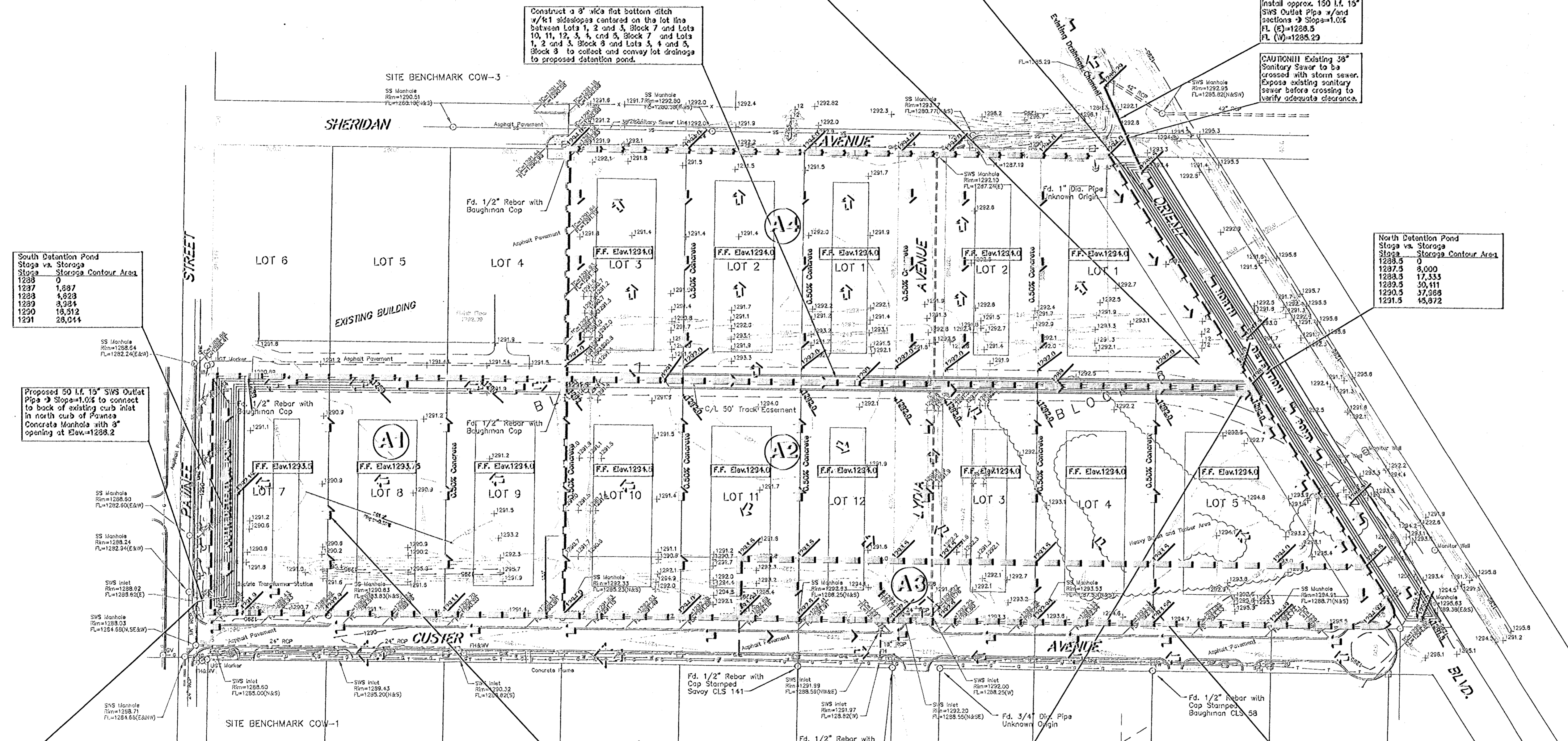
COV-1 - PK nail in center of West side on inlet at the Northeast quadrant of Pawnee Street and Custer Avenue.
Elevation = 1288.94 (NGVD29 datum)

COV-2 - Brass disc in top of curb 1.0 feet South of the South curb return in the Southeast quadrant at the intersection of Custer Avenue and Lydia Avenue.
Elevation = 1292.01 (NGVD29 datum)

COV-3 - PK nail in top of curb North side of entrance near the Northwest corner of the Tire Center property.
Elevation = 1291.19 (NGVD29 datum)

GENERAL NOTES:
1) No titlework was provided by client for subject property. Easements and rights-of-way affecting subject property are not shown.
2) Utilities shown hereon were located by the utility companies or their agents relating to Kansas One-Call ticket numbers 7072508, 7072510, 7072511, 7072512, 7072513 and 7072514 dated March 12, 2007.

SURVEYORS CERTIFICATE:
I hereby certify that this Topographic Survey was made under my supervision on April 10, 2007.



South Detention Pond
Stoga vs. Storage
Stoga Storage Contour Area

1238	0
1237	1,887
1236	4,923
1235	8,384
1234	18,512
1231	28,044

North Detention Pond
Stoga vs. Storage
Stoga Storage Contour Area

1285	0
1287.5	8,000
1288.5	17,333
1289.5	30,411
1290.5	37,868
1291.5	45,872

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIGN. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

- GRADING LEGEND**
- Existing Contour Elevation
 - Proposed Spot Elevation
 - Existing Drainage Flow Direction
 - Proposed Drainage Flow Direction
 - Proposed Ridge Line
 - Proposed Detention Area
 - Proposed Watershed Boundary

PLANETARY SURVEY AND CONTOUR MAP USED IN PREPARING THIS TOPOGRAPHIC SURVEY AND CONTOUR MAP USED IN PREPARING PLANS WAS PROVIDED BY ALPHA LAND SURVEYS, INC., C/O LLOYD P. DORFMEIER, LS 1888, ONE EAST NINTH AVENUE, HUTCHINSON, KS, 67501. CERTIFIED ENGINEERING DESIGN, P.A. DOES NOT GUARANTEE SURVEY ELEVATIONS FOR ACCURACY. CONTRACTOR SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

SOUTH DETENTION POND FOR D.A. A1

Retention Pond Summary
Pond Bottom = 1288.2 ft
Top Pond Elev = 1291 ft
Discharge Structure Conc. Manhole w/3" opening at Elev. 1288.2

RETURN PERIOD (YRS)	Q (CFS)	Q (MGD)	MAX. STAGE (D.A. ELEV.)
2	18.21	2.73	1288.97
5	12.92	2.87	1289.25
10	22.29	2.33	1289.43
25	27.18	3.10	1289.73
50	30.90	3.22	1290.00
100	34.87	3.23	1290.18

DRAINAGE AREA A1

EXISTING DRAINAGE DATA:				PROPOSED DRAINAGE DATA:			
Area = 5.51 acres				Area = 5.51 acres Developed Industrial Conditions			
SCS Soil Type D				SCS Soil Type D			
Corvella fine sandy loams				Corvella fine sandy loams			
T ₀ = 43 Min				T ₀ = 15 Min			
C2=0.50	I2=1.97"/hr.	Q2=5.28 cfs		C2=0.74	I2=3.81"/hr.	Q2=15.52 cfs	
C5=0.35	I5=2.50"/hr.	Q5=4.33 cfs		C5=0.78	I5=4.88"/hr.	Q5=19.52 cfs	
C10=0.45	I10=2.88"/hr.	Q10=7.14 cfs		C10=0.73	I10=5.23"/hr.	Q10=22.39 cfs	
C25=0.43	I25=3.12"/hr.	Q25=9.05 cfs		C25=0.80	I25=8.17"/hr.	Q25=27.18 cfs	
C50=0.54	I50=3.33"/hr.	Q50=11.40 cfs		C50=0.82	I50=8.84"/hr.	Q50=30.90 cfs	
C100=0.85	I100=4.25"/hr.	Q100=15.20 cfs		C100=0.84	I100=7.53"/hr.	Q100=34.37 cfs	

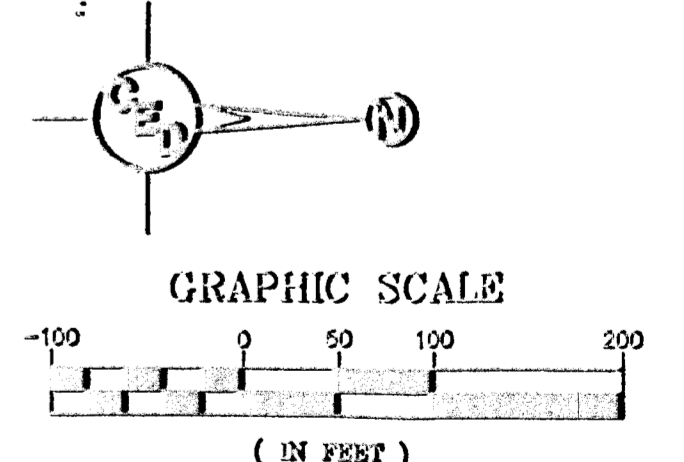
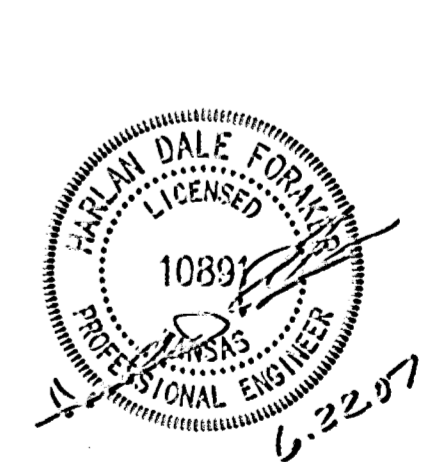
DRAINAGE AREA A3

EXISTING DRAINAGE DATA:				PROPOSED DRAINAGE DATA:			
Area = 2.5 acres				Area = 2.5 acres Developed Industrial Conditions			
SCS Soil Type D				SCS Soil Type D			
Corvella fine sandy loams				Corvella fine sandy loams			
T ₀ = 27 Min				T ₀ = 15 Min			
C2=0.50	I2=2.81"/hr.	Q2=2.10 cfs		C2=0.74	I2=3.81"/hr.	Q2=7.04 cfs	
C5=0.35	I5=3.51"/hr.	Q5=3.07 cfs		C5=0.78	I5=4.88"/hr.	Q5=8.38 cfs	
C10=0.45	I10=4.01"/hr.	Q10=4.51 cfs		C10=0.73	I10=5.23"/hr.	Q10=10.43 cfs	
C25=0.43	I25=4.72"/hr.	Q25=5.87 cfs		C25=0.80	I25=8.17"/hr.	Q25=12.33 cfs	
C50=0.54	I50=5.27"/hr.	Q50=7.11 cfs		C50=0.82	I50=8.84"/hr.	Q50=14.02 cfs	
C100=0.85	I100=6.92"/hr.	Q100=9.48 cfs		C100=0.84	I100=7.53"/hr.	Q100=15.32 cfs	

DRAINAGE AREA A2

EXISTING DRAINAGE DATA:				PROPOSED DRAINAGE DATA:			
Area = 3.17 acres				Area = 3.17 acres Developed Industrial Conditions			
SCS Soil Type D				SCS Soil Type D			
Corvella fine sandy loams				Corvella fine sandy loams			
T ₀ = 37 Min				T ₀ = 15 Min			
C2=0.50	I2=1.59"/hr.	Q2=4.43 cfs		C2=0.74	I2=3.81"/hr.	Q2=28.40 cfs	
C5=0.35	I5=2.02"/hr.	Q5=8.82 cfs		C5=0.78	I5=4.88"/hr.	Q5=33.20 cfs	
C10=0.45	I10=2.33"/hr.	Q10=9.90 cfs		C10=0.73	I10=5.23"/hr.	Q10=39.10 cfs	
C25=0.43	I25=2.78"/hr.	Q25=12.43 cfs		C25=0.80	I25=8.17"/hr.	Q25=48.22 cfs	
C50=0.54	I50=3.11"/hr.	Q50=15.78 cfs		C50=0.82	I50=8.84"/hr.	Q50=52.55 cfs	
C100=0.85	I100=3.45"/hr.	Q100=21.90 cfs		C100=0.84	I100=7.53"/hr.	Q100=59.29 cfs	

- LEGEND**
- Section subdivision corner found
 - Survey monument found
 - Set 1/2" x 24" rebar with cap stamped "ALPHA CLS-184"
 - R - Record
 - M - Measured
 - C - Calculated measure
 - Pr - Prorated
 - RR - Railroad
 - EA - Easement
 - U - Guy anchor
 - U - Underground telephone pedestal
 - oe - Overhead electric
 - wv - Gas valve
 - fw - Fire hydrant
 - wv - Water valve
 - wo - Water meter
 - ss - Sanitary Sewer



**SOUTHWEST INDUSTRIAL ADDITION
DRAINAGE STUDY**
WICHITA, SEDGWICK COUNTY, KANSAS
PROJ. NO.: 070040T

CERTIFIED ENGINEERING DESIGN, P.A.
810 WEST DOUGLAS, SUITE C
WICHITA, KANSAS 67203
PH. (316) 262-8308 FAX. (316) 262-1669

DESIGNED: HDF	SCALE: 1" = 100'	SHEET 1
DRAWN: HDF	DATE: 5/30/2007	TOTAL 1
CHECKED: HDF	CEG FILE: 070040T.dwg	