WinStorm (STORM DRAIN DESIGN) Version 3.05, Jan. 25, 2002
Run @ 10/10/2007 3:47:15 PM

PROJECT NAME : SYSTEM L and N INLETS
JOB NUMBER :
PROJECT DESCRIPTION :
DESIGN FREQUENCY : 100 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
L-1	0.9	1.15	10.00	10.00	9.80	0.000	10.143
L-17	0.9	0.37	10.00	10.00	9.80	0.000	3.263
M-18	0.9	0.73	10.00	10.00	9.80	0.000	6.439
N-19	0.9	0.42	10.00	10.00	9.80	0.000	3.704
N-20	0.9	0.39	10.00	10.00	9.80	0.000	3.440
~~0-21~~	~~0.9~~	~~0.85~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~7.479~~
~~0-22~~	~~0.9~~	~~0.18~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~1.588~~
~~0-15~~	~~0.9~~	~~0.22~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~1.914~~
~~0-2~~	~~0.9~~	~~0.54~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~4.719~~
N-1	0.9	0.27	10.00	10.00	9.80	0.000	2.390
~~0-3~~	~~0.9~~	~~0.42~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~3.660~~
L-2	0.9	1.16	10.00	10.00	9.80	0.000	10.231
L-9	0.9	0.37	10.00	10.00	9.80	0.000	3.263
~~0-23~~	~~0.9~~	~~0.25~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~2.179~~
M-10	0.9	0.74	10.00	10.00	9.80	0.000	6.527
N-11	0.9	0.37	10.00	10.00	9.80	0.000	3.299
N-12	0.9	0.41	10.00	10.00	9.80	0.000	3.581
~~0-13~~	~~0.9~~	~~0.81~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~7.118~~
~~0-14~~	~~0.9~~	~~0.50~~	~~10.00~~	~~10.00~~	~~9.80~~	~~0.000~~	~~4.410~~
N-24	0.9	0.28	10.00	10.00	9.80	0.000	2.478
N-25	0.9	0.73	10.00	10.00	9.80	0.000	6.395
N-26	0.9	0.74	10.00	10.00	9.80	0.000	6.527

On Grade Inlets Conmputation Data.

Inlet ID	Inlet Type	Total Q (cfs)	Intercept Capacity (cfs)	Q Bypass Allow (cfs)	Q Bypass Actual (cfs)	To Inlet ID	Required Length (ft)	Actual Length (ft)	Ponded Width (ft)
L-1	Curb	10.143	6.819	0.000	3.324	L-17	32.47	15.00	12.80
L-17	Curb	6.587	5.783	0.000	0.805	M-18	21.77	15.00	12.40
M-18	Curb	7.243	6.829	0.000	0.414	N-26	18.84	15.00	15.15
N-19	Curb	3.704	3.656	0.000	0.048	N-20	10.98	10.00	13.40
N-20	Curb	3.488	3.467	0.000	0.021	N-24	10.61	10.00	13.10
~~0-21~~	~~Curb~~	~~7.479~~	~~7.479~~	~~0.000~~	~~0.000~~	~~0-14~~	~~14.46~~	~~15.00~~	~~13.53~~
~~0-22~~	~~Curb~~	~~1.588~~	~~1.588~~	~~0.000~~	~~0.000~~	~~0-23~~	~~6.25~~	~~15.00~~	~~7.57~~
~~0-2~~	~~Curb~~	~~4.719~~	~~4.439~~	~~0.000~~	~~0.279~~	~~0-23~~	~~12.63~~	~~10.00~~	~~14.70~~
~~0-3~~	~~Curb~~	~~3.660~~	~~3.660~~	~~0.000~~	~~0.000~~	~~0-15~~	~~9.77~~	~~10.00~~	~~10.37~~
L-2	Curb	10.231	6.852	0.000	3.380	L-9	32.64	15.00	12.85
L-9	Curb	6.643	5.820	0.000	0.823	M-10	21.85	15.00	12.40
M-10	Curb	7.350	6.903	0.000	0.446	N-25	19.01	15.00	15.25
N-11	Curb	3.330	3.323	0.000	0.007	N-1	10.34	10.00	12.90
N-12	Curb	3.581	3.549	0.000	0.032	N-11	10.78	10.00	13.25
~~0-13~~	~~Curb~~	~~7.118~~	~~7.118~~	~~0.000~~	~~0.000~~	~~0-14~~	~~14.08~~	~~15.00~~	~~13.30~~
~~0-14~~	~~Curb~~	~~4.410~~	~~4.368~~	~~0.000~~	~~0.042~~	~~0-15~~	~~10.81~~	~~10.00~~	~~11.10~~
N-25	Curb	6.841	5.209	0.000	1.632	N-24	18.22	10.00	14.80
N-26	Curb	6.941	5.252	0.000	1.688	N-1	18.38	10.00	14.90

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded Width Left (ft)	Ponded Width Right (ft)
~~0-15~~	~~Curb~~	~~15.00~~	~~n/a~~	~~n/a~~	~~1.956~~	~~11.503~~	~~0.128~~	~~8.53~~	~~8.53~~
N-1	Curb	15.00	n/a	n/a	4.086	11.503	0.209	14.50	14.50
N-24	Curb	15.00	n/a	n/a	4.131	11.503	0.210	14.55	14.55
~~0-23~~	~~Curb~~	~~15.00~~	~~n/a~~	~~n/a~~	~~2.458~~	~~11.503~~	~~0.149~~	~~9.71~~	~~9.71~~

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr. Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
L-1	Curb	0.900	1.15	10.00	8.25	0.000	0.00	8.539
OUT	Outlt	0.900	1.15	10.00	8.25	0.000	0.00	8.539

Conveyance Configuration Data

Run#	Node US	Node DS	Flowline Elev. US (ft)	Flowline Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	L-1	OUT	462.00	454.00	Circ 1	0.00	1.50	140.04	5.72	0.013

Conveyance Hydraulic Computations. Tailwater = 460.110 (ft)

Run#	Hydraulic Gradeline US Elev (ft)	Hydraulic Gradeline DS Elev (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	463.58	460.11	0.661	0.60	1.50	12.86	4.83	8.54	25.13	0.453

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr. Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
L-2	Curb	0.900	1.16	10.00	9.80	0.000	0.00	10.235
OUT	Outlt	0.900	1.16	10.00	9.80	0.000	0.00	10.235

Conveyance Configuration Data

Run#	Node US	Node DS	Flowline Elev. US (ft)	Flowline Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
2	L-2	OUT	461.00	456.50	Circ 1	0.00	1.50	49.90	9.05	0.013

Conveyance Hydraulic Computations. Tailwater = 460.110 (ft)

Run#	Hydraulic Gradeline US Elev (ft)	Hydraulic Gradeline DS Elev (ft)	Fr. Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
2*	462.88	460.11	0.949	0.59	1.50	15.98	5.79	10.23	31.61	0.651

COMPUTATION SHEETS

1. THIS OUTPUT FILE SHOWS RESULTS FOR ROCKWALL'S 100-YR DISCHARGE CONDITIONS FOR ENTIRE SYSTEM; HOWEVER, INLETS ARE SIZED AND PLACED BASED ON 25-YR CRITERIA, AND PIPES ARE DESIGNED BASED ON 100-YR CRITERIA.
2. ALL COMPUTATIONS ARE BASED ON EXISTING WATERSHED CONDITIONS
3. JUNCTION LOSSES WERE DETERMINED BASED ON CITY OF ROCKWALL "VELOCITY HEAD LOSS COEFFICIENTS FOR CLOSED CONDUITS"

RECORD DRAWING

This drawing is a compilation of the original sealed engineering drawing and modifications by addenda, change orders and information furnished by the contractor. Information shown that was provided by the contractor and others not associated with the design engineer cannot be verified for accuracy or completeness. Original sealed drawing is on file at the office of AECOM USA Group, Inc., TBPE REG. NO. F-3062

ORIGINAL DRAWING SEALED & SIGNED BY
T.H. Gaertner, P.E.
TX NO. 37124

NO.	REVISION	BY	DATE
1	DELETE SYSTEM O DATA	THG	2/11/08

City of Rockwall, Texas

205 BYPASS
PHASE 6

HYDRAULIC DATA
STORM SYSTEM L,M&N - 100 YR FLOWS

7 OF 10

TCB | AECOM
TCB INC.
WWW.TCB.AECOM.COM
17300 DALLAS PARKWAY, SUITE 1010
DALLAS, TEXAS 75248

Unit PW-DAL-FW	Scale: Horz: AS SHOWN Vert: AS SHOWN	Date	11/24/2009
Designed RI	Checked TCB	Project No.	60004153
Drawn FG	Approved TCB	Sheet	74A of 216

p:\4328\60004153-205bypass\cadd\sheets\phase 6 - fm552 to 205\record drawing 10_7_09\068.07TCHydraulicdata-01.dgn
11/24/2009