

PROJECT NAME : SYSTEM H
JOB NUMBER :
PROJECT DESCRIPTION :
DESIGN FREQUENCY : 100 Years
MEASUREMENT UNITS: ENGLISH

COMPUTATION SHEETS

- ALL COMPUTATIONS ARE BASED ON EXISTING WATERSHED CONDITIONS.

- TIME OF CONCENTRATION IS DETERMINED ACCORDING TO CITY OF ROCKWALL CRITERIA.

OUTPUT FOR DESIGN FREQUENCY of: 100 Years
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Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
OSH1	0.495	27.47	50.00	50.00	5.00	0.000	67.983
	0.9	7.24	Pavement				
	0.35	20.23	Undeveloped				
OSH2	0.35	28.11	40.00	40.00	5.50	0.000	54.11
h-3	0.9	0.96	10.00	10.00	9.80	0.000	8.470
stb-h	0.9	3.67	10.00	10.00	9.80	0.000	32.380
H-4	0.9	0.78	10.00	10.00	9.80	0.000	6.882
H-5	0.9	0.35	10.00	10.00	9.80	0.000	3.088
H-6	0.9	0.82	10.00	10.00	9.80	0.000	7.235
H-7	0.9	0.42	10.00	10.00	9.80	0.000	3.706
OSH3	0.9	1.11	10.00	10.00	9.80	0.000	9.793

Conveyance Configuration Data

Run#	Node I.D.	Flowline	Elev. US (ft)	Elev. DS (ft)	Shape	#	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
2	OSH2	J-h7	545.50	545.35	Circ	1	0.00	4.00	34.30	0.44	0.013
3	J-h3	OUT	544.53	544.34	Circ	1	0.00	4.50	37.54	0.51	0.013
4	stb-h	J-h4	546.80	546.25	Circ	1	0.00	3.00	78.40	0.70	0.013
5	J-h4	J-osh1	546.25	545.49	Circ	1	0.00	3.00	108.71	0.70	0.013
7	h-3	J-h4	547.20	547.00	Circ	1	0.00	1.50	39.55	0.51	0.013
8	H-4	H-6	548.35	547.63	Circ	1	0.00	2.00	111.50	0.65	0.013
9	H-6	H-7	547.63	547.10	Circ	1	0.00	2.00	117.00	0.45	0.013
10	H-7	J-h7	546.10	545.85	Circ	1	0.00	3.00	80.68	0.31	0.013
11	h-bnd2	h-bnd3	545.48	545.45	Circ	1	0.00	4.00	15.99	0.19	0.013
13	H-5	H-7	548.04	547.32	Circ	1	0.00	1.50	111.50	0.65	0.013
14	J-osh3	J-h3	545.15	545.03	Circ	1	0.00	4.00	19.47	0.62	0.013
6	OSH3	J-osh3	550.00	546.15	Circ	1	0.00	2.00	76.43	5.04	0.013
15	h-bnd3	h-bnd4	545.45	545.36	Circ	1	0.00	4.00	54.63	0.16	0.013
17	OSHI	h-bnd2	545.50	545.48	Circ	1	0.00	4.00	11.45	0.17	0.013
1	h-bnd4	J-osh1	545.36	545.24	Circ	1	0.00	4.00	67.67	0.18	0.013
18	J-osh1	J-h3	544.74	544.53	Circ	1	0.00	4.50	42.48	0.49	0.013
19	J-h7	J-osh3	545.35	545.15	Circ	1	0.00	4.00	55.57	0.36	0.013

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)
OSH2	Curb	0.350	28.11	40.00	5.00	0.000	0.00	49.193
OSHI	Curb	0.495	27.47	50.00	5.00	0.000	0.00	67.983
h-3	Curb	0.900	0.96	10.00	9.80	0.000	0.00	8.470
stb-h	Junct	0.900	3.67	10.00	9.80	0.000	0.00	32.380
J-h3	Junct	0.483	63.69	50.36	5.00	0.000	0.00	153.670
J-h4	Junct	0.900	4.63	10.00	9.80	0.000	0.00	40.850
H-4	Curb	0.900	0.78	10.00	9.80	0.000	0.00	6.882
H-6	Curb	0.900	1.60	10.34	9.74	0.000	0.00	14.029
H-7	Curb	0.900	2.37	10.70	9.68	0.000	0.00	20.651
H-5	Curb	0.900	0.35	10.00	9.80	0.000	0.00	3.088
h-bnd2	Junct	0.495	27.47	50.02	5.00	0.000	0.00	67.983
OSH3	Curb	0.900	1.11	10.00	9.80	0.000	0.00	9.793
J-osh3	Junct	0.411	31.59	40.16	5.00	0.000	0.00	64.853
ml	BoxMh	0.000	0.00	0.00	0.00	0.000	0.00	0.000
h-bnd3	Junct	0.495	27.47	50.05	5.00	0.000	0.00	67.983
h-bnd4	Junct	0.495	27.47	50.16	5.00	0.000	0.00	67.983
J-osh1	Junct	0.553	32.10	50.29	5.00	0.000	0.00	88.818
J-h7	Junct	0.393	30.48	40.06	5.00	0.000	0.00	59.858
OUT	Outlet	0.483	63.69	50.36	5.00	0.000	0.00	153.670



Conveyance Hydraulic Computations. Tailwater = 545.640 (ft)

Run#	Hydraulic Gradeline		Fr. Slope (%)	Depth (ft)		Velocity (f/s)		Q (cfs)	Cap (cfs)	Junc Loss (ft)
	US Elev (ft)	DS Elev (ft)		Unif. (ft)	Actual (ft)	Unif. (f/s)	Actual (f/s)			
2*	550.95	550.61	0.117	2.03	4.00	7.68	3.91	49.19	95.00	0.297
3	550.16	548.84	0.610	4.50	4.50	9.66	9.66	153.67	139.92	1.086
4*	551.25	551.07	0.236	1.64	3.00	8.19	4.58	32.38	55.87	0.000
5*	551.07	550.38	0.375	1.90	3.00	8.66	5.78	40.85	55.78	0.274
7	551.77	551.07	0.650	1.50	1.50	4.79	4.79	8.47	7.47	0.445
8*	551.66	551.47	0.093	0.85	2.00	5.40	2.19	6.88	18.18	0.093
9	551.47	550.75	0.384	1.50	2.00	5.55	4.47	14.03	15.23	0.272
10	550.75	550.61	0.096	1.59	3.00	5.41	2.92	20.65	37.13	0.055
11	551.17	550.98	0.224	3.75	4.00	5.55	5.41	67.98	62.23	0.159
13*	550.90	550.75	0.086	0.63	1.50	4.41	1.75	3.09	8.44	0.059
14*	550.34	550.16	0.204	2.17	4.00	9.30	5.16	64.85	112.79	0.150
6*	551.31	550.34	0.187	0.59	2.00	12.51	3.12	9.79	50.81	0.189
15	550.98	550.70	0.224	4.00	4.00	5.41	5.41	67.98	58.31	0.159
17	551.77	551.17	0.224	4.00	4.00	5.41	5.41	67.98	60.04	0.568
1	550.70	550.38	0.224	4.00	4.00	5.41	5.41	67.98	60.50	0.159
18*	550.38	550.16	0.204	2.64	4.50	9.17	5.58	88.82	138.28	0.143
19	550.61	550.34	0.174	2.44	4.00	7.46	4.76	59.86	86.19	0.174

* Super critical flow.

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-3082

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

I		WINSTORM OUTPUT		THG	5/20/08
NO.	REVISION			BY	DATE
 City of Rockwall, Texas					
205 BYPASS PHASE 3					
HYDRAULIC DATA STORM SYSTEM H-100 YR FLOWS					
		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	11/23/2009
Designed	SB	Checked	TCB	Project No.	60004153
Drawn	FG	Approved	TCB	Sheet	73 of 215