REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 12-30-15

OUR HOUSE
5 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13
C =	0.5
Tc =	10
I_{100} =	6.1
Q_{100} =	0.3965

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0.01
Aadj=	0.12				
C =	0.9	C =	0.9	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	6.1	I_{100} =	6.1	I_{100} =	6.1
Q_{100} =	0.7137	Q_{100} =	0	Q_{100} =	0.0549

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	6.1	0.9	0.6588	10 min	9.8	0.9	0
15 min	5.5	0.9	0.594	15 min	9	0.9	0
20 min	5	0.9	0.54	20 min	8.3	0.9	0
30 min	4	0.9	0.432	30 min	6.9	0.9	0
40 min	3.4	0.9	0.3672	40 min	5.8	0.9	0
50 min	2.9	0.9	0.3132	50 min	5	0.9	0
60 min	2.6	0.9	0.2808	60 min	4.5	0.9	0
70 min	2.4	0.9	0.2592	70 min	4	0.9	0
80 min	2.2	0.9	0.2376	80 min	3.7	0.9	0
90 min	2	0.9	0.216	90 min	3.5	0.9	0
100 min	1.8	0.9	0.1944	100 min	3.3	0.9	0
110 min	1.7	0.9	0.1836	110 min	2.9	0.9	0

Storage Calculations

10 min			
Inflow	395.28	Storage	190.32
Outflow	204.96		
15 min			
Inflow	534.6	Storage	278.4
Outflow	256.2		
20 min			
Inflow	648	Storage	340.56
Outflow	307.44		
30 min			
Inflow	777.6	Storage	367.68
Outflow	409.92		
40 min			
Inflow	881.28	Storage	368.88
Outflow	512.4		
50 min			
Inflow	939.6	Storage	324.72
Outflow	614.88		
60 min			
Inflow	1010.88	Storage	293.52
Outflow	717.36		
70 min			
Inflow	1088.64	Storage	268.8
Outflow	819.84		
80 min			
Inflow	1140.48	Storage	218.16
Outflow	922.32		
90 min			
Inflow	1166.4	Storage	141.6
Outflow	1024.8		
100 min			
Inflow	1166.4	Storage	39.12
Outflow	1127.28		
110 min			
Inflow	1101.6	Storage	-128.16
Outflow	1229.76		

OUR HOUSE
10 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13
C =	0.5
Tc =	10
I_{100} =	7.2
Q_{100} =	0.468

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0.01
Aadj=	0.12				
C =	0.9	C =	0.9	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	7.2	I_{100} =	7.2	I_{100} =	7.2
Q_{100} =	0.8424	Q_{100} =	0	Q_{100} =	0.0648

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	7.2	0.9	0.7776	10 min	9.8	0.9	0
15 min	6.5	0.9	0.702	15 min	9	0.9	0
20 min	5.8	0.9	0.6264	20 min	8.3	0.9	0
30 min	4.7	0.9	0.5076	30 min	6.9	0.9	0
40 min	4	0.9	0.432	40 min	5.8	0.9	0
50 min	3.5	0.9	0.378	50 min	5	0.9	0
60 min	3	0.9	0.324	60 min	4.5	0.9	0
70 min	2.7	0.9	0.2916	70 min	4	0.9	0
80 min	2.5	0.9	0.27	80 min	3.7	0.9	0
90 min	2.3	0.9	0.2484	90 min	3.5	0.9	0
100 min	2.2	0.9	0.2376	100 min	3.3	0.9	0
110 min	1.9	0.9	0.2052	110 min	2.9	0.9	0

Storage Calculations

10 min			
Inflow	466.56	Storage	224.64
Outflow	241.92		
15 min			
Inflow	631.8	Storage	329.4
Outflow	302.4		
20 min			
Inflow	751.68	Storage	388.8
Outflow	362.88		
30 min			
Inflow	913.68	Storage	429.84
Outflow	483.84		
40 min			
Inflow	1036.8	Storage	432
Outflow	604.8		
50 min			
Inflow	1134	Storage	408.24
Outflow	725.76		
60 min			
Inflow	1166.4	Storage	319.68
Outflow	846.72		
70 min			
Inflow	1224.72	Storage	257.04
Outflow	967.68		
80 min			
Inflow	1296	Storage	207.36
Outflow	1088.64		
90 min			
Inflow	1341.36	Storage	131.76
Outflow	1209.6		
100 min			
Inflow	1425.6	Storage	95.04
Outflow	1330.56		
110 min			
Inflow	1231.2	Storage	-220.32
Outflow	1451.52		

OUR HOUSE
25 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13
C =	0.5
Tc =	10
I_{100} =	8.2
Q_{100} =	0.533

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0.01
Aadj=	0.12				
C =	0.9	C =	0.9	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	8.2	I_{100} =	8.2	I_{100} =	8.2
Q_{100} =	0.9594	Q_{100} =	0	Q_{100} =	0.0738

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	8.2	0.9	0.8856	10 min	9.8	0.9	0
15 min	7.5	0.9	0.81	15 min	9	0.9	0
20 min	6.7	0.9	0.7236	20 min	8.3	0.9	0
30 min	5.5	0.9	0.594	30 min	6.9	0.9	0
40 min	4.7	0.9	0.5076	40 min	5.8	0.9	0
50 min	4	0.9	0.432	50 min	5	0.9	0
60 min	3.5	0.9	0.378	60 min	4.5	0.9	0
70 min	3.2	0.9	0.3456	70 min	4	0.9	0
80 min	2.7	0.9	0.2916	80 min	3.7	0.9	0
90 min	2.5	0.9	0.27	90 min	3.5	0.9	0
100 min	2.4	0.9	0.2592	100 min	3.3	0.9	0
110 min	2.3	0.9	0.2484	110 min	2.9	0.9	0

Storage Calculations

10 min			
Inflow	531.36	Storage	255.84
Outflow	275.52		
15 min			
Inflow	729	Storage	384.6
Outflow	344.4		
20 min			
Inflow	868.32	Storage	455.04
Outflow	413.28		
30 min			
Inflow	1069.2	Storage	518.16
Outflow	551.04		
40 min			
Inflow	1218.24	Storage	529.44
Outflow	688.8		
50 min			
Inflow	1296	Storage	469.44
Outflow	826.56		
60 min			
Inflow	1360.8	Storage	396.48
Outflow	964.32		
70 min			
Inflow	1451.52	Storage	349.44
Outflow	1102.08		
80 min			
Inflow	1399.68	Storage	159.84
Outflow	1239.84		
90 min			
Inflow	1458	Storage	80.4
Outflow	1377.6		
100 min			
Inflow	1555.2	Storage	39.84
Outflow	1515.36		
110 min			
Inflow	1490.4	Storage	-162.72
Outflow	1653.12		

OUR HOUSE
100 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13
C =	0.5
Tc =	10
I_{100} =	9.8
Q_{100} =	0.637

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0.01
Aadj=	0.12				
C =	0.9	C =	0.9	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	9.8	I_{100} =	9.8	I_{100} =	9.8
Q_{100} =	1.1466	Q_{100} =	0	Q_{100} =	0.0882

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	9.8	0.9	1.0584	10 min	9.8	0.9	0
15 min	9	0.9	0.972	15 min	9	0.9	0
20 min	8.3	0.9	0.8964	20 min	8.3	0.9	0
30 min	6.9	0.9	0.7452	30 min	6.9	0.9	0
40 min	5.8	0.9	0.6264	40 min	5.8	0.9	0
50 min	5	0.9	0.54	50 min	5	0.9	0
60 min	4.5	0.9	0.486	60 min	4.5	0.9	0
70 min	4	0.9	0.432	70 min	4	0.9	0
80 min	3.7	0.9	0.3996	80 min	3.7	0.9	0
90 min	3.5	0.9	0.378	90 min	3.5	0.9	0
100 min	3.3	0.9	0.3564	100 min	3.3	0.9	0
110 min	2.9	0.9	0.3132	110 min	2.9	0.9	0

Storage Calculations

10 min			
Inflow	635.04	Storage	305.76
Outflow	329.28		
15 min			
Inflow	874.8	Storage	463.2
Outflow	411.6		
20 min			
Inflow	1075.68	Storage	581.76
Outflow	493.92		
30 min			
Inflow	1341.36	Storage	682.8
Outflow	658.56		
40 min			
Inflow	1503.36	Storage	680.16
Outflow	823.2		
50 min			
Inflow	1620	Storage	632.16
Outflow	987.84		
60 min			
Inflow	1749.6	Storage	597.12
Outflow	1152.48		
70 min			
Inflow	1814.4	Storage	497.28
Outflow	1317.12		
80 min			
Inflow	1918.08	Storage	436.32
Outflow	1481.76		
90 min			
Inflow	2041.2	Storage	394.8
Outflow	1646.4		
100 min			
Inflow	2138.4	Storage	327.36
Outflow	1811.04		
110 min			
Inflow	1879.2	Storage	-96.48
Outflow	1975.68		

CITY CASE NO. SP2014-026

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II TEXAS P.E. NO. 60102, T-886, ON DATE: JULY 20, 2012.

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DETENTION CALCULATIONS
OUR HOUSE
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION

W.L.D.
CHECKED

G.C.W.
DRAWN

1"=10' H
1"= V

JULY 20, 2015
DATE

15016
PROJECT

SCALE 7/8