

Design Log

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InRoads Storm & Sanitary Design Log

Drainage File: P:\20130375\CDP\Control\Data\workarea\20130375_Pulte1_SD_10'.sdb

Design File: P:\20130375\CDP\DESIGN\20130375UTILITY_TRADITIONAL.DWG

Display Log: P:\20130375\CDP\DESIGN\design.log

Date: Tuesday, July 01, 2014 9:43:17 AM

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Designing inlet IN_8

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	6.8000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	6.8000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	2.2339 ft		
Depth in Gutter:	0.7739 ft	Assigned Bypass:	N/A

Designing pipe SDP_19

Results:

Total Flow:	6.8000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0100 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.8780 ft	Flow Status:	Partial
Critical Depth:	1.0000 ft	Capacity:	10.5043 cfs
Velocity:	6.3190 ft/s		
Froude Number:	1.3065	Flow Regime:	SuperCritical

Designing inlet IN_7

WARNING: Spread is greater than maximum spread (2.5000 ft)

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	6.8000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	13.6000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	14.6269 ft		
Depth in Gutter:	0.2506 ft	Assigned Bypass:	N/A

Designing pipe SDP_18

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	13.6000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0229 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	0.8750 ft	Flow Status:	Partial
Critical Depth:	1.3200 ft	Capacity:	34.2649 cfs
Velocity:	10.2763 ft/s		
Froude Number:	2.2201	Flow Regime:	SuperCritical

Designing inlet IN_10

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	6.8000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	6.8000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	2.1435 ft		
Depth in Gutter:	0.7933 ft	Assigned Bypass:	N/A

Designing pipe SDP_20

Results:

Total Flow:	6.8000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0100 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.8780 ft	Flow Status:	Partial
Critical Depth:	1.0000 ft	Capacity:	10.5043 cfs
Velocity:	6.3190 ft/s		
Froude Number:	1.3065	Flow Regime:	SuperCritical

Designing inlet IN_9

WARNING: Spread is greater than maximum spread (2.5000 ft)

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	6.8000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	13.6000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	8.5083 ft		
Depth in Gutter:	0.3469 ft	Assigned Bypass:	N/A

Designing pipe SDP_17

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	13.6000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0665 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	0.6560 ft	Flow Status:	Partial
Critical Depth:	1.3200 ft	Capacity:	58.3564 cfs
Velocity:	15.1364 ft/s	Flow Regime:	SuperCritical
Froude Number:	3.8620		

Designing manhole MH8

Results:

Total Flow:	27.2000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	4.0000 ft	Chamber Length:	4.0000 ft

Designing pipe SDP_16

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	27.2000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0396 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.1210 ft	Flow Status:	Partial
Critical Depth:	1.8100 ft	Capacity:	45.0161 cfs
Velocity:	14.9929 ft/s	Flow Regime:	SuperCritical
Froude Number:	2.7666		

Designing inlet IN_5

WARNING: Spread is greater than maximum spread (2.5000 ft)

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	8.3000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	8.3000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	9.8230 ft	Assigned Bypass:	N/A
Depth in Gutter:	0.3587 ft		

Designing pipe SDP_14

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	8.3000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.2588 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.3990 ft	Flow Status:	Partial
Critical Depth:	1.1100 ft	Capacity:	53.4409 cfs
Velocity:	21.9400 ft/s	Flow Regime:	SuperCritical
Froude Number:	7.2532		

Designing inlet IN_6

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	8.3000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	8.3000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	2.3247 ft	Assigned Bypass:	N/A
Depth in Gutter:	0.8516 ft		

Designing pipe SDP_15

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	8.3000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0508 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.6130 ft	Flow Status:	Partial
Critical Depth:	1.1100 ft	Capacity:	23.6744 cfs
Velocity:	12.1934 ft/s	Flow Regime:	SuperCritical
Froude Number:	3.1676		

Designing manhole MH7

Results:

Total Flow:	43.8000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	6.0000 ft	Chamber Length:	6.0000 ft

Designing pipe SDP_13

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	43.8000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0212 ft/ft
Pipe Width:	36.0000 in	Pipe Height:	36.0000 in

Depth of Flow:	1.4120 ft	SD Network C-10' dia analysis.txt
Critical Depth:	2.1500 ft	Flow Status: Partial
Velocity:	13.3804 ft/s	Capacity: 97.1224 cfs
Froude Number:	2.2574	Flow Regime: SuperCritical

Designing manhole MH9

Results:		
Total Flow:	43.8000 cfs	Flow From: Upstream
Status:	Fixed	
Chamber Width:	4.0000 ft	Chamber Length: 4.0000 ft

Designing pipe SDP_12

Results:		
Total Flow:	43.8000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0087 ft/ft
Pipe Width:	36.0000 in	Pipe Height: 36.0000 in
Depth of Flow:	1.8540 ft	Flow Status: Partial
Critical Depth:	2.1500 ft	Capacity: 62.3094 cfs
Velocity:	9.5440 ft/s	
Froude Number:	1.3415	Flow Regime: SuperCritical

Designing inlet IN_3

WARNING: Spread is greater than maximum spread (2.5000 ft)
 WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:		
Gutter Flow:	16.1000 cfs	Flow From: Injected Storm
Status:	Fixed	
Inlet Length:	6.5000 ft	Inlet Width: 2.0000 ft
Flow Downstream:	16.1000 cfs	Bypass To: 0.0000 cfs
Percent Cap:	100.0000 %	Capacity: 0.0000 cfs
Spread:	16.2968 ft	
Depth in Gutter:	0.3939 ft	Assigned Bypass: N/A

Designing pipe SDP_21B

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:		
Total Flow:	16.1000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.4245 ft/ft
Pipe Width:	18.0000 in	Pipe Height: 18.0000 in
Depth of Flow:	0.4950 ft	Flow Status: Partial
Critical Depth:	1.4200 ft	Capacity: 68.4399 cfs
Velocity:	31.5694 ft/s	
Froude Number:	9.2692	Flow Regime: SuperCritical

Designing inlet IN_4

WARNING: Spread is greater than maximum spread (2.5000 ft)
 WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:		
Gutter Flow:	16.1000 cfs	Flow From: Injected Storm
Status:	Fixed	
Inlet Length:	6.5000 ft	Inlet Width: 2.0000 ft
Flow Downstream:	16.1000 cfs	Bypass To: 0.0000 cfs
Percent Cap:	100.0000 %	Capacity: 0.0000 cfs
Spread:	3.0704 ft	
Depth in Gutter:	1.0724 ft	Assigned Bypass: N/A

Designing pipe SDP_21A

Results:		
Total Flow:	16.1000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0171 ft/ft
Pipe Width:	18.0000 in	Pipe Height: 18.0000 in
Depth of Flow:	1.5000 ft	Flow Status: Full
Critical Depth:	1.5000 ft	Capacity: 13.7403 cfs
Velocity:	9.1107 ft/s	
Froude Number:	0.0000	Flow Regime: Subcritical

Designing manhole SDMH1

Results:		
Total Flow:	76.0000 cfs	Flow From: Upstream
Status:	Fixed	
Chamber Width:	6.0000 ft	Chamber Length: 6.0000 ft

Designing pipe SDP_11

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:		
Total Flow:	76.0000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0100 ft/ft
Pipe Width:	42.0000 in	Pipe Height: 42.0000 in
Depth of Flow:	2.2720 ft	Flow Status: Partial
Critical Depth:	2.7200 ft	Capacity: 100.6098 cfs
Velocity:	11.4918 ft/s	
Froude Number:	1.4403	Flow Regime: SuperCritical

Designing inlet IN_1

WARNING: Spread is greater than maximum spread (2.5000 ft)
 WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

SD Network C-10' dia analysis.txt

Results:
 Gutter Flow: 7.4000 cfs Flow From: Injected Storm
 Status: Fixed
 Inlet Length: 6.5000 ft Inlet Width: 2.0000 ft
 Flow Downstream: 7.4000 cfs Bypass To: 0.0000 cfs
 Percent Cap: 100.0000 % Capacity: 0.0000 cfs
 Spread: 10.4065 ft
 Depth in Gutter: 0.3234 ft Assigned Bypass: N/A

Designing pipe SDP_10

Results:
 Total Flow: 7.4000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0205 ft/ft
 Pipe Width: 18.0000 in Pipe Height: 18.0000 in
 Depth of Flow: 0.7420 ft Flow Status: Partial
 Critical Depth: 1.0500 ft Capacity: 15.0408 cfs
 Velocity: 8.4758 ft/s
 Froude Number: 1.9602 Flow Regime: SuperCritical

Designing inlet IN_2

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
 WARNING: Pipe Too large for valid connection to inlet.

Results:
 Gutter Flow: 7.4000 cfs Flow From: Injected Storm
 Status: Fixed
 Inlet Length: 6.5000 ft Inlet Width: 2.0000 ft
 Flow Downstream: 14.8000 cfs Bypass To: 0.0000 cfs
 Percent Cap: 100.0000 % Capacity: 0.0000 cfs
 Spread: 2.2607 ft
 Depth in Gutter: 0.8083 ft Assigned Bypass: N/A

Designing pipe SDP_9

Results:
 Total Flow: 14.8000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0100 ft/ft
 Pipe Width: 24.0000 in Pipe Height: 24.0000 in
 Depth of Flow: 1.1790 ft Flow Status: Partial
 Critical Depth: 1.3800 ft Capacity: 22.6224 cfs
 Velocity: 7.6730 ft/s
 Froude Number: 1.3670 Flow Regime: SuperCritical

WARNING: Pipe Too large for valid connection to inlet.
 Designing manhole MH6

Results:
 Total Flow: 90.8000 cfs Flow From: Upstream
 Status: Fixed
 Chamber Width: 8.0000 ft Chamber Length: 8.0000 ft

Designing pipe SDP_8

Results:
 Total Flow: 90.8000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0060 ft/ft
 Pipe Width: 54.0000 in Pipe Height: 54.0000 in
 Depth of Flow: 2.4950 ft Flow Status: Partial
 Critical Depth: 2.7900 ft Capacity: 152.9444 cfs
 Velocity: 10.0255 ft/s
 Froude Number: 1.2425 Flow Regime: SuperCritical

Designing manhole MH5

Results:
 Total Flow: 90.8000 cfs Flow From: Upstream
 Status: Fixed
 Chamber Width: 8.0000 ft Chamber Length: 8.0000 ft

Designing pipe SDP_7

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:
 Total Flow: 90.8000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0073 ft/ft
 Pipe Width: 60.0000 in Pipe Height: 60.0000 in
 Depth of Flow: 2.2270 ft Flow Status: Partial
 Critical Depth: 2.7000 ft Capacity: 221.8637 cfs
 Velocity: 10.7327 ft/s
 Froude Number: 1.4507 Flow Regime: SuperCritical

Designing pipe SDP_6

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:
 Total Flow: 138.4000 cfs Flow From: Injected Storm
 Status: Fixed Slope: 0.0313 ft/ft
 Pipe Width: 48.0000 in Pipe Height: 48.0000 in
 Depth of Flow: 2.1040 ft Flow Status: Partial
 Critical Depth: 3.4900 ft Capacity: 254.1886 cfs
 Velocity: 20.6475 ft/s
 Froude Number: 2.8109 Flow Regime: SuperCritical

Designing manhole MH4

Results:
 Total Flow: 138.4000 cfs Flow From: Upstream
 Status: Fixed
 Chamber Width: 6.0000 ft Chamber Length: 6.0000 ft

Designing pipe SDP_5

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:
 Total Flow: 138.4000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0300 ft/ft
 Pipe Width: 48.0000 in Pipe Height: 48.0000 in
 Depth of Flow: 2.1310 ft Flow Status: Partial
 Critical Depth: 3.4900 ft Capacity: 248.7975 cfs
 Velocity: 20.3207 ft/s
 Froude Number: 2.7433 Flow Regime: SuperCritical

Designing pipe SDP_4

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0339 ft/ft
 Pipe Width: 60.0000 in Pipe Height: 60.0000 in
 Depth of Flow: 2.4350 ft Flow Status: Partial
 Critical Depth: 4.2800 ft Capacity: 479.4666 cfs
 Velocity: 24.1326 ft/s
 Froude Number: 3.0873 Flow Regime: SuperCritical

Designing manhole MH3

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed
 Chamber Width: 8.0000 ft Chamber Length: 8.0000 ft

Designing pipe SDP_3

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0177 ft/ft
 Pipe Width: 60.0000 in Pipe Height: 60.0000 in
 Depth of Flow: 2.9670 ft Flow Status: Partial
 Critical Depth: 4.2800 ft Capacity: 346.9057 cfs
 Velocity: 18.8739 ft/s
 Froude Number: 2.1167 Flow Regime: SuperCritical

Designing manhole MH2

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed
 Chamber Width: 6.0000 ft Chamber Length: 6.0000 ft

Designing pipe SDP_2

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0060 ft/ft
 Pipe Width: 60.0000 in Pipe Height: 60.0000 in
 Depth of Flow: 5.0000 ft Flow Status: Full
 Critical Depth: 5.0000 ft Capacity: 201.7380 cfs
 Velocity: 11.6731 ft/s
 Froude Number: 0.0000 Flow Regime: Subcritical

Designing manhole MH1

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed
 Chamber Width: 10.0000 ft Chamber Length: 10.0000 ft

Designing pipe SDP19

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed Slope: 0.0050 ft/ft
 Pipe Width: 66.0000 in Pipe Height: 66.0000 in
 Depth of Flow: 4.3450 ft Flow Status: Partial
 Critical Depth: 4.2300 ft Capacity: 237.4529 cfs
 Velocity: 11.3827 ft/s
 Froude Number: 0.9467 Flow Regime: Subcritical

Designing manhole ex mh 2

Results:
 Total Flow: 229.2000 cfs Flow From: Upstream
 Status: Fixed
 Chamber Width: 10.0000 ft Chamber Length: 10.0000 ft
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SD Network C-10' dia analysis.txt

Designing pipe SDP7

Results:

Total Flow:	229.2000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0050 ft/ft
Pipe Width:	66.0000 in	Pipe Height:	66.0000 in
Depth of Flow:	4.3450 ft	Flow Status:	Partial
Critical Depth:	4.2300 ft	Capacity:	237.4529 cfs
Velocity:	11.3827 ft/s	Flow Regime:	Subcritical
Froude Number:	0.9467		

HGL/EGL Computations:

Table A:

Struct_ID Rim_Elev. (ft)	D (in)	Q (cfs)	L (ft)	V (ft/s)	d (ft)	dc (ft)	V^2/2g (ft)	Sf (ft/ft)	Dn_Soffit (ft)	EGLdn (ft)	HGLdn (ft)	Tot_Loss (ft)	EGLup (ft)	HGLup (ft)
Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-	5285.60
(Alternate HGL and EGL Used)														
SDP7	66	229.20	20.32	9.65	-	-	1.45	0.0047	5288.89	5289.70	5288.26	0.09	5289.70	5288.26
ex mh 2	-	-	-	-	-	-	-	-	-	5289.80	5288.35	0.14	5289.94	5288.49
5292.95 SDP19	66	229.20	35.22	9.65	-	-	1.45	0.0047	5289.07	5289.94	5288.49	0.16	5290.10	5288.66
MH1	-	-	-	-	-	-	-	-	-	5290.10	5288.66	1.04	5291.14	5289.70
5293.28 SDP_2	60	229.20	299.97	11.67	-	-	2.12	0.0077	5288.81	5291.14	5289.70	2.35	5293.49	5291.37
MH2	-	-	-	-	-	-	-	-	-	5293.49	5291.37	0.14	5293.63	5291.51
5294.02 SDP_3	60	229.20	179.03	11.67	-	-	2.12	0.0077	5290.66	5293.63	5291.51	1.40	5295.03	5292.91
MH3	-	-	-	-	-	-	-	-	-	5295.03	5292.91	0.74	5295.77	5293.66
5297.16 SDP_4	60	229.20	29.42	11.67	-	-	2.12	0.0077	5293.81	5295.77	5293.66	0.23	5296.00	5293.88
Junction	-	-	-	-	-	-	-	-	-	5296.00	5293.88	2.18	5298.19	5296.07
SDP_5	48	138.40	47.29	11.01	-	-	1.89	0.0093	5293.68	5298.19	5296.07	0.44	5298.62	5296.74
MH4	-	-	-	-	-	-	-	-	-	5298.62	5296.74	0.85	5299.48	5297.59
5299.62 SDP_6	48	138.40	127.49	11.01	-	-	1.89	0.0093	5295.10	5299.48	5297.59	1.18	5300.66	5298.78
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5296.00	5293.88
SDP_7	60	90.80	277.29	10.73	2.23	2.70	1.79	-	5294.68	5295.67	5293.88	-	5295.68	5293.89
MH5	-	-	-	-	-	-	-	-	-	5295.68	5293.89	-	5295.68	5293.89
5306.00 SDP_8	54	90.80	191.71	10.03	2.49	2.79	1.56	-	5296.26	5295.82	5294.25	-	5296.93	5295.36
MH6	-	-	-	-	-	-	-	-	-	5296.93	5295.36	-	5296.93	5295.36
5299.87 SDP_11	42	76.00	47.92	11.49	2.27	2.72	2.05	-	5296.47	5297.42	5295.36	-	5297.70	5295.65
SDMH1	-	-	-	-	-	-	-	-	-	5297.70	5295.65	-	5297.70	5295.65
5299.55 SDP_12	36	43.80	83.54	9.54	1.85	2.15	1.42	-	5296.48	5297.07	5295.65	-	5297.43	5296.02
MH9	-	-	-	-	-	-	-	-	-	5297.43	5296.02	-	5297.43	5296.02
5300.17 SDP_13	36	43.80	107.14	13.38	1.41	2.15	2.78	-	5297.26	5298.80	5296.02	-	5300.62	5297.84
MH7	-	-	-	-	-	-	-	-	-	5300.62	5297.84	-	5300.62	5297.84
5302.45 SDP_16	24	27.20	30.04	14.99	1.12	1.81	3.49	-	5298.59	5301.34	5297.84	-	5302.19	5298.70
MH8	-	-	-	-	-	-	-	-	-	5302.19	5298.70	-	5302.19	5298.70
5303.58 SDP_18	24	13.60	111.20	10.28	0.88	1.32	1.64	-	5299.68	5300.34	5298.70	-	5302.63	5300.98
IN_7	-	-	-	-	-	-	-	-	-	5302.63	5300.98	-	5302.63	5300.98
5305.21 SDP_19	18	6.80	32.00	6.32	0.88	1.00	0.62	-	5301.71	5301.71	5301.09	-	5302.00	5301.38
IN_8	-	-	-	-	-	-	-	-	-	5302.00	5301.38	-	5302.00	5301.38
5305.21 New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5296.93	5295.36
MH6	-	-	-	-	-	-	-	-	-	5296.93	5295.36	-	5296.93	5295.36
5299.87 SDP_9	24	14.80	79.42	7.67	1.18	1.38	0.91	-	5297.89	5297.98	5297.07	-	5298.70	5297.79
IN_2	-	-	-	-	-	-	-	-	-	5298.70	5297.79	-	5298.70	5297.79
5300.61 SDP_10	18	7.40	42.91	8.48	0.74	1.05	1.12	-	5298.21	5298.90	5297.79	-	5299.34	5298.23
IN_1	-	-	-	-	-	-	-	-	-	5299.34	5298.23	-	5299.34	5298.23
5301.48 New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5297.70	5295.65
SDMH1	-	-	-	-	-	-	-	-	-	5297.70	5295.65	-	5297.70	5295.65
5299.55 SDP_21B	18	16.10	10.31	9.11	-	-	1.29	0.0235	5294.98	5297.70	5295.65	0.24	5297.95	5296.66

SD Network C-10' dia analysis.txt													
IN_3	-	-	-	-	-	-	-	-	-	5297.95	5296.66	-	5297.95 5296.66
5299.34													
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5297.70 5295.65
SDMH1	-	-	-	-	-	-	-	-	-	5297.70	5295.65	0.54	5298.25 5296.19
5299.55													
(Alternate HGL and EGL Used)													
SDP_21A	18	16.10	24.34	9.11	-	-	1.29	0.0235	5296.50	5297.79	5296.50	0.57	5297.79 5296.50
IN_4	-	-	-	-	-	-	-	-	-	5298.36	5297.07	-	5298.36 5297.07
5299.33													
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5300.62 5297.84
MH7	-	-	-	-	-	-	-	-	-	5300.62	5297.84	-	5300.62 5297.84
5302.45													
SDP_14	18	8.30	8.09	21.94	0.40	1.11	7.48	-	5298.31	5305.32	5297.84	-	5305.46 5297.98
IN_5	-	-	-	-	-	-	-	-	-	5305.46	5297.98	-	5305.46 5297.98
5302.29													
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5300.62 5297.84
MH7	-	-	-	-	-	-	-	-	-	5300.62	5297.84	-	5300.62 5297.84
5302.45													
SDP_15	18	8.30	24.20	12.19	0.61	1.11	2.31	-	5298.10	5300.15	5297.84	-	5300.51 5298.20
IN_6	-	-	-	-	-	-	-	-	-	5300.51	5298.20	-	5300.51 5298.20
5302.29													
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5302.19 5298.70
MH8	-	-	-	-	-	-	-	-	-	5302.19	5298.70	-	5302.19 5298.70
5303.58													
SDP_17	24	13.60	62.66	15.14	0.66	1.32	3.56	-	5299.68	5302.26	5298.70	-	5305.71 5302.15
IN_9	-	-	-	-	-	-	-	-	-	5305.71	5302.15	-	5305.71 5302.15
5305.88													
SDP_20	18	6.80	32.34	6.32	0.88	1.00	0.62	-	5303.09	5303.09	5302.47	-	5303.37 5302.75
IN_10	-	-	-	-	-	-	-	-	-	5303.37	5302.75	-	5303.37 5302.75
5305.88													

Table B:

LOSSES									- LOSS_COEFFICIENTS					
Cb	Str_ID K	Hf	Hb	Hstr	Hc	He	Hj	Total	Dstr	Ko	CD	Cd	Cq	Cp
-	Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP7	0.09	-	-	-	-	-	0.09	-	-	-	-	-	-
1.000	ex mh 2	-	-	0.14	-	-	-	0.14	4.88	0.205	1.000	0.466	1.000	1.000
0.096	SDP19	0.16	-	-	-	-	-	0.16	-	-	-	-	-	-
-	MH1	-	-	1.04	-	-	-	1.04	4.96	1.531	1.000	0.470	1.000	1.000
1.000	SDP_2	2.32	0.03	-	-	-	-	2.35	-	-	-	-	-	-
0.720	MH2	-	-	0.14	-	-	-	0.14	5.81	0.120	1.000	0.547	1.000	1.000
0.066	SDP_3	1.39	0.02	-	-	-	-	1.40	-	-	-	-	-	-
-	MH3	-	-	0.74	-	-	-	0.74	4.20	0.779	1.000	0.450	1.000	1.000
1.000	SDP_4	0.23	-	-	-	-	-	0.23	-	-	-	-	-	-
0.351	Junction	-	0.00	-	-	0.03	2.15	2.18	-	-	-	-	-	-
-	SDP_5	0.44	-	-	-	-	-	0.44	-	-	-	-	-	-
-	MH4	-	-	0.85	-	-	-	0.85	5.74	0.731	1.000	0.621	1.000	1.000
1.000	SDP_6	1.18	-	-	-	-	-	1.18	-	-	-	-	-	-
0.453	-													
-	New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_7	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	MH5	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_8	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	MH6	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_11	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	SDMH1	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_12	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	MH9	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_13	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	MH7	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_16	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	MH8	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_18	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	IN_7	-	-	-	-	-	-	-	-	-	-	-	-	-
-	SDP_19	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-

SD Network C-10' dia analysis.txt

IN_8	-	-	-	-	-	-	-	0.88	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
MH6	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP_9	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
IN_2	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP_10	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
IN_1	-	-	-	-	-	-	-	0.74	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
SDMH1	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP_21B	0.24	-	-	-	-	-	0.24	-	-	-	-	-	-
IN_3	-	-	-	-	-	-	-	1.32	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
SDMH1	-	-	0.54	-	-	-	0.54	2.27	1.182	1.000	0.386	0.581	1.000
SDP_21A	0.57	-	-	-	-	-	0.57	-	-	-	-	-	-
IN_4	-	-	-	-	-	-	-	1.74	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
MH7	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP_14	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
IN_5	-	-	-	-	-	-	-	0.40	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
MH7	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP_15	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
IN_6	-	-	-	-	-	-	-	0.61	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
MH8	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP_17	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
IN_9	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP_20	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
IN_10	-	-	-	-	-	-	-	0.88	-	-	-	-	-