

6324 Prop with storage.out

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch. Area		Slope		% Impervious		Pern		B		Link
Label	#1	#2	#1	#2	#1	#2	#1	#2	#1	#2	No.
	(ha)		(%)		(%)						
A	2.550	1.700	12.00	12.00	99.00	1.000	.015	.035	.0007	.0120	1.000
D	1.030	9.230	11.00	11.00	99.00	1.000	.015	.035	.0005	.0302	2.000
S1	0.2600	0.2600	13.00	13.00	99.00	1.000	.015	.040	.0002	.0048	3.000
B	2.000	1.340	7.000	7.000	99.00	1.000	.015	.035	.0008	.0139	4.000
Basin1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	4.001
S2	2.060	3.100	17.00	17.00	99.00	1.000	.015	.040	.0005	.0152	1.001
E	.00001	0.0800	3.000	3.000	99.00	1.000	.015	.035	0.000	.0049	5.000
C	6.220	4.150	12.00	12.00	99.00	1.000	.015	.035	.0011	.0191	6.000
S3	2.690	4.040	13.00	13.00	99.00	1.000	.015	.040	.0007	.0200	1.002
Basin2	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.003
OUTLET	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.004

Link	Average	Init. Loss	Cont. Loss	Excess Rain	Peak	Time	Link
Label	Intensity	#1	#2	#1	#2	Inflow	to
	(mm/h)	(mm)		(mm/h)		(m^3/s)	Peak
							mins
A	24.473	1.500	15.00	0.000	2.500	47.446	30.196
D	24.473	1.500	15.00	0.000	2.500	47.446	30.196
S1	24.473	1.500	15.00	0.000	2.500	47.446	30.196
B	24.473	1.500	15.00	0.000	2.500	47.446	30.196
Basin1	24.473	1.500	0.000	0.000	0.000	47.446	0.000
S2	24.473	1.500	15.00	0.000	2.500	47.446	30.196
E	24.473	1.500	15.00	0.000	2.500	47.446	30.196
C	24.473	1.500	15.00	0.000	2.500	47.446	30.196
S3	24.473	1.500	15.00	0.000	2.500	47.446	30.196
Basin2	24.473	1.500	0.000	0.000	0.000	47.446	0.000
OUTLET	24.473	1.500	0.000	0.000	0.000	47.446	0.000

SUMMARY OF BASIN RESULTS

Link	Time	Peak	Time	Peak	Total	Basin		
Label	to	Inflow	to	Outflow	Inflow	Vol.	Vol.	Stage
	Peak	(m^3/s)	Peak	(m^3/s)	(m^3)	Avail	Used	Used
Basin1	38.00	.6984	44.00	.5319	1353.2	0.0000	170.98	0.3420
Basin2	40.00	5.587	46.00	5.281	15180.8	0.0000	559.25	0.2796

SUMMARY OF BASIN OUTLET RESULTS

Link	No.	S/D	Dia	Width	Pipe	Pipe
Label	of	Factor	(m)	(m)	Length	Slope
		(m)			(m)	(%)
Basin1	1.0	1.000		0.000	0.5000	0.2000
Basin2	1.0	1.000		0.000	0.5000	0.2000

LINK A 1.000

ESTIMATED VOLUME (CU METRES*10**3) = 2.677
 ESTIMATED PEAK FLOW (CUMECS) = 1.94
 ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK D 2.000

ESTIMATED VOLUME (CU METRES*10**3) = 5.603
 ESTIMATED PEAK FLOW (CUMECS) = 3.27
 ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK S1 3.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.3188
 ESTIMATED PEAK FLOW (CUMECS) = 0.25
 ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK B 4.000

ESTIMATED VOLUME (CU METRES*10**3) = 2.104
 ESTIMATED PEAK FLOW (CUMECS) = 1.48
 ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK Basin1 4.001

ESTIMATED VOLUME (CU METRES*10**3) = 2.104
 ESTIMATED PEAK FLOW (CUMECS) = 1.48
 ESTIMATED TIME TO PEAK (MINS) = 33.00

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LINK S2 1.001

ESTIMATED VOLUME (CU METRES*10**3) = 13.78
 ESTIMATED PEAK FLOW (CUMECs) = 8.23
 ESTIMATED TIME TO PEAK (MINS) = 33.00

LINK E 5.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.4242E-01
 ESTIMATED PEAK FLOW (CUMECs) = 0.03
 ESTIMATED TIME TO PEAK (MINS) = 31.00

LINK C 6.000

ESTIMATED VOLUME (CU METRES*10**3) = 6.528
 ESTIMATED PEAK FLOW (CUMECs) = 4.60
 ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK S3 1.002

ESTIMATED VOLUME (CU METRES*10**3) = 24.36
 ESTIMATED PEAK FLOW (CUMECs) = 11.11
 ESTIMATED TIME TO PEAK (MINS) = 38.00

LINK Basin2 1.003

ESTIMATED VOLUME (CU METRES*10**3) = 24.36
 ESTIMATED PEAK FLOW (CUMECs) = 11.11
 ESTIMATED TIME TO PEAK (MINS) = 38.00

LINK OUTLET 1.004

ESTIMATED VOLUME (CU METRES*10**3) = 24.36
 ESTIMATED PEAK FLOW (CUMECs) = 11.39
 ESTIMATED TIME TO PEAK (MINS) = 30.00

 Coastal Grove - Proposed Conditions + Detention

Results for period from 0: 0.0 1/ 1/1995
 to 1: 0.0 2/ 1/1995

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ROUTING INCREMENT (MINS) = 1.00
 STORM DURATION (MINS) = 90.
 RETURN PERIOD (YRS) = 5.
 BX = 1.0000
 TOTAL OF FIRST SUB-AREAS (km2) = 16.81
 TOTAL OF SECOND SUB-AREAS (km2) = 23.90
 TOTAL OF ALL SUB-AREAS (km2) = 40.71

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch. Area	Slope	% Impervious	Pern	B	Link
Label	#1 #2	#1 #2	#1 #2	#1 #2	#1 #2	No.
	(ha)	(%)	(%)			
A	2.550 1.700	12.00 12.00	99.00 1.000	.015 .035	.0007 .0120	1.000
D	1.030 9.230	11.00 11.00	99.00 1.000	.015 .035	.0005 .0302	2.000
S1	0.2600 0.2600	13.00 13.00	99.00 1.000	.015 .040	.0002 .0048	3.000
B	2.000 1.340	7.000 7.000	99.00 1.000	.015 .035	.0008 .0139	4.000
Basin1	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.00	.0021 0.000	4.001
S2	2.060 3.100	17.00 17.00	99.00 1.000	.015 .040	.0005 .0152	1.001
E	.00001 0.0800	3.000 3.000	99.00 1.000	.015 .035	0.000 .0049	5.000
C	6.220 4.150	12.00 12.00	99.00 1.000	.015 .035	.0011 .0191	6.000
S3	2.690 4.040	13.00 13.00	99.00 1.000	.015 .040	.0007 .0200	1.002
Basin2	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.00	.0021 0.000	1.003
OUTLET	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.00	.0021 0.000	1.004

Link	Average	Init. Loss	Cont. Loss	Excess Rain	Peak	Time	Link
Label	Intensity	#1 #2	#1 #2	#1 #2	Inflow	to	Lag
	(mm/h)	(mm)	(mm/h)	(mm)	(m^3/s)	Peak	mins
A	47.435	1.500 15.00	0.000 2.500	69.653 52.986	1.938	30.00	3.000
D	47.435	1.500 15.00	0.000 2.500	69.653 52.986	3.268	30.00	3.000
S1	47.435	1.500 15.00	0.000 2.500	69.653 52.986	0.2467	30.00	3.300
B	47.435	1.500 15.00	0.000 2.500	69.653 52.986	1.479	30.00	2.500

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Basin1	47.435	1.500	0.000	0.000	0.000	69.653	0.000	1.479	33.00	0.000
S2	47.435	1.500	15.00	0.000	2.500	69.653	52.986	8.229	33.00	5.000
E	47.435	1.500	15.00	0.000	2.500	69.653	52.986	0.0298	31.00	5.000
C	47.435	1.500	15.00	0.000	2.500	69.653	52.986	4.597	30.00	1.000
S3	47.435	1.500	15.00	0.000	2.500	69.653	52.986	11.114	38.00	0.000
Basin2	47.435	1.500	0.000	0.000	0.000	69.653	0.000	11.114	38.00	0.000
OUTLET	47.435	1.500	0.000	0.000	0.000	69.653	0.000	11.394	30.00	0.000

SUMMARY OF BASIN RESULTS

Link Label	Time to Peak	Peak Inflow (m ³ /s)	Time to Peak	Peak Outflow (m ³ /s)	Total Inflow (m ³)	Vol. Avail	Basin Vol. Used	Stage Used
Basin1	33.00	1.479	31.00	1.490	2104.5	0.0000	237.35	0.4747
Basin2	38.00	11.11	30.00	11.39	24359.2	0.0000	924.32	0.4622

SUMMARY OF BASIN OUTLET RESULTS

Link Label	No. of	S/D Factor (m)	Dia (m)	Width (m)	Pipe Length (m)	Pipe Slope (%)
Basin1	1.0	1.000		0.000	0.5000	0.2000
Basin2	1.0	1.000		0.000	0.5000	0.2000

LINK A 1.000

ESTIMATED VOLUME (CU METRES*10**3) = 3.001
 ESTIMATED PEAK FLOW (CUMECS) = 1.77
 ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK D 2.000

ESTIMATED VOLUME (CU METRES*10**3) = 6.336
 ESTIMATED PEAK FLOW (CUMECS) = 3.27
 ESTIMATED TIME TO PEAK (MINS) = 40.00

LINK S1 3.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.3583
 ESTIMATED PEAK FLOW (CUMECS) = 0.23
 ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK B 4.000

ESTIMATED VOLUME (CU METRES*10**3) = 2.360
 ESTIMATED PEAK FLOW (CUMECS) = 1.32
 ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK Basin1 4.001

ESTIMATED VOLUME (CU METRES*10**3) = 2.360
 ESTIMATED PEAK FLOW (CUMECS) = 1.32
 ESTIMATED TIME TO PEAK (MINS) = 38.00

LINK S2 1.001

ESTIMATED VOLUME (CU METRES*10**3) = 15.52
 ESTIMATED PEAK FLOW (CUMECS) = 7.78
 ESTIMATED TIME TO PEAK (MINS) = 38.00

LINK E 5.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.4820E-01
 ESTIMATED PEAK FLOW (CUMECS) = 0.03
 ESTIMATED TIME TO PEAK (MINS) = 39.00

LINK C 6.000

ESTIMATED VOLUME (CU METRES*10**3) = 7.332
 ESTIMATED PEAK FLOW (CUMECS) = 4.18
 ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK S3 1.002

ESTIMATED VOLUME (CU METRES*10**3) = 27.43
 ESTIMATED PEAK FLOW (CUMECS) = 11.72
 ESTIMATED TIME TO PEAK (MINS) = 40.00

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LINK Basin2 1.003

ESTIMATED VOLUME (CU METRES*10**3) = 27.43
 ESTIMATED PEAK FLOW (CUMECS) = 11.72
 ESTIMATED TIME TO PEAK (MINS) = 40.00

LINK OUTLET 1.004

ESTIMATED VOLUME (CU METRES*10**3) = 27.43
 ESTIMATED PEAK FLOW (CUMECS) = 11.68
 ESTIMATED TIME TO PEAK (MINS) = 40.00

 Coastal Grove - Proposed Conditions + Detention

Results for period from 0: 0.0 1/ 1/1995
 to 1: 0.0 2/ 1/1995

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ROUTING INCREMENT (MINS) = 1.00
 STORM DURATION (MINS) = 120.
 RETURN PERIOD (YRS) = 5.
 BX = 1.0000
 TOTAL OF FIRST SUB-AREAS (km2) = 16.81
 TOTAL OF SECOND SUB-AREAS (km2) = 23.90
 TOTAL OF ALL SUB-AREAS (km2) = 40.71

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link Label	Catch. #1	Area #2	Slope #1	% Impervious #2	Pern #1	B #2	Link No.
	(ha)		(%)	(%)			
A	2.550	1.700	12.00	12.00	99.00	1.000	1.000
D	1.030	9.230	11.00	11.00	99.00	1.000	2.000
S1	0.2600	0.2600	13.00	13.00	99.00	1.000	3.000
B	2.000	1.340	7.000	7.000	99.00	1.000	4.000
Basin1	.00001	0.000	.0010	0.000	0.000	0.000	4.001
S2	2.060	3.100	17.00	17.00	99.00	1.000	1.001
E	.00001	0.0800	3.000	3.000	99.00	1.000	5.000
C	6.220	4.150	12.00	12.00	99.00	1.000	6.000
S3	2.690	4.040	13.00	13.00	99.00	1.000	1.002
Basin2	.00001	0.000	.0010	0.000	0.000	0.000	1.003
OUTLET	.00001	0.000	.0010	0.000	0.000	0.000	1.004

Link Label	Average Intensity (mm/h)	Init. Loss #1	Loss #2	Cont. Loss #1	Loss #2	Excess Rain #1	Rain #2	Peak Inflow (m^3/s)	Time to Peak mins	Link Lag
A	39.612	1.500	15.00	0.000	2.500	77.724	60.099	1.773	35.00	3.000
D	39.612	1.500	15.00	0.000	2.500	77.724	60.099	3.266	40.00	3.000
S1	39.612	1.500	15.00	0.000	2.500	77.724	60.099	0.2284	35.00	3.300
B	39.612	1.500	15.00	0.000	2.500	77.724	60.099	1.322	35.00	2.500
Basin1	39.612	1.500	0.000	0.000	0.000	77.724	0.000	1.322	38.00	0.000
S2	39.612	1.500	15.00	0.000	2.500	77.724	60.099	7.785	38.00	5.000
E	39.612	1.500	15.00	0.000	2.500	77.724	60.099	0.0290	39.00	5.000
C	39.612	1.500	15.00	0.000	2.500	77.724	60.099	4.181	35.00	1.000
S3	39.612	1.500	15.00	0.000	2.500	77.724	60.099	11.720	40.00	0.000
Basin2	39.612	1.500	0.000	0.000	0.000	77.724	0.000	11.720	40.00	0.000
OUTLET	39.612	1.500	0.000	0.000	0.000	77.724	0.000	11.684	40.00	0.000

SUMMARY OF BASIN RESULTS

Link Label	Time to Peak	Peak Inflow (m^3/s)	Time to Peak	Peak Outflow (m^3/s)	Total Inflow (m^3)	Basin Vol. Avail	Basin Vol. Used	Stage Used
Basin1	38.00	1.322	38.00	1.380	2359.8	0.0000	235.64	0.4713
Basin2	40.00	11.72	40.00	11.68	27425.4	0.0000	926.76	0.4634

SUMMARY OF BASIN OUTLET RESULTS

Link Label	No. of	S/D Factor (m)	Dia (m)	Width (m)	Pipe Length (m)	Pipe Slope (%)
Basin1	1.0	1.000		0.000	0.5000	0.2000
Basin2	1.0	1.000		0.000	0.5000	0.2000

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LINK A                1.000
ESTIMATED VOLUME (CU METRES*10**3) =      3.469
ESTIMATED PEAK FLOW      (CUMECS) =      2.47
ESTIMATED TIME TO PEAK    (MINS) =      30.00

LINK D                2.000
ESTIMATED VOLUME (CU METRES*10**3) =      7.511
ESTIMATED PEAK FLOW      (CUMECS) =      4.49
ESTIMATED TIME TO PEAK    (MINS) =      30.00

LINK S1               3.000
ESTIMATED VOLUME (CU METRES*10**3) =      0.4157
ESTIMATED PEAK FLOW      (CUMECS) =      0.31
ESTIMATED TIME TO PEAK    (MINS) =      30.00

LINK B                4.000
ESTIMATED VOLUME (CU METRES*10**3) =      2.728
ESTIMATED PEAK FLOW      (CUMECS) =      1.90
ESTIMATED TIME TO PEAK    (MINS) =      30.00

LINK Basin1           4.001
ESTIMATED VOLUME (CU METRES*10**3) =      2.728
ESTIMATED PEAK FLOW      (CUMECS) =      1.90
ESTIMATED TIME TO PEAK    (MINS) =      33.00

LINK S2               1.001
ESTIMATED VOLUME (CU METRES*10**3) =      18.17
ESTIMATED PEAK FLOW      (CUMECS) =      10.81
ESTIMATED TIME TO PEAK    (MINS) =      33.00

LINK E                5.000
ESTIMATED VOLUME (CU METRES*10**3) =      0.5730E-01
ESTIMATED PEAK FLOW      (CUMECS) =      0.04
ESTIMATED TIME TO PEAK    (MINS) =      31.00

LINK C                6.000
ESTIMATED VOLUME (CU METRES*10**3) =      8.470
ESTIMATED PEAK FLOW      (CUMECS) =      5.91
ESTIMATED TIME TO PEAK    (MINS) =      30.00

LINK S3               1.002
ESTIMATED VOLUME (CU METRES*10**3) =      31.97
ESTIMATED PEAK FLOW      (CUMECS) =      15.04
ESTIMATED TIME TO PEAK    (MINS) =      35.00

LINK Basin2           1.003
ESTIMATED VOLUME (CU METRES*10**3) =      31.97
ESTIMATED PEAK FLOW      (CUMECS) =      15.04
ESTIMATED TIME TO PEAK    (MINS) =      35.00

LINK OUTLET           1.004
ESTIMATED VOLUME (CU METRES*10**3) =      31.97
ESTIMATED PEAK FLOW      (CUMECS) =      15.05
ESTIMATED TIME TO PEAK    (MINS) =      35.00

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Coastal Grove - Proposed Conditions + Detention

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Results for period from 0: 0.0 1/ 1/1995
to 1: 0.0 2/ 1/1995

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6324 Prop with storage.out
 STORM DURATION (MINS) = 90.
 RETURN PERIOD (YRS) = 20.
 BX = 1.0000
 TOTAL OF FIRST SUB-AREAS (km2) = 16.81
 TOTAL OF SECOND SUB-AREAS (km2) = 23.90
 TOTAL OF ALL SUB-AREAS (km2) = 40.71

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch. Area		Slope		% Impervious		Pern		B		Link
Label	#1	#2	#1	#2	#1	#2	#1	#2	#1	#2	No.
	(ha)		(%)		(%)						
A	2.550	1.700	12.00	12.00	99.00	1.000	.015	.035	.0007	.0120	1.000
D	1.030	9.230	11.00	11.00	99.00	1.000	.015	.035	.0005	.0302	2.000
S1	0.2600	0.2600	13.00	13.00	99.00	1.000	.015	.040	.0002	.0048	3.000
B	2.000	1.340	7.000	7.000	99.00	1.000	.015	.035	.0008	.0139	4.000
Basin1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	4.001
S2	2.060	3.100	17.00	17.00	99.00	1.000	.015	.040	.0005	.0152	1.001
E	.00001	0.0800	3.000	3.000	99.00	1.000	.015	.035	0.000	.0049	5.000
C	6.220	4.150	12.00	12.00	99.00	1.000	.015	.035	.0011	.0191	6.000
S3	2.690	4.040	13.00	13.00	99.00	1.000	.015	.040	.0007	.0200	1.002
Basin2	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.003
OUTLET	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.004

Link	Average	Init. Loss	Cont. Loss	Excess Rain	Peak	Time	Link
Label	Intensity	#1	#2	#1	#2	Inflow	to
	(mm/h)	(mm)	(mm/h)	(mm)	(mm)	(m^3/s)	Peak
							mins
A	59.905	1.500	15.00	0.000	2.500	88.357	71.607
D	59.905	1.500	15.00	0.000	2.500	88.357	71.607
S1	59.905	1.500	15.00	0.000	2.500	88.357	71.607
B	59.905	1.500	15.00	0.000	2.500	88.357	71.607
Basin1	59.905	1.500	0.000	0.000	0.000	88.357	0.000
S2	59.905	1.500	15.00	0.000	2.500	88.357	71.607
E	59.905	1.500	15.00	0.000	2.500	88.357	71.607
C	59.905	1.500	15.00	0.000	2.500	88.357	71.607
S3	59.905	1.500	15.00	0.000	2.500	88.357	71.607
Basin2	59.905	1.500	0.000	0.000	0.000	88.357	0.000
OUTLET	59.905	1.500	0.000	0.000	0.000	88.357	0.000

SUMMARY OF BASIN RESULTS

Link	Time	Peak	Time	Peak	Total	-----	Basin	-----
Label	to	Inflow	to	Outflow	Inflow	Vol.	Vol.	Stage
	Peak	(m^3/s)	Peak	(m^3/s)	(m^3)	Avail	Used	Used
Basin1	33.00	1.895	33.00	1.895	2728.0	0.0000	243.68	0.4874
Basin2	35.00	15.04	35.00	15.05	31967.8	0.0000	955.08	0.4775

SUMMARY OF BASIN OUTLET RESULTS

Link	No.	S/D	Dia	Width	Pipe	Pipe
Label	of	Factor	(m)	(m)	Length	Slope
		(m)			(m)	(%)
Basin1	1.0	1.000		0.000	0.5000	0.2000
Basin2	1.0	1.000		0.000	0.5000	0.2000

LINK A 1.000

ESTIMATED VOLUME (CU METRES*10**3) = 3.901
 ESTIMATED PEAK FLOW (CUMECS) = 2.28
 ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK D 2.000

ESTIMATED VOLUME (CU METRES*10**3) = 8.521
 ESTIMATED PEAK FLOW (CUMECS) = 4.37
 ESTIMATED TIME TO PEAK (MINS) = 40.00

LINK S1 3.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.4683
 ESTIMATED PEAK FLOW (CUMECS) = 0.29
 ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK B 4.000

ESTIMATED VOLUME (CU METRES*10**3) = 3.066
 ESTIMATED PEAK FLOW (CUMECS) = 1.75

6324 Prop with storage.out
ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK Basin1 4.001

ESTIMATED VOLUME (CU METRES*10**3) = 3.066
ESTIMATED PEAK FLOW (CUMECS) = 1.75
ESTIMATED TIME TO PEAK (MINS) = 38.00

LINK S2 1.001

ESTIMATED VOLUME (CU METRES*10**3) = 20.51
ESTIMATED PEAK FLOW (CUMECS) = 10.43
ESTIMATED TIME TO PEAK (MINS) = 38.00

LINK E 5.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.6496E-01
ESTIMATED PEAK FLOW (CUMECS) = 0.04
ESTIMATED TIME TO PEAK (MINS) = 39.00

LINK C 6.000

ESTIMATED VOLUME (CU METRES*10**3) = 9.516
ESTIMATED PEAK FLOW (CUMECS) = 5.43
ESTIMATED TIME TO PEAK (MINS) = 35.00

LINK S3 1.002

ESTIMATED VOLUME (CU METRES*10**3) = 36.04
ESTIMATED PEAK FLOW (CUMECS) = 16.31
ESTIMATED TIME TO PEAK (MINS) = 41.00

LINK Basin2 1.003

ESTIMATED VOLUME (CU METRES*10**3) = 36.04
ESTIMATED PEAK FLOW (CUMECS) = 16.31
ESTIMATED TIME TO PEAK (MINS) = 41.00

LINK OUTLET 1.004

ESTIMATED VOLUME (CU METRES*10**3) = 36.04
ESTIMATED PEAK FLOW (CUMECS) = 16.34
ESTIMATED TIME TO PEAK (MINS) = 41.00

Coastal Grove - Proposed Conditions + Detention

Results for period from 0: 0.0 1/ 1/1995
to 1: 0.0 2/ 1/1995

#####

ROUTING INCREMENT (MINS) = 1.00
STORM DURATION (MINS) = 120.
RETURN PERIOD (YRS) = 20.
BX = 1.0000
TOTAL OF FIRST SUB-AREAS (km2) = 16.81
TOTAL OF SECOND SUB-AREAS (km2) = 23.90
TOTAL OF ALL SUB-AREAS (km2) = 40.71

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch. Area	Slope	% Impervious	Pern	B	Link
Label	#1 #2	#1 #2	#1 #2	#1 #2	#1 #2	No.
	(ha)	(%)	(%)			
A	2.550 1.700	12.00 12.00	99.00 1.000	.015 .035	.0007 .0120	1.000
D	1.030 9.230	11.00 11.00	99.00 1.000	.015 .035	.0005 .0302	2.000
S1	0.2600 0.2600	13.00 13.00	99.00 1.000	.015 .040	.0002 .0048	3.000
B	2.000 1.340	7.000 7.000	99.00 1.000	.015 .035	.0008 .0139	4.000
Basin1	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.000	.0021 0.000	4.001
S2	2.060 3.100	17.00 17.00	99.00 1.000	.015 .040	.0005 .0152	1.001
E	.00001 0.0800	3.000 3.000	99.00 1.000	.015 .035	0.000 .0049	5.000
C	6.220 4.150	12.00 12.00	99.00 1.000	.015 .035	.0011 .0191	6.000
S3	2.690 4.040	13.00 13.00	99.00 1.000	.015 .040	.0007 .0200	1.002
Basin2	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.000	.0021 0.000	1.003
OUTLET	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.000	.0021 0.000	1.004

6324 Prop with storage.out

Link Label	Average Intensity (mm/h)	Init. #1 (mm)	Loss #2	Cont. #1 (mm/h)	Loss #2	Excess #1 (mm)	Rain #2	Peak Inflow (m^3/s)	Time to Peak	Link Lag mins
A	50.208	1.500	15.00	0.000	2.500	98.917	81.208	2.276	35.00	3.000
D	50.208	1.500	15.00	0.000	2.500	98.917	81.208	4.370	40.00	3.000
S1	50.208	1.500	15.00	0.000	2.500	98.917	81.208	0.2915	35.00	3.300
B	50.208	1.500	15.00	0.000	2.500	98.917	81.208	1.752	35.00	2.500
Basin1	50.208	1.500	0.000	0.000	0.000	98.917	0.000	1.752	38.00	0.000
S2	50.208	1.500	15.00	0.000	2.500	98.917	81.208	10.432	38.00	5.000
E	50.208	1.500	15.00	0.000	2.500	98.917	81.208	0.0372	39.00	5.000
C	50.208	1.500	15.00	0.000	2.500	98.917	81.208	5.432	35.00	1.000
S3	50.208	1.500	15.00	0.000	2.500	98.917	81.208	16.314	41.00	0.000
Basin2	50.208	1.500	0.000	0.000	0.000	98.917	0.000	16.314	41.00	0.000
OUTLET	50.208	1.500	0.000	0.000	0.000	98.917	0.000	16.341	41.00	0.000

SUMMARY OF BASIN RESULTS

Link Label	Time to Peak	Peak Inflow (m^3/s)	Time to Peak	Peak Outflow (m^3/s)	Total Inflow (m^3)	----- Vol. Avail	Basin Vol. Used	----- Stage Used
Basin1	38.00	1.751	36.00	1.804	3066.2	0.0000	242.26	0.4845
Basin2	41.00	16.31	41.00	16.34	36036.0	0.0000	965.89	0.4829

SUMMARY OF BASIN OUTLET RESULTS

Link Label	No. of	S/D Factor (m)	Dia (m)	Width (m)	Pipe Length (m)	Pipe Slope (%)
Basin1	1.0	1.000		0.000	0.5000	0.2000
Basin2	1.0	1.000		0.000	0.5000	0.2000

LINK A 1.000

ESTIMATED VOLUME (CU METRES*10**3) = 4.529
ESTIMATED PEAK FLOW (CUMECS) = 2.95
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK D 2.000

ESTIMATED VOLUME (CU METRES*10**3) = 10.08
ESTIMATED PEAK FLOW (CUMECS) = 5.69
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK S1 3.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.5454
ESTIMATED PEAK FLOW (CUMECS) = 0.37
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK B 4.000

ESTIMATED VOLUME (CU METRES*10**3) = 3.559
ESTIMATED PEAK FLOW (CUMECS) = 2.27
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK Basin1 4.001

ESTIMATED VOLUME (CU METRES*10**3) = 3.559
ESTIMATED PEAK FLOW (CUMECS) = 2.27
ESTIMATED TIME TO PEAK (MINS) = 33.00

LINK S2 1.001

ESTIMATED VOLUME (CU METRES*10**3) = NaN
ESTIMATED PEAK FLOW (CUMECS) = 13.18
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK E 5.000

ESTIMATED VOLUME (CU METRES*10**3) = 0.7738E-01
ESTIMATED PEAK FLOW (CUMECS) = 0.05
ESTIMATED TIME TO PEAK (MINS) = 31.00

LINK C 6.000

ESTIMATED VOLUME (CU METRES*10**3) = 11.05
ESTIMATED PEAK FLOW (CUMECS) = 7.03
Page 10

6324 Prop with storage.out
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK S3 1.002

ESTIMATED VOLUME (CU METRES*10**3) = NaN
ESTIMATED PEAK FLOW (CUMECS) = 18.99
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK Basin2 1.003

ESTIMATED VOLUME (CU METRES*10**3) = NaN
ESTIMATED PEAK FLOW (CUMECS) = 18.99
ESTIMATED TIME TO PEAK (MINS) = 30.00

LINK OUTLET 1.004

ESTIMATED VOLUME (CU METRES*10**3) = Infinity
ESTIMATED PEAK FLOW (CUMECS) = Infinity
ESTIMATED TIME TO PEAK (MINS) = 87.00

Coastal Grove - Proposed Conditions + Detention

Results for period from 0: 0.0 1/ 1/1995
to 1: 0.0 2/ 1/1995

#####

ROUTING INCREMENT (MINS) = 1.00
STORM DURATION (MINS) = 90.
RETURN PERIOD (YRS) = 100.
BX = 1.0000
TOTAL OF FIRST SUB-AREAS (km2) = 16.81
TOTAL OF SECOND SUB-AREAS (km2) = 23.90
TOTAL OF ALL SUB-AREAS (km2) = 40.71

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch. Area	Slope	% Impervious	Pern	B	Link
Label	#1 #2	#1 #2	#1 #2	#1 #2	#1 #2	No.
	(ha)	(%)	(%)			
A	2.550 1.700	12.00 12.00	99.00 1.000	.015 .035	.0007 .0120	1.000
D	1.030 9.230	11.00 11.00	99.00 1.000	.015 .035	.0005 .0302	2.000
S1	0.2600 0.2600	13.00 13.00	99.00 1.000	.015 .040	.0002 .0048	3.000
B	2.000 1.340	7.000 7.000	99.00 1.000	.015 .035	.0008 .0139	4.000
Basin1	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.00	.0021 0.000	4.001
S2	2.060 3.100	17.00 17.00	99.00 1.000	.015 .040	.0005 .0152	1.001
E	.00001 0.0800	3.000 3.000	99.00 1.000	.015 .035	0.000 .0049	5.000
C	6.220 4.150	12.00 12.00	99.00 1.000	.015 .035	.0011 .0191	6.000
S3	2.690 4.040	13.00 13.00	99.00 1.000	.015 .040	.0007 .0200	1.002
Basin2	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.00	.0021 0.000	1.003
OUTLET	.00001 0.000	.0010 0.000	0.000 0.000	.025 0.00	.0021 0.000	1.004

Link	Average	Init. Loss	Cont. Loss	Excess Rain	Peak	Time	Link
Label	Intensity	#1 #2	#1 #2	#1 #2	Inflow	to	Lag
	(mm/h)	(mm)	(mm/h)	(mm)	(m^3/s)	Peak	mins
A	76.524	1.500 15.00	0.000 2.500	113.29 96.494	2.951	30.00	3.000
D	76.524	1.500 15.00	0.000 2.500	113.29 96.494	5.693	30.00	3.000
S1	76.524	1.500 15.00	0.000 2.500	113.29 96.494	0.3715	30.00	3.300
B	76.524	1.500 15.00	0.000 2.500	113.29 96.494	2.272	30.00	2.500
Basin1	76.524	1.500 0.000	0.000 0.000	113.29 0.000	2.272	33.00	0.000
S2	76.524	1.500 15.00	0.000 2.500	113.29 96.494	13.175	30.00	5.000
E	76.524	1.500 15.00	0.000 2.500	113.29 96.494	0.0469	31.00	5.000
C	76.524	1.500 15.00	0.000 2.500	113.29 96.494	7.030	30.00	1.000
S3	76.524	1.500 15.00	0.000 2.500	113.29 96.494	18.986	30.00	0.000
Basin2	76.524	1.500 0.000	0.000 0.000	113.29 0.000	18.986	30.00	0.000
OUTLET	76.524	1.500 0.000	0.000 0.000	113.29 0.000	*>>>*	87.00	0.000

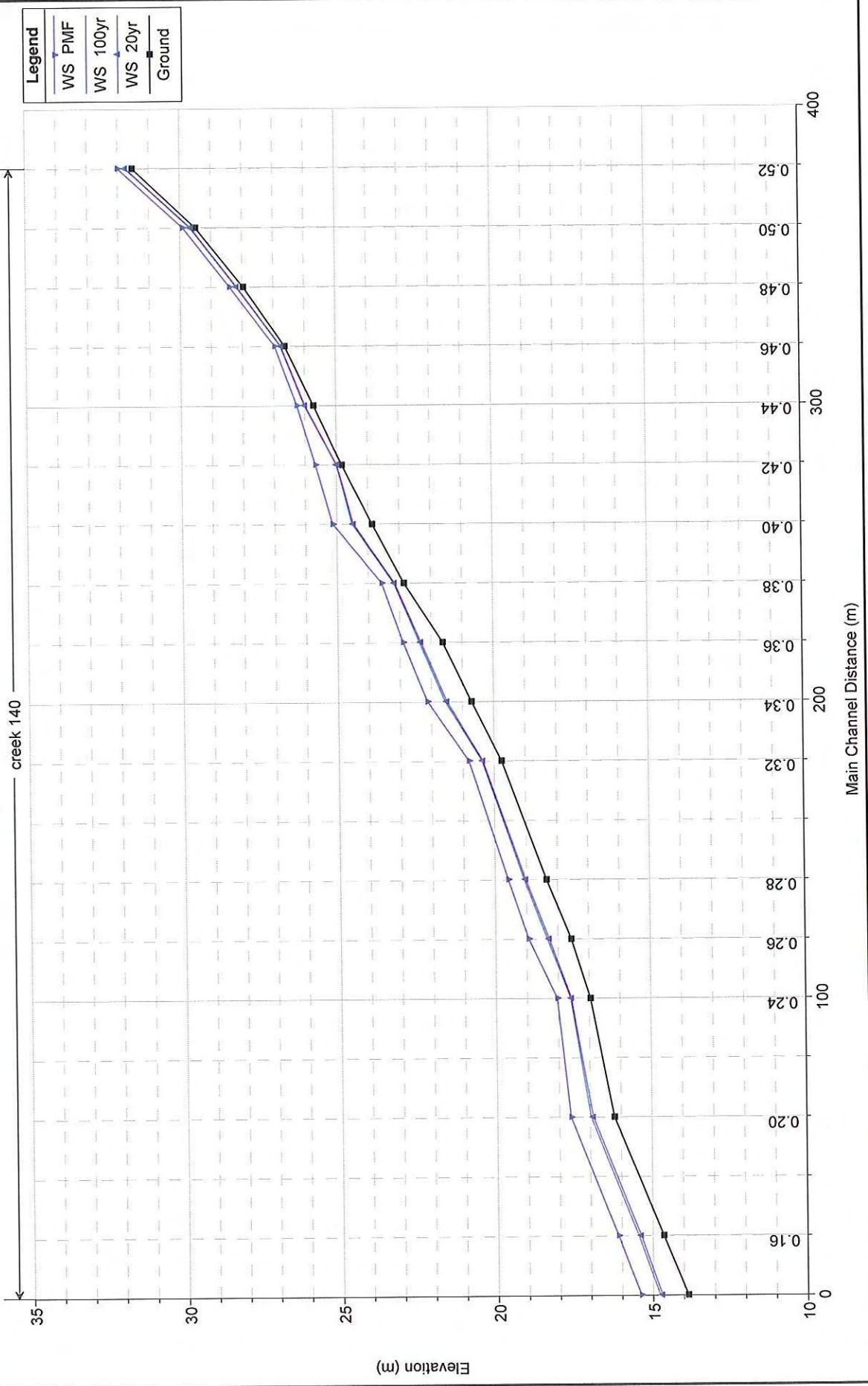
SUMMARY OF BASIN RESULTS

Link	Time	Peak	Time	Peak	Total	-----	Basin	-----
Label	to	Inflow	to	Outflow	Inflow	Vol.	Vol.	Stage
	Peak	(m^3/s)	Peak	(m^3/s)	(m^3)	Avail	Used	Used
Basin1	33.00	2.272	32.00	2.161	3559.2	0.0000	247.84	0.4957

APPENDIX E

HYDRAULIC MODELLING OUTPUT

coastal grove Plan: Existing Conditions



HEC-RAS Plan: Exist River: creek Reach: 140

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
140	0.52	100yr	3.30	31.53	31.75	31.81	31.94	0.050012	1.91	1.72	10.49	1.51
140	0.52	20yr	2.70	31.53	31.73	31.78	31.89	0.050012	1.78	1.52	10.30	1.48
140	0.52	PMF	14.20	31.53	31.99	32.15	32.50	0.050002	3.16	4.49	12.80	1.70
140	0.50	100yr	3.30	29.50	29.67	29.80	30.17	0.184771	3.15	1.05	11.38	2.78
140	0.50	20yr	2.70	29.50	29.65	29.77	30.10	0.194475	2.97	0.91	11.06	2.80
140	0.50	PMF	14.20	29.50	29.90	30.18	30.95	0.122864	4.55	3.12	15.70	2.61
140	0.48	100yr	3.30	27.96	28.19	28.25	28.38	0.048935	1.97	1.67	9.57	1.50
140	0.48	20yr	2.70	27.96	28.17	28.21	28.33	0.046729	1.81	1.50	9.42	1.45
140	0.48	PMF	14.20	27.96	28.40	28.61	29.07	0.066866	3.62	3.93	11.36	1.96
140	0.46	100yr	3.30	26.63	26.77	26.84	27.01	0.101461	2.16	1.53	13.25	2.02
140	0.46	20yr	2.70	26.63	26.76	26.82	26.97	0.107100	2.03	1.33	13.12	2.04
140	0.46	PMF	14.20	26.63	26.95	27.14	27.57	0.082586	3.48	4.09	14.76	2.11
140	0.44	100yr	3.30	25.72	26.01	26.02	26.11	0.023457	1.42	2.33	12.54	1.05
140	0.44	20yr	2.70	25.72	25.99	25.99	26.08	0.022838	1.31	2.06	12.34	1.02
140	0.44	PMF	14.20	25.72	26.25	26.33	26.57	0.028643	2.52	5.64	14.90	1.31
140	0.42	100yr	3.30	24.83	24.99	25.06	25.21	0.111961	2.08	1.58	15.57	2.08
140	0.42	20yr	2.70	24.83	24.98	25.04	25.18	0.120098	1.97	1.37	15.41	2.11
140	0.42	PMF	14.20	24.83	25.67	25.32	25.72	0.002132	0.97	14.66	23.17	0.39
140	0.40	100yr	13.70	23.86	24.50	24.52	24.71	0.020226	2.01	6.82	19.51	1.08
140	0.40	20yr	11.10	23.86	24.45	24.47	24.63	0.020892	1.88	5.90	19.06	1.08
140	0.40	PMF	58.60	23.86	25.12	25.12	25.53	0.012211	2.84	21.04	27.87	0.98
140	0.38	100yr	13.70	22.85	23.17	23.36	23.84	0.120584	3.61	3.80	17.31	2.46
140	0.38	20yr	11.10	22.85	23.14	23.31	23.74	0.127615	3.41	3.25	16.81	2.48
140	0.38	PMF	58.60	22.85	23.56	23.97	24.93	0.076972	5.19	11.29	21.38	2.27
140	0.36	100yr	13.70	21.62	22.36	22.45	22.71	0.028647	2.60	5.27	13.28	1.32
140	0.36	20yr	11.10	21.62	22.31	22.38	22.61	0.028211	2.43	4.56	12.56	1.29
140	0.36	PMF	58.60	21.62	22.88	23.17	23.78	0.035659	4.20	13.95	20.13	1.61
140	0.34	100yr	13.70	20.71	21.55	21.69	22.02	0.040545	3.03	4.52	11.66	1.55
140	0.34	20yr	11.10	20.71	21.49	21.62	21.91	0.040828	2.89	3.84	10.67	1.54
140	0.34	PMF	58.60	20.71	22.12	22.42	23.04	0.038619	4.24	13.81	20.81	1.66
140	0.32	100yr	13.70	19.76	20.39	20.54	20.93	0.076069	3.25	4.22	15.87	2.01
140	0.32	20yr	11.10	19.76	20.35	20.49	20.82	0.077546	3.03	3.66	15.45	1.99
140	0.32	PMF	58.60	19.76	20.80	21.17	22.03	0.063699	4.91	11.93	21.02	2.08
140	0.28	100yr	13.70	18.34	19.06	19.10	19.33	0.022607	2.32	5.92	14.87	1.17
140	0.28	20yr	11.10	18.34	19.00	19.04	19.24	0.022316	2.18	5.10	13.91	1.15
140	0.28	PMF	58.60	18.34	19.58	19.79	20.34	0.025972	3.86	15.18	20.10	1.40
140	0.26	100yr	13.70	17.56	18.33	18.46	18.76	0.035504	2.88	4.75	12.02	1.46
140	0.26	20yr	11.10	17.56	18.26	18.38	18.66	0.037994	2.80	3.97	11.04	1.49
140	0.26	PMF	58.60	17.56	18.93	19.20	19.77	0.030428	4.07	14.59	21.84	1.51
140	0.24	100yr	13.70	16.95	17.60	17.70	17.96	0.042566	2.66	5.14	16.79	1.54
140	0.24	20yr	11.10	16.95	17.57	17.65	17.86	0.038765	2.40	4.63	16.52	1.45
140	0.24	PMF	58.60	16.95	18.03	18.35	19.03	0.044084	4.44	13.23	21.79	1.77
140	0.20	100yr	20.40	16.21	16.96	16.96	17.19	0.016200	2.13	9.59	21.36	1.01
140	0.20	20yr	16.40	16.21	16.89	16.89	17.10	0.016875	2.01	8.17	20.47	1.01
140	0.20	PMF	83.00	16.21	17.61	17.67	18.10	0.012684	3.11	27.74	37.67	1.02
140	0.16	100yr	20.40	14.64	15.45	15.66	16.10	0.049352	3.57	5.71	13.40	1.75
140	0.16	20yr	16.40	14.64	15.38	15.58	15.98	0.051280	3.43	4.78	12.28	1.75
140	0.16	PMF	83.00	14.64	16.11	16.45	17.22	0.038618	4.67	17.81	23.80	1.70
140	0.14	100yr	20.40	13.86	14.77	14.92	15.26	0.032618	3.09	6.59	14.05	1.44
140	0.14	20yr	16.40	13.86	14.70	14.82	15.13	0.031673	2.88	5.68	13.16	1.40
140	0.14	PMF	83.00	13.86	15.39	15.77	16.48	0.035294	4.65	18.27	27.53	1.64