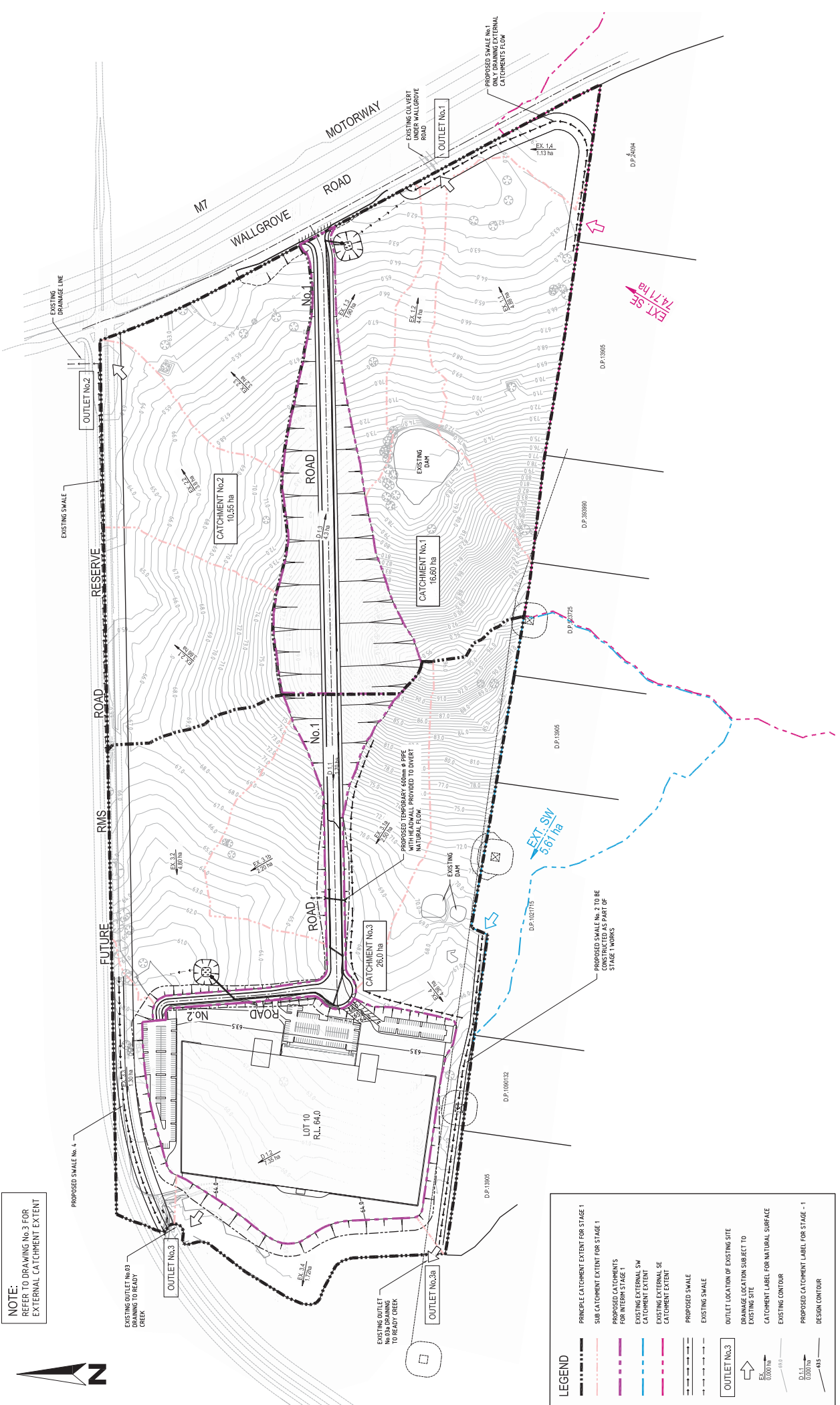




Drawn To: STORMWATER CONCEPT PLAN BROWN <i>Smart Consulting</i> www.brownconsulting.com.au Project No.: X1234.W Designer: SCP Checker: 04 Reviser: —																			
GAZCORP PTY. LTD. GAZCORP INDUSTRIAL ESTATE WALLGROVE ROAD, HORSLEY PARK																			
Client: _____ Project: _____																			
Revisions and Comments ALL DIMENSIONS TO BE CHECKED ON SITE BY SUPERINTENDENT PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE. © Brown Consulting Pty Ltd																			
0 20 40 60 80 100 120 140 160 180 200 SCALE 1:2000 (A1) 0 20 40 60 80 100 120 140 160 180 200 SCALE 1:4000 (A3)																			
Revision Details <table border="1"> <thead> <tr> <th>Rev</th> <th>VC</th> <th>RB</th> <th>PS</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> <td></td> <td>20/03/20</td> </tr> </tbody> </table>										Rev	VC	RB	PS	Date	1				20/03/20
Rev	VC	RB	PS	Date															
1				20/03/20															

[illegible]

NOTE:
REFER TO DRAWING No.3 FOR
EXTERNAL CATCHMENT EXTENT



LEGEND

- PRINCIPLE CATCHMENT EXTENT FOR STAGE 1
- SUB CATCHMENT EXTENT FOR STAGE 1
- PROPOSED CATCHMENTS FOR INTERIM STAGE 1
- EXISTING EXTERNAL SW CATCHMENT EXTENT
- EXISTING EXTERNAL SE CATCHMENT EXTENT
- PROPOSED SWALE
- EXISTING SWALE
- OUTLET LOCATION OF EXISTING SITE
- DRAINAGE LOCATION SUBJECT TO EXISTING SITE
- CATCHMENT LABEL FOR NATURAL SURFACE
- EXISTING CONTOUR
- PROPOSED CATCHMENT LABEL FOR STAGE - 1
- DESIGN CONTOUR

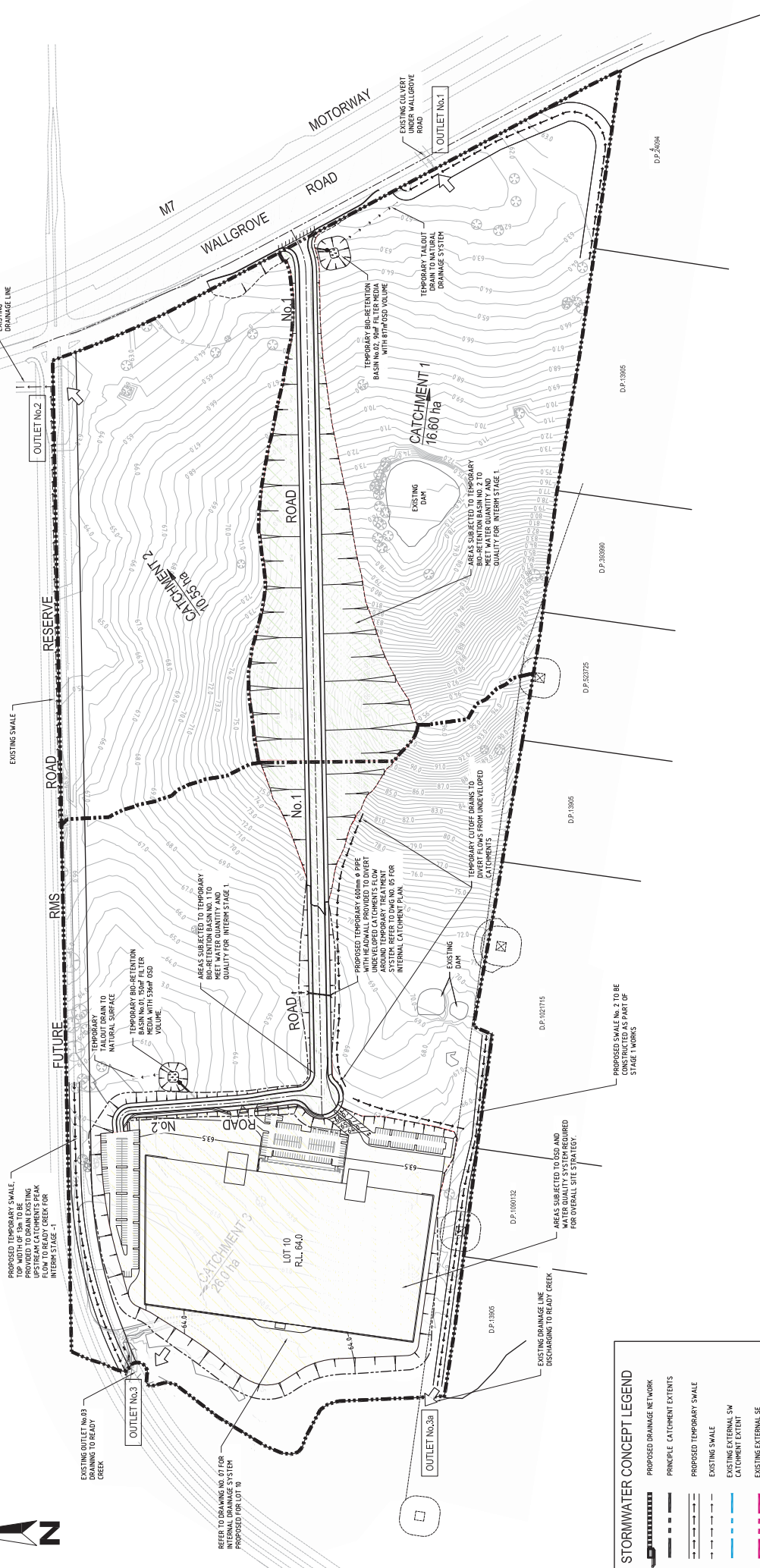
OUTLET No.3

- OUTLET LOCATION OF EXISTING SITE
- DRAINAGE LOCATION SUBJECT TO EXISTING SITE
- CATCHMENT LABEL FOR NATURAL SURFACE
- EXISTING CONTOUR
- PROPOSED CATCHMENT LABEL FOR STAGE - 1
- DESIGN CONTOUR

STORMWATER CONCEPT PLAN

Drawing Title: CATCHMENT PLAN FOR INTERIM STAGE 1										Project No.: X12254.W		Scale: 1:250		Revision: —	
Client: GAZCORP PTY. LTD.										Project: GAZCORP INDUSTRIAL ESTATE WALLGROVE ROAD, HORSLEY PARK		©2012		Smart Consulting www.smartconsulting.com.au	
Deadline and Complete ALL DIMENSIONS TO BE CHECKED ON SITE BY SUPERINTENDENT PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE. SCALE 1:2000 (A1) SCALE 1:4000 (A3)										 CREST CORPORATE CONSULTING ENGINEERING PTY LTD		 BROWN CONSULTING ENGINEERING PTY LTD			
Revision Details										Revision		Date			
Revisions										1		20/02/2013			
1										1		20/02/2013			
2										2		20/02/2013			
3										3		20/02/2013			
4										4		20/02/2013			
5										5		20/02/2013			
6										6		20/02/2013			
7										7		20/02/2013			
8										8		20/02/2013			
9										9		20/02/2013			
10										10		20/02/2013			
11										11		20/02/2013			
12										12		20/02/2013			
13										13		20/02/2013			
14										14		20/02/2013			
15										15		20/02/2013			
16										16		20/02/2013			
17										17		20/02/2013			
18										18		20/02/2013			
19										19		20/02/2013			
20										20		20/02/2013			
21										21		20/02/2013			
22										22		20/02/2013			
23										23		20/02/2013			
24										24		20/02/2013			
25										25		20/02/2013			
26										26		20/02/2013			
27										27		20/02/2013			
28										28		20/02/2013			
29										29		20/02/2013			
30										30		20/02/2013			
31										31		20/02/2013			
32										32		20/02/2013			
33										33		20/02/2013			
34										34		20/02/2013			
35										35		20/02/2013			
36										36		20/02/2013			
37										37		20/02/2013			
38										38		20/02/2013			
39										39		20/02/2013			
40										40		20/02/2013			
41										41		20/02/2013			
42										42		20/02/2013			
43										43		20/02/2013			
44										44		20/02/2013			
45										45		20/02/2013			
46										46		20/02/2013			
47										47		20/02/2013			
48										48		20/02/2013			
49										49		20/02/2013			
50										50		20/02/2013			
51										51		20/02/2013			
52										52		20/02/2013			
53										53		20/02/2013			
54										54		20/02/2013			
55										55		20/02/2013			
56										56		20/02/2013			
57										57		20/02/2013			
58										58		20/02/2013			
59										59		20/02/2013			
60										60		20/02/2013			
61										61		20/02/2013			
62										62		20/02/2013			
63										63		20/02/2013			
64										64		20/02/2013			
65										65		20/02/2013			
66										66		20/02/2013			
67										67		20/02/2013			
68										68		20/02/2013			
69										69		20/02/2013			
70										70		20/02/2013			
71										71		20/02/2013			
72										72		20/02/2013			
73										73		20/02/2013			
74										74		20/02/2013			
75										75		20/02/2013			
76										76		20/02/2013			
77										77		20/02/2013			
78										78		20/02/2013			
79										79		20/02/2013			
80										80		20/02/2013			
81										81		20/02/2013			
82										82		20/02/2013			
83										83		20/02/2013			
84										84		20/02/2013			
85										85		20/02/2013			
86										86		20/02/2013			
87										87		20/02/2013			
88										88		20/02/2013			
89										89		20/02/2013			
90										90		20/02/2013			
91										91		20/02/2013			
92										92		20/02/2013			
93										93		20/02/2013			
94										94		20/02/2013			
95										95		20/02/2013			
96										96		20/02/2013			
97										97		20/02/2013			
98										98		20/02/2013			
99										99		20/02/2013			
100										100		20/02/2013			
101										101		20/02/2013			
102										102		20/02/2013			
103										103		20/02/2013			
104										104		20/02/2013			
105										105		20/02/2013			
106										106		20/02/2013			
107										107		20/02/2013			
108										108		20/02/2013			
109										109		20/02/2013			
110										110		20/02/2013			
111										111		20/02/2013			
112										112		20/02/2013			
113										113		20/02/2013			
114										114		20/02/2013			
115										115		20/02/2013			
116										116		20/02/2013			
117										117		20/02/2013			
118										118		20/02/2013			
119										119		20/02/2013			
120										120		20/02/2013			
121										121		20/02/2013			
122										122		20/02/2013			
123										123		20/02/2013			
124										124		20/02/2013			
125										125		20/02/2013			
126										126		20/02/2013			
127										127		20/02/2013			
128										128		20/02/2013			
129										129		20/02/2013			
130										130		20/02/2013			
131										131		20/02/2013			
132										132		20/02/2013			
133										133		20/02/2013			
134										134		20/02/2013			
135										135		20/02/2013			
136										136		20/02/2013			
137										137		20/02/2013			
138										138		20/02/2013			
139										139		20/02/2013			
140										140		20/02/2013			
141										141		20/02/2013			
142										142		20/02/2013			
143										143		20/02/2013			
144										144		20/02/2013			
145										145		20/02/2013			
146										146		20/02/2013			
147										147		20/02/2013			
148										148		20/02/2013			
149										149		20/02/2013			
150										150		20/02/2013			
151										151		20/02/2013			
152										152		20/02/2013			
153										153		20/02/2013			
154										154		20/02/2013			
155										155		20/02/2013			
156										156		20/02/2013			
157										157		20/02/2013			
158										158		20/02/2013			
159										159		20/02/2013			
160										160		20/02/2013			
161										161		20/02/2013			
162										162		20/02/2013			
163										163		20/02/2013			
164										164		20/02/2013			
165										165		20/02/2013			
166										166		20/02/2013			
167										167		20/02/2013			
168										168		20/02/2013			
169										169		20/02/2013			
170										170		20/02/2013			
171										171		20/02/2013			
172										172		20/02/2013			
173										173		20/02/2013			
174										174		20/02/2013			
175										175		20/02/2013			
176										176		20/02/2013			
177										177		20/02/2013			
178										178		20/02/2013			
179										179		20/02/2013			
180										180		20/02/2013			
181										181		20/02/2013			
182										182		20/02/2013			
183										183		20/02/2013			
184										184		20/02/2013			
185										185		20/02/2013			
186										186		20/02/2013			
187										187		20/02/2013			
188										188		20/02/2013			
189										189		20/02/2013			
190										190		20/02/2013			
191										191		20/02/2013			
192										192		20/02/2013			
193										193		20/02/2013			
194										194		20/02/2013			
195										195		20/02/2013			
196										196		20/02/2013			
197										197		20/02/2013			
198										198		20/02/2013			
199										199		20/02/2013			
200										200		20/02/2013			
201										201		20/02/2013			
202										202		20/02/2013			
203										203		20/02/2013			
204										204		20/02/2013			
205										205		20/02/2013			
206										206		20/02/2013			
207										207		20/02/2013			
208										208		20/02/2013			
209										209		20/02/2013			
210										210		20/02/2013			
211										211		20/02/2013			
212										212		20/02/2013			
213										213		20/02/2013			
214										214		20/02/2013			
215										215		20/02/2013			
216										216		20/02/2013			
217										217		20/02/2013			
218										218		20/02/2013			
219										219		20/02/2013			
220										220		20/02/2013			
221										221		20/02/2013			
222										222		20/02/2013			
223										223		20/02/2013			
224										224		20/02/2013			
225										225		20/02/2013			
226										226		20/02/2013			
227										227		20/02/2013			
228										228		20/02/2013			
229										229		20/02/2013			
230										230		20/02/2013			
231										231		20/02/2013			
232										232		20/02/2013			
233										233		20/02/2013			
234										234		20/02/2013			
235										235		20/02/2013			
236										236		20/02/2013			
237										237		20/02/2013			
238										238		20/02/2013			
239										239		20/02/2013			
240										240		20/02/2013			
241										241		20/02/2013			
242										242		20/02/2013			
243										243		20/02/2013			
244										244		20/02/2013			
245										245		20/02/2013			
246										246		20/02/2013			
247										247		20/02/2013			
248										248		20/02/2013			
249										249		20/02/2013			
250										250		20/02/2013			
251										251		20/02/2013			
252										252		20/02/2013			
253										253		20/02/2013			
254										254		20/02/2013			
255										255		20/02/2013			
256										256		20/02/2013			
257										257		20/02/2013			
258										258		20/02/2013			
259										259		20/02/2013			
260										260		20/02/2013			
261										261		20/02/2013			
262										262		20/02/2013			
263										263		20/02/2013			
264										264		20/02/2013			
265										265		20/02/2013			
266										266		20/02/2013			
267										267		20/02/2013			
268										268		20/02/2013			
269										269		20/02/2013			
270										270		20/02/2013			

NOTE:
REFER TO DRAWING No.3 FOR
EXTERNAL CATCHMENT EXTENT



STORMWATER CONCEPT LEGEND

PROPOSED DRAINAGE NETWORK

PRINCIPLE CATCHMENT EXTENTS

PROPOSED TEMPORARY SWALE

EXISTING SWALE

EXISTING EXTERNAL SW CATCHMENT EXTENT

EXISTING EXTERNAL SE CATCHMENT EXTENT

AREA SUBJECT TO OSD & WATER QUALITY SYSTEM

AREA SUBJECT TO TEMPORARY OSD & WATER QUALITY SYSTEM REQUIRED FOR STAGE -1

OUTLET LOCATION OF EXISTING & PROPOSED SITE

DRAINAGE LOCATION SUBJECT TO PROPOSED LOTS

CATCHMENT LABEL FOR STAGE -1

EXISTING CONTOUR

DESIGN CONTOUR

TEMPORARY TAILOUT DRAIN

OUTLET No.3

DRAINAGE LOCATION SUBJECT TO PROPOSED LOTS

CATCHMENT LABEL FOR STAGE -1

EXISTING CONTOUR

DESIGN CONTOUR

TEMPORARY TAILOUT DRAIN

STORMWATER CONCEPT PLAN

STORMWATER CONCEPT PLAN FOR INTERIM STAGE 1

Project No.: X12254.W

Scale: Millimetre

Revision: 06

Client: GAZCORP PTY. LTD.

Project: GAZCORP INDUSTRIAL ESTATE WALLGROVE ROAD, HORSLEY PARK

Drawing Title: STORMWATER CONCEPT PLAN FOR INTERIM STAGE 1

Project No.: X12254.W

Scale: Millimetre

Revision: 06

Client: GAZCORP PTY. LTD.

Project: GAZCORP INDUSTRIAL ESTATE WALLGROVE ROAD, HORSLEY PARK

Scale 12000 (A1)

Scale 14000 (A3)

Revision Details

Rev	VC	RB	FB	Date
01				20/07/13

Deadline and Copyright

ALL DIMENSIONS TO BE CHECKED ON SITE BY SUPERINTENDENT PRIOR TO CONSTRUCTION. DIMENSIONS FOR DIMENSIONS ONLY, NOT FOR SCALE.

Copyright Reserved

© Brown Consulting Pty Ltd



APPENDIX B

XP-RAFTS Modelling Results



Results for Existing Catchment Condition

#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000

to 4: 0.0 1/ 1/2000

#####

ROUTING INCREMENT (MINS) = 1.00

STORM DURATION (MINS) = 120.

RETURN PERIOD (YRS) = 5.

BX = 1.0000

TOTAL OF FIRST SUB-AREAS (ha) = 133.99

TOTAL OF SECOND SUB-AREAS (ha) = 0.00

TOTAL OF ALL SUB-AREAS (ha) = 133.99

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)		(%)		(%)						
Ex 2.1	4.480	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0328	0.000	1.000
D3	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	1.001
Ex 2.3	3.370	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0283	0.000	2.000
D1	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	2.001
Ex 2.2	4.600	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0333	0.000	3.000
D2	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	3.001
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	1.002
Ex 1.3	3.630	0.000	2.480	0.000	5.000	0.000	.035	0.00	.0329	0.000	4.000
Ex 1.2	4.420	0.000	4.470	0.000	5.000	0.000	.035	0.00	.0272	0.000	5.000
Ex 1.1	4.880	0.000	3.940	0.000	5.000	0.000	.035	0.00	.0305	0.000	6.000
out1	1.130	0.000	1.690	0.000	5.000	0.000	.035	0.00	.0217	0.000	4.001
Ex 4.0	5.100	0.000	2.930	0.000	5.000	0.000	.035	0.00	.0361	0.000	7.000
Ex 3.4	5.100	0.000	1.470	0.000	5.000	0.000	.035	0.00	.0510	0.000	8.000
Ex 3.1	5.630	0.000	4.390	0.000	5.000	0.000	.035	0.00	.0311	0.000	9.000
Ex 3.2	5.950	0.000	3.270	0.000	5.000	0.000	.035	0.00	.0371	0.000	9.001
Ex 3.3	5.290	0.000	.3100	0.000	5.000	0.000	.035	0.00	.1130	0.000	10.00
D5	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	9.002
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	7.001
Site Out	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.003
Ex3	4.210	0.000	4.190	0.000	5.000	0.000	.035	0.00	.0274	0.000	11.00



Ex20	7.470	0.000	5.800	0.000	5.000	0.000	.035	0.00	.0313	0.000	12.00
Ex21	6.810	0.000	5.390	0.000	5.000	0.000	.035	0.00	.0310	0.000	12.00
Ex22	6.150	0.000	2.500	0.000	5.000	0.000	.035	0.00	.0431	0.000	12.00
Ex14	6.950	0.000	4.600	0.000	5.000	0.000	.035	0.00	.0339	0.000	13.00
Ex12	8.790	0.000	3.220	0.000	5.000	0.000	.035	0.00	.0458	0.000	14.00
Ex13	9.760	0.000	5.450	0.000	5.000	0.000	.035	0.00	.0372	0.000	15.00
Ex17	3.920	0.000	3.240	0.000	5.000	0.000	.035	0.00	.0300	0.000	15.00
Ex16	2.040	0.000	3.300	0.000	5.000	0.000	.035	0.00	.0211	0.000	14.00
Ex15	1.540	0.000	3.860	0.000	5.000	0.000	.035	0.00	.0169	0.000	13.00
Ex19	3.560	0.000	5.200	0.000	5.000	0.000	.035	0.00	.0225	0.000	13.00
Ex24	4.510	0.000	4.080	0.000	5.000	0.000	.035	0.00	.0287	0.000	13.00
Ex23	5.000	0.000	2.350	0.000	5.000	0.000	.035	0.00	.0399	0.000	12.00
Ex4	4.010	0.000	3.820	0.000	5.000	0.000	.035	0.00	.0279	0.000	12.00
EXT. SE	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	11.00
EXT. SW	5.590	0.000	5.830	0.000	5.000	0.000	.035	0.00	.0269	0.000	16.00
D4	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	16.00
Ext outlet	0.1000	0.000	.0010	0.000	5.000	0.000	.025	0.00	.1983	0.000	11.00
Final Out	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.004

Link	Average Intensity	Init. Loss	Cont. Loss	Excess Rain	Peak	Time	Link
Label	#1	#2	#1	#2	#1	#2	Inflow to Lag
	(mm/h)	(mm)	(mm/h)	(mm)	(m^3/s)	Peak	mins
Ex 2.1	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.7165 44.00 0.000
D3	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.7165 44.00 1.330
Ex 2.3	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.5764 42.00 0.000
D1	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.5764 42.00 .5000
Ex 2.2	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.7318 44.00 0.000
D2	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.7318 44.00 .8000
Out 2	26.932	10.00	0.000	2.500	0.000	39.738	0.000 2.018 44.00 0.000
Ex 1.3	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.5544 44.00 0.000
Ex 1.2	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.8230 41.00 0.000
Ex 1.1	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.8430 42.00 0.000
out1	26.932	10.00	0.000	2.500	0.000	39.738	0.000 2.382 42.00 4.400
Ex 4.0	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.7745 45.00 0.000
Ex 3.4	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.5595 49.00 0.000
Ex 3.1	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.9992 41.00 0.000
Ex 3.2	26.932	10.00	0.000	2.500	0.000	39.738	0.000 1.898 43.00 2.500
Ex 3.3	26.932	10.00	0.000	2.500	0.000	39.738	0.000 0.2886 85.00 0.000
D5	26.932	10.00	0.000	2.500	0.000	39.738	0.000 2.084 46.00 1.000



out 3	26.932	10.00	0.000	2.500	0.000	39.738	0.000	3.396	46.00	0.000
Site Out	26.932	10.00	0.000	2.500	0.000	39.738	0.000	7.782	46.00	0.000
Ex3	26.932	10.00	0.000	2.500	0.000	39.738	0.000	0.7714	41.00	2.600
Ex20	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.410	41.00	3.800
Ex21	26.932	10.00	0.000	2.500	0.000	39.738	0.000	2.593	45.00	6.700
Ex22	26.932	10.00	0.000	2.500	0.000	39.738	0.000	3.365	51.00	3.800
Ex14	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.202	42.00	1.700
Ex12	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.253	45.00	2.000
Ex13	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.698	42.00	4.400
Ex17	26.932	10.00	0.000	2.500	0.000	39.738	0.000	2.342	45.00	4.600
Ex16	26.932	10.00	0.000	2.500	0.000	39.738	0.000	3.825	50.00	3.200
Ex15	26.932	10.00	0.000	2.500	0.000	39.738	0.000	4.876	52.00	2.400
Ex19	26.932	10.00	0.000	2.500	0.000	39.738	0.000	5.209	53.00	2.600
Ex24	26.932	10.00	0.000	2.500	0.000	39.738	0.000	5.611	55.00	5.100
Ex23	26.932	10.00	0.000	2.500	0.000	39.738	0.000	9.265	57.00	2.300
Ex4	26.932	10.00	0.000	2.500	0.000	39.738	0.000	9.602	59.00	6.100
EXT. SE	26.932	10.00	0.000	2.500	0.000	39.738	0.000	9.923	65.00	0.000
EXT. SW	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.111	41.00	2.500
D4	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.111	44.00	0.000
Ext outlet	26.932	10.00	0.000	2.500	0.000	39.738	0.000	10.320	65.00	0.000
Final Out	26.932	10.00	0.000	2.500	0.000	39.738	0.000	14.568	63.00	0.000

#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000

to 4: 0.0 1/ 1/2000

#####

ROUTING INCREMENT (MINS) = 1.00
STORM DURATION (MINS) = 120.
RETURN PERIOD (YRS) = 100.
BX = 1.0000
TOTAL OF FIRST SUB-AREAS (ha) = 133.99
TOTAL OF SECOND SUB-AREAS (ha) = 0.00
TOTAL OF ALL SUB-AREAS (ha) = 133.99

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch.	Area	Slope	% Impervious	Pern	B	Link
Label	#1	#2	#1	#2	#1	#2	No.
	(ha)		(%)	(%)			



Ex 2.1	4.480	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0328	0.000	1.000
D3	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	1.001
Ex 2.3	3.370	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0283	0.000	2.000
D1	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	2.001
Ex 2.2	4.600	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0333	0.000	3.000
D2	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	3.001
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	1.002
Ex 1.3	3.630	0.000	2.480	0.000	5.000	0.000	.035	0.00	.0329	0.000	4.000
Ex 1.2	4.420	0.000	4.470	0.000	5.000	0.000	.035	0.00	.0272	0.000	5.000
Ex 1.1	4.880	0.000	3.940	0.000	5.000	0.000	.035	0.00	.0305	0.000	6.000
out1	1.130	0.000	1.690	0.000	5.000	0.000	.035	0.00	.0217	0.000	4.001
Ex 4.0	5.100	0.000	2.930	0.000	5.000	0.000	.035	0.00	.0361	0.000	7.000
Ex 3.4	5.100	0.000	1.470	0.000	5.000	0.000	.035	0.00	.0510	0.000	8.000
Ex 3.1	5.630	0.000	4.390	0.000	5.000	0.000	.035	0.00	.0311	0.000	9.000
Ex 3.2	5.950	0.000	3.270	0.000	5.000	0.000	.035	0.00	.0371	0.000	9.001
Ex 3.3	5.290	0.000	.3100	0.000	5.000	0.000	.035	0.00	.1130	0.000	10.00
D5	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	9.002
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	7.001
Site Out	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.003
Ex3	4.210	0.000	4.190	0.000	5.000	0.000	.035	0.00	.0274	0.000	11.00
Ex20	7.470	0.000	5.800	0.000	5.000	0.000	.035	0.00	.0313	0.000	12.00
Ex21	6.810	0.000	5.390	0.000	5.000	0.000	.035	0.00	.0310	0.000	12.00
Ex22	6.150	0.000	2.500	0.000	5.000	0.000	.035	0.00	.0431	0.000	12.00
Ex14	6.950	0.000	4.600	0.000	5.000	0.000	.035	0.00	.0339	0.000	13.00
Ex12	8.790	0.000	3.220	0.000	5.000	0.000	.035	0.00	.0458	0.000	14.00
Ex13	9.760	0.000	5.450	0.000	5.000	0.000	.035	0.00	.0372	0.000	15.00
Ex17	3.920	0.000	3.240	0.000	5.000	0.000	.035	0.00	.0300	0.000	15.00
Ex16	2.040	0.000	3.300	0.000	5.000	0.000	.035	0.00	.0211	0.000	14.00
Ex15	1.540	0.000	3.860	0.000	5.000	0.000	.035	0.00	.0169	0.000	13.00
Ex19	3.560	0.000	5.200	0.000	5.000	0.000	.035	0.00	.0225	0.000	13.00
Ex24	4.510	0.000	4.080	0.000	5.000	0.000	.035	0.00	.0287	0.000	13.00
Ex23	5.000	0.000	2.350	0.000	5.000	0.000	.035	0.00	.0399	0.000	12.00
Ex4	4.010	0.000	3.820	0.000	5.000	0.000	.035	0.00	.0279	0.000	12.00
EXT. SE	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	11.00
EXT. SW	5.590	0.000	5.830	0.000	5.000	0.000	.035	0.00	.0269	0.000	16.00
D4	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	16.00
Ext outlet	0.1000	0.000	.0010	0.000	5.000	0.000	.025	0.00	.1983	0.000	11.00
Final Out	.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	Lag
	(mm/h)	(mm)	(mm/h)	(mm)	(m ³ /s)	Peak	mins
Ex 2.1	44.668	10.00	0.000	2.500	0.000	74.962	0.000
D3	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 2.3	44.668	10.00	0.000	2.500	0.000	74.962	0.000
D1	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 2.2	44.668	10.00	0.000	2.500	0.000	74.962	0.000
D2	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Out 2	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 1.3	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 1.2	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 1.1	44.668	10.00	0.000	2.500	0.000	74.962	0.000
out1	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 4.0	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 3.4	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 3.1	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 3.2	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex 3.3	44.668	10.00	0.000	2.500	0.000	74.962	0.000
D5	44.668	10.00	0.000	2.500	0.000	74.962	0.000
out 3	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Site Out	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex3	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex20	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex21	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex22	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex14	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex12	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex13	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex17	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex16	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex15	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex19	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex24	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex23	44.668	10.00	0.000	2.500	0.000	74.962	0.000
Ex4	44.668	10.00	0.000	2.500	0.000	74.962	0.000
EXT. SE	44.668	10.00	0.000	2.500	0.000	74.962	0.000
EXT. SW	44.668	10.00	0.000	2.500	0.000	74.962	0.000
D4	44.668	10.00	0.000	2.500	0.000	74.962	0.000



Ext outlet 44.668 10.00 0.000 2.500 0.000 74.962 0.000 19.010 63.00 0.000

Final Out 44.668 10.00 0.000 2.500 0.000 74.962 0.000 26.618 59.00 0.000

Results for Developed Catchment Condition With No Detention

#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000

to 0:50.0 1/ 1/2000

#####

ROUTING INCREMENT (MINS) = 1.00

STORM DURATION (MINS) = 25.

RETURN PERIOD (YRS) = 5.

BX = 1.0000

TOTAL OF FIRST SUB-AREAS (ha) = 52.64

TOTAL OF SECOND SUB-AREAS (ha) = 0.00

TOTAL OF ALL SUB-AREAS (ha) = 52.64

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)		(%)		(%)						
Catch 1	12.440	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0067	0.000	1.000
B1	3.000	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0032	0.000	2.000
D1	.00001	0.000	2.200	0.000	100.0	0.000	.012	0.00	0.000	0.000	1.001
Out 1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.002
Catch 3	18.650	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0083	0.000	3.000
B3	5.020	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0042	0.000	4.000
D3	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	3.001
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	3.002
Catch 2	10.400	0.000	2.500	0.000	90.00	0.000	.020	0.00	.0055	0.000	5.000
B2	2.430	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0029	0.000	6.000
D2	0.7000	0.000	2.000	0.000	0.000	0.000	.040	0.00	.0214	0.000	5.001
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	5.002
outlet	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.003

Link	Average	Init. Loss	Cont. Loss	Excess Rain	Peak	Time	Link
Label	Intensity	#1	#2	#1	#2	Inflow to	Lag
	(mm/h)	(mm)	(mm/h)	(mm)	(m^3/s)	Peak	mins
Catch 1	66.567	1.000	0.000	0.000	0.000	26.736	0.000 4.499 15.00 0.000



```

B1    66.567 1.000 0.000 0.000 0.000 26.736 0.000 1.089 14.00 0.000
D1    66.567 1.000 0.000 0.000 0.000 26.736 0.000 5.580 14.00 0.000
Out 1  66.567 10.00 0.000 2.500 0.000 17.028 0.000 5.580 14.00 0.000
Catch 3 66.567 1.000 0.000 0.000 0.000 26.736 0.000 6.745 15.00 0.000
B3    66.567 1.000 0.000 0.000 0.000 26.736 0.000 1.822 14.00 0.000
D3    66.567 1.000 0.000 0.000 0.000 26.736 0.000 8.554 15.00 0.000
out 3  66.567 10.00 0.000 2.500 0.000 17.028 0.000 8.554 15.00 0.000
Catch 2 66.567 1.000 0.000 0.000 0.000 26.736 0.000 3.771 14.00 0.000
B2    66.567 1.000 0.000 0.000 0.000 26.736 0.000 0.8815 14.00 0.000
D2    66.567 10.00 0.000 2.500 0.000 17.028 0.000 4.679 14.00 0.000
Out 2  66.567 10.00 0.000 2.500 0.000 17.028 0.000 4.679 14.00 0.000
outlet 66.567 10.00 0.000 2.500 0.000 17.028 0.000 18.795 15.00 0.000
  
```

#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000

to 0:30.0 1/ 1/2000

#####

```

ROUTING INCREMENT (MINS) = 1.00
STORM DURATION (MINS) = 15.
RETURN PERIOD (YRS) = 100.
BX = 1.0000
TOTAL OF FIRST SUB-AREAS (ha) = 52.64
TOTAL OF SECOND SUB-AREAS (ha) = 0.00
TOTAL OF ALL SUB-AREAS (ha) = 52.64
  
```

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch.	Area	Slope	% Impervious	Pern	B	Link		
Label	#1	#2	#1	#2	#1	#2	#1	#2	No.
	(ha)		(%)		(%)				
Catch 1	12.440	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0067 0.000 1.000
B1	3.000	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0032 0.000 2.000
D1	.00001	0.000	2.200	0.000	100.0	0.000	.012	0.00	0.000 0.000 1.001
Out 1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021 0.000 1.002
Catch 3	18.650	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0083 0.000 3.000
B3	5.020	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0042 0.000 4.000
D3	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021 0.000 3.001
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002 0.000 3.002
Catch 2	10.400	0.000	2.500	0.000	90.00	0.000	.020	0.00	.0055 0.000 5.000



B2	2.430	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0029	0.000	6.000
D2	0.7000	0.000	2.000	0.000	0.000	0.000	.040	0.00	.0214	0.000	5.001
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	5.002
outlet	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.003

Link	Average Intensity (mm/h)	Init. Loss #1 (mm)	Cont. Loss #1 (mm/h)	Cont. Loss #2 (mm/h)	Excess Rain #1 (mm)	Excess Rain #2 (mm)	Peak Inflow (m ³ /s)	Time to Peak (mins)	Link	
Catch 1	140.17	1.000	0.000	0.000	0.000	34.043	0.000	6.866	9.000	0.000
B1	140.17	1.000	0.000	0.000	0.000	34.043	0.000	1.663	8.000	0.000
D1	140.17	1.000	0.000	0.000	0.000	34.043	0.000	8.520	9.000	0.000
Out 1	140.17	10.00	0.000	2.500	0.000	24.585	0.000	8.520	9.000	0.000
Catch 3	140.17	1.000	0.000	0.000	0.000	34.043	0.000	10.275	10.00	0.000
B3	140.17	1.000	0.000	0.000	0.000	34.043	0.000	2.773	9.000	0.000
D3	140.17	1.000	0.000	0.000	0.000	34.043	0.000	13.036	9.000	0.000
out 3	140.17	10.00	0.000	2.500	0.000	24.585	0.000	13.036	9.000	0.000
Catch 2	140.17	1.000	0.000	0.000	0.000	34.043	0.000	5.755	9.000	0.000
B2	140.17	1.000	0.000	0.000	0.000	34.043	0.000	1.351	8.000	0.000
D2	140.17	10.00	0.000	2.500	0.000	24.585	0.000	7.130	9.000	0.000
Out 2	140.17	10.00	0.000	2.500	0.000	24.585	0.000	7.130	9.000	0.000
outlet	140.17	10.00	0.000	2.500	0.000	24.585	0.000	28.686	9.000	0.000

Results for Developed Catchment Condition with Detention

#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000
to 3: 0.0 1/ 1/2000

#####

ROUTING INCREMENT (MINS) = 1.00
STORM DURATION (MINS) = 90.
RETURN PERIOD (YRS) = 5.
BX = 1.0000
TOTAL OF FIRST SUB-AREAS (ha) = 52.62
TOTAL OF SECOND SUB-AREAS (ha) = 0.00
TOTAL OF ALL SUB-AREAS (ha) = 52.62

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch. Area (ha)	Slope (%)	% Impervious	Pern	B	Link	
Label	#1	#2	#1	#2	#1	#2	No.
Catch 1	12.440	0.000	2.000	0.000	90.00	0.000	.020 0.00 .0067 0.000 1.000
B1	.00001	0.000	.0010	0.000	0.000	0.000	.025 0.00 .0021 0.000 1.001
Bp1	3.000	0.000	2.000	0.000	90.00	0.000	.020 0.00 .0032 0.000 2.000
D1	.00001	0.000	2.200	0.000	100.0	0.000	.012 0.00 0.000 0.000 1.002
Out 1	.00001	0.000	.0010	0.000	0.000	0.000	.025 0.00 .0021 0.000 1.003



BP3	5.000	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0042	0.000	3.000
Catch 3	18.650	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0083	0.000	4.000
B3	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	4.001
D3	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	3.001
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	3.002
Catch 2	10.400	0.000	2.500	0.000	90.00	0.000	.020	0.00	.0055	0.000	5.000
B2	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	5.001
Bp2	2.430	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0029	0.000	6.000
D2	0.7000	0.000	2.000	0.000	0.000	0.000	.040	0.00	.0214	0.000	5.002
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	5.003
outlet	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.004

Link	Average Intensity (mm/h)	Init. Loss (mm)	Cont. Loss (mm/h)	Excess Rain (mm)	Peak Inflow to (m ³ /s)	Time Lag Peak mins	Link
Catch 1	32.181	1.000	0.000	0.000	0.000	47.271	0.000
B1	32.181	1.000	0.000	0.000	0.000	47.271	0.000
Bp1	32.181	1.000	0.000	0.000	0.000	47.271	0.000
D1	32.181	1.000	0.000	0.000	0.000	47.271	0.000
Out 1	32.181	10.00	0.000	2.500	0.000	35.074	0.000
BP3	32.181	1.000	0.000	0.000	0.000	47.271	0.000
Catch 3	32.181	1.000	0.000	0.000	0.000	47.271	0.000
B3	32.181	1.000	0.000	0.000	0.000	47.271	0.000
D3	32.181	1.000	0.000	0.000	0.000	47.271	0.000
out 3	32.181	10.00	0.000	2.500	0.000	35.074	0.000
Catch 2	32.181	1.000	0.000	0.000	0.000	47.271	0.000
B2	32.181	1.000	0.000	0.000	0.000	47.271	0.000
Bp2	32.181	1.000	0.000	0.000	0.000	47.271	0.000
D2	32.181	10.00	0.000	2.500	0.000	35.074	0.000
Out 2	32.181	10.00	0.000	2.500	0.000	35.074	0.000
outlet	32.181	10.00	0.000	2.500	0.000	35.074	0.000

SUMMARY OF BASIN RESULTS

Link	Time to Peak (m ³ /s)	Peak Inflow (m ³ /s)	Time to Peak (m ³ /s)	Peak Outflow (m ³ /s)	Total Inflow (m ³)	Basin Vol. Avail	Basin Vol. Used	Stage Used
B1	30.00	4.224	34.00	1.277	5876.9	0.0000	2683.9	1.0307
B3	30.00	6.331	34.00	1.912	8813.9	0.0000	4014.9	1.0226
B2	29.00	3.545	34.00	1.071	4913.1	0.0000	2250.3	1.0304

SUMMARY OF BASIN OUTLET RESULTS

Link	No. of	S/D Factor (m)	Dia (m)	Width (m)	Pipe Length (m)	Pipe Slope (%)
B1	1.0	1.000	0.000	20.000	0.2000	
B3	1.0	1.000	0.000	20.000	0.2000	
B2	1.0	1.000	0.000	20.000	0.2000	



#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000

to 3: 0.0 1/ 1/2000

#####

ROUTING INCREMENT (MINS) = 1.00
 STORM DURATION (MINS) = 90.
 RETURN PERIOD (YRS) = 100.
 BX = 1.0000
 TOTAL OF FIRST SUB-AREAS (ha) = 52.62
 TOTAL OF SECOND SUB-AREAS (ha) = 0.00
 TOTAL OF ALL SUB-AREAS (ha) = 52.62

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)		(%)		(%)						
Catch 1	12.440	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0067	0.000	1.000
B1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.001
Bp1	3.000	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0032	0.000	2.000
D1	.00001	0.000	2.200	0.000	100.0	0.000	.012	0.00	0.000	0.000	1.002
Out 1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	1.003
BP3	5.000	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0042	0.000	3.000
Catch 3	18.650	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0083	0.000	4.000
B3	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	4.001
D3	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	3.001
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	3.002
Catch 2	10.400	0.000	2.500	0.000	90.00	0.000	.020	0.00	.0055	0.000	5.000
B2	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	5.001
Bp2	2.430	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0029	0.000	6.000
D2	0.7000	0.000	2.000	0.000	0.000	0.000	.040	0.00	.0214	0.000	5.002
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	5.003
outlet	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.004

Link	Average Init. Loss	Cont. Loss	Excess Rain	Peak	Time	Link
Label	Intensity	#1	#2	#1	#2	Inflow to Lag
	(mm/h)	(mm)	(mm/h)	(mm)	(m^3/s)	Peak mins
Catch 1	53.019	1.000	0.000	0.000	0.000	78.528 0.000 6.498 29.00 0.000
B1	53.019	1.000	0.000	0.000	0.000	78.528 0.000 6.498 29.00 0.000
Bp1	53.019	1.000	0.000	0.000	0.000	78.528 0.000 1.581 28.00 0.000
D1	53.019	1.000	0.000	0.000	0.000	78.528 0.000 4.325 30.00 0.000
Out 1	53.019	10.00	0.000	2.500	0.000	66.237 0.000 4.325 30.00 0.000
BP3	53.019	1.000	0.000	0.000	0.000	78.528 0.000 2.619 29.00 0.000
Catch 3	53.019	1.000	0.000	0.000	0.000	78.528 0.000 9.678 30.00 0.000
B3	53.019	1.000	0.000	0.000	0.000	78.528 0.000 9.678 30.00 0.000
D3	53.019	1.000	0.000	0.000	0.000	78.528 0.000 6.744 30.00 0.000
out 3	53.019	10.00	0.000	2.500	0.000	66.237 0.000 6.744 30.00 0.000



Catch 2	53.019	1.000	0.000	0.000	0.000	78.528	0.000	5.452	29.00	0.000
B2	53.019	1.000	0.000	0.000	0.000	78.528	0.000	5.452	29.00	0.000
Bp2	53.019	1.000	0.000	0.000	0.000	78.528	0.000	1.279	28.00	0.000
D2	53.019	10.00	0.000	2.500	0.000	66.237	0.000	3.773	30.00	0.000
Out 2	53.019	10.00	0.000	2.500	0.000	66.237	0.000	3.773	30.00	0.000
outlet	53.019	10.00	0.000	2.500	0.000	66.237	0.000	14.842	30.00	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		
B1	29.00	6.498	33.00	2.895	9762.8	0.0000	3963.7	1.5222
B3	30.00	9.678	33.00	4.345	14637.5	0.0000	5925.7	1.5091
B2	29.00	5.451	32.00	2.432	8161.6	0.0000	3334.5	1.5268

SUMMARY OF BASIN OUTLET RESULTS

Link	No.	S/D	Dia	Width	Pipe	Pipe
Label	of	Factor		Length	Slope	
	(m)	(m)	(m)	(m)	(%)	
B1	1.0	1.000	0.000	20.000	0.2000	
B3	1.0	1.000	0.000	20.000	0.2000	
B2	1.0	1.000	0.000	20.000	0.2000	

Results for Developed Catchment Condition with Detention for Interim stage 1

#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000

to 4: 0.0 1/ 1/2000

#####

ROUTING INCREMENT (MINS) = 1.00
 STORM DURATION (MINS) = 120.
 RETURN PERIOD (YRS) = 5.
 BX = 1.0000
 TOTAL OF FIRST SUB-AREAS (ha) = 48.39
 TOTAL OF SECOND SUB-AREAS (ha) = 4.35
 TOTAL OF ALL SUB-AREAS (ha) = 52.74

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)	(%)	(%)			
Ex 2.1	3.660	0.000	3.100	0.000	5.000	0.000
D3	.00001	0.000	.0010	0.000	5.000	0.000
Ex 2.3	3.200	0.000	3.100	0.000	5.000	0.000
D1	.00001	0.000	.0100	0.000	5.000	0.000



Ex 2.2	3.300	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0280	0.000	3.000
D2	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	3.001
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	1.002
Ex 1.3	1.900	0.000	2.480	0.000	5.000	0.000	.035	0.00	.0235	0.000	4.000
Ex 1.2	4.400	0.000	4.470	0.000	5.000	0.000	.035	0.00	.0271	0.000	5.000
Ex 1.1	4.880	0.000	3.940	0.000	5.000	0.000	.035	0.00	.0305	0.000	6.000
D 1.3	0.6500	3.650	2.000	2.000	90.00	5.000	.020	.035	.0014	.0367	7.000
B2	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	7.001
D9	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	7.002
out1	1.130	0.000	1.690	0.000	5.000	0.000	.035	0.00	.0217	0.000	4.001
Ex 3.1b	2.200	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0227	0.000	8.000
Ex 3.1a	2.500	0.000	2.000	0.000	5.000	0.000	.035	0.00	.0302	0.000	9.000
D5	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	8.001
D 1.1	1.000	0.7000	2.000	2.000	90.00	5.000	.020	.035	.0018	.0156	10.00
B1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	10.00
Ex 3.2	4.840	0.000	3.270	0.000	5.000	0.000	.035	0.00	.0333	0.000	8.002
Ex 3.3	1.300	0.000	.5000	0.000	5.000	0.000	.035	0.00	.0429	0.000	11.00
D7	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	8.003
D1.2	7.350	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0051	0.000	12.00
B10	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	12.00
D6	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	12.00
EX 3.4	1.720	0.000	1.000	0.000	5.000	0.000	.035	0.00	.0351	0.000	13.00
Ex 4.0	4.360	0.000	2.930	0.000	5.000	0.000	.035	0.00	.0333	0.000	14.00
out 3a	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	14.00
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	8.004
Site Out	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.003

Link	Average Intensity	Init. Loss	Cont. Loss	Excess Rain	Peak Inflow	Time Lag	Link
Label	#1	#2	#1	#2	#1	#2	
	(mm/h)	(mm)	(mm/h)	(mm)	(m ³ /s)	Peak	mins
Ex 2.1	26.932	10.00	0.000	2.500	0.000	39.738	0.6126 43.00 0.000
D3	26.932	10.00	0.000	2.500	0.000	39.738	0.6126 43.00 1.330
Ex 2.3	26.932	10.00	0.000	2.500	0.000	39.738	0.5524 42.00 0.000
D1	26.932	10.00	0.000	2.500	0.000	39.738	0.5524 42.00 .5000
Ex 2.2	26.932	10.00	0.000	2.500	0.000	39.738	0.5668 42.00 0.000
D2	26.932	10.00	0.000	2.500	0.000	39.738	0.5668 42.00 .8000
Out 2	26.932	10.00	0.000	2.500	0.000	39.738	1.730 43.00 0.000
Ex 1.3	26.932	10.00	0.000	2.500	0.000	39.738	0.3157 43.00 0.000
Ex 1.2	26.932	10.00	0.000	2.500	0.000	39.738	0.8199 41.00 0.000
Ex 1.1	26.932	10.00	0.000	2.500	0.000	39.738	0.8430 42.00 0.000
D 1.3	26.932	1.000	10.00	0.000	2.500	52.863	39.738 0.5783 41.00 0.000
B2	26.932	1.000	0.000	0.000	0.000	52.863	0.5783 41.00 0.000
D9	26.932	1.000	0.000	0.000	0.000	52.863	0.3697 65.00 0.000
out1	26.932	10.00	0.000	2.500	0.000	39.738	2.343 43.00 4.400
Ex 3.1b	26.932	10.00	0.000	2.500	0.000	39.738	0.4002 41.00 0.000
Ex 3.1a	26.932	10.00	0.000	2.500	0.000	39.738	0.3598 45.00 1.000
D5	26.932	1.000	0.000	0.000	0.000	52.863	0.7323 44.00 1.000
D 1.1	26.932	1.000	10.00	0.000	2.500	52.863	39.738 0.3947 35.00 0.000



B1	26.932	1.000	0.000	0.000	0.000	52.863	0.000	0.3947	35.00	0.000
Ex 3.2	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.647	45.00	1.500
Ex 3.3	26.932	10.00	0.000	2.500	0.000	39.738	0.000	0.1117	57.00	0.000
D7	26.932	10.00	0.000	2.500	0.000	39.738	0.000	1.754	47.00	1.000
D1.2	26.932	1.000	0.000	0.000	0.000	52.863	0.000	2.398	34.00	0.000
B10	26.932	1.000	0.000	0.000	0.000	52.863	0.000	2.398	34.00	0.000
D6	26.932	10.00	0.000	2.500	0.000	39.738	0.000	0.7772	44.00	0.000
EX 3.4	26.932	10.00	0.000	2.500	0.000	39.738	0.000	0.1935	50.00	0.000
Ex 4.0	26.932	10.00	0.000	2.500	0.000	39.738	0.000	0.6865	44.00	0.000
out 3a	26.932	1.000	0.000	0.000	0.000	52.863	0.000	0.6865	44.00	0.000
out 3	26.932	10.00	0.000	2.500	0.000	39.738	0.000	3.383	46.00	0.000
Site Out	26.932	10.00	0.000	2.500	0.000	39.738	0.000	7.395	46.00	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	
B2	41.00	.5783	65.00	.3697	1792.3	0.0000	522.84	0.9593	
B1	35.00	.3947	48.00	.1448	806.47	0.0000	306.97	0.8599	
B10	34.00	2.397	44.00	.7772	3883.2	0.0000	1615.2	1.0461	

SUMMARY OF BASIN OUTLET RESULTS

Link	No.	S/D	Dia	Width	Pipe	Pipe
Label	of	Factor			Length	Slope
		(m)	(m)	(m)	(m)	(%)
B2	1.0	1.000		0.000	20.000	0.2000
B1	1.0	1.000		0.000	20.000	0.2000
B10	1.0	1.000		0.000	20.000	0.2000

#####

Wallgrove Road

Results for period from 0: 0.0 1/ 1/2000

to 4: 0.0 1/ 1/2000

#####

ROUTING INCREMENT (MINS) = 1.00
 STORM DURATION (MINS) = 120.
 RETURN PERIOD (YRS) = 100.
 BX = 1.0000
 TOTAL OF FIRST SUB-AREAS (ha) = 48.39
 TOTAL OF SECOND SUB-AREAS (ha) = 4.35
 TOTAL OF ALL SUB-AREAS (ha) = 52.74

SUMMARY OF CATCHMENT AND RAINFALL DATA

Link	Catch.	Area	Slope	% Impervious	Pern	B	Link
Label	#1	#2	#1	#2	#1	#2	No.
	(ha)		(%)	(%)			



Ex 2.1	3.660	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0296	0.000	1.000
D3	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	1.001
Ex 2.3	3.200	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0276	0.000	2.000
D1	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	2.001
Ex 2.2	3.300	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0280	0.000	3.000
D2	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	3.001
Out 2	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	1.002
Ex 1.3	1.900	0.000	2.480	0.000	5.000	0.000	.035	0.00	.0235	0.000	4.000
Ex 1.2	4.400	0.000	4.470	0.000	5.000	0.000	.035	0.00	.0271	0.000	5.000
Ex 1.1	4.880	0.000	3.940	0.000	5.000	0.000	.035	0.00	.0305	0.000	6.000
D 1.3	0.6500	3.650	2.000	2.000	90.00	5.000	.020	.035	.0014	.0367	7.000
B2	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	7.001
D9	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	7.002
out1	1.130	0.000	1.690	0.000	5.000	0.000	.035	0.00	.0217	0.000	4.001
Ex 3.1b	2.200	0.000	3.100	0.000	5.000	0.000	.035	0.00	.0227	0.000	8.000
Ex 3.1a	2.500	0.000	2.000	0.000	5.000	0.000	.035	0.00	.0302	0.000	9.000
D5	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	8.001
D 1.1	1.000	0.7000	2.000	2.000	90.00	5.000	.020	.035	.0018	.0156	10.00
B1	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	10.00
Ex 3.2	4.840	0.000	3.270	0.000	5.000	0.000	.035	0.00	.0333	0.000	8.002
Ex 3.3	1.300	0.000	.5000	0.000	5.000	0.000	.035	0.00	.0429	0.000	11.00
D7	.00001	0.000	.0010	0.000	5.000	0.000	.025	0.00	.0016	0.000	8.003
D1.2	7.350	0.000	2.000	0.000	90.00	0.000	.020	0.00	.0051	0.000	12.00
B10	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	12.00
D6	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	12.00
EX 3.4	1.720	0.000	1.000	0.000	5.000	0.000	.035	0.00	.0351	0.000	13.00
Ex 4.0	4.360	0.000	2.930	0.000	5.000	0.000	.035	0.00	.0333	0.000	14.00
out 3a	.00001	0.000	.0010	0.000	0.000	0.000	.025	0.00	.0021	0.000	14.00
out 3	.00001	0.000	.1000	0.000	5.000	0.000	.025	0.00	.0002	0.000	8.004
Site Out	.00001	0.000	.0100	0.000	5.000	0.000	.025	0.00	.0005	0.000	1.003

Link	Average Intensity (mm/h)	Init. Loss #1 (mm)	Cont. Loss #1 (mm/h)	Loss #2 (mm/h)	Excess Rain #1 (mm)	Rain #2 (mm)	Peak Inflow to Peak (m ³ /s)	Time Lag (mins)	Link	
Ex 2.1	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.182	41.00	0.000
D3	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.182	41.00	1.330
Ex 2.3	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.049	41.00	0.000
D1	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.049	41.00	.5000
Ex 2.2	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.079	41.00	0.000
D2	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.079	41.00	.8000
Out 2	44.668	10.00	0.000	2.500	0.000	74.962	0.000	3.310	42.00	0.000
Ex 1.3	44.668	10.00	0.000	2.500	0.000	74.962	0.000	0.6201	41.00	0.000
Ex 1.2	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.513	40.00	0.000
Ex 1.1	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.612	40.00	0.000
D 1.3	44.668	1.000	10.00	0.000	2.500	88.337	74.962	1.236	40.00	0.000
B2	44.668	1.000	0.000	0.000	0.000	88.337	0.000	1.236	40.00	0.000
D9	44.668	1.000	0.000	0.000	0.000	88.337	0.000	0.8542	51.00	0.000
out1	44.668	10.00	0.000	2.500	0.000	74.962	0.000	4.640	41.00	4.400



Ex 3.1b	44.668	10.00	0.000	2.500	0.000	74.962	0.000	0.7451	40.00	0.000
Ex 3.1a	44.668	10.00	0.000	2.500	0.000	74.962	0.000	0.7403	41.00	1.000
D5	44.668	1.000	0.000	0.000	0.000	88.337	0.000	1.469	41.00	1.000
D 1.1	44.668	1.000	10.00	0.000	2.500	88.337	74.962	0.6878	35.00	0.000
B1	44.668	1.000	0.000	0.000	0.000	88.337	0.000	0.6878	35.00	0.000
Ex 3.2	44.668	10.00	0.000	2.500	0.000	74.962	0.000	3.208	42.00	1.500
Ex 3.3	44.668	10.00	0.000	2.500	0.000	74.962	0.000	0.2359	53.00	0.000
D7	44.668	10.00	0.000	2.500	0.000	74.962	0.000	3.426	44.00	1.000
D1.2	44.668	1.000	0.000	0.000	0.000	88.337	0.000	3.707	34.00	0.000
B10	44.668	1.000	0.000	0.000	0.000	88.337	0.000	3.707	34.00	0.000
D6	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.731	42.00	0.000
EX 3.4	44.668	10.00	0.000	2.500	0.000	74.962	0.000	0.4053	45.00	0.000
Ex 4.0	44.668	10.00	0.000	2.500	0.000	74.962	0.000	1.354	41.00	0.000
out 3a	44.668	1.000	0.000	0.000	0.000	88.337	0.000	1.354	41.00	0.000
out 3	44.668	10.00	0.000	2.500	0.000	74.962	0.000	6.803	44.00	0.000
Site Out	44.668	10.00	0.000	2.500	0.000	74.962	0.000	14.505	44.00	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
B2	40.00	1.235	51.00	.8542	3310.7	0.0000	809.18	1.4856
B1	35.00	.6878	48.00	.2577	1408.8	0.0000	531.82	1.4883
B10	34.00	3.706	42.00	1.730	6489.1	0.0000	2339.8	1.5154

SUMMARY OF BASIN OUTLET RESULTS

Link	No.	S/D	Dia	Width	Pipe	Pipe
Label	of	Factor			Length	Slope
	(m)	(m)	(m)	(m)	(%)	
B2	1.0	1.000	0.000	20.000	0.2000	
B1	1.0	1.000	0.000	20.000	0.2000	
B10	1.0	1.000	0.000	20.000	0.2000	



APPENDIX C

MUSIC Modelling Results



Table C.1: Adopted MUSIC modelling parameters for Rainfall Runoff Parameters

PARAMETER	INDUSTRIAL	
	<i>Roof, Car Park and Road Areas</i>	<i>External Landscape Areas</i>
Friction Impervious (%)	90	5
Impervious Area properties		
Rainfall Threshold (mm/day)	1.0	1.0
Pervious Area Properties		
Soil Storage Capacity (mm)	120	120
Soil Initial Storage (% of capacity)	25	25
Field Capacity (mm)	80	80
Infiltration Capacity Coefficient - a	200	200
Infiltration Capacity Exponent - b	1	1
Groundwater Properties		
Initial Depth (mm)	10	10
Daily Recharge rate (%)	25	25
Daily Baseflow rate (%)	5	5
Daily Deep Seepage rate (%)	0.0	0.0



Table C.2: Adopted MUSIC modelling parameters for Pollutant Load Generation

PARAMETER	INDUSTRIAL AREA	
	<i>Roof, and External Landscape Areas</i>	<i>Car Park and Road Areas</i>
Baseflow TSS Mean (log mg/L)	1.20	1.20
Baseflow TSS Stand Dev (log mg/L)	0.17	0.17
Stormflow TSS Mean (log mg/L)	2.15	2.43
Stormflow TSS Stand Dev (log mg/L)	0.32	0.32
Baseflow TP Mean (log mg/L)	-0.85	-0.85
Baseflow TP Stand Dev (log mg/L)	0.19	0.19
Stormflow TP Mean (log mg/L)	-0.60	-0.30
Stormflow TP Stand Dev (log mg/L)	0.25	0.25
Baseflow TN Mean (log mg/L)	0.11	0.11
Baseflow TN Stand Dev (log mg/L)	0.12	0.12
Stormflow TN Mean (log mg/L)	0.30	0.34
Stormflow TN Stand Dev (log mg/L)	0.19	0.19



Results for Stormwater Treatment Strategy for Overall site

Treatment Train Effectiveness for Overall Lots

	Sources	Residual Load	% Reduction
Flow (ML/yr)	544	544	0.0
Peak Flow (m3/s)	6.10	11.6	-90.1
Total Suspended Solids (kg/yr)	146E3	16.1E3	89.0
Total Phosphorus (kg/yr)	241	73.8	69.4
Total Nitrogen (kg/yr)	1.24E3	644	48.0
Gross Pollutants (kg/yr)	13.4E3	1.07E3	92.0

Treatment Train Effectiveness for Overall Road Areas using GPTs

	Sources	Residual Load	% Reduction
Flow (ML/yr)	21.0	21.0	0.0
Peak Flow (m3/s)	0.449	0.449	0.0
Total Suspended Solids (kg/yr)	7.61E3	2.66E3	65.0
Total Phosphorus (kg/yr)	12.0	10.2	15.0
Total Nitrogen (kg/yr)	49.3	42.4	14.0
Gross Pollutants (kg/yr)	519	76.1	85.3



Treatment Train Effectiveness for Overall Site

	Sources	Residual Load	% Reduction
Flow (ML/yr)	591	591	0.0
Peak Flow (m3/s)	6.10	13.4	-120.5
Total Suspended Solids (kg/yr)	153E3	21.2E3	86.2
Total Phosphorus (kg/yr)	264	92.3	65.0
Total Nitrogen (kg/yr)	1.36E3	749	45.0
Gross Pollutants (kg/yr)	14.1E3	1.30E3	90.8

Music Modelling Parameters used for Treatment Strategy for Stage - 1

The Characteristics of Bio retention Basin 1 for Access Road

Properties of B1

Location: Products >>

Inlet Properties

Low Flow By-pass (cubic metres per sec)

High Flow By-pass (cubic metres per sec)

Storage Properties

Extended Detention Depth (metres)

Surface Area (square metres)

Filter and Media Properties

Filter Area (square metres)

Unlined Filter Media Perimeter (metres)

Saturated Hydraulic Conductivity (mm/hour)

Filter Depth (metres)

TN Content of Filter Media (mg/kg)

Orthophosphate Content of Filter Media (mg/kg)

Infiltration Properties

Exfiltration Rate (mm/hr)

Lining Properties

Is Base Lined? ☒ Yes ☐ No

Vegetation Properties

☒ Vegetated with Effective Nutrient Removal Plants

☐ Vegetated with Ineffective Nutrient Removal Plants

☐ Unvegetated

Outlet Properties

Overflow Weir Width (metres)

Underdrain Present? ☒ Yes ☐ No

Submerged Zone With Carbon Present? ☐ Yes ☒ No

Depth (metres)

Fluxes... Notes... More



The Characteristics of Bio retention Basin 2 for Access Road

Properties of B2

Location: **B2** Products >>

Inlet Properties	
Low Flow By-pass (cubic metres per sec)	0.000
High Flow By-pass (cubic metres per sec)	100.000
Storage Properties	
Extended Detention Depth (metres)	0.30
Surface Area (square metres)	90.00
Filter and Media Properties	
Filter Area (square metres)	90.00
Unlined Filter Media Perimeter (metres)	14.00
Saturated Hydraulic Conductivity (mm/hour)	100.00
Filter Depth (metres)	1.00
TN Content of Filter Media (mg/kg)	800
Orthophosphate Content of Filter Media (mg/kg)	50.0
Infiltration Properties	
Exfiltration Rate (mm/hr)	0.00

Lining Properties	
Is Base Lined?	☐ Yes ☒ No
Vegetation Properties	
☒ Vegetated with Effective Nutrient Removal Plants	
☐ Vegetated with Ineffective Nutrient Removal Plants	
☐ Unvegetated	
Outlet Properties	
Overflow Weir Width (metres)	2.00
Underdrain Present?	☒ Yes ☐ No
Submerged Zone With Carbon Present?	☐ Yes ☒ No
Depth (metres)	0.45

Fluxes... Notes... More

Cancel Back Finish

The Characteristics of Bio Filter or Bio basin for Car Park Area of Lot 10

Properties of Bio Filter

Location: **Bio Filter** Products >>

Inlet Properties	
Low Flow By-pass (cubic metres per sec)	0.000
High Flow By-pass (cubic metres per sec)	100.000
Storage Properties	
Extended Detention Depth (metres)	0.30
Surface Area (square metres)	470.00
Filter and Media Properties	
Filter Area (square metres)	470.00
Unlined Filter Media Perimeter (metres)	14.00
Saturated Hydraulic Conductivity (mm/hour)	100.00
Filter Depth (metres)	0.50
TN Content of Filter Media (mg/kg)	800
Orthophosphate Content of Filter Media (mg/kg)	50.0
Infiltration Properties	
Exfiltration Rate (mm/hr)	0.00

Lining Properties	
Is Base Lined?	☒ Yes ☐ No
Vegetation Properties	
☒ Vegetated with Effective Nutrient Removal Plants	
☐ Vegetated with Ineffective Nutrient Removal Plants	
☐ Unvegetated	
Outlet Properties	
Overflow Weir Width (metres)	2.00
Underdrain Present?	☒ Yes ☐ No
Submerged Zone With Carbon Present?	☐ Yes ☒ No
Depth (metres)	0.45

Fluxes... Notes... More

Cancel Back Finish



Results for Stormwater Treatment Strategy for Stage 1

Treatment Train Effectiveness for Lot 10

	Sources	Residual Load	% Reduction
Flow (ML/yr)	92.6	91.2	1.5
Peak Flow (m3/s)	1.05	0.802	23.4
Total Suspended Solids (kg/yr)	23.4E3	1.68E3	92.8
Total Phosphorus (kg/yr)	33.8	10.5	69.0
Total Nitrogen (kg/yr)	206	101	51.0
Gross Pollutants (kg/yr)	2.28E3	0.00	100.0

Treatment Train Effectiveness for Access Road (Temporary treatment for Stage 1)

	Sources	Residual Load	% Reduction
Flow (ML/yr)	42.7	42.0	1.7
Peak Flow (m3/s)	0.979	1.52	-55.3
Total Suspended Solids (kg/yr)	9.55E3	1.11E3	88.4
Total Phosphorus (kg/yr)	17.4	7.26	58.4
Total Nitrogen (kg/yr)	87.4	47.8	45.3
Gross Pollutants (kg/yr)	634	0.00	100.0



Treatment Train Effectiveness at Site Outlet – Interim Stage 1

Treatment Train Effectiveness - Outlet at Stage 1			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	135	133	1.6
Peak Flow (m3/s)	1.05	1.96	-87.2
Total Suspended Solids (kg/yr)	32.9E3	2.78E3	91.5
Total Phosphorus (kg/yr)	51.2	17.7	65.4
Total Nitrogen (kg/yr)	294	149	49.3
Gross Pollutants (kg/yr)	2.92E3	0.00	100.0