

TABLES

Table IV-1 Existing Detention Pond in the Study Area

No.	Name of Development	Area of Development	Catchment Area of Pond	Area of Pond	Depth of Pond	Storage Capacity	Drainage System [Sub-basin No.]	Equivalent Storage Capacity
Sungai Petani								
1	Taman Wira Jaya	17.1 ha	17.1 ha	2,000 m ²	3.0 m	4,800 m ³	Sg. Air Mendidih, Sg. Petani [PE-25]	280 m ³ /ha
2	Taman Ria	111.7 ha	111.7 ha	23,260 m ²	3.0 m	55,820 m ³	Sg. Tukang [TU-1]	500 m ³ /ha
3	Taman Ria Jaya (Makyong)	240.8 ha	76.6 ha	14,120 m ²	6.0 m	76,200 m ³	Line D, Sg. Petani [PE-14]	990 m ³ /ha
4	Taman Ria Jaya (Kaw. Industri Ringan)		94.7 ha	45,790 m ²	9.0 m	384,640 m ³	Line C, Sg. Petani [PE-12]	4,060 m ³ /ha
5	Taman Mutiara Indah	18.9 ha	18.9 ha	2,040 m ²	3.5 m	5,920 m ³	Line E, Sg. Petani [PE-16]	310 m ³ /ha
6	Taman Cengal Indah	6.3 ha	6.3 ha	270 m ²	3.0 m	650 m ³	Line F, Sg. Petani [PE-17]	100 m ³ /ha
7	Taman Sutera	9.9 ha	9.9 ha	840 m ²	2.5 m	1,600 m ³	Sg. Petani [PE-11]	160 m ³ /ha
8	Taman Arked	45.0 ha	29.9 ha	3,450 m ²	2.5 m	6,560 m ³	Sg. Bakar Arang, Sg. Petani [PE-32]	220 m ³ /ha
9	Taman Semarak (I)	57.3 ha	26.2 ha	13,280 m ²	3.6 m	39,840 m ³	Sg. Pasir [PA-8]	1,520 m ³ /ha
10	Taman Semarak (II)		9.6 ha	2,560 m ²	2.7 m	5,380 m ³	Sg. Pasir [PA-8]	560 m ³ /ha
11	Taman Semarak (III)		15.7 ha	4,770 m ²	4.8 m	20,030 m ³	Sg. Pasir [PA-8]	1,280 m ³ /ha
12	Taman Sejati Indah	136.6 ha	92.4 ha	20,370 m ²	6.0 m	110,000 m ³	Sg. Pasir [PA-5]	1,190 m ³ /ha
13	Taman Sri Wang (K/Api)	54.1 ha	16.4 ha	4,380 m ²	2.5 m	8,320 m ³	Sg. Gelugor, Sg. Petani [PE-28]	510 m ³ /ha
14	Taman Sri Wang (J/Raya)		37.7 ha	6,190 m ²	1.5 m	5,570 m ³	Line G, Sg. Petani [PE-20]	150 m ³ /ha
15	Taman Keladi	116.9 ha	149.6 ha	17,900 m ²	6.0 m	96,660 m ³	Line G, Sg. Petani [PE-19]	650 m ³ /ha
16	Taman Permai	18.7 ha	18.7 ha	540 m ²	1.6 m	540 m ³	Sg. Pasir [PA-7]	30 m ³ /ha
17	Taman Desa Meranti	17.9 ha	17.9 ha	1,340 m ²	1.5 m	1,210 m ³	Sg. Pasir [PA-7]	70 m ³ /ha
18	Taman Kempas (Atas)	185.3 ha	50.4 ha	4,540 m ²	2.5 m	8,630 m ³	Sg. Pasir [PA-6]	170 m ³ /ha
19	Kawasan Industri LPK	322.9 ha	121.7 ha	24,690 m ²	7.0 m	158,020 m ³	Sg. Lalang [LA-7]	1,300 m ³ /ha
20	Taman Nilam	24.1 ha	90.9 ha	9,250 m ²	1.5 m	8,330 m ³	Sg. Pasir [PA-9]	90 m ³ /ha
Melaka								
1	Kaw. Industri Bukit Rambai	64.2 ha	61.1 ha	26,060 m ²	1.5 m	23,450 m ³	Sg. Ayer Salak [AS-2]	380 m ³ /ha

Table IV-2(1/3) Present Drainage Conditions in Sg. Petani

Sub-basin Code	Catchment Area (km ²)	Key Drainage System	Urban Area in Catchment (%)	Average Drainage Capacity		Functional Detention Pond	Area Affected by Flooding	Remarks
				Discharge (m ³ /s)	Return Period (Year)			
Sg. Lalang Basin (Total Drainage Area : 24.53 km²)								
LA-1	2.29	Sg. Lalang	0.0	4.0	less than 2			
LA-2	2.53	Sg. Lalang	0.0	-	-			
LA-3	3.47	Sg. Lalang	0.0	-	-			
LA-4	2.73	Alur C	0.0	2.0	less than 2			
LA-5	1.14	Alur A	0.0	1.7	less than 2			
LA-6	2.88	Alur A	7.9	-	-			
LA-7	1.18	Internal Drain	100.0	1.8	less than 2	19. Kaw. Industri LPK(148,140 m ³)		Taman Ria Jaya & Kaw. Industri LPK
LA-8	2.39	Sg. Bakap	82.8	2.0	less than 2			
LA-9	3.17	Sg. Bakap	44.0	-	-			
LA-10	1.80	Sg. Lalang	34.9	-	-			
LA-11	0.95	Sg. Lalang	9.5	-	-			
Sg. Tukang Basin (Total Drainage Area : 7.93 km²)								
TU-1	1.35	Internal Drain	98.6	4.0	less than 2	2. Taman Ria (46,520 m ³)		Taman Ria
TU-2	1.45	Sg. Tukang	20.6	0.8	less than 2		Kg. Huda	
TU-3	0.49	Cabang I-M	4.4	2.0	less than 2			
TU-4	0.18	Sg. Tukang	22.4	6.0	less than 2			
TU-5	2.09	Cabang H-L	100.0	10.0	less than 2			
TU-6	0.89	Sg. Tukang	75.7	-	-			
TU-7	1.48	Internal Drain	26.2	(unknown)	-			Taman Laguna Merbok (under construction)
Sg. Layar Besar Basin (Total Drainage Area : 3.77 km²)								
LB-1	0.66	Sg. Layar Besar	86.9	2.0	less than 2			
LB-2	1.32	Sg. Layar Besar	88.6	3.8	less than 2			
LB-3	0.94	Cabang D-E	76.9	7.0	less than 2			
LB-4	0.85	Sg. Layar Besar	6.9	0	less than 2			
Sg. Che Bima Basin (Total Drainage Area : 3.27 km²)								
CB-1	1.25	Sg. Che Bima	23.4	0.2	less than 2			
CB-2	1.19	Sg. Che Bima	9.9	1.3	less than 2			
CB-3	0.83	Sg. Che Bima	34.5	0	less than 2			

Table IV-2(2/3) Present Drainage Conditions in Sg. Petani

Sub-basin Code	Catchment Area (km ²)	Key Drainage System	Urban Area in Catchment (%)	Average Drainage Capacity		Functional Detention Pond	Area Affected by Flooding	Remarks
				Discharge (m ³ /s)	Return Period (Year)			
Sg. Petani Basin (Total Drainage Area : 37.72 km ²)								
PE-1	1.60	Sg. Pasir Kechil	27.2	4.0	less than 2			
PE-2	0.28	Sg. Pasir Kechil	90.2	2.2	less than 2			
PE-3	1.43	Line A1	76.5	35.0	more than 2			
PE-4	1.41	Line A1	96.8	2.4	less than 2			
PE-5	0.41	Line A1	15.8	-	-			
PE-6	0.96	Sg. Petani	53.1	5.0	less than 2			
PE-7	1.32	Line A	19.6	1.5	less than 2			
PE-8	0.78	Line A	78.9	2.0	less than 2			
PE-9	0.48	Sg. Petani	7.3	-	-			
PE-10	0.82	Line B	42.3	3.5	less than 2			
PE-11	0.62	Sg. Petani	80.6	-	-			Kg. Haji Wahab
PE-12	1.55	Line C	72.4	4.0	less than 2	4. Taman Ria Jaya (366,320 m ³)		
PE-13	0.76	Sg. Petani	41.2	-	-			
PE-14	1.13	Line D	84.2	2.0	less than 2	3. Taman Ria Jaya (70,600 m ³)		
PE-15	0.32	Sg. Petani	100.0	-	-			
PE-16	0.90	Line E	97.5	1.5	less than 2			Kg. Raja
PE-17	0.55	Line F	58.0	3.0	less than 2			
PE-18	0.46	Sg. Petani	71.7	-	-			
PE-19	1.98	Line G	41.5	3.0	less than 2	15. Taman Keladi (89,500 m ³)		
PE-20	1.21	Line G	63.8	3.5	less than 2	14. Taman Sri Wang (6,190 m ³)		
PE-21	0.21	Sg. Petani	98.8	-	-			
PE-22	0.43	Line H	56.0	1.5	less than 2			
PE-23	0.71	Sg. Petani	99.6	-	-			
PE-24	1.18	Line N	95.3	10.0	less than 2			
PE-25	1.14	Sg. Air Mendidih	59.0	1.0	less than 2			
PE-26	1.08	Sg. Air Mendidih	94.2	0	less than 2			Kg. Benggali (Line P)
PE-27	0.45	Sg. Petani	85.5	-	-			
PE-28	1.46	Sg. Gelugor	100.0	2.5	less than 2	13. Taman Sri Wang (6,570 m ³)		
PE-29	1.30	Sg. Gelugor	98.2	0	less than 2			
PE-30	0.91	Line Q	100.0	1.8	less than 2			
PE-31	0.39	Sg. Petani	86.8	-	-			
PE-32	2.70	Sg. Bakar Arang	96.6	0	less than 2			
PE-33	1.95	Line R	64.9	11.0	less than 2			
PE-34	4.84	Sg. Petani	40.8	-	-			

Table IV-2(3/3) Present Drainage Conditions in Sg. Petani

Sub-basin Code	Catchment Area (km ²)	Key Drainage System	Urban Area in Catchment (%)	Average Drainage Capacity		Functional Detention Pond	Area Affected by Flooding	Remarks
				Discharge (m ³ /s)	Return Period (Year)			
Sg. Pasir Basin (Total Drainage Area : 23.44 km ²)								
PA-1	0.76	Sg. Pasir	52.2	0.3	less than 2			
PA-2	3.61	Sg. Pasir	37.2	-	-			
PA-3	1.36	Internal Drain	63.0	(unknown)	-			Taman Keladi (under construction)
PA-4	2.40	Sg. Pasir	75.6	-	-			
PA-5	1.05	Drain I & II	100.0	10.0	more than 2	12. Taman Sejati Indah (101,850 m ³)		
PA-6	1.44	Sg. Pasir	100.0	-	-	18. Taman Kempas (6,810 m ³)		
PA-7	3.91	Sg. Pasir	44.5	-	-		Kg. Pokok Limau	
PA-8	2.27	Sg. Pasir	29.7	-	-	9. Taman Semarak I (34,530 m ³), 10. II (4,350 m ³), 11. III (18,130 m ³)	Kg. Pasir	
PA-9	1.76	Drain III & IV	88.1	25.3	less than 2			
PA-10	4.88	Sg. Pasir	3.2	-	-			

Table IV-3(1/3) Present Drainage Conditions in Melaka

Sub-basin Code	Catchment Area (km ²)	Key Drainage System	Urban Area in Catchment (%)	Average Drainage Capacity		Area Affected by Flooding (Functional Detention Pond)	Remarks
				Discharge (m ³ /s)	Return Period (Year)		
Sg. Lereh Basin (Total Drainage Area : 34.82 km²)							
UD-1	3.85	Sg. Udang	23.1	-	-		
UD-2	7.34	Sg. Udang	34.5	-	-		
UD-3	4.02	Sg. Udang	83.7	-	-		
GA-1	5.83	Sg. Seberang Gajah	4.6	-	-		
GA-2	1.34	Sg. Seberang Gajah	3.2	-	-		
GA-3	1.02	Sg. Seberang Gajah	33.1	-	-		
GA-4	0.67	Sg. Seberang Gajah	18.7	-	-		
LE-1	10.75	Sg. Lereh	14.6	-	-		
Sg. Malim Basin (Total Drainage Area : 51.93 km²)							
AH-1	9.53	Sg. Ayer Hitam	6.3	-	-		
AH-2	2.62	Sg. Ayer Hitam	22.6	-	-		
AH-3	1.50	Sg. Ayer Hitam	10.7	-	-		
AH-4	1.04	Sg. Ayer Hitam	31.8	-	-		
AH-5	2.24	Pt. Cheng Besar	26.7	5.0	less than 2		
AH-6	2.10	Pt. Cheng Kecil	5.9	1.5	less than 2		
AS-1	8.48	Sg. Ayer Salak	27.8	-	-	Taman Rambai Indah	
AS-2	3.37	Sg. Ayer Salak	15.7	-	-	(1.Kaw. Industri Bukit Rambai: 23,450 m ³)	
AS-3	3.15	Pt. AB I	8.8	10.0	less than 2	Tanjung Minyak (Sg. Ayer Hitam)	
AS-4	1.68	Sg. Ayer Salak	17.0	-	-		
MA-1	4.64	Sg. Malim	37.7	-	-		
MA-2	2.26	Sg. Malim	23.2	-	-		
MA-3	2.76	Pt. Setulang Daing	10.9	1.5	less than 2		
MA-4	4.16	Sg. Malim	39.3	-	-		
MA-5	2.40	Sg. Malim	24.9	-	-		
Sg. Melaka Basin [Downstream of Merdeka Barrage] (Total Drainage Area : 23.27 km²)							
ME-1	0.80	Sg. Melaka and Small Individual Drains	35.5	-	-		
ME-2	3.89	Drain I	40.9	8.8	less than 2		
ME-3	2.25	Sg. Melaka and Small Individual Drains	54.0	-	-	Kg. Bachang	
ME-4	0.86	Drain II	61.1	(unknown)	-		
ME-5	2.36	Sg. Melaka and Small Individual Drains	68.8	-	-		
ME-6	2.40	Drain III	64.2	22.1	less than 2		
ME-7	0.45	Drain IV	86.2	(unknown)	-		
ME-8	1.83	Sg. Melaka and Small Individual Drains	53.0	-	-		
ME-9	2.25	Drain V (Pt. Line A Selatan)	36.5	4.5	less than 2		

Table IV-3(2/3) Present Drainage Conditions in Melaka

Sub-basin Code	Catchment Area (km ²)	Key Drainage System	Urban Area in Catchment (%)	Average Drainage Capacity		Area Affected by Flooding by Functional Detention Pond)	Remarks
				Discharge (m ³ /s)	Return Period (Year)		
ME-10	1.43	Drain VI	63.4	12.5	less than 2		
ME-11	0.52	Drain VII	55.2	2.9	less than 2	Kg. Lapan	
ME-12	0.33	Drain VIII	61.5	2.9	less than 2	Kesidang	
ME-13	0.51	Sg. Melaka and Small Individual Drains	59.7	-	-		
ME-14	0.43	Drain IX	85.9	17.5	more than 2		
ME-15	0.86	Sg. Melaka and Small Individual Drains	85.6	-	-		
ME-16	1.00	Drain X	63.4	4.8	less than 2	Durian Daun	
ME-17	1.10	Sg. Melaka and Small Individual Drains	65.3	-	-		
Sg. Melaka Basin (Upstream of Merdeka Barrage)							
JN-1	6.85	Sg. Jenuang	1.3	-	-		
JN-2	2.80	Sg. Jenuang	2.9	-	-		
JN-3	12.81	Sg. Jeram	5.7	-	-		
JN-4	2.63	Sg. Jeram	8.0	-	-		
AR-1	2.89	Sg. Paya Rumpat	5.9	5.0	less than 2		
AR-2	2.16	Sg. Paya Rumpat	9.0	-	-		
AR-3	1.78	Sg. Paya Rumpat	28.5	-	-		
SB-1	1.29	Sg. Solo Bangsal	30.5	1.5	less than 2		
SB-2	1.40	Sg. Solo Bangsal	11.0	0.4	less than 2		
CH-1	2.29	Sg. Cheng	17.4	-	-		
UM-1	4.97	Internal Drain of Melaka Air Port	31.7	-	-		
UM-2	3.61	Internal Drain of Taman Merdeka	50.2	66.2	more than 2		
UM-3	0.42	Sg. Melaka and Small Individual Drains	52.5	-	-		
Sg. Putat Basin (Total Drainage Area : 23.11 km ²)							
PU-1	2.31	Sg. Ayer Keroh	6.0	-	-		Reservoir Area
PU-2	0.68	Sg. Ayer Keroh	54.8	-	-		
PU-3	0.91	Sg. Ayer Keroh	75.3	-	-		
PU-4	2.03	Sg. Ayer Saga	26.3	10.0	less than 2		
PU-5	1.00	Sg. Ayer Keroh	41.3	-	-		
PU-6	3.36	Sg. Bt. Bruang	82.6	40.0	less than 2	Jalan Ayer Keroh Height	
PU-7	3.66	Sg. Ayer Manggis	62.7	100.0	more than 2		
PU-8	5.60	Sg. Putat	53.5	-	-	Kg. Sg. Putat	
PU-9	3.56	Sg. Putat	65.7	-	-	Kg. Pulau Nibong	

Table IV-3(3/3) Present Drainage Conditions in Melaka

Sub-basin Code	Catchment Area (km ²)	Key Drainage System	Urban Area in Catchment (%)	Average Drainage Capacity		Area Affected by Flooding (Functional Detention Pond)	Remarks
				Discharge (m ³ /s)	Return Period (Year)		
Coastal Drainage System							
CD-1	0.97	Drain XI	74.3	64.7	more than 2		
CD-2	0.44	Drain XII	83.4	8.0	less than 2		
CD-3	2.14	Drain XIII	55.3	11.1	less than 2	Kg. Sembilam & Taman Usrah Jaya	
CD-4	3.71	Drain XIV (Pt. Pokok Mangga)	36.3	1.3	less than 2	Kg. Pokok Mangga	
CD-5	0.87	Drain XV	42.6	4.8	less than 2		
CD-6	0.56	Drain XVI	50.2	4.4	less than 2		
CD-7	2.45	Drain XVII	11.8	9.5	less than 2		
CD-8	0.77	Drain XVIII	83.6	25.3	more than 2		
CD-9	0.66	Internal Drain of PETRONAS Refinery	100.0	-	-		

Table IV-4 Flood Control Effects of Existing Detention Pond

Sub-basin Code	Key Drainage System	Catchment Area of Sub-basin (km ²)	Total Catchment Area of Ponds (km ²)	Coverage of Pond Catchment (%)	5-yr Flood under Present Conditions				Remarks (Functioning Pond)
					Peak Discharge without Pond [Q1] (m ³ /s)	Peak Discharge with Pond [Q2] (m ³ /s)	Controlled Discharge [Q1-Q2] (m ³ /s)	Flood Control Effect [(Q1-Q2)/Q1] (%)	
Sg. Lalang Basin									
LA-7	Internal Drain	1.18	1.18	100.0	37	5	32	86.5	Kaw. Industri LPK
River-mouth	Sg. Lalang	24.53	1.18	4.8	209	199	10	4.8	1 Pond
Sg. Tukang Basin									
TU-1	Internal Drain	1.35	1.12	83.0	43	11	32	74.4	Taman Ria
River-mouth	Sg. Tukang	7.93	1.12	14.1	81	67	14	17.3	1 Pond
Sg. Petani Basin									
PE-12	Line C	1.55	0.95	61.3	40	15	25	62.5	Taman Ria Jaya
PE-14	Line D	1.13	0.77	68.1	35	12	23	65.7	Taman Ria Jaya
PE-19	Line G	1.98	1.50	75.8	40	13	27	67.5	Taman Keladi
PE-20	Line G	1.21	0.38	31.4	28	17	11	39.3	Taman Sri Wang
PE-28	Sg. Gelugor	1.46	0.16	11.0	45	41	4	8.9	Taman Sri Wang
River-mouth	Sg. Petani	37.72	3.76	10.0	259	220	39	15.1	5 Ponds in Total
Sg. Pasir Basin									
PA-5	Trunk Drain	1.05	0.92	87.6	35	9	26	74.3	Taman Sejati Indah
PA-6	Small Drains	1.44	0.50	34.7	45	32	13	28.9	Taman Kempas
PA-8	Small Drains	2.27	0.52	22.9	38	24	14	36.8	3 Ponds in Taman Semarak
River-mouth	Sg. Pasir	23.44	1.94	8.3	194	165	29	14.9	5 Ponds in Total

Table IV-5 Flooding Conditions in Habitual Inundation Area

Area	Key Drainage System	Flooding Situation	Major Causes of Flooding	Remarks
Sungai Petani				
Kg. Bengali	Line P	<ul style="list-style-type: none"> 0.3 to 0.5 m in depth twice to three times a year Flooding for 1 to 2 hours 	<ul style="list-style-type: none"> Overflow along Line P due to poor drainage capacity Development activities in upper reaches Poor channel capacity due to sharp bend 	
Kg. Haji Wahab	Sg. Petani	<ul style="list-style-type: none"> 0.3 to 0.5 m in depth Flooding by coincidence with heavy downpour and high tide 		
Kg. Pokok Limau	Sg. Pasir	<ul style="list-style-type: none"> 0.5 to 1 m in depth after every heavy downpour Flooding for 1 to 3 hours 	<ul style="list-style-type: none"> Poor capacity of channel and culvert 	
Kg. Hj Rashid	Sg. Pasir	<ul style="list-style-type: none"> 0.3 m in depth Flooding by coincidence with heavy downpour and high tide 	<ul style="list-style-type: none"> Poor channel capacity 	
Kg. Huda	Sg. Tukang	<ul style="list-style-type: none"> 0.5 to 1 m in depth after every heavy downpour 	<ul style="list-style-type: none"> Poor drainage capacity Development activities in upper reaches 	
Melaka				
Kg. Sg. Putat & Kg. Pulau Nibong	Sg. Putat	<ul style="list-style-type: none"> 0.5 to 1 m in depth after every heavy downpour Flooding for 1 week 	<ul style="list-style-type: none"> Overflow along Sg. Putat due to poor drainage capacity Development activities in upper reaches 	Affected families: 32 in May 1998, 38 in Nov. 1998
Jl. Ayer Keroh Height	Sg. Bt. Bruang	<ul style="list-style-type: none"> Flooding along national road after every heavy downpour 	<ul style="list-style-type: none"> Poor drainage pipe capacity Industrial development in upper reaches 	
Tanjung Minyak	Sg. Ayer Hitam	<ul style="list-style-type: none"> Flooding along right bank after every heavy downpour 	<ul style="list-style-type: none"> Poor drainage capacity Development activities in upper reaches 	Affected families: 8 in Oct. 1996
Taman Rambai Indah	Sg. Ayer Salak	<ul style="list-style-type: none"> Flooding on lower portion of estate after every heavy downpour 	<ul style="list-style-type: none"> Lack of enough platform level Development activities in upper reaches 	Affected families: 44 in Jan. 1997, 81 in Aug. 1998, 52 in Nov. 1998
Kg. Durian Daun Dalam	Trunk drain	<ul style="list-style-type: none"> 0.4 m in depth after 1-hour heavy downpour 	<ul style="list-style-type: none"> Poor capacity of roadside drain Depressed hinterland in entire drainage basin 	
Kg. Lapan, Bachang	Roadside drain	<ul style="list-style-type: none"> Flooding on lower portion after every heavy downpour 	<ul style="list-style-type: none"> Poor capacity of roadside drain Depressed hinterland in entire drainage basin 	
Kesidang	Trunk drain	<ul style="list-style-type: none"> Flooding on lower portion after 1-hour heavy downpour 	<ul style="list-style-type: none"> Poor capacity of roadside and trunk drain Depressed hinterland in entire drainage basin 	
Kg. Sembilan	Trunk drain	<ul style="list-style-type: none"> 0.5 m in depth after every heavy downpour Flooding situation lasting for 30 years 	<ul style="list-style-type: none"> Poor capacity of trunk drain 	

Table IV-6(1/3) Design Discharge and Flood Detention for Trunk Drain Basin in Optimum Plan

Sub-basin Code	Drainage Area (km ²)	Key Drainage System	Channel Length (m)	Urban Area in Sub-basin (%)			Drainage Capacity (m ³ /s)	Design Discharge of 5-year Flood (m ³ /s)		Required Detention Capacity (m ³)		Remarks	
				Present	Year 2020			without Detention	with Detention	Detention Pond	Storage in Public Space		
					Estates/Road	Institutional							Recreational
SUNGAI PETANI													
Sg. Lalang Basin													
LA-1	2.29	Sg. Lalang	2,020	0.0	100.0	66.3	0.2	33.5	4.0	54	21	155,900	200
LA-4	2.73	Alur C	2,200	0.0	100.0	67.7	4.1	28.2	2.0	70	26	189,100	6,700
LA-5	1.14	Alur A	490	0.0	100.0	91.1	0.0	8.9	1.7	35	12	106,200	0
LA-7	1.18	Internal Drain	-	100.0	100.0	97.6	0.0	2.4	1.8	7	7	151,200	0
LA-8	2.39	Sg. Bakap	1,350	82.8	100.0	17.2	0.9	81.9	2.0	51	43	32,100	700
Sg. Tukang Basin													
TU-1	1.35	Internal Drain	-	98.6	100.0	98.6	1.4	0.0	-	14	11	155,700	0
TU-2	1.45	Sg. Tukang	1,450	20.6	100.0	89.7	10.3	0.0	0.8	56	27	108,300	9,000
TU-3	0.49	Cabang J-M	140	4.4	100.0	91.7	8.3	0.0	2.0	18	6	44,400	2,400
TU-4	0.18	Sg. Tukang	700	22.4	100.0	88.1	11.9	0.0	6.0	73	33	13,400	500
TU-5	2.09	Cabang H-L	1,700	100.0	100.0	18.2	81.8	0.0	10.0	62	60	8,600	0
TU-7	1.48	Internal Drain	-	26.2	100.0	99.1	0.9	0.0	-	50	22	128,100	400
Sg. Layar Besar Basin													
LB-1	0.66	Sg. Layar Besar	430	86.9	100.0	89.2	10.8	0.0	2.0	23	21	7,700	900
LB-2	1.32	Sg. Layar Besar	2,070	88.6	100.0	35.8	64.2	0.0	3.8	54	47	29,300	0
LB-3	0.94	Cabang D-E	680	76.9	100.0	82.9	17.1	0.0	7.0	32	26	20,100	1,400
LB-4	0.85	Sg. Layar Besar	1,800	6.9	100.0	100.0	0.0	0.0	0.0	69	58	84,300	0
Sg. Che Bima Basin													
CB-1	1.25	Sg. Che Bima	1,070	23.4	100.0	100.0	0.0	0.0	0.2	41	20	102,100	0
CB-2	1.19	Sg. Che Bima	1,300	9.9	100.0	100.0	0.0	0.0	1.3	67	30	109,500	0
CB-3	0.83	Sg. Che Bima	1,200	34.5	100.0	100.0	0.0	0.0	0.0	78	39	55,700	0

Table IV-6(2/3) Design Discharge and Flood Detention for Trunk Drain Basin in Optimum Plan

Sub-basin Code	Drainage Area (km ²)	Key Drainage System	Channel Length (m)	Urban Area in Sub-basin (%)			Drainage Capacity (m ³ /s)	Design Discharge of 5-year Flood (m ³ /s)		Required Detention Capacity (m ³)		Remarks
				Present	Year 2020			Detention without Detention	with Detention	Detention Pond	Storage in Public Space	
					Estates/Road	Institutional						
Sg. Petani Basin												
PE-1	1.60	Sg. Pasir Kecil	1,420	27.2	100.0	0.0	0.0	51	26	119,600	0	
PE-2	0.28	Sg. Pasir Kecil	950	90.2	100.0	0.0	0.0	51	26	28,300	0	
PE-3	1.43	Line A1	1,200	76.5	100.0	0.0	0.0	45	37	34,400	0	
PE-4	1.41	Line A1	1,220	96.8	100.0	0.0	0.0	69	58	24,400	0	
PE-6	0.96	Sg. Pasir	290	53.1	79.0	21.0	0.0	33	22	46,100	0	
PE-7	1.32	Line A	870	19.6	84.4	4.9	0.0	19	19	87,400	3,900	
PE-8	0.78	Line A	840	78.9	80.4	19.6	0.0	59	18	40,800	0	
PE-10	0.82	Line B	290	42.3	74.6	24.0	1.4	27	17	47,600	500	
		Line B1	300									
PE-12	1.55	Line C	1,080	72.4	100.0	0.0	0.0	24	15	165,200	0	
PE-14	1.13	line D	900	84.2	96.6	0.0	3.4	16	12	108,900	2,100	
PE-16	0.90	Line E	680	97.5	98.7	1.3	0.0	31	30	4,300	0	
PE-17	0.55	Line F	230	58.0	83.1	16.9	0.0	19	13	22,000	2,900	
PE-19	1.98	Line G	300	42.2	84.8	0.0	15.2	16	12	210,600	0	
PE-20	1.21	Line G	1,600	74.3	100.0	0.0	0.0	42	28	100,500	0	
PE-22	0.43	Line H	100	56.0	100.0	0.0	0.0	15	11	19,500	0	
PE-24	1.18	Line N	970	99.1	72.0	28.0	0.0	40	37	7,500	1,800	
PE-25	1.14	Line N	990	61.7	94.5	5.5	0.0	68	55	43,300	2,600	
		Line P	260									
PE-26	1.08	Sg. Air Mendidih	1,310	94.2	80.0	18.5	1.5	80	56	52,200	5,800	
PE-28	1.46	Sg. Gelugor	600	100.0	100.0	0.0	0.0	42	39	32,200	0	
		Line K	220									
PE-29	1.30	Sg. Gelugor	1,800	98.6	99.0	1.0	0.0	59	53	21,600	0	
PE-30	0.91	Line Q	700	100.0	55.4	14.0	30.6	30	30	0	0	
PE-32	2.70	Sg. Bakar Arang	2,290	96.6	96.8	3.2	0.0	85	69	64,400	1,100	
PE-33	1.95	Line R	980	64.9	87.6	9.4	3.0	60	45	157,800	0	
		Line S	380									
Sg. Pasir Basin												
PA-1	0.76	Sg. Pasir	370	52.2	100.0	0.0	0.0	25	14	50,600	0	
PA-3	1.36	Internal Drain	-	63.0	95.5	4.5	0.0	46	33	57,800	0	Taman Keladi
PA-5	1.05	Drain I & II	860	100.0	100.0	0.0	0.0	9	9	118,300	0	
PA-9	1.76	Drain III & IV	1,560	88.1	100.0	0.0	0.0	57	48	38,600	0	

Table IV-6(3/3) Design Discharge and Flood Detention for Trunk Drain Basin in Optimum Plan

Sub-basin Code	Drainage Area (km ²)	Key Drainage System	Channel Length (m)	Urban Area in Sub-basin (%)		Drainage Capacity (m ³ /s)	Design Discharge of 5-year Flood (m ³ /s)		Required Detention Capacity (m ³)		Remarks		
				Present	Year 2020		without Detention	with Detention	Detention Pond	Storage in Public Space			
												Estates/Road	Institutional
MELAKA													
Sg. Malim Basin													
AS-3	3.15	Pt. AB I	2,020	8.8	70.3	70.1	0.2	0.0	10.0	72	34	19,840	0
AH-5	2.24	Pt. Cheng Besar	1,400	26.7	96.2	93.3	2.9	0.0	5.0	69	34	158,400	3,900
AH-6	2.10	Pt. Cheng Kecil	1,860	5.9	20.0	9.9	1.3	8.8	1.5	21	19	11,500	0
MA-3	2.76	Pt. Setulang Daing	2,390	10.9	54.4	47.7	2.3	4.4	1.5	52	29	104,800	3,900
Sg. Melaka Basin (Downstream of Merdeka Barrage)													
ME-2	3.89	Drain I	3,180	40.9	46.0	41.5	4.5	0.0	8.8	68	57	56,100	0
ME-4	0.86	Drain II	640	61.1	96.3	88.0	8.3	0.0	-	64	46	33,900	0
ME-6	2.40	Drain III	2,900	64.2	90.2	74.4	15.8	0.0	22.1	69	54	55,800	6,300
ME-7	0.45	Drain IV	900	86.2	93.6	76.4	17.2	0.0	-	16	14	2,700	2,000
ME-9	2.25	Drain V	920	36.5	94.7	93.4	1.3	0.0	4.5	69	41	132,900	1,200
ME-10	1.43	Drain VI	1,820	63.4	91.8	80.4	11.4	0.0	12.5	45	35	24,700	9,800
ME-11	0.52	Drain VII	600	55.2	93.1	86.9	6.2	0.0	2.9	18	12	19,600	1,900
ME-12	0.33	Drain VIII	770	61.5	90.2	74.9	15.3	0.0	2.9	12	9	4,600	3,100
ME-14	0.43	Drain IX	230	85.9	92.4	84.4	8.0	0.0	17.5	16	13	8,640	0
ME-16	1.00	Drain X	1,090	63.4	95.4	56.5	27.6	11.3	4.8	29	27	22,300	5,500
Sg. Melaka Basin (Upstream of Merdeka Barrage)													
AR-1	2.89	Sg. Paya Rumpit	2,200	5.9	21.0	21.0	0.0	0.0	5.0	34	25	46,900	0
SB-1	1.29	Sg. Solo Bangsal	850	30.5	94.2	94.2	0.0	0.0	1.5	42	22	87,900	0
SB-2	1.40	Sg. Solo Bangsal	2,150	11.0	21.0	21.0	0.0	0.0	0.4	66	29	73,100	22,800
UM-2	3.61	Internal Drain	-	50.2	88.2	79.1	9.1	0.0	-	98	70	122,300	10,700
Sg. Putat Basin													
PU-4	2.04	Sg. Ayer Saga	450	26.3	83.2	0.7	1.1	81.4	10.0	21	21	0	0
PU-6	3.36	Sg. Bt. Bruang	2,100	82.6	91.4	87.0	3.7	0.7	40.0	95	79	68,700	0
PU-7	3.73	Sg. Ayer Manggis	1,350	62.7	78.8	63.6	2.6	12.6	100.0	81	68	55,700	3,200
Coastal Drainage System													
CD-1	0.97	Drain XI	770	74.3	100.0	82.8	9.6	7.6	64.7	34	27	16,700	4,100
CD-2	0.44	Drain XII	500	83.4	100.0	72.3	27.7	0.0	8.0	16	13	0	7,100
CD-3	2.14	Drain XIII	2,560	55.3	100.0	90.9	9.1	0.0	11.1	69	46	81,700	11,700
CD-4	3.71	Drain XIV	2,710	36.3	100.0	96.9	1.2	1.9	1.3	111	63	236,600	2,400
CD-5	0.87	Drain XV	600	42.6	100.0	98.1	0.0	1.9	4.8	29	17	56,000	0
CD-6	0.56	Drain XVI	480	50.2	100.0	100.0	0.0	0.0	4.4	20	13	29,500	0
CD-7	2.45	Drain XVII	1,380	11.8	57.8	53.8	2.5	1.5	9.5	50	27	109,500	3,700
CD-8	0.77	Drain XVIII	530	83.6	100.0	100.0	0.0	0.0	25.3	25	22	13,200	0