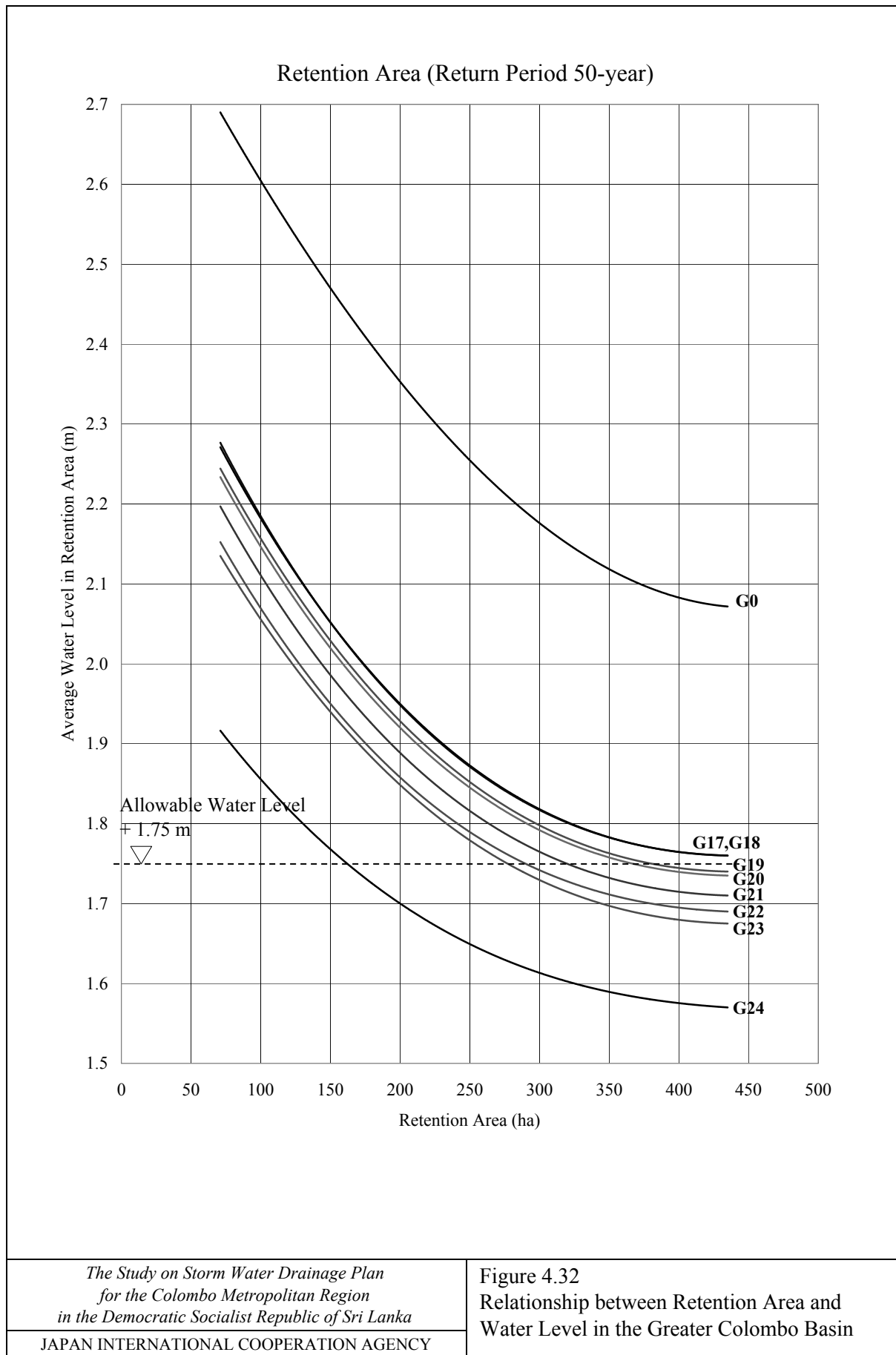
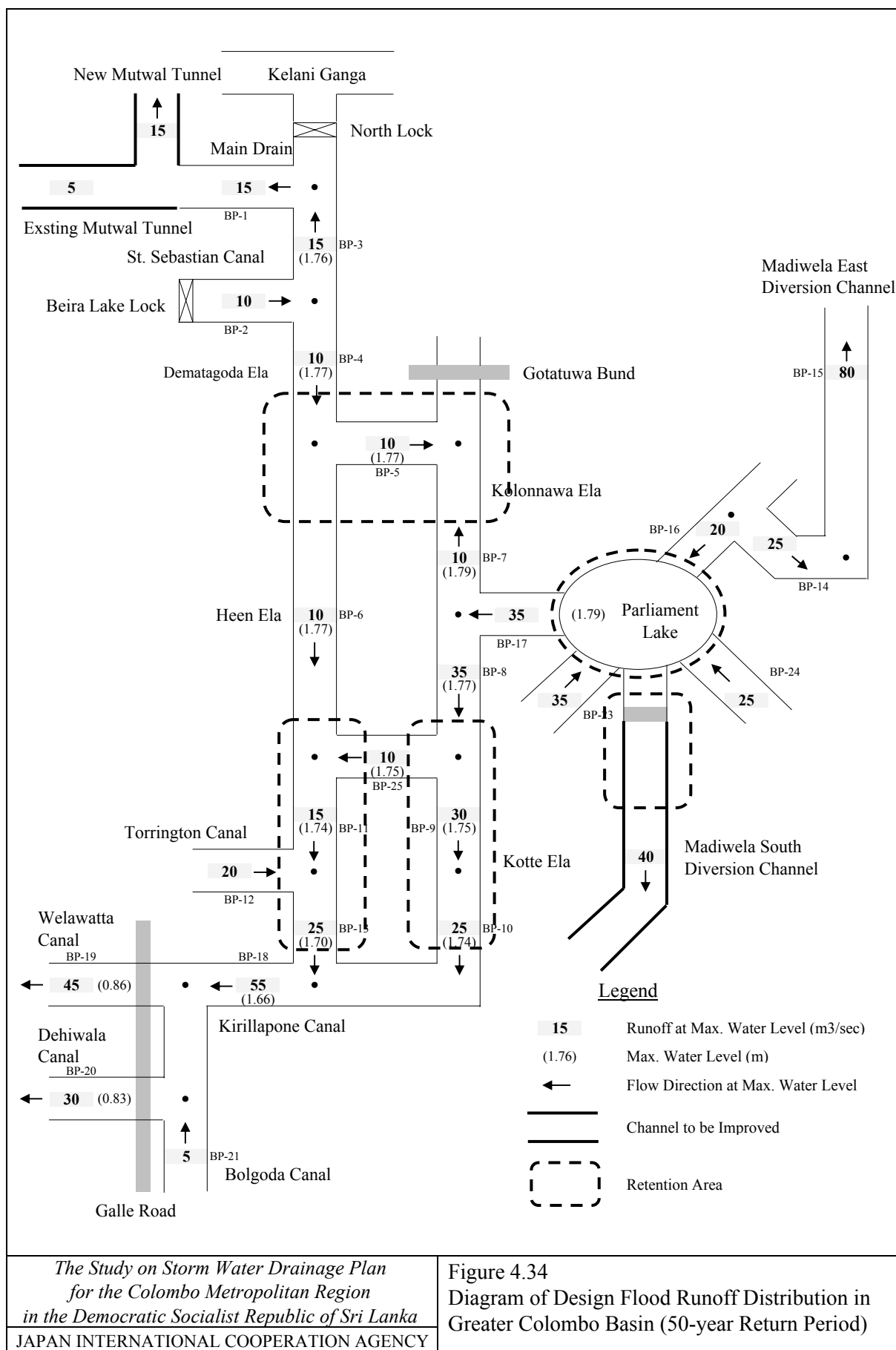


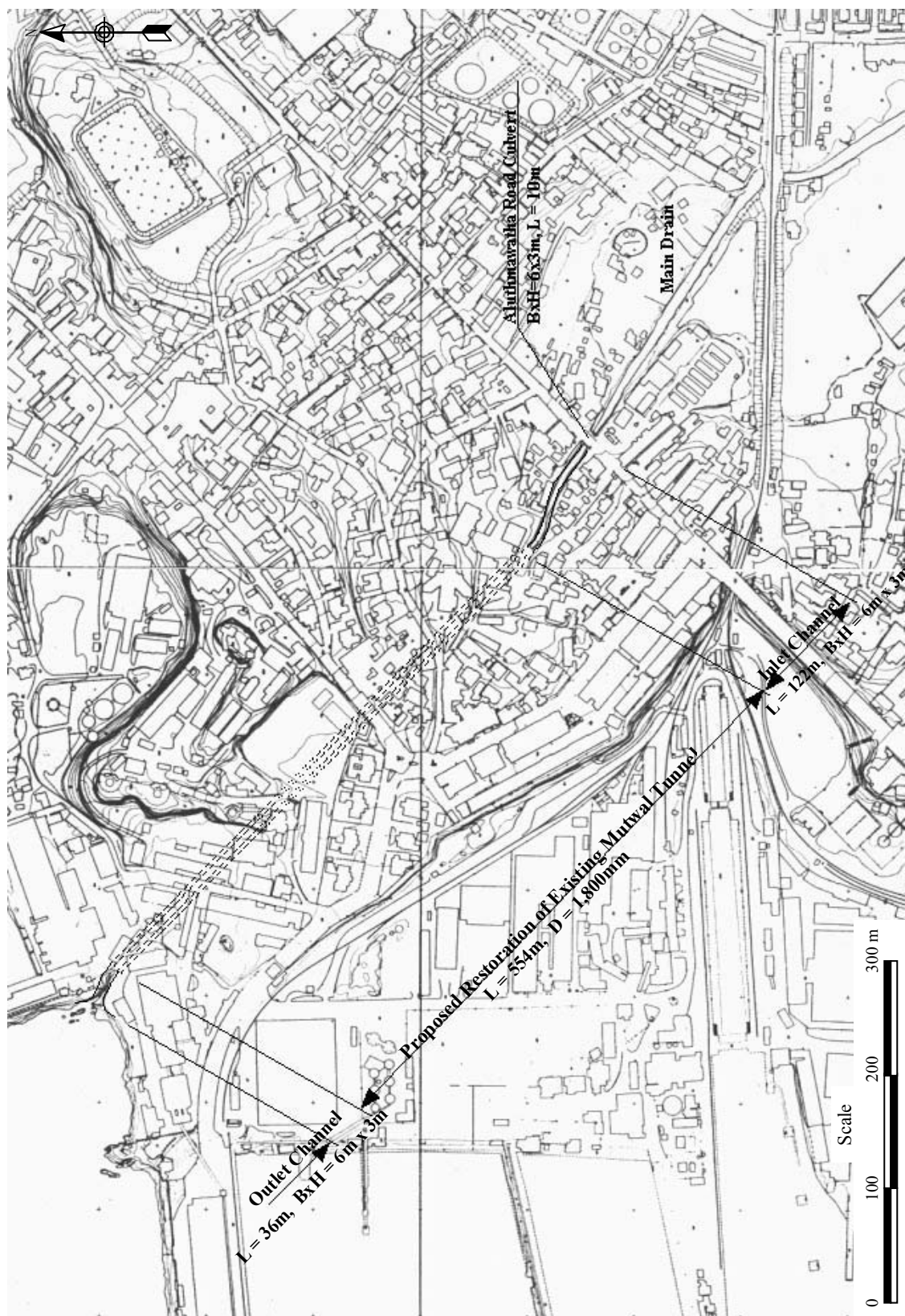
*The Study on Storm Water Drainage Plan
for the Colombo Metropolitan Region
in the Democratic Socialist Republic of Sri Lanka*
JAPAN INTERNATIONAL COOPERATION AGENCY

Figure 4.31
Conceivable Structural Measures for
Greater Colombo Basin



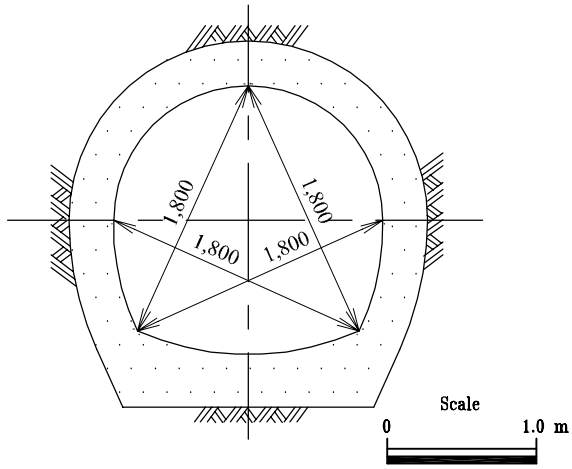


*The Study on Storm Water Drainage Plan
for the Colombo Metropolitan Region
in the Democratic Socialist Republic of Sri Lanka*
JAPAN INTERNATIONAL COOPERATION AGENCY

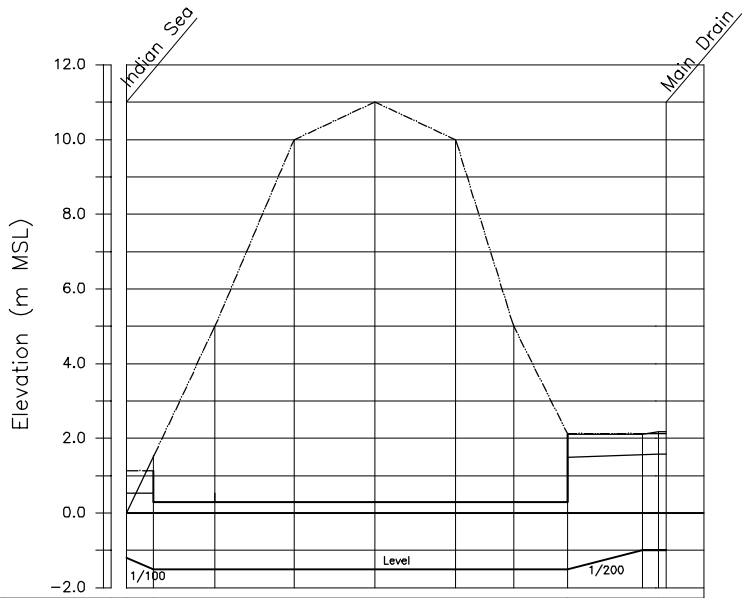


*The Study on Storm Water Drainage Plan
for the Colombo Metropolitan Region
in the Democratic Socialist Republic of Sri Lanka*
JAPAN INTERNATIONAL COOPERATION AGENCY

Figure 4.35
General Plan of Proposed Restoration of
Existing Mutwal Tunnel



Typical Section

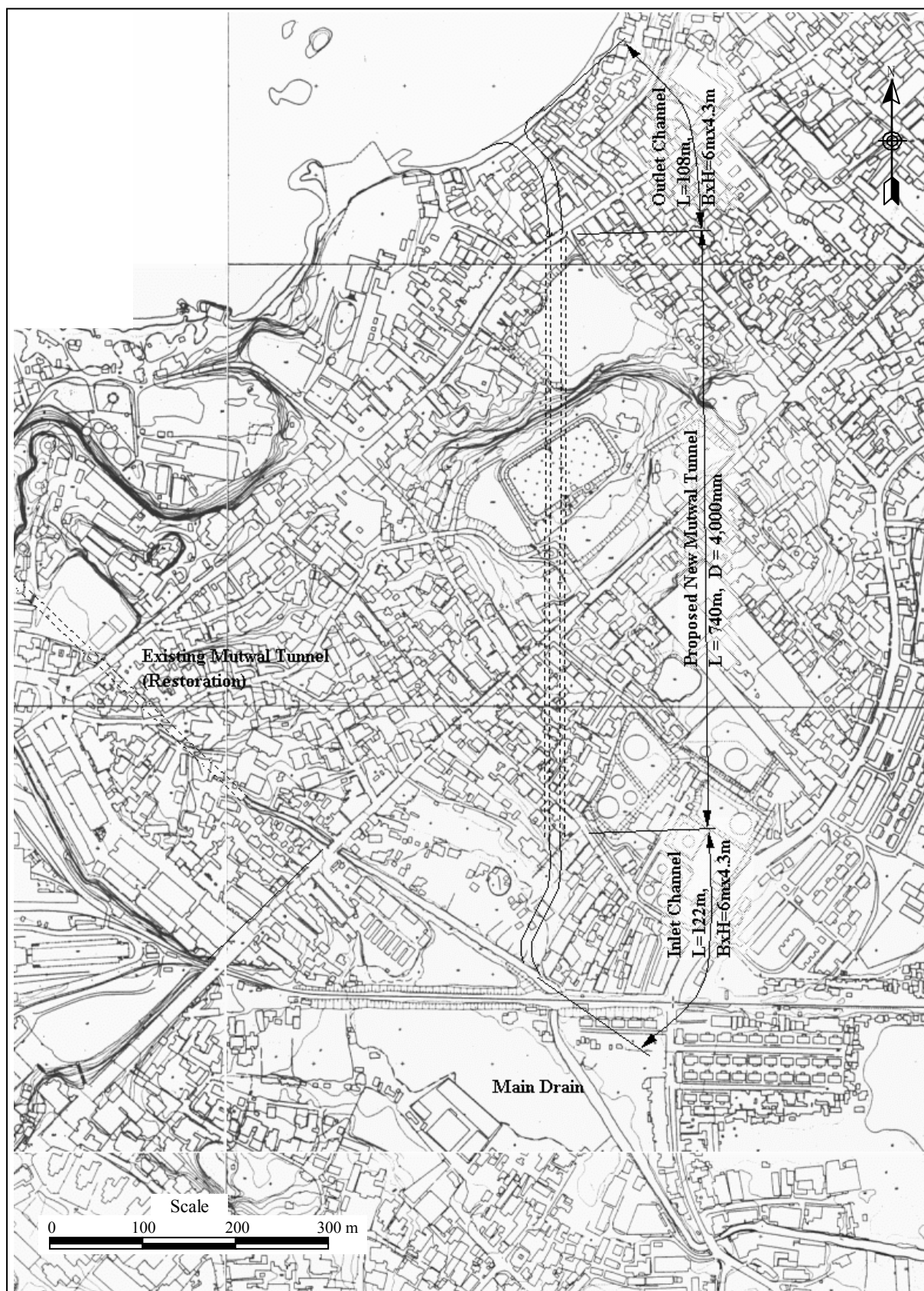


Station	Partial Distance (m)	Accum. Distance (m)	Ground Level (EL. m)	Design			Remark
				Crest of Culvert (EL. m)	Invert Level (EL. m)	H.M.L. (50 year) (EL. m)	
ST 0+000	0	0	0.000	1.134	-1.200	0.534	Outlet Channel
ST 0+036	36	36	1.525	1.137	-1.500	0.537	
ST 0+118	82	118	5.000		-1.500	0.300	
ST 0+224	106	224	10.000		-1.500	0.300	
ST 0+332	108	332	11.000		-1.500	0.300	
ST 0+440	108	440	10.000		-1.500	0.300	
ST 0+518	78	518	5.000		-1.500	0.300	
ST 0+590	72	590	2.000		-1.500	0.300	
ST 0+690	100	690	2.000	2.102	-1.000	1.502	
ST 0+712	22	712	2.000	2.176	-1.000	1.576	
ST 0+722	10	722	2.000	2.176	-1.000	1.576	

The Study on Storm Water Drainage Plan
for the Colombo Metropolitan Region
in the Democratic Socialist Republic of Sri Lanka

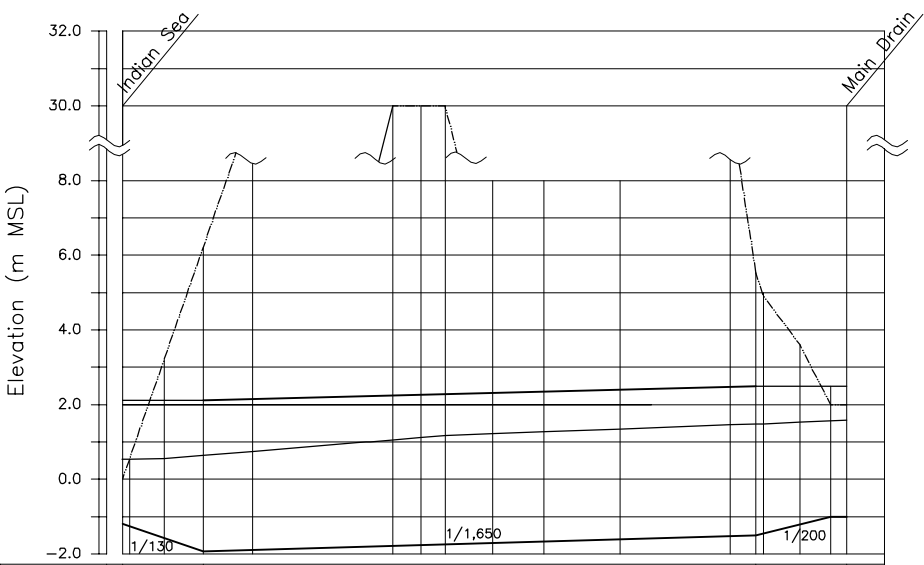
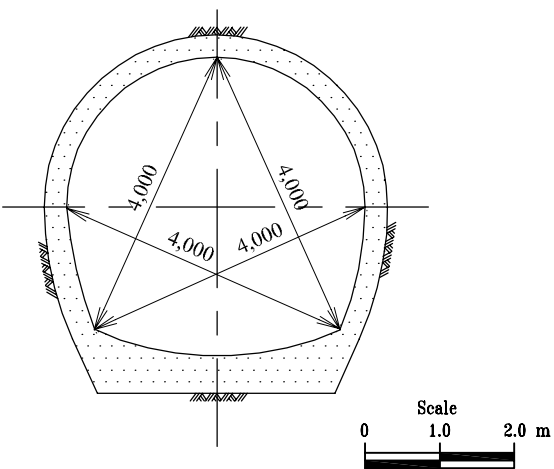
JAPAN INTERNATIONAL COOPERATION AGENCY

Figure 4.36
Longitudinal Profile and Typical Section
of Restoration of Existing Mutwal Tunnel



*The Study on Storm Water Drainage Plan
for the Colombo Metropolitan Region
in the Democratic Socialist Republic of Sri Lanka*
JAPAN INTERNATIONAL COOPERATION AGENCY

Figure 4.37
General Plan of Proposed New Mutwal
Tunnel



Station	Partial Distance (m)	Accum. Distance (m)	Ground Level (EL. m)	Design			Remark
				Crest of Culvert (EL. m)	Invert Level (EL. m)	HWL (50year) (EL. m)	
ST 0+000	0	0	0.000	2.065	-1.200	0.534	Outlet Channel L=108 m
ST 0+010	10	10	0.575	2.065	-1.200	0.534	
ST 0+056	46	56	3.218	2.065	-1.545	0.558	
ST 0+108	52	108	6.207	2.065	-1.933	0.642	
ST 0+174	66	174	10.000		-1.896	0.749	New Mutwal Tunnel Q=20 m ³ /sec, Dia. 4,000 mm, L=740 m
ST 0+362	188	362	30.000		-1.786	1.053	
ST 0+400	38	400	30.000		-1.764	1.114	
ST 0+432	32	432	30.000		-1.745	1.166	
ST 0+496	64	496	25.000		-1.707	1.215	
ST 0+564	68	564	20.000		-1.667	1.267	
ST 0+666	102	666	15.000		-1.607	1.345	
ST 0+814	148	814	10.000		-1.520	1.458	
ST 0+848	34	848	5.526	2.500	-1.500	1.484	
ST 0+865		865	4.916	2.500	-1.463	1.489	
ST 0+907	52	907	3.802	2.500	-1.205	1.529	Inlet Channel L=122 m
ST 0+948	41	948	2.000	2.500	-1.000	1.560	
ST 0+970	22	970	2.000	2.500	-1.000	1.580	

The Study on Storm Water Drainage Plan
for the Colombo Metropolitan Region
in the Democratic Socialist Republic of Sri Lanka

Figure 4.38
Longitudinal Profile and Typical Section
of Proposed New Mutwal Tunnel

JAPAN INTERNATIONAL COOPERATION AGENCY