

NOTE
 SCRAPING & CEMENT MORTAR LINING SHOULD
 BE DONE ONLY FROM THE POINT 'A' TO THE
 B-B ALONG THE 10" DISTRIBUTION MAIN

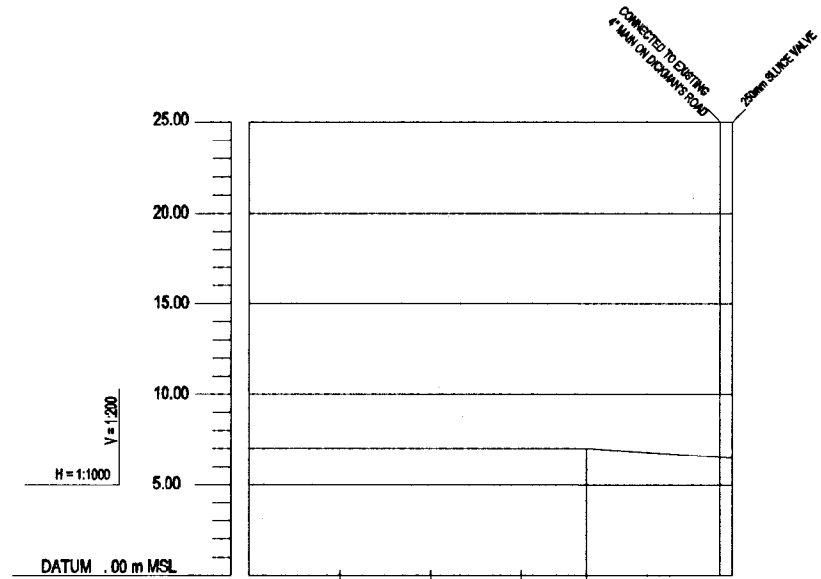
LS ALONG DICKMAN'S ROAD
 CHAINAGE 0.0m - 600.0m

DICKMAN'S ROAD PLAN
 SCALE = 1:1000

DO NOT SCALE

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION DICKMAN'S ROAD
	SHEET 1 OF 2	
DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> BY: TEAM LEADER TEAM LEADER: <i>[Signature]</i>	DRAWN: THARANGA PM (PROV/SAPS) NUMBER: <i>[Signature]</i> A.O.M (P/S) NUMBER: 2.3.2.3 D.S.M (P/S) NUMBER:	DATE: JAN. 2008 CONTRACT NO.: NRW / CW SWS No.: RML/DW/RH-41

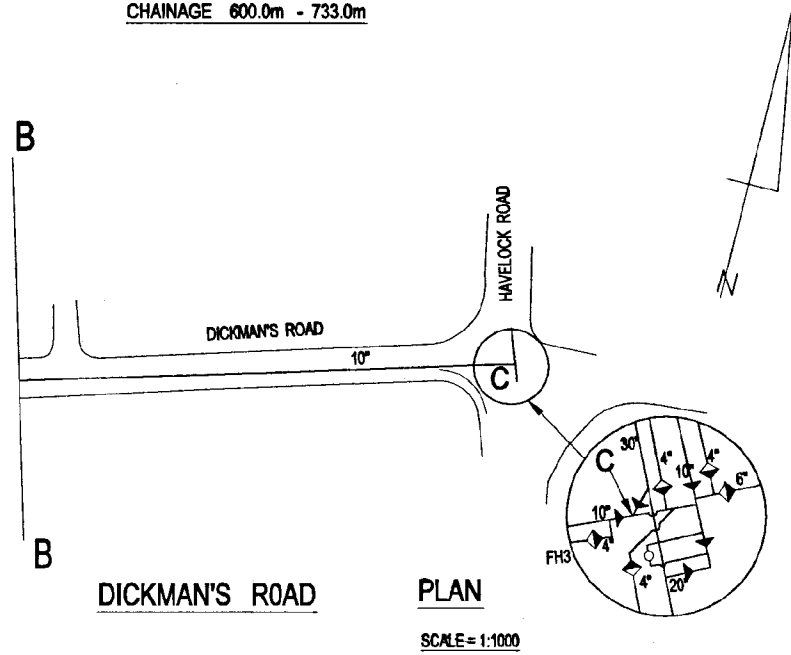
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 STUDY TEAM
 NIHON SUIDO CONSULTANTS CO. LTD.,
 TOKYO, JAPAN




NOTE
 SCRAPING & CEMENT MORTAR LINING SHOULD BE DONE ONLY FROM B-B TO POINT 'C' ALONG THE 10" DIA DISTRIBUTION MAIN

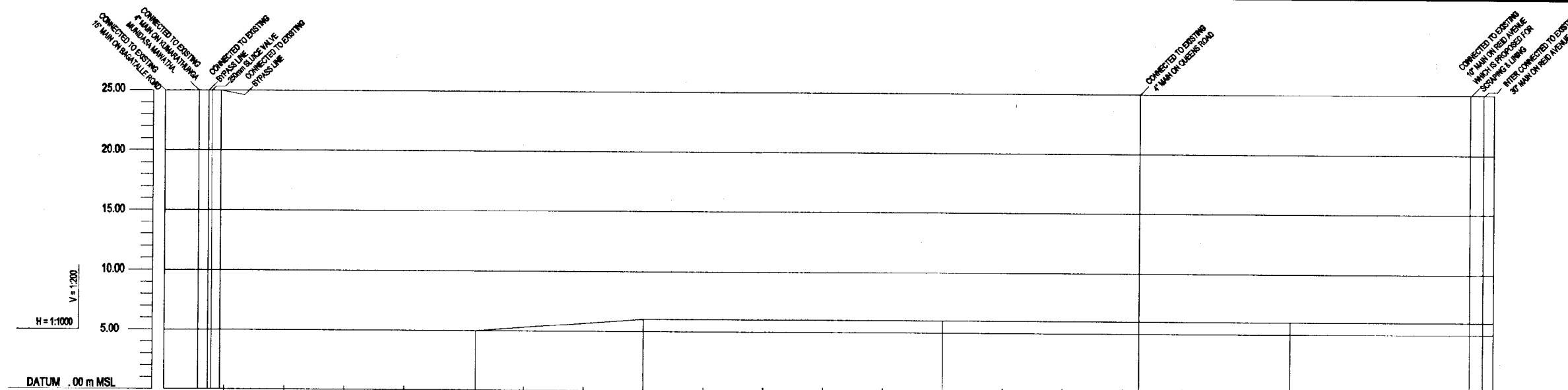
HYDRAULIC GRID LEVEL (m)			
GROUND LEVEL (m)	7.00	7.00	6.50
INVERT LEVEL (m)			
PIPE DETAILS	10" (250 mm) DIA		
CHAINAGE (m)	600.00	683.00	733.00
HORIZONTAL ANGLE (°)			

LS ALONG DICKMAN'S ROAD
 CHAINAGE 600.0m - 733.0m



DO NOT SCALE

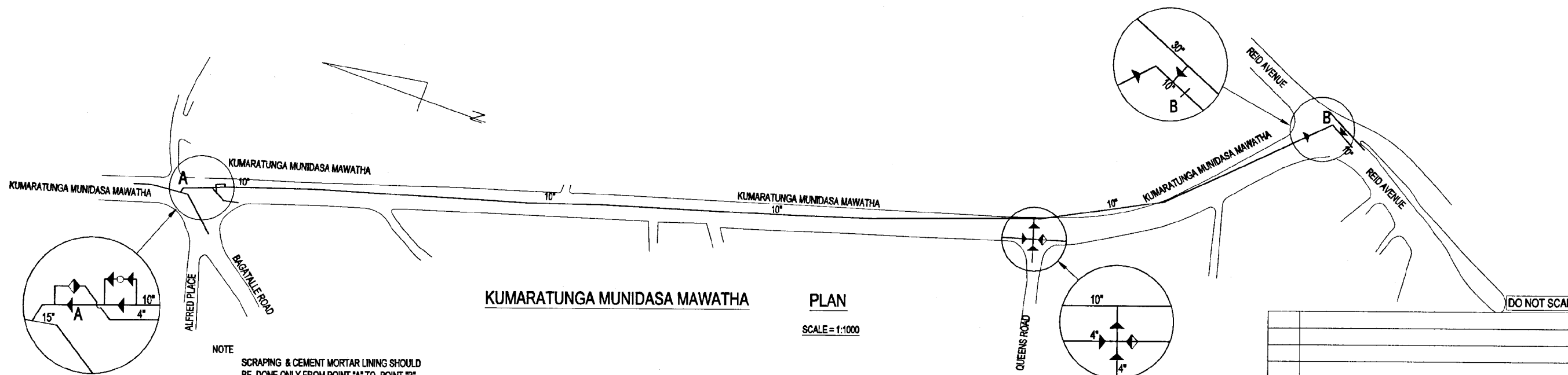
 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION DICKMAN'S ROAD	
	DESIGNER: <i>[Signature]</i>	DRAWN: THARANGA	DATE: JAN. 2008
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN	CHECKED: <i>[Signature]</i>	CONTRACT NO.: NRW / CW	
	DR. TEAM LEADER: <i>[Signature]</i>	A.O.B (P&I) NUMBER: F. D. R. 2	DRG. NO.: RMLDMWRH -42
	TEAM LEADER: <i>[Signature]</i>	D.O.B (P&I) NUMBER:	



HYDRAULIC GRID LEVEL (m)																								
GROUND LEVEL (m)	5.00				5.00												6.00							
INVERT LEVEL (m)																								
PIPE DETAILS	10" (250 mm) DIA																							
CHAINAGE (m)	0.00	25.00	50.00	75.00	100.00	130.00	150.00	175.00	200.00	225.00	250.00	275.00	300.00	325.00	350.00	375.00	400.00	414.00	425.00	450.00	470.00	500.00	525.00	555.00
HORIZONTAL ANGLE (°)																		11.25		11.25				30

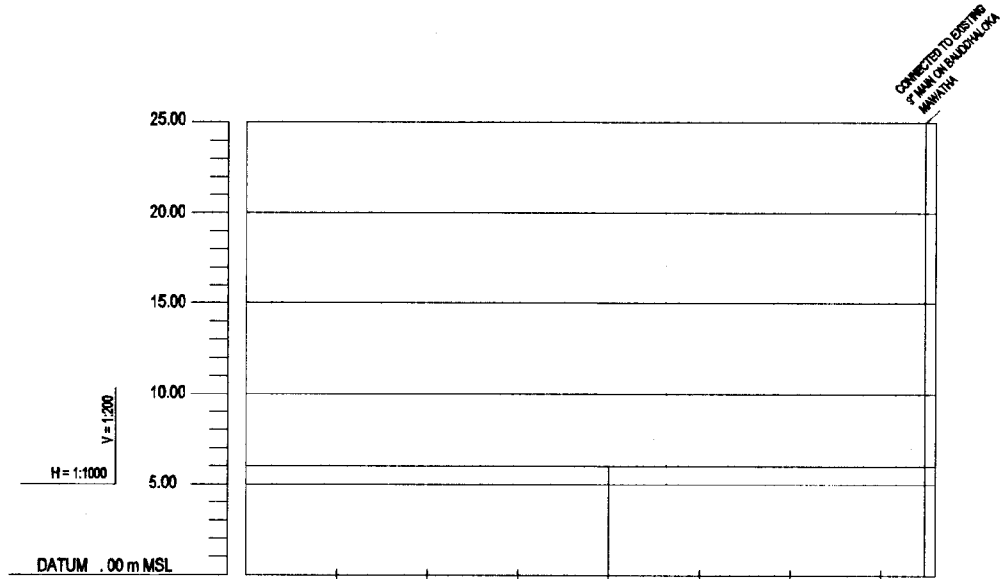
LS ALONG KUMARATUNGA MUNIDASA MAWATHA

CHAINAGE 0.0m - 555.0m



NOTE
SCRAPING & CEMENT MORTAR LINING SHOULD BE DONE ONLY FROM POINT "A" TO POINT "B" ALONG THE 10" DIA DISTRIBUTION MAIN.

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>		<p>TITLE: PLAN & LONGITUDINAL SECTION KUMARATUNGA MUNIDASA MAWATHA</p>	
	<p>DESIGNED: [Signature]</p> <p>CHECKED: [Signature]</p> <p>DR. TEAM LEADER: [Signature]</p> <p>TEAM LEADER: [Signature]</p>	<p>DESIGN: THARANGA</p> <p>PM (NRWSAP) INVOICE: [Signature]</p> <p>A.&M.PWD INVOICE: R.O.A. [Signature]</p> <p>D.&M.PWD INVOICE:</p>	<p>DATE: JUL 2004</p> <p>CONTRACT No: NRW / CW</p> <p>DWG. No: RML/DM/RH -43</p>	

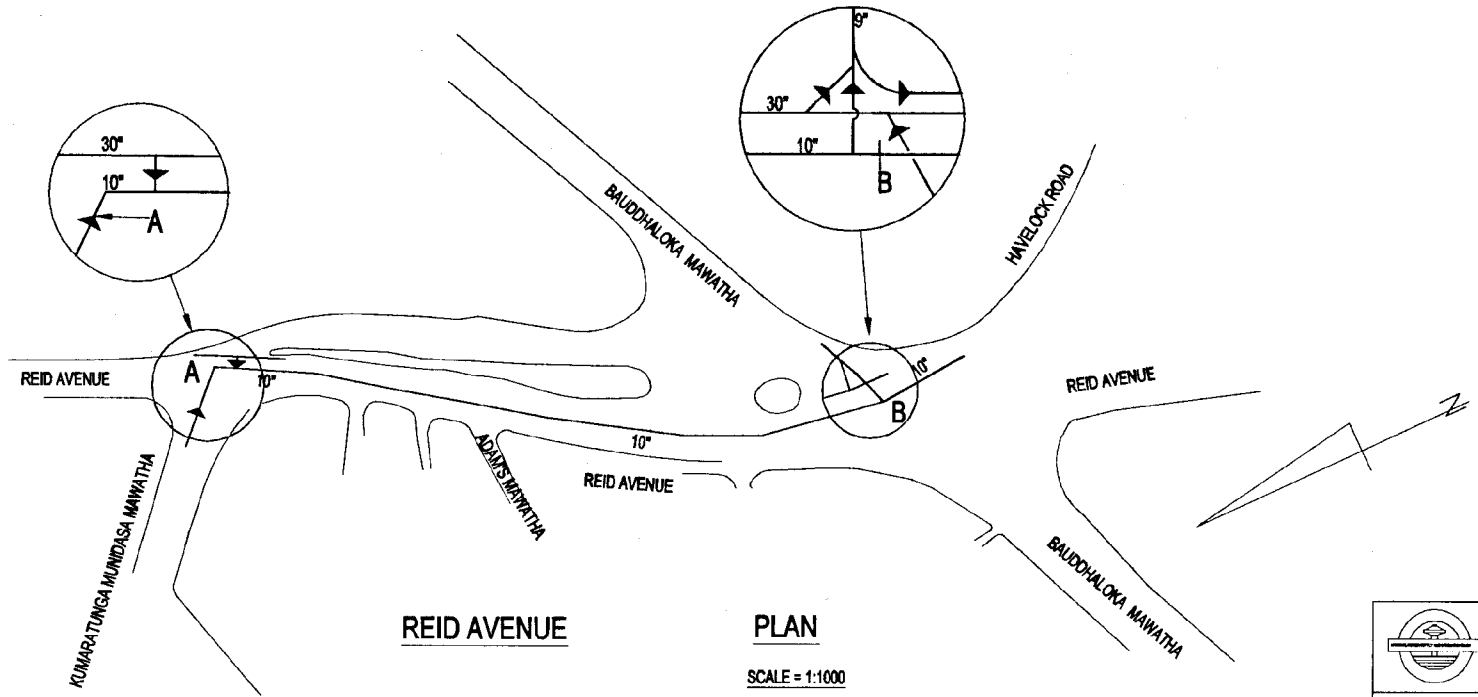


HYDRAULIC GRID LEVEL (m)	
GROUND LEVEL (m)	6.00
INVERT LEVEL (m)	5.00
PIPE DETAILS	10" (250 mm) DIA
CHAINAGE (m)	0.00 25.00 50.00 75.00 100.00 125.00 150.00 175.00 190.00
HORIZONTAL ANGLE (°)	22.5

NOTE
SCRAPING & CEMENT MORTAR LINING SHOULD BE DONE ONLY FROM POINT 'A' TO POINT 'B' ALONG THE 10" DIA DISTRIBUTION MAIN.

LS ALONG SERPENTINE ROAD

CHAINAGE 0.0m - 190.0m




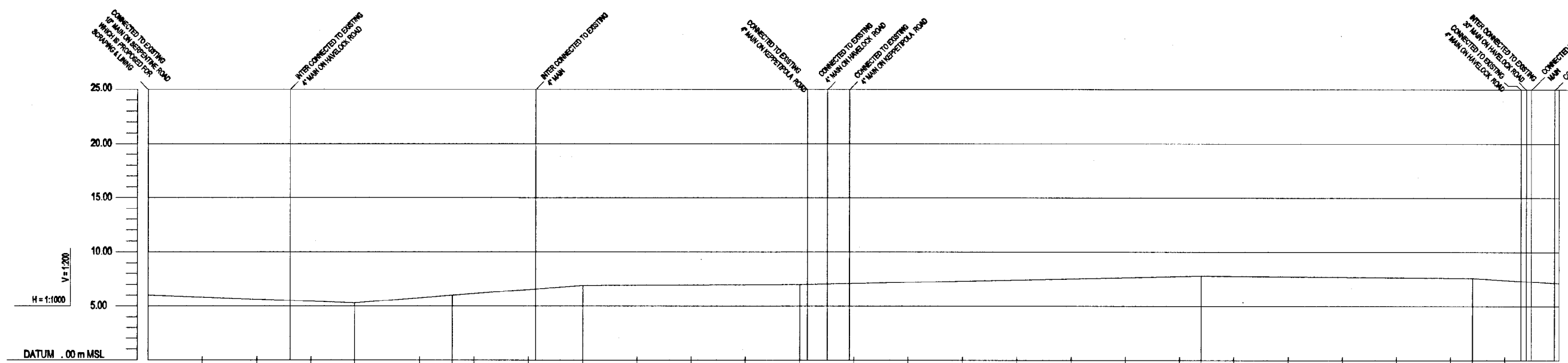
REID AVENUE

PLAN

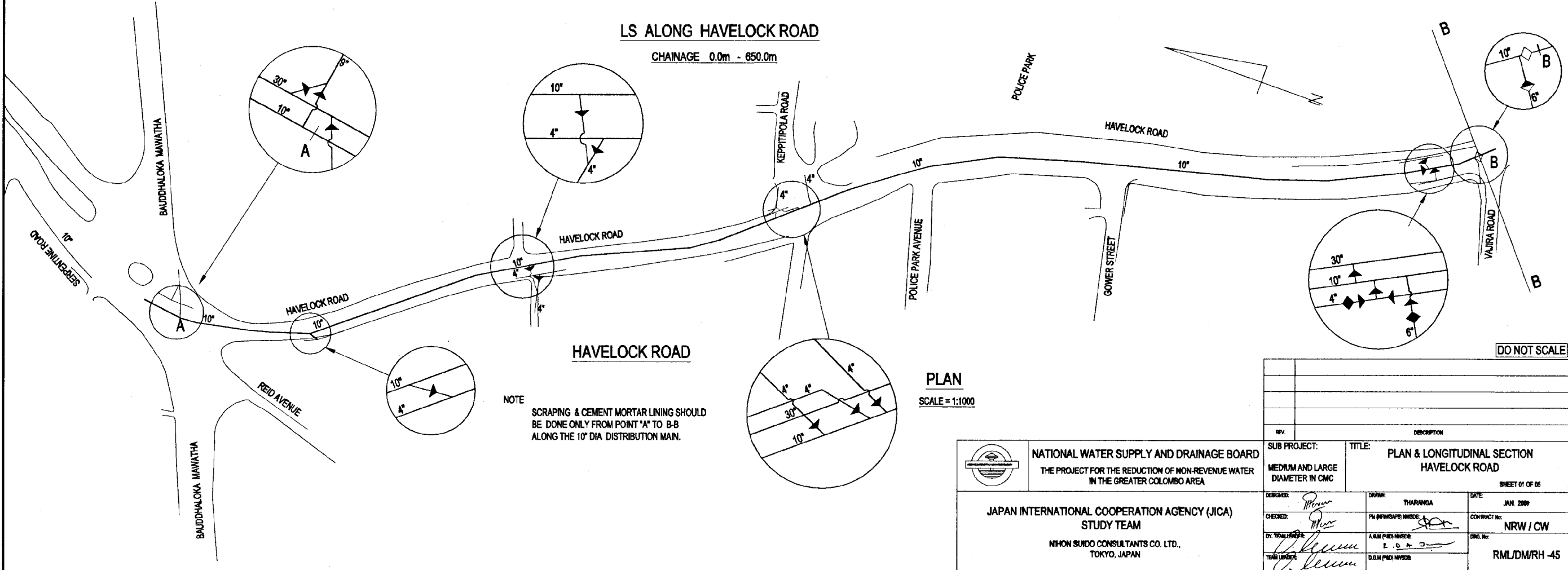
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DO NOT SCALE

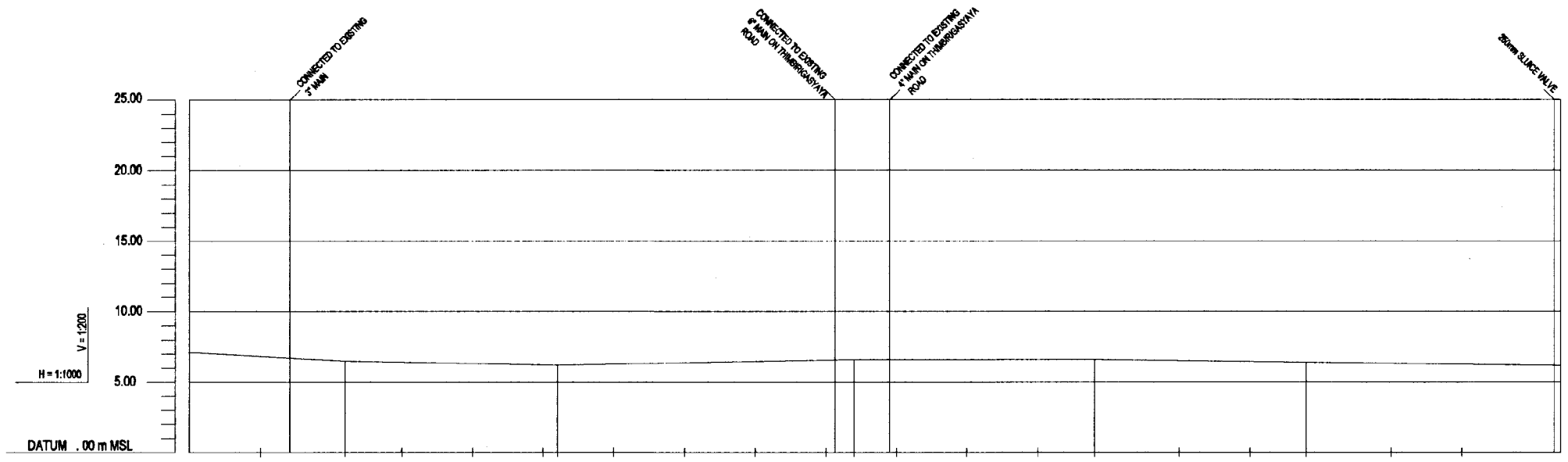
 <p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC		TITLE: PLAN & LONGITUDINAL SECTION REID AVENUE	
	DESIGNED: <i>[Signature]</i>	DR/INC: THARANGA	DATE: JAN. 2008	
	CHECKED: <i>[Signature]</i>	PA (NRW/S&P) INCHG: <i>[Signature]</i>	CONTRACT NO: NRW / CW	
	BY: TEAM LEADER: <i>[Signature]</i>	A.G.M (PRO) INCHG: E. D. A. J.	DRG. NO: RML/DW/RH -44	
<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>		<p>S.G.M (PRO) INCHG:</p>		



HYDRAULIC GRID LEVEL (m)																												
GROUND LEVEL (m)	6.00			5.30			6.00			6.00			7.00			7.00			7.00	7.10								
INVERT LEVEL (m)																												
PIPE DETAILS	10" (250 mm) DIA																											
CHAINAGE (m)	0.00	25.00	50.00	75.00	95.00	125.00	140.00	150.00	175.00	200.00	225.00	250.00	275.00	300.00	325.00	350.00	375.00	400.00	425.00	450.00	475.00	500.00	525.00	550.00	575.00	600.00	625.00	650.00
HORIZONTAL ANGLE (°)				22.5°				22.5°				22.5°				11.25°			11.25°				11.25°				11.25°	



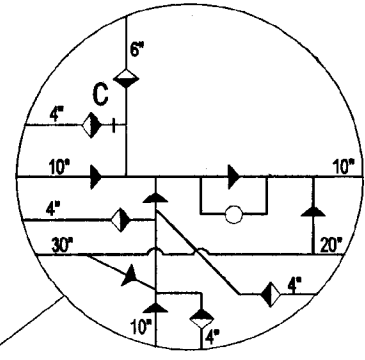
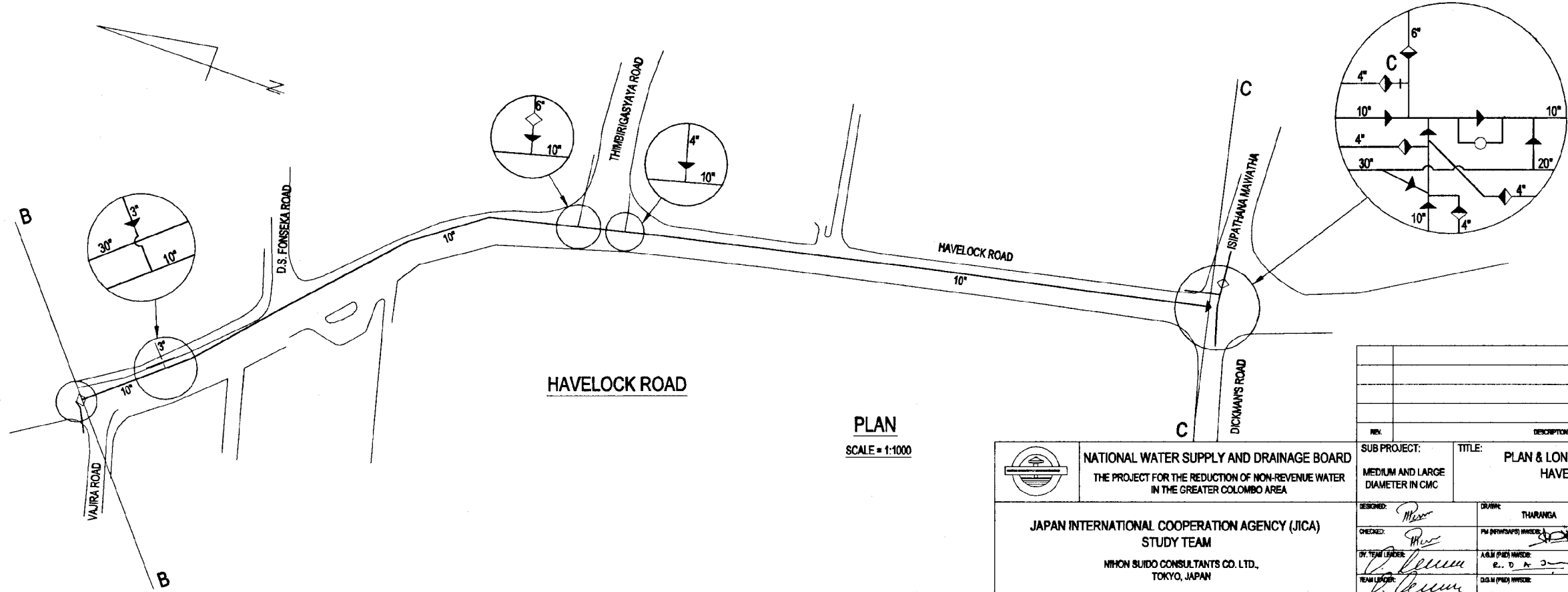
 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC		TITLE: PLAN & LONGITUDINAL SECTION HAVELOCK ROAD	
	DESIGNED: <i>[Signature]</i>		DRAWN: THARANGA	DATE: JAN 2009
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN		CHECKED: <i>[Signature]</i>	APPROVED: <i>[Signature]</i>	CONTRACT No: NRW / CW
		DR. THARANGA	A.G.M. PRADEEPAN	DRG. No: RML/DM/RH-45



NOTE
 SCRAPING & CEMENT MORTAR LINING SHOULD
 BE DONE ONLY FROM B-B TO C-C
 ALONG THE 10" DIA DISTRIBUTION MAIN.

HYDRAULIC GRID LEVEL (m)											
GROUND LEVEL (m)	7.12	6.50	6.20	6.60	6.80	6.20					
INVERT LEVEL (m)											
PIPE DETAILS	10" (250 mm) DIA										
CHAINAGE (m)	650.00	705.00	780.00	800.00	885.00	950.00	970.00	1000.00	1045.00	1135.00	
HORIZONTAL ANGLE (°)		11.25	11.25	22.5							

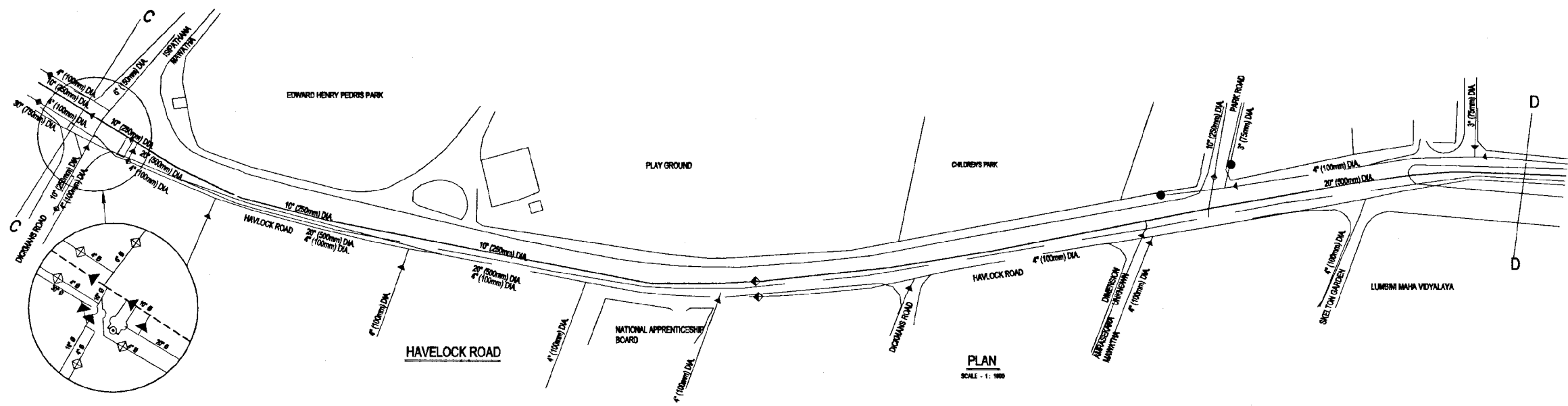
LS ALONG HAVELOCK ROAD
 CHAINAGE 650.0m - 1135.0m



DO NOT SCALE

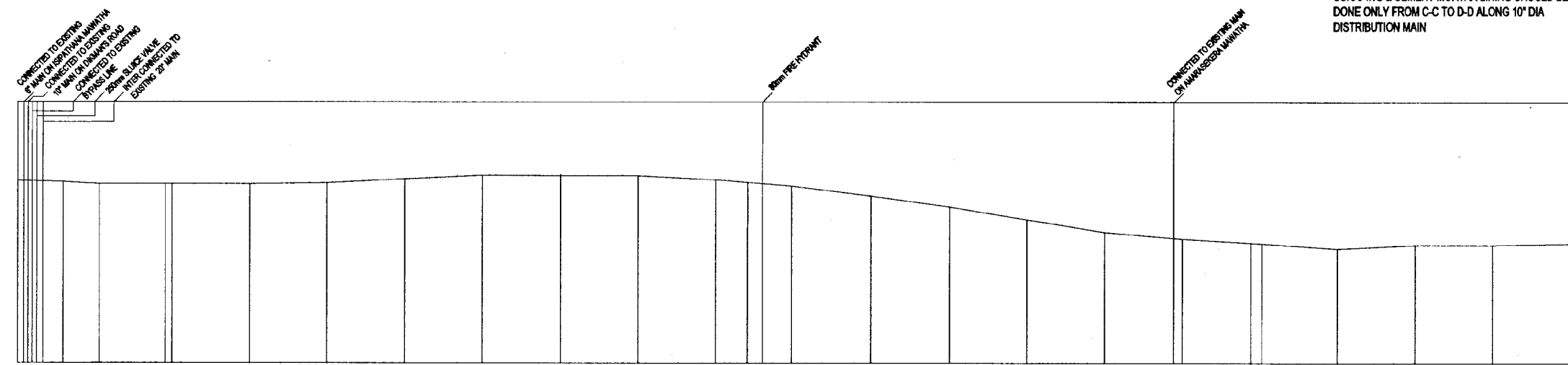
PLAN
 SCALE = 1:1000

 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION HAVELOCK ROAD	SHEET 02 OF 05
	DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> BY TEAM LEADER: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DRAWN: THURANGA PM (NRW/S&P) INCHARGE: <i>[Signature]</i> A&M (P&D) INCHARGE: E. D. A. J. O&M (P&D) INCHARGE: <i>[Signature]</i>	DATE: JUN 2008 CONTRACT NO: NRW / CW



PLAN
SCALE - 1:1000

NOTE :-
SCRAPING & CEMENT MORTAR LINING SHOULD BE DONE ONLY FROM C-C TO D-D ALONG 10\"/>



DATUM 0.0 m ABOVE M.S.L.

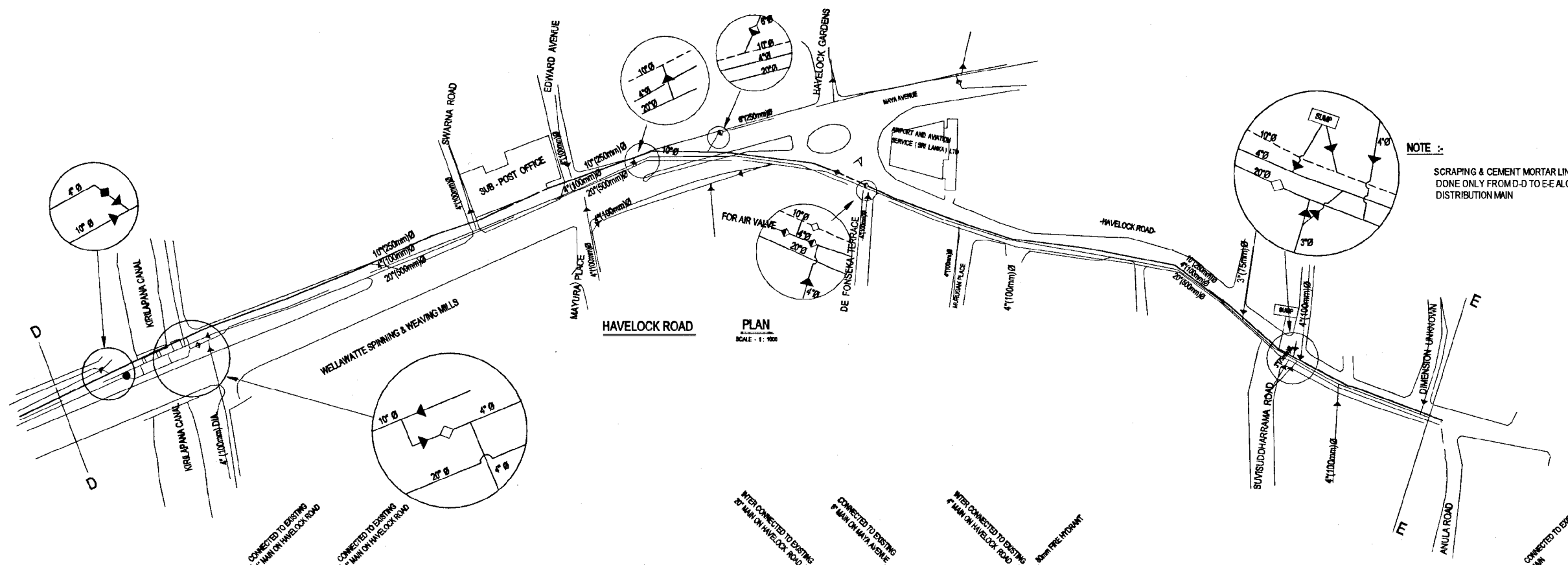
GROUND LEVEL (m)	8.87	8.86	8.79	8.81	8.81	8.88	8.99	7.08	7.12	7.10	8.95	8.76	8.36	5.92	5.42	4.92	4.68	4.93	4.47	4.34	4.39	4.43	4.50		
INVERT LEVEL (m)																									
DIAMETER OF PIPE	10" (250mm) Ø																								
HORIZONTAL DISTANCE	1136	1153	1165	1182	1185	1225	1256	1285	1315	1345	1375	1405	1422	1435	1485	1498	1525	1555	1584	1611	1615	1645	1675	1705	1735
SLOPE																									
HORIZONTAL ANGLES																									

DO NOT SCALE

SCALE
VERTICAL - 1:100
HORIZONTAL - 1:1000

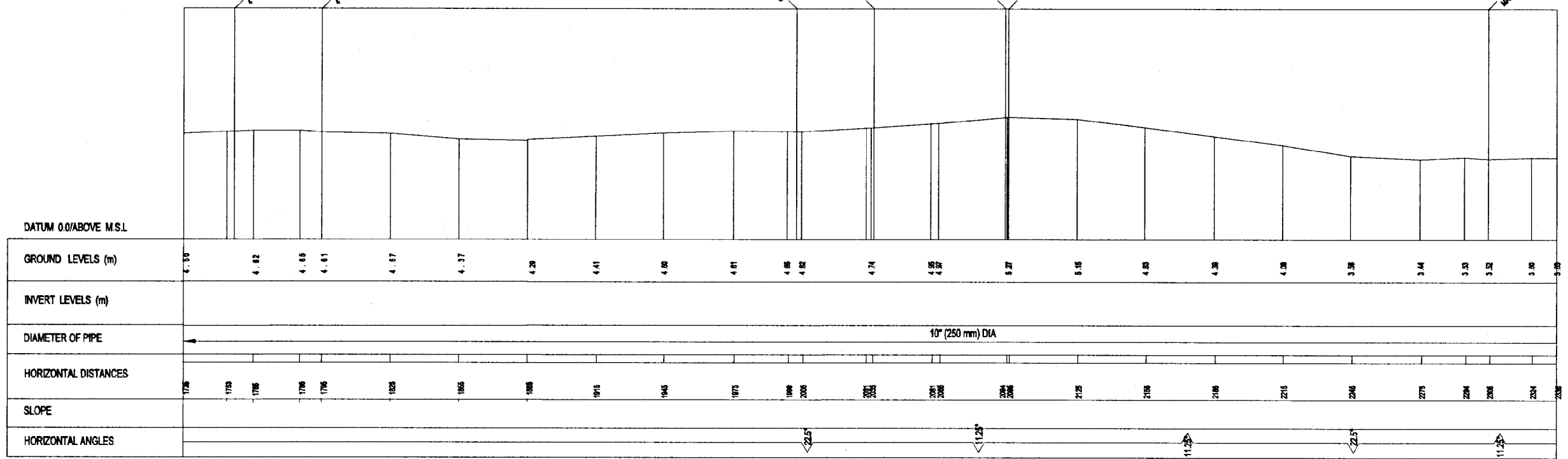
LS ALONG HAVELOCK ROAD
CHAINAGE 1135.0m - 1735.0m

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION HAVELOCK ROAD</p>
	<p>DESIGNED: [Signature]</p> <p>CHECKED: [Signature]</p> <p>DT. TEAM LEADER: [Signature]</p> <p>TEAM LEADER: [Signature]</p>	<p>DATE: JAN. 2008</p> <p>CONTRACT No: NRW / CW</p> <p>DWG. No: RML/DWRH - 47</p>



NOTE :-
 SCRAPING & CEMENT MORTAR LINING SHOULD BE DONE ONLY FROM D-D TO E-E ALONG 10" DIA DISTRIBUTION MAIN

PLAN
 SCALE - 1 : 100

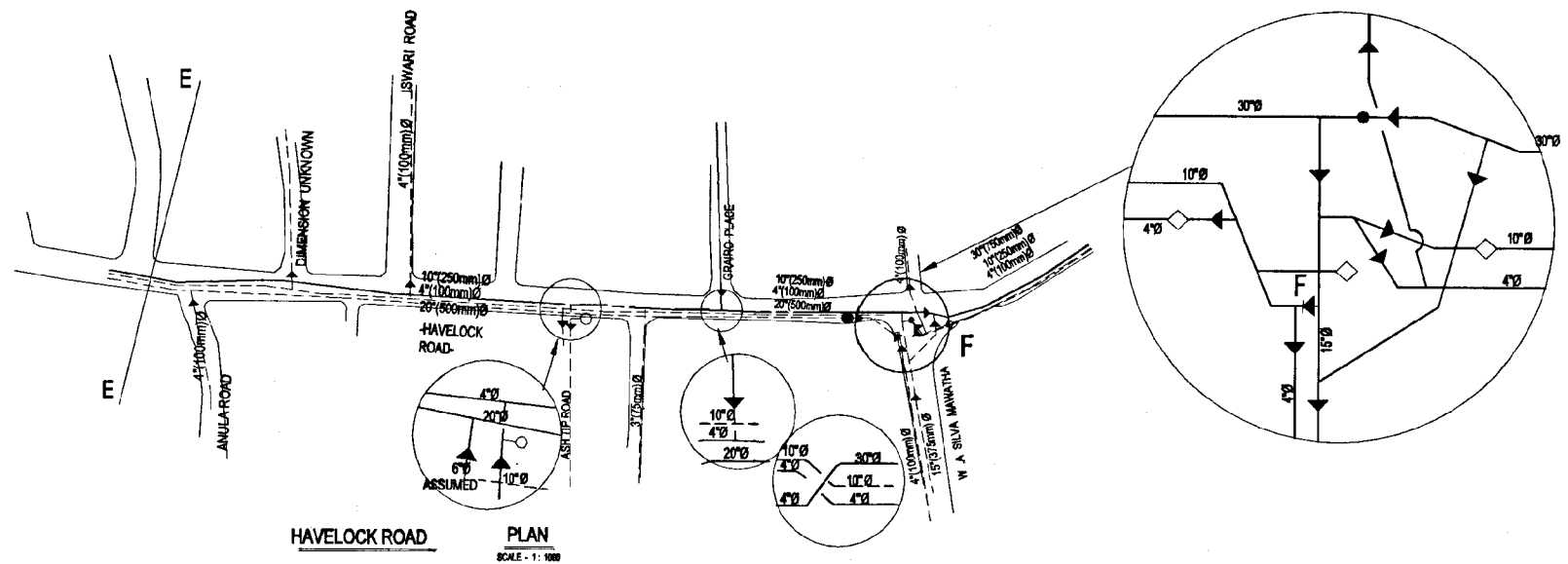


LS ALONG HAVELOCK ROAD
 CHAINAGE 800.0m - 1200.0m

SCALE :-
 VERTICAL - 1 : 100
 HORIZONTAL - 1 : 100

DO NOT SCALE

	NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION HAVELOCK ROAD
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIKON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN	DESIGNER: 	DRAWN: THARANGA
		CHECKED: 	CONTRACT NO.: NRW / CW
		DIV. TEAM LEADER: 	DRG. NO.: RMDM/RH - 48
		TEAM LEADER: 	D.G.M (P&I) NUMBER:



HAVELock ROAD PLAN
SCALE - 1: 100

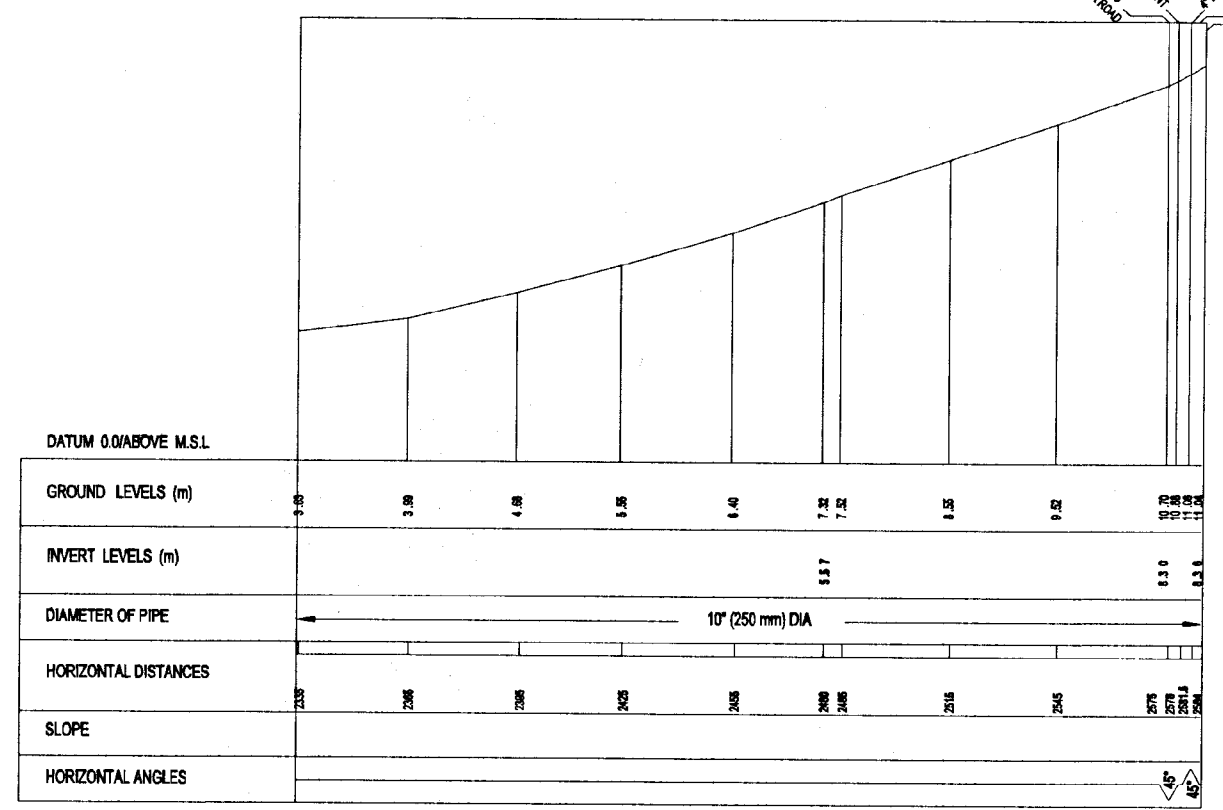
CONNECTED TO EXISTING
4" MAIN ON HAVELock ROAD

MAN PILE IN DRAIN
4" MAIN ON W. A. SELVA MANIATH

CONNECTED TO EXISTING
20" BLUE VALVE

CONNECTED TO EXISTING
15" MAIN ON W. A. SELVA MANIATH


NOTE :-
SCRAPING & CEMENT MORTAR LINING SHOULD BE
DONE ONLY FROM E-E TO POINT 'F' ALONG 10" DIA
DISTRIBUTION MAIN

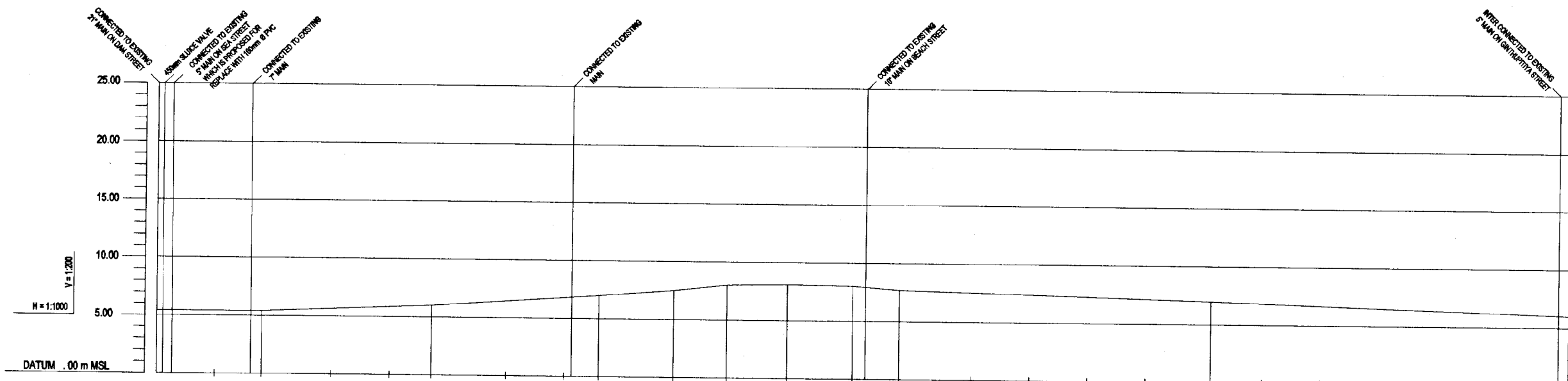


LS ALONG HAVELock ROAD
CHAINAGE 1200.0m - 1449.0m

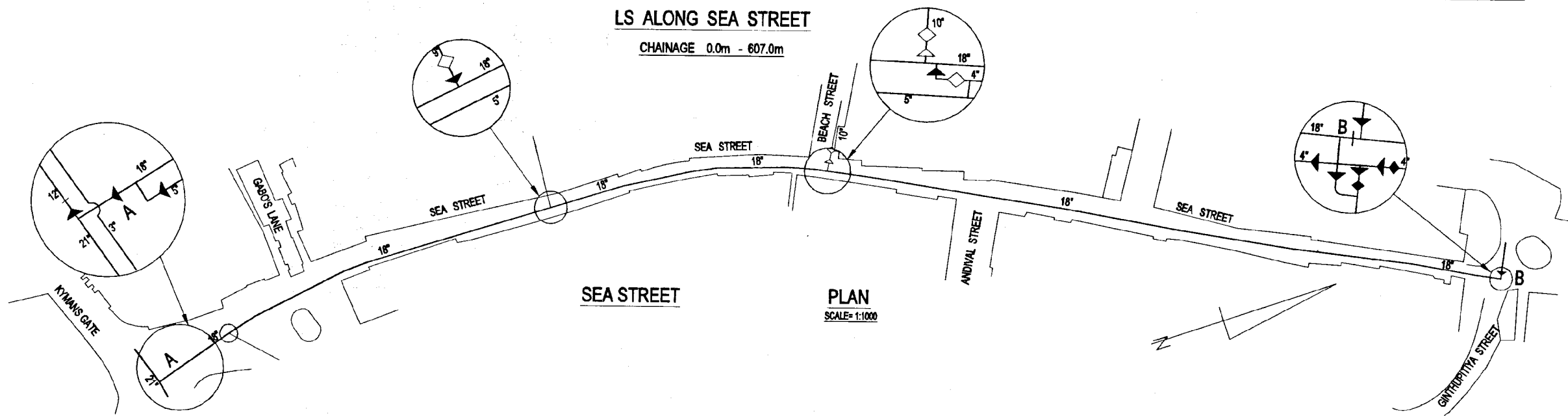
SCALE -
VERTICAL - 1: 100
HORIZONTAL - 1: 100

DO NOT SCALE

 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION HAVELock ROAD	SHEET 06 OF 05
	DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> DT. TEAM LEADER: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DRAWN: THARANGA PM (PWS&D) BOARD: <i>[Signature]</i> A.E.M. (PWS) INCHARGE: <i>[Signature]</i> D.E.M. (PWS) INCHARGE:	DATE: JAN. 2004 CONTRACT NO.: NRW / CW DRG. NO.: RML/DWRH - 49



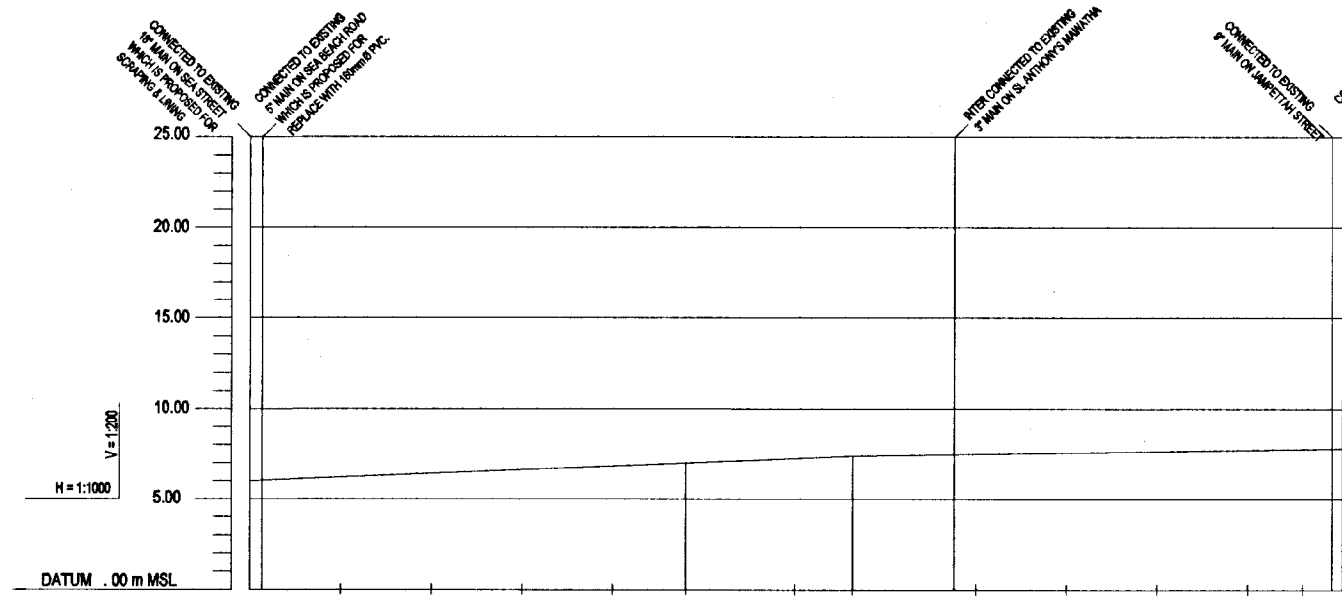
HYDRAULIC GRID LEVEL (m)															
GROUND LEVEL (m)	5.40	5.40	6.00	7.00	7.50	8.00	8.10	8.00	7.70					7.00	6.00
INVERT LEVEL (m)															
PIPE DETAILS	18" (450 mm) DIA														
CHAINAGE (m)	0.00	46.00	118.00	190.00	222.00	245.00	271.00	299.00	319.00	400.00	433.00	500.00	600.00	607.00	607.00
HORIZONTAL ANGLE (°)		11.2°	11.2°		1.2°			11.2°							



NOTE
 SCRAPING & CEMENT MORTAR LINING SHOULD BE DONE ONLY FROM POINT "A" TO POINT "B" ALONG THE 18" DIA DISTRIBUTION MAIN.

DO NOT SCALE

NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA		SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION SEA STREET
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIKON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN		DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> DR. TEAM LEADER: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DRAWN: THURANGA PM (INTEGRATED) INCHARGE: <i>[Signature]</i> A&M (P&S) INCHARGE: <i>[Signature]</i> D.O.M (P&S) INCHARGE: <i>[Signature]</i> DATE: JAN. 2009 CONTRACT No: NRW / CW DRL No: RML/DMRH-50

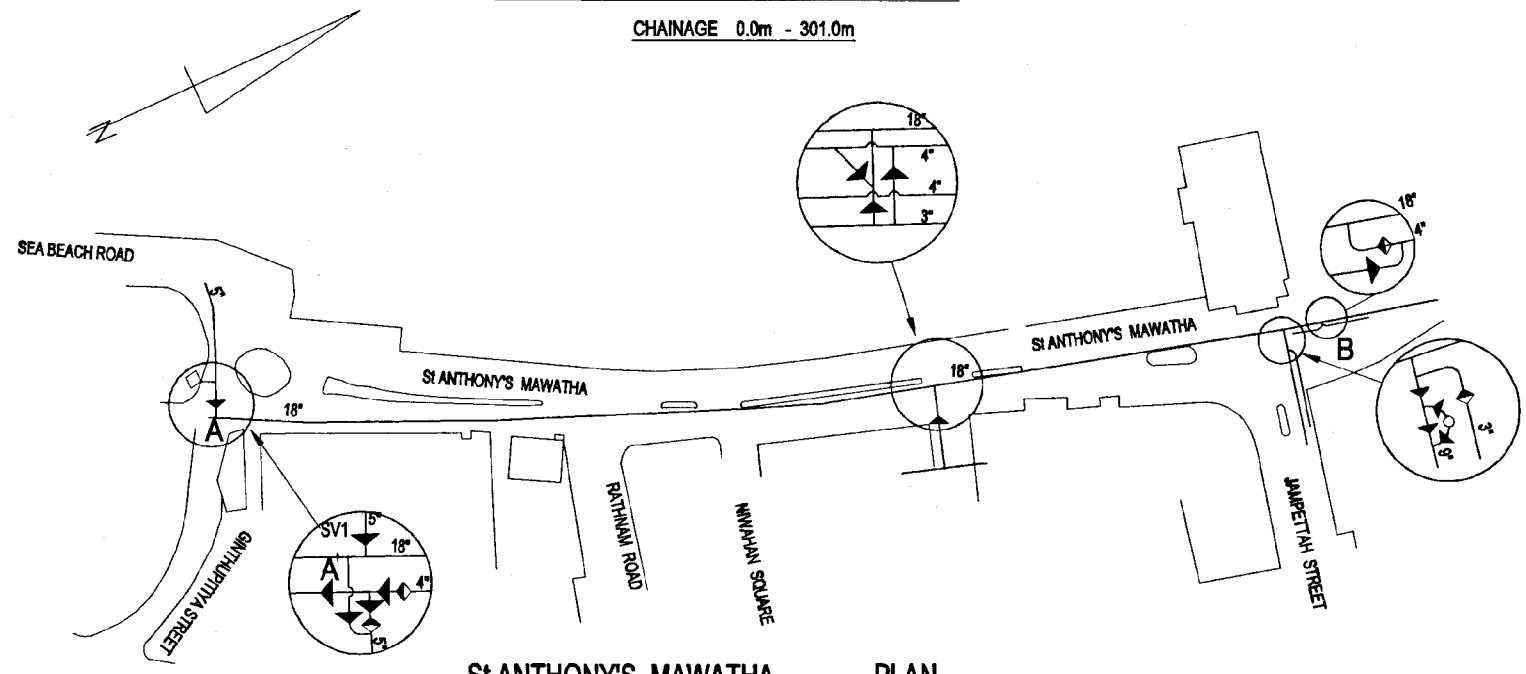


NOTE
 SCRAPING & CEMENT MORTAR LINING SHOULD
 BE DONE ONLY FROM POINT 'A' TO POINT 'B'
 ALONG THE 18" DIA DISTRIBUTION MAIN.

HYDRAULIC GRID LEVEL (m)					
GROUND LEVEL (m)	6.00	7.00	7.40		7.80
INVERT LEVEL (m)	-----				
PIPE DETAILS	← 18" (450mm) DIA LINE →				
CHAINAGE (m)	0.00	100.00	120.00	150.00	180.00
HORIZONTAL ANGLE (°)	-----				

LS ALONG St ANTHONY'S MAWATHA

CHAINAGE 0.0m - 301.0m

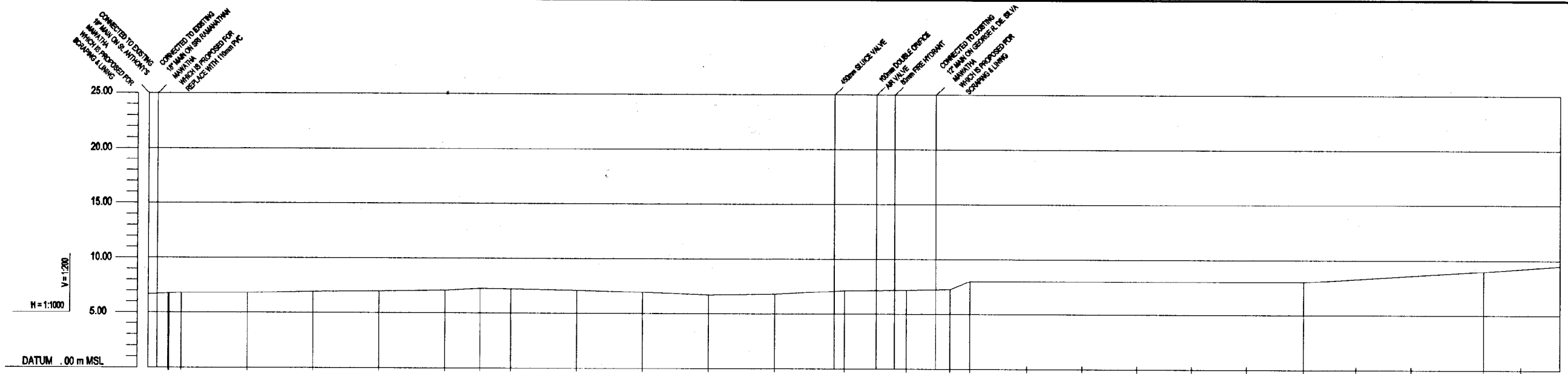


St ANTHONY'S MAWATHA

PLAN
 SCALE= 1:1000

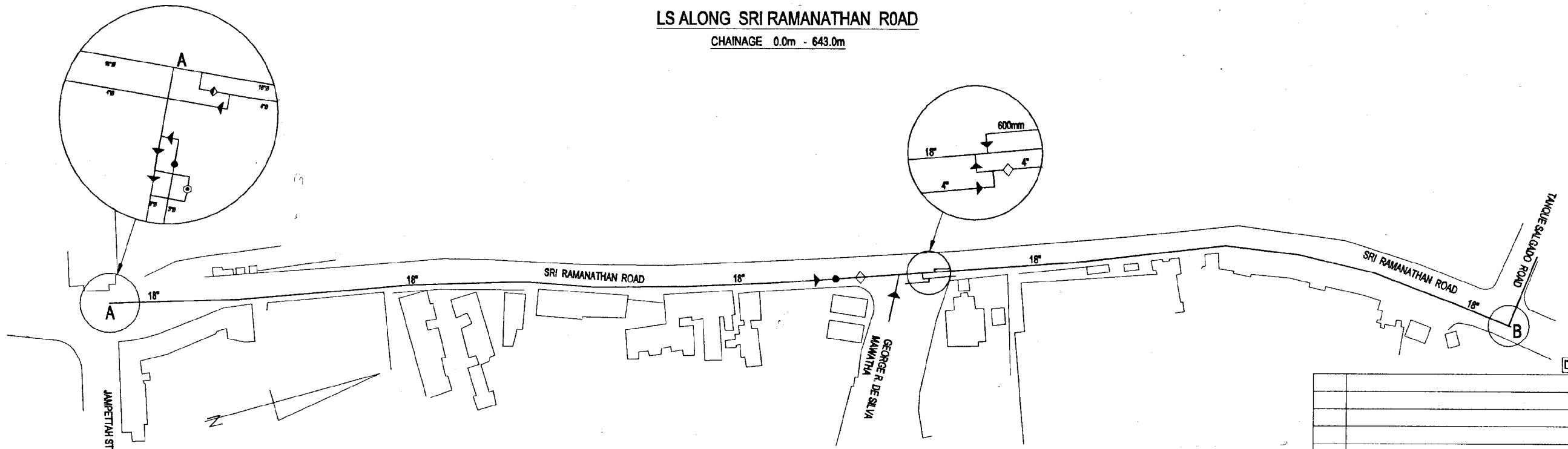
DO NOT SCALE

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN AND LONGITUDINAL SECTION SLANTHONY'S MAWATHA</p>
	<p>DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> IN CHARGE: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i></p>	<p>DESIGNER: THARANGA A.S.M. PWD NRSR: <i>[Signature]</i> D.A.M. PWD NRSR: <i>[Signature]</i></p>




HYDRAULIC GRID LEVEL (m)																														
GROUND LEVEL (m)	6.86	6.74	6.73	6.80		6.76		6.84		7.00	7.06	7.23	7.21		7.11		6.92	6.70	6.78	7.14	7.28	7.27	8.00		8.00		9.00	9.56		
INVERT LEVEL (m)																														
PIPE DETAILS	18" (450 mm) DIA																													
CHAINAGE (m)	0.00	9.00	9.50	15.00		45.00		75.00		105.00	135.00	151.00	166.00		196.00		225.00	255.00	265.00	317.00	345.00	365.00	374.00		400.00		500.00	526.00	600.00	643.00
HORIZONTAL ANGLE (°)																														

LS ALONG SRI RAMANATHAN ROAD
CHAINAGE 0.0m - 643.0m

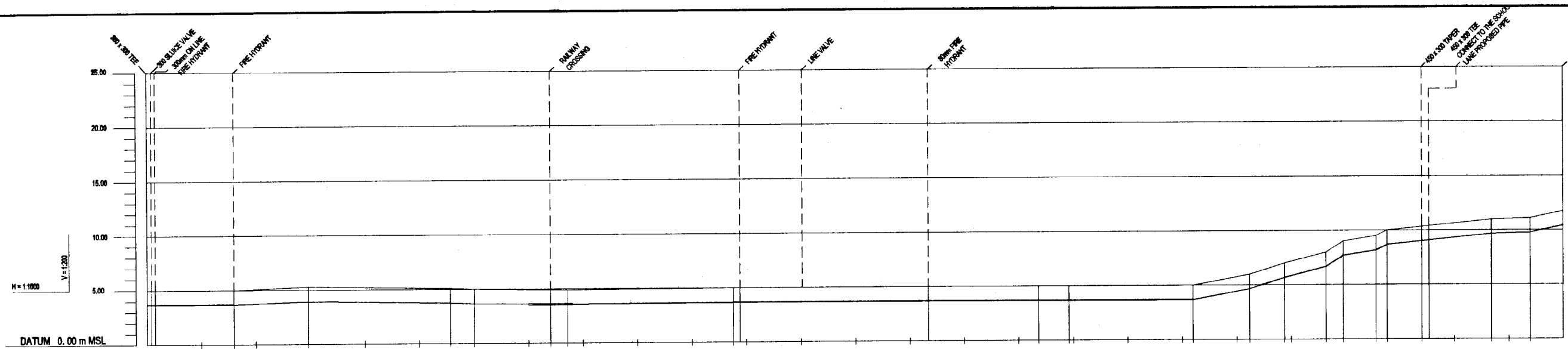


SRI RAMANATHAN ROAD PLAN
SCALE = 1:1000

NOTE
SCRAPING & CEMENT MORTAR LINING SHOULD BE DONE ONLY FROM POINT "A" TO POINT "B" ALONG THE 18" DIA DISTRIBUTION MAIN.

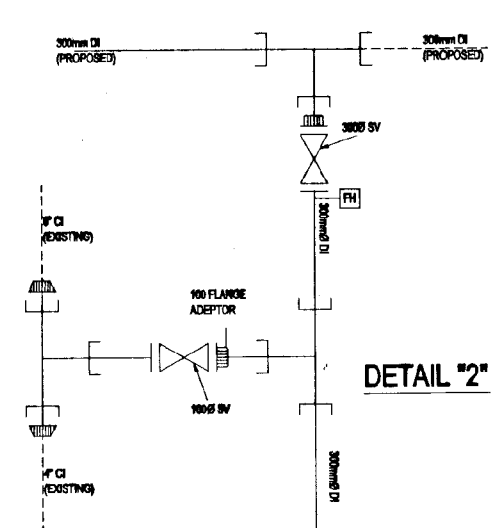
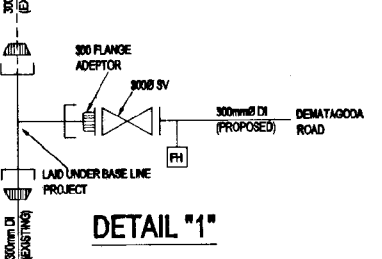
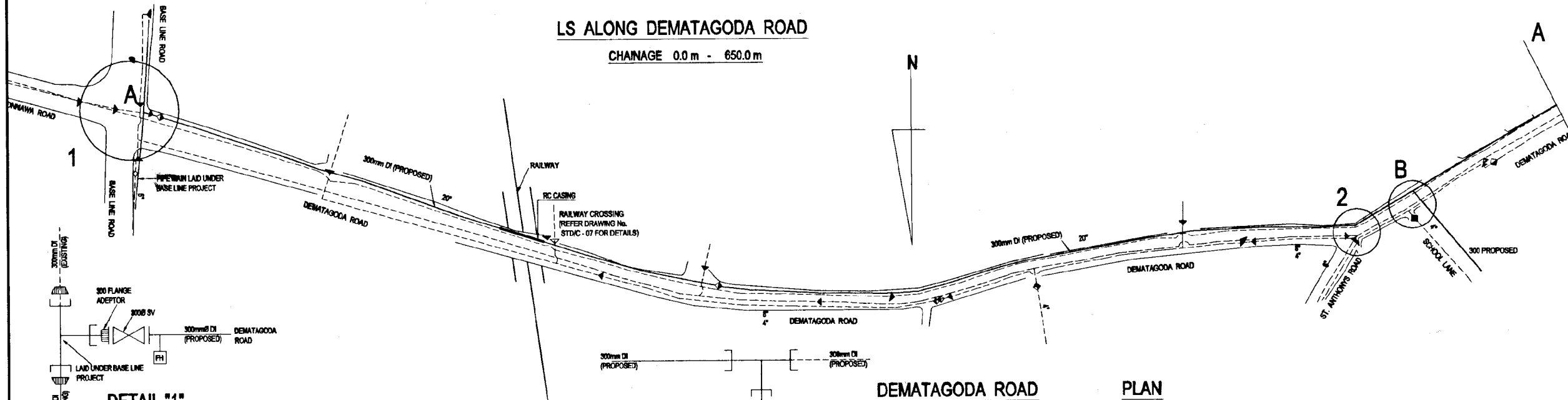
 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC		TITLE: PLAN & LONGITUDINAL SECTION SRI RAMANATHAN MAWATHA	
	DESIGNED: <i>[Signature]</i>		DATE: JUL 2008	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIKON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN		CHECKED: <i>[Signature]</i>	PM (NWS&D) OFFICE: <i>[Signature]</i>	CONTRACT NO.: NRW / CW
		BY: TEAM LEADER: <i>[Signature]</i>	A.S.M (P&E) NUMBER: <i>[Signature]</i>	DRG. NO.: RML/DWRH -52
		TEAM LEADER: <i>[Signature]</i>	D.A.M (P&E) NUMBER:	

DO NOT SCALE



	0.00	25.00	40.00	50.00	64.00	74.00	100.00	125.00	139.00	150.00	175.00	185.00	195.00	200.00	225.00	250.00	269.00	277.00	300.00	320.00	350.00	371.00	400.00	409.00	423.00	434.00	450.00	475.00	480.00	500.00	500.00	520.00	541.00	546.00	564.00	580.00	600.00	617.00	625.00	635.00	650.00							
GROUND LEVEL (m)	5.00	5.00	5.30	5.10	5.00	4.80	5.00	5.10	5.00	4.80	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00					
INVERT LEVEL (m)	3.97	3.67	3.97	3.77	3.67	3.57	3.67	3.77	3.67	3.57	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67				
PIPE DETAILS	300mm DIA PIPE																											450mm DIA PIPE																				
CHAINAGE (m)	0.00 25.00 40.00 50.00 64.00 74.00 100.00 125.00 139.00 150.00 175.00 185.00 195.00 200.00 225.00 250.00 269.00 277.00 300.00 320.00 350.00 371.00 400.00 409.00 423.00 434.00 450.00 475.00 480.00 500.00 500.00 520.00 541.00 546.00 564.00 580.00 600.00 617.00 625.00 635.00 650.00																																															
HORIZONTAL ANGLE (°)	0.00 22.5 22.5 11.25 22.5 22.5 22.5																																															

LS ALONG DEMATAGODA ROAD
CHAINAGE 0.0 m - 650.0 m



NOTE:
FOR GENERAL DETAILS REFER DRAWING NO. RML/DW/G2.
RAILWAY CROSSING REFER DRAWING NO. STD/C-07 FOR SINGLE TRACK CROSSING.
NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM POINT A TO POINT B, AND POINT B TO SECTION A-A 450mm Ø DI.

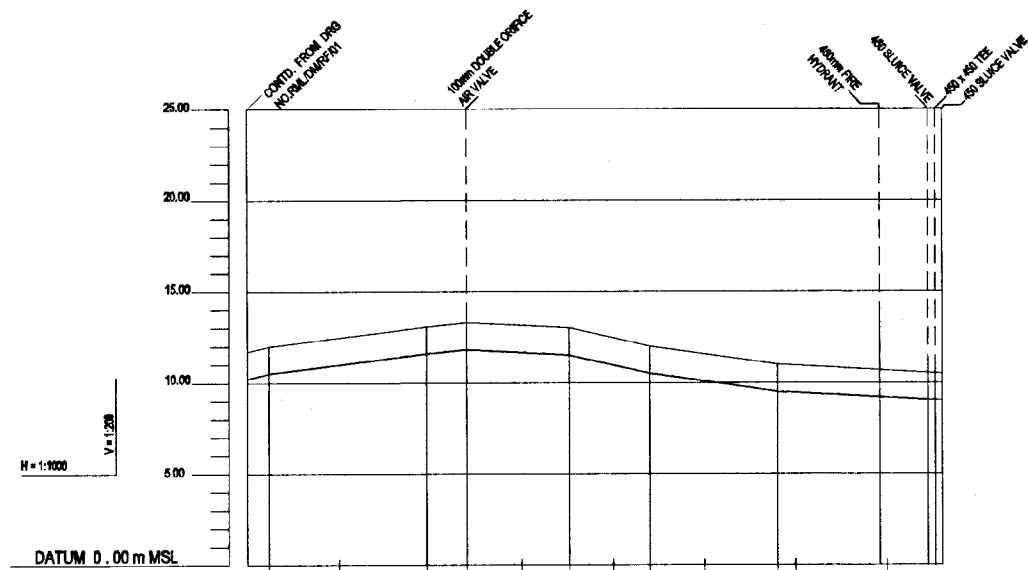
DEMATAGODA ROAD PLAN
SCALE = 1:1000

DO NOT SCALE

NATIONAL WATER SUPPLY AND DRAINAGE BOARD
THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM
NISON SURDO CONSULTANTS CO. LTD., TOKYO, JAPAN

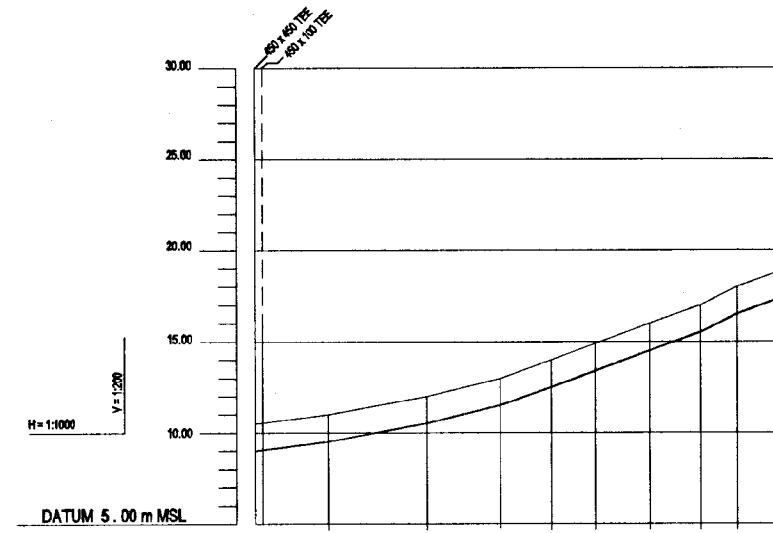
SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC		TITLE: PLAN & LONGITUDINAL SECTION DEMATAGODA ROAD	
DESIGNER:	DR: THARANGA	DATE:	JAN. 2001
CHECKED:	PH (NRW/S&P) NWSD:	CONTRACT NO.:	NRW / CW
BY TEAM LEADER:	A.S.M (PRD) NWSD: E.D.A.	D.R.G. NO.:	RML/DWRF - 01
TEAM LEADER:	D.G.M (PRD) NWSD:		



CHAINAGE (m)	650.00	655.00	675.00	680.00	710.00	725.00	730.00	750.00	760.00	770.00	785.00	800.00	825.00	840.00
GROUND LEVEL (m)	11.70	12.00	13.00	13.30	13.00	12.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.50
INVERT LEVEL (m)	10.22	10.52	11.52	11.52	11.52	10.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.02
PIPE DETAILS	450mm Ø DI PIPE													
HORIZONTAL ANGLE (°)	11.25°													

LS ALONG DEMATAGODA ROAD

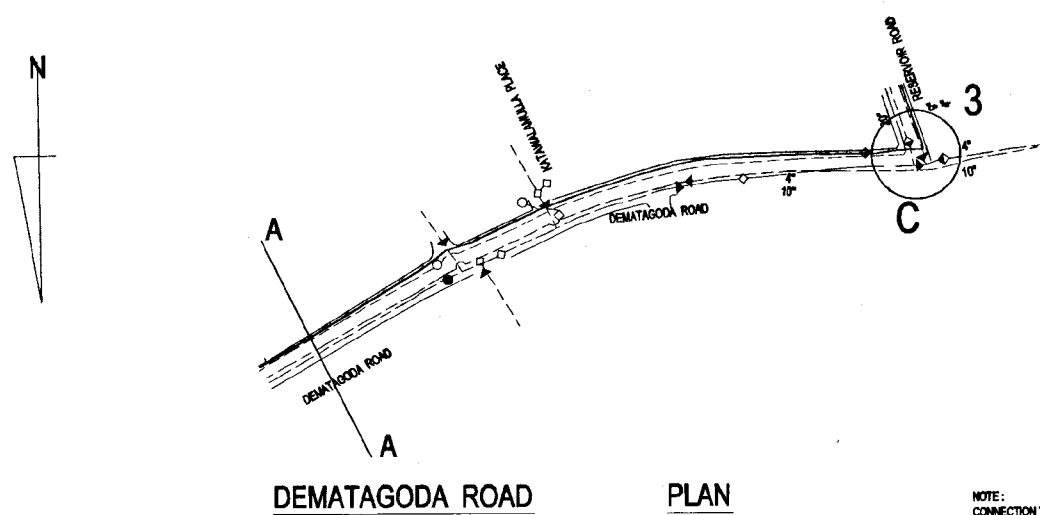
CHAINAGE 650.0 m - 840.0 m



CHAINAGE (m)	0.00	20.00	47.00	67.00	81.00	93.00	100.00	122.00	133.00	146.00
GROUND LEVEL (m)	10.00	11.00	12.00	13.00	14.00	14.00	16.00	17.00	18.00	19.00
INVERT LEVEL (m)	9.02	9.52	10.52	11.52	12.52	13.52	14.52	15.52	16.52	17.52
PIPE DETAILS	450mm Ø DI PIPE									
HORIZONTAL ANGLE (°)	20°									

LS ALONG RESERVOIR ROAD

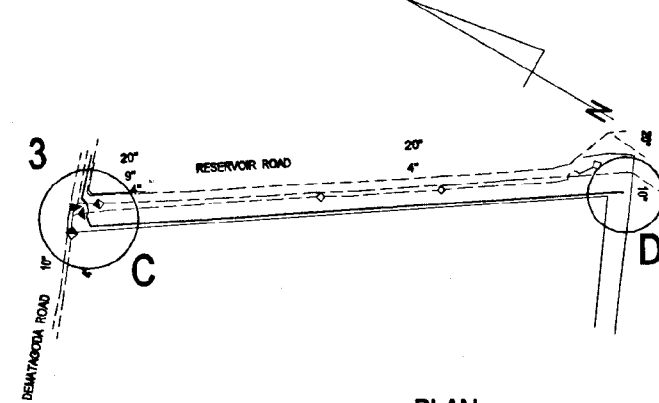
CHAINAGE 0.0 m - 146.0 m



DEMATAGODA ROAD

PLAN

SCALE = 1:1000

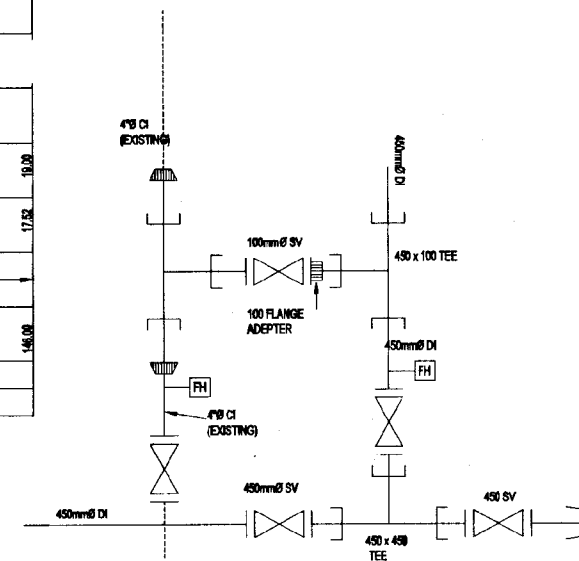


RESERVOIR ROAD

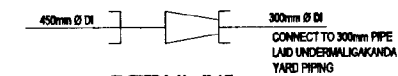
PLAN

SCALE = 1:1000

NOTE:
CONNECTION TO MADE TO THE PIPELINE
LAYING UNDER MALGAKANDA YARD PIPING 300mm MAIN.
FOR GENERAL DETAILS REFER DRAWING NO. RML/DWG/02.
NEW PIPE LINE OF 450mm Ø DI TO BE LAID FROM SECTION A-A TO POINT C,
AND POINT C TO POINT D 450mm Ø DI.



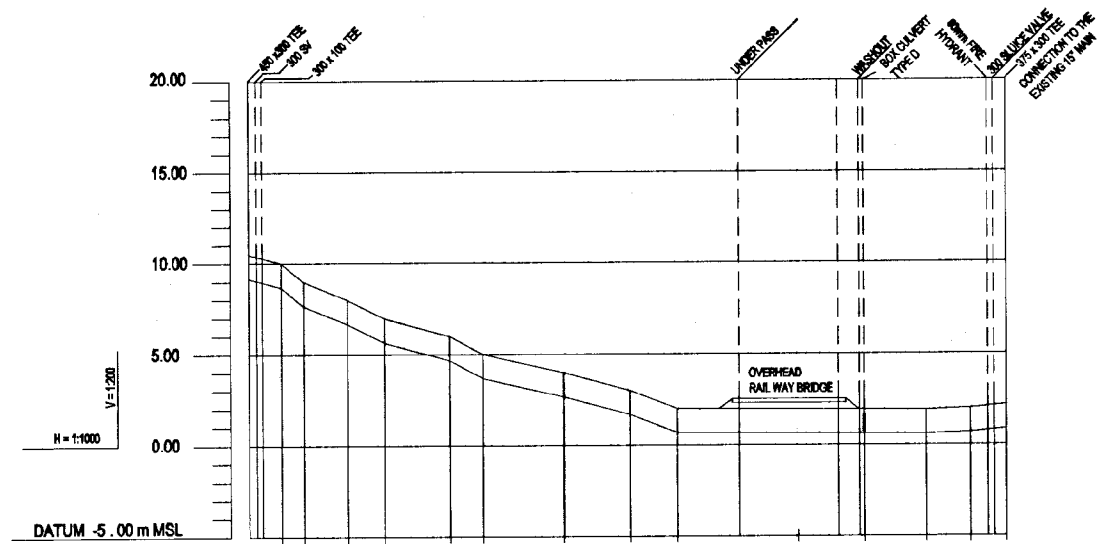
DETAIL "3"



DETAIL "4"

DO NOT SCALE

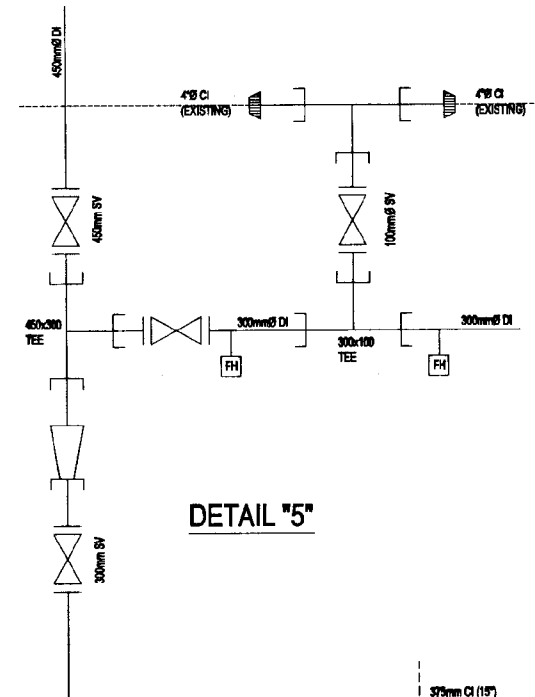
<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p> <p>DESIGNED: [Signature]</p> <p>CHECKED: [Signature]</p> <p>DY. TEAM LEADER: [Signature]</p> <p>TEAM LEADER: [Signature]</p>	<p>TITLE: PLAN & LONGITUDINAL SECTIONS DEMATAGODA ROAD/ RESERVOIR ROAD</p> <p>DATE: JAN. 2001</p> <p>CONTRACT No: NRW / CW</p> <p>DWG No: RML/DW/RF - 02</p>
	<p>REV. DESCRIPTION</p>	<p>DATE: JAN. 2001</p>
	<p>DESIGNED: [Signature]</p> <p>CHECKED: [Signature]</p> <p>DY. TEAM LEADER: [Signature]</p> <p>TEAM LEADER: [Signature]</p>	<p>DATE: JAN. 2001</p>
	<p>CONTRACT No: NRW / CW</p> <p>DWG No: RML/DW/RF - 02</p>	<p>DATE: JAN. 2001</p>



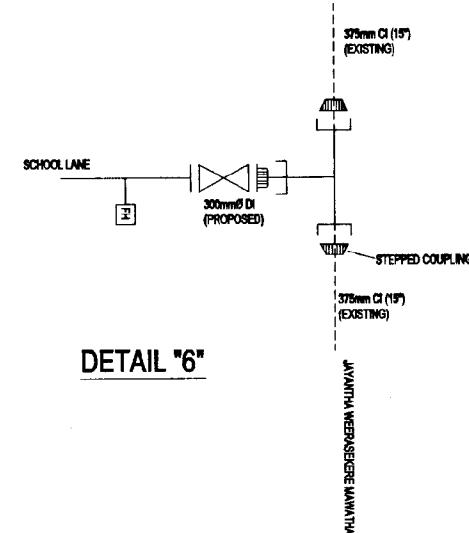
GROUND LEVEL (m)	10.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	2.00	2.20			
INVERT LEVEL (m)	9.17	8.87	7.87	6.87	5.87	4.87	3.87	2.87	1.87	0.87	0.87	0.87	0.87			
PIPE DETAILS	300 mm Ø DI															
CHAINAGE (m)	0.00	8.00	15.00	27.00	37.00	55.00	84.00	86.00	104.00	117.00	134.00	150.00	165.00	184.00	197.00	207.00
HORIZONTAL ANGLE (°)								45°	22.5°	45°	22.5°					

LS ALONG SCHOOL LANE

CHAINAGE 0.0m - 207.0m

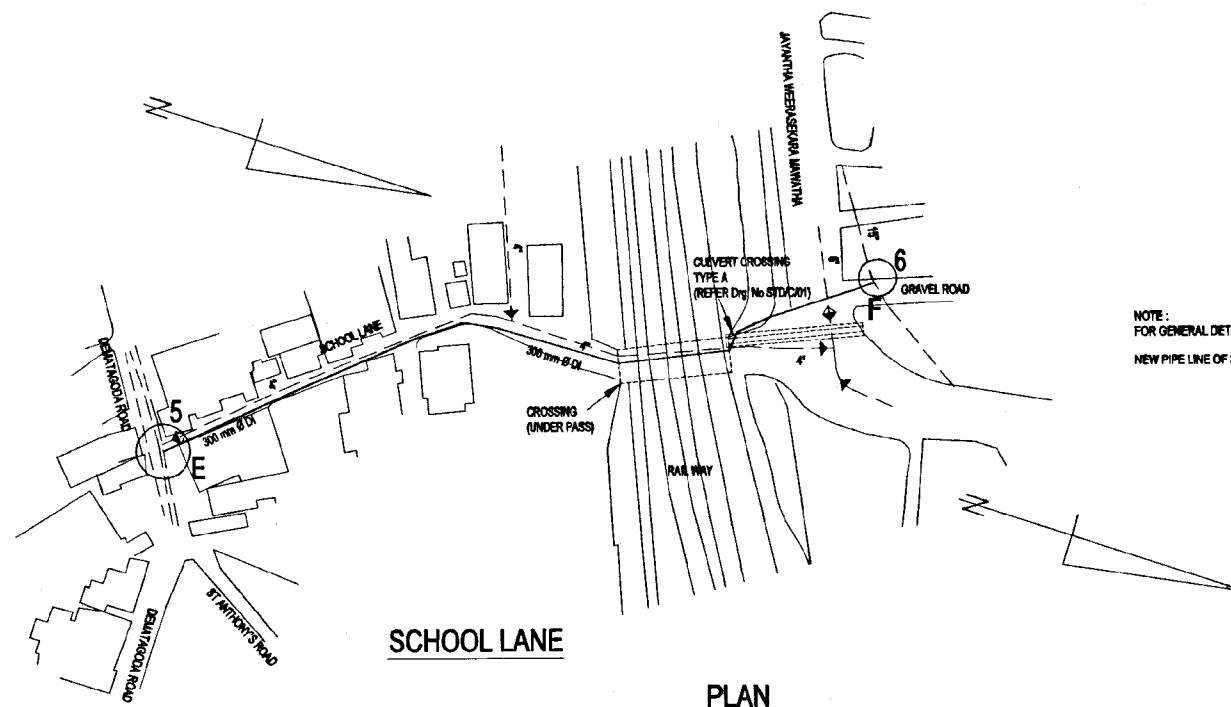


DETAIL "5"



DETAIL "6"

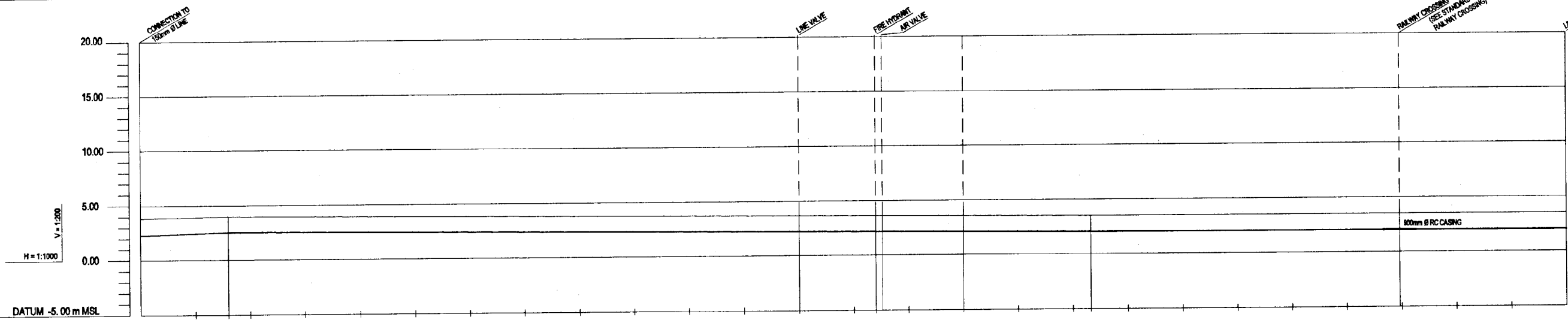
NOTE:
FOR GENERAL DETAILS REFER DRAWING NO. RMLJDM/02.
NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM POINT E TO POINT F.



PLAN
SCALE = 1:1000

DO NOT SCALE

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>		<p>TITLE: PLAN & LONGITUDINAL SECTION SCHOOL LANE</p>	
	<p>DESIGNED: <i>[Signature]</i></p>	<p>DRAWN: THARAWA</p>	<p>DATE: JAN. 2001</p>	
<p>CHECKED: <i>[Signature]</i></p>	<p>BY (PHYSICAL) NUMBER: <i>[Signature]</i></p>	<p>CONTRACT NO: NRW / CW</p>		
<p>BY TEAM LEADER: <i>[Signature]</i></p>	<p>A.S.M (P&S) NUMBER:</p>	<p>DRG. No: RMLJDM/RF - 03</p>		
<p>TEAM LEADER: <i>[Signature]</i></p>	<p>D.O.M (P&S) NUMBER:</p>			

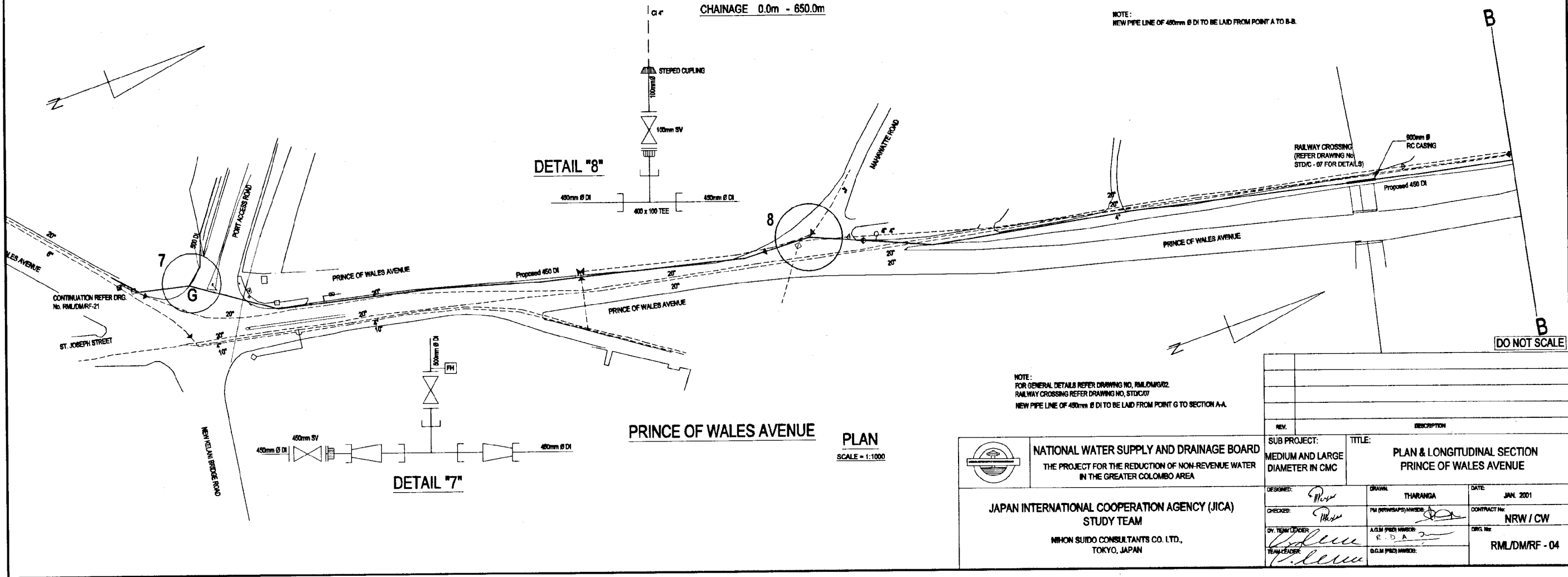


GROUND LEVEL (m)	3.8	4.0	3.9	3.8
INVERT LEVEL (m)	2.28	2.52	2.02	2.02
PIPE DETAILS	450 mm Ø DI PIPE			
CHAINAGE (m)	0.00	25.00	40.00	650.00
HORIZONTAL ANGLE (°)		22.5°	11.25°	

LS ALONG PRINCE OF WALES AVENUE
CHAINAGE 0.0m - 650.0m

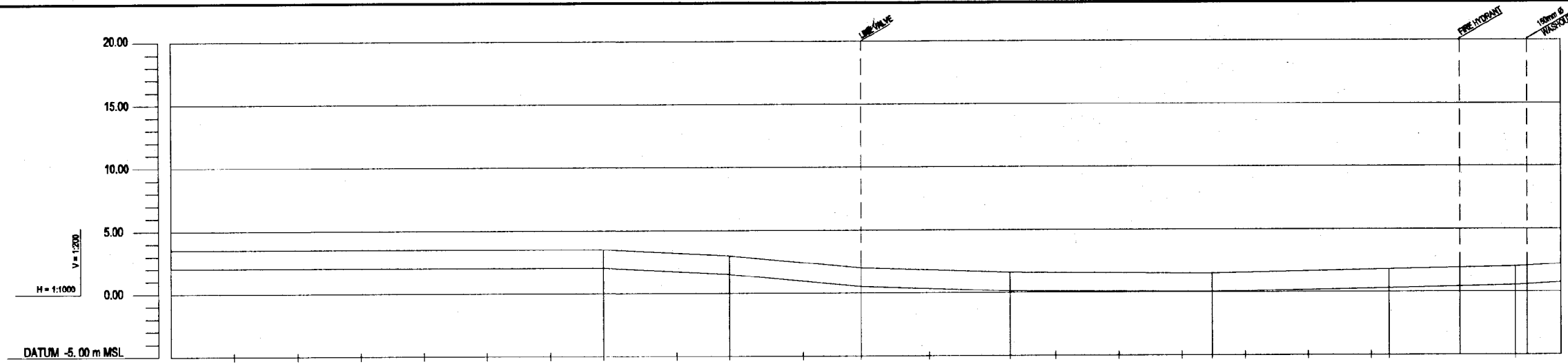
CROSSING OF TRANSMISSION MAIN TO BE DESIGNED BY THE CONTRACTOR

NOTE: NEW PIPE LINE OF 450mm Ø DI TO BE LAID FROM POINT A TO B-B.



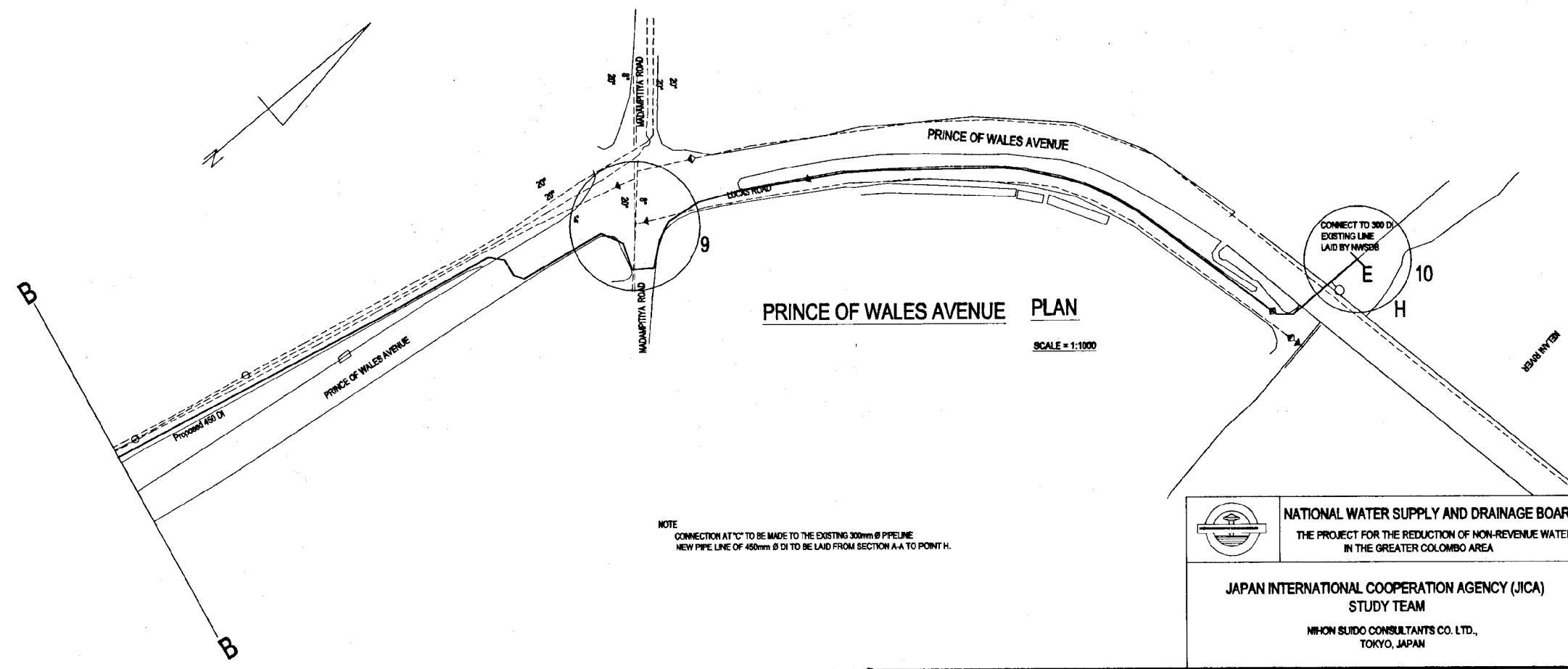
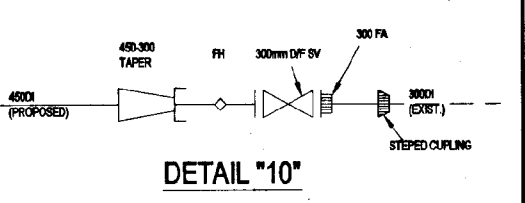
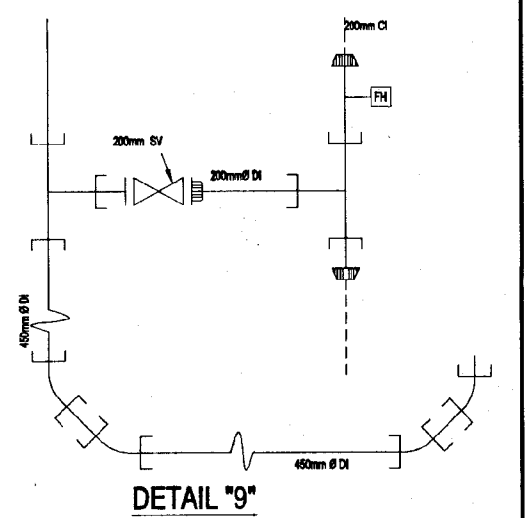
NOTE: FOR GENERAL DETAILS REFER DRAWING NO. RML/D/M/G42. RAILWAY CROSSING REFER DRAWING NO. STD/C07. NEW PIPE LINE OF 450mm Ø DI TO BE LAID FROM POINT G TO SECTION A-A.

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGTUDINAL SECTION PRINCE OF WALES AVENUE</p>	
	<p>DESIGNED: [Signature]</p>	<p>DRAWN: THARANGA</p>	<p>DATE: JAN. 2001</p>
	<p>CHECKED: [Signature]</p>	<p>PL (NWS&D) NWSD: [Signature]</p>	<p>CONTRACT NO: NRW / CW</p>
<p>DR. TEAM LEADER: [Signature]</p>	<p>ALSM PROJ. NUMBER: R.D.A.</p>	<p>CIRCLE NO: RML/D/M/R/F - 04</p>	
<p>TEAM LEADER: [Signature]</p>	<p>D.G.M (PROJ) NWSD:</p>		



GROUND LEVEL (m)	3.50		3.50		3.00		2.00		1.80		1.50		1.00		2.00	2.20
INVERT LEVEL (m)	2.52		2.02		1.52		0.52		0.12		0.02		0.32		0.52	0.72
PIPE DETAILS	450mm DI															
CHAINAGE (m)	850.00		871.00		871.00		925.00		962.00		1082.00		1132.00		1182.00	1200.00
HORIZONTAL ANGLE (°)		45	45	45	45	45	22	45	11	22	11	22	45	45		

LS ALONG PRINCE OF WALES AVENUE
CHAINAGE 850.0m - 1200.0m



PRINCE OF WALES AVENUE PLAN
SCALE = 1:1000

NOTE
CONNECTION AT 'C' TO BE MADE TO THE EXISTING 300mm DI PIPELINE
NEW PIPE LINE OF 450mm DI TO BE LAID FROM SECTION A-A TO POINT H.

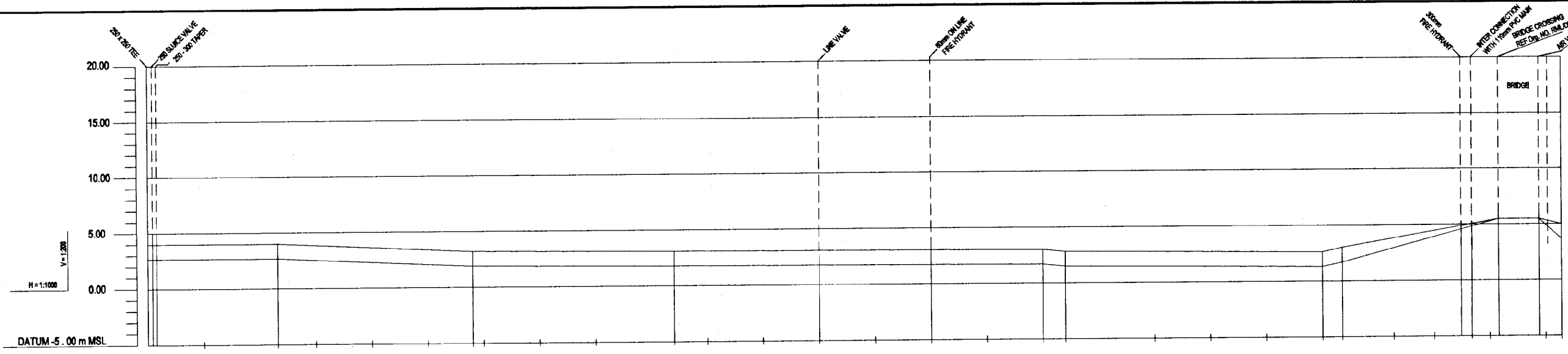
SUB PROJECT:		TITLE:	
MEDIUM AND LARGE DIAMETER IN CMC		PLAN & LONGITUDINAL SECTION PRINCE OF WALES AVENUE	
DESIGNED:	THARANGA	DATE:	JAN. 2001
CHECKED:	PH (NRWSAPS) HWSD:	CONTRACT No.:	NRW / CW
DR. TEAM LEADER:	A.G.M (PID) HWSD:	DRG. No.:	RML/DMRF - 05
TEAM LEADER:	D.G.M (PID) HWSD:		

NATIONAL WATER SUPPLY AND DRAINAGE BOARD
THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
STUDY TEAM

NIHON SUIDO CONSULTANTS CO. LTD.,
TOKYO, JAPAN

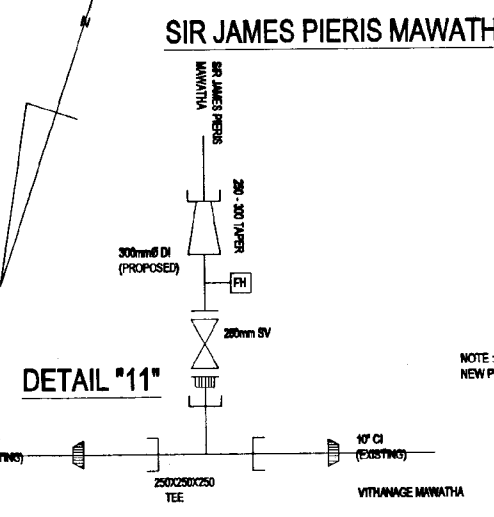
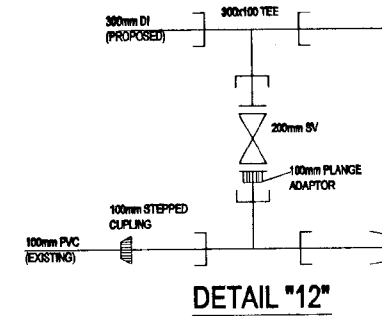
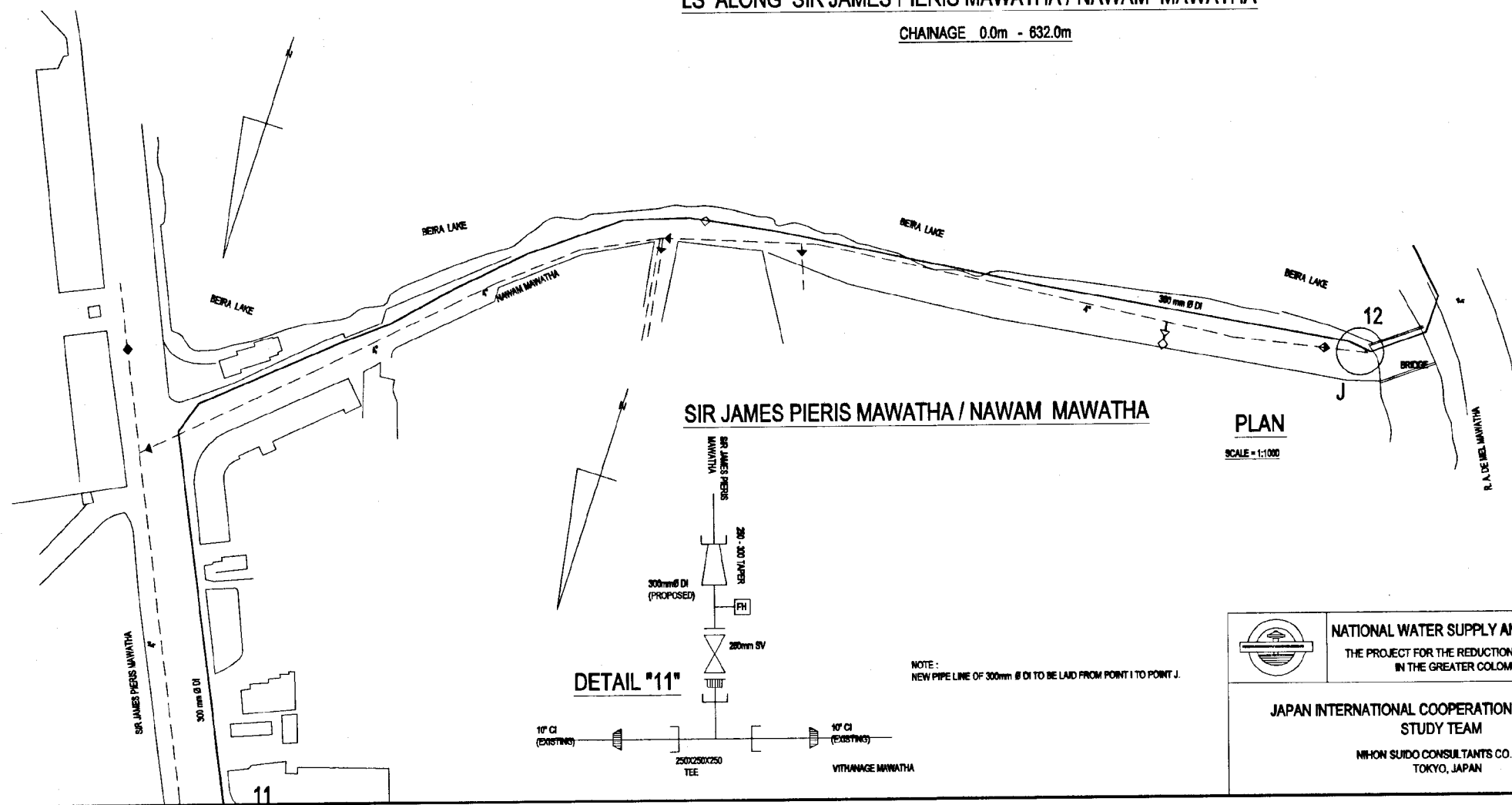
DO NOT SCALE



GROUND LEVEL (m)	4.00	4.00	3.20	3.10	3.00	2.90	2.80	2.70	2.60	2.50	2.40	2.30	2.20	2.10	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	0.90	0.80	0.70		
INVERT LEVEL (m)	2.87	2.87	1.87	1.77	1.67	1.57	1.47	1.37	1.27	1.17	1.07	0.97	0.87	0.77	0.67	0.57	0.47	0.37	0.27	0.17	0.07	-0.03	-0.13	-0.23	-0.33	-0.43	-0.53	-0.63	-0.73	
PIPE DETAILS	300 mm ∅ DI																													
CHAINAGE (m)	0.00	25.00	50.00	75.00	100.00	125.00	150.00	175.00	200.00	225.00	250.00	275.00	300.00	325.00	350.00	375.00	400.00	425.00	450.00	475.00	500.00	525.00	550.00	575.00	600.00	625.00	650.00	675.00	700.00	
HORIZONTAL ANGLE (°)			22.5	22.5						22.5				11.25												1.25	1.25	1.25	1.25	1.25

LS ALONG SIR JAMES PIERIS MAWATHA / NAWAM MAWATHA

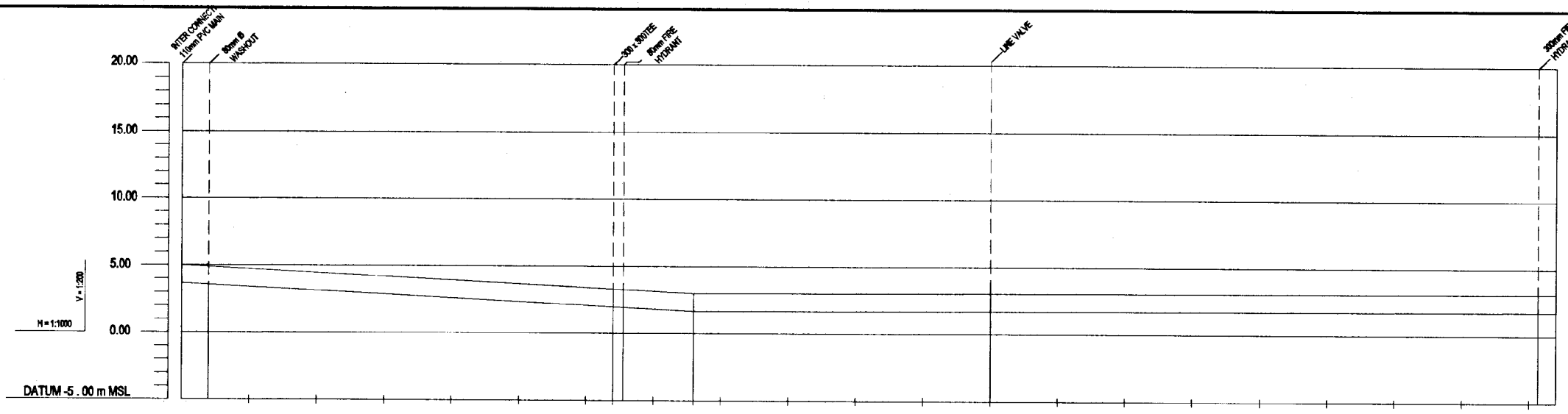
CHAINAGE 0.0m - 632.0m



NOTE: NEW PIPE LINE OF 300mm ∅ DI TO BE LAID FROM POINT I TO POINT J.

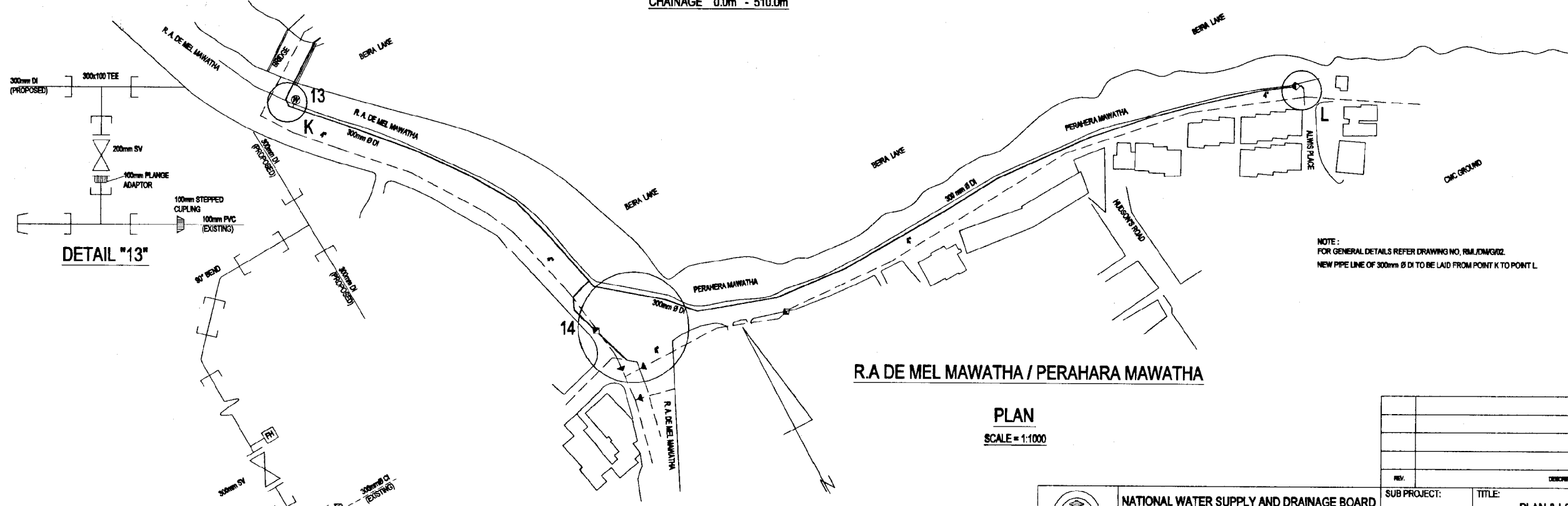
DO NOT SCALE

 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIPPON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC		TITLE: PLAN & LONGITUDINAL SECTION SIR JAMES PIERIS MAWATHA / NAWAM MAWATHA	
	DESIGNED: [Signature]	DRAWN: THARANGA	DATE: JAN. 2001	
	CHECKED: [Signature]	FM (NWSDB) NUMBER: [Signature]	CONTRACT No: NRW / CW	
	DR. TEAM LEADER: [Signature]	A.C.M. (PM) NUMBER: 2.000	D.R.G. (PM) NUMBER: [Signature]	DRG. No: RML/DM/RF - 06
	TEAM LEADER: [Signature]			



GROUND LEVEL (m)	5.00	3.00	3.10
INVERT LEVEL (m)	3.87	1.87	1.77
PIPE DETAILS	300mm Ø DI		
CHAINAGE (m)	0.00	250.00	510.00
HORIZONTAL ANGLE (°)	22.5°	22.5°	11.2°

LS ALONG R.A DE MEL MAWATHA / PERAHARA MAWATHA
 CHAINAGE 0.0m - 510.0m



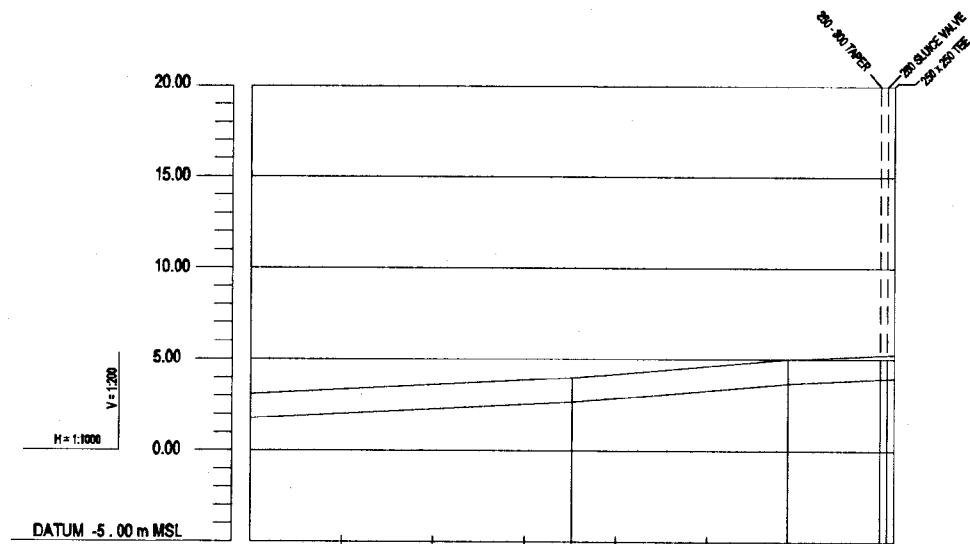
NOTE:
 FOR GENERAL DETAILS REFER DRAWING NO. RML/DWG/02.
 NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM POINT K TO POINT L.

R.A DE MEL MAWATHA / PERAHARA MAWATHA

PLAN
 SCALE = 1:1000

DO NOT SCALE

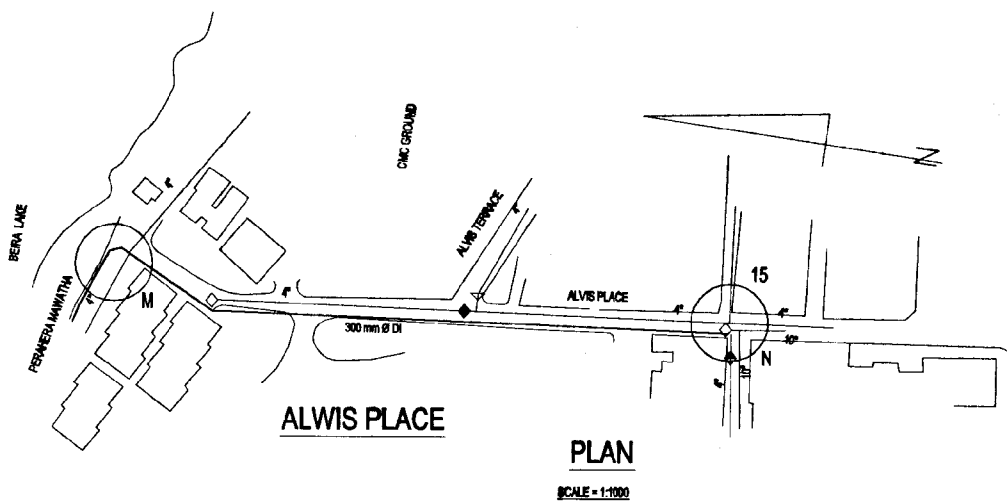
	NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION R.A. DE MEL MAWATHA / PERAHARA MAWATHA
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIKON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN	DESIGNED: [Signature] CHECKED: [Signature] DT. TEAM LEADER: [Signature] TEAM LEADER: [Signature]	DRAWN: THARANGA IN CHARGE: [Signature] A.S.H. (PUB) NUMBER: RDA D.S.H. (PUB) NUMBER:



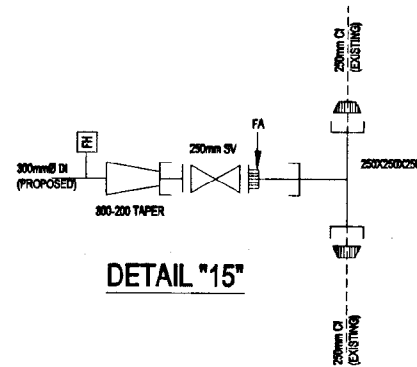
GROUND LEVEL (m)	3.10	4.00	5.00	5.30
INVERT LEVEL (m)	1.77	2.37	3.37	3.37
PIPE DETAILS	300mm Ø DI			
CHAINAGE (m)	0.00	25.00	50.00	75.00
HORIZONTAL ANGLE (°)	45°	22.5°		

LS ALONG ALWIS PLACE


CHAINAGE 0.0m - 176.0m

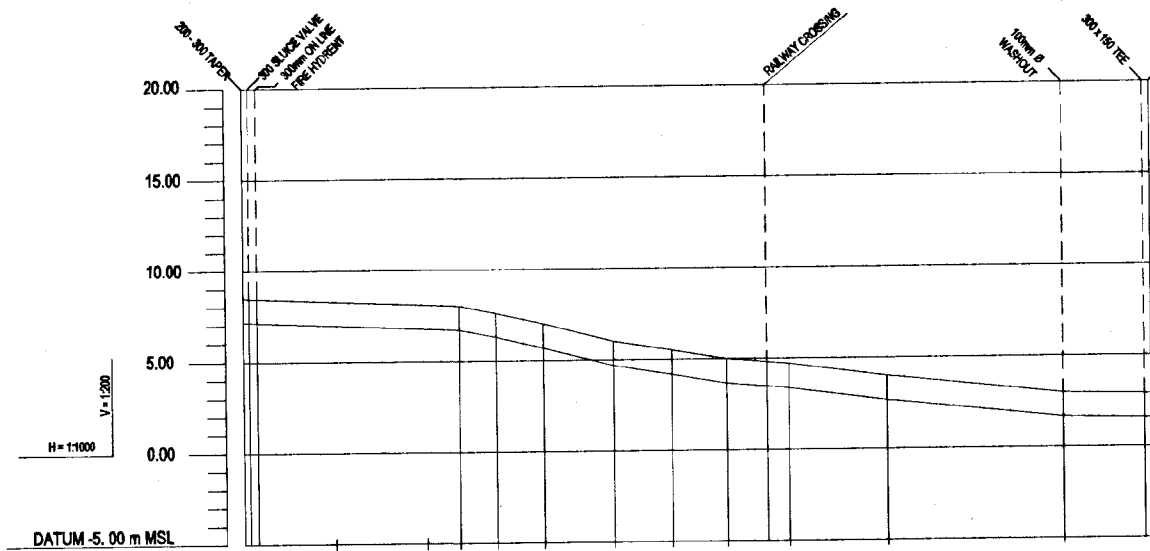


NOTE:
 PROPOSED 300mm Ø DI LINE TO BE CONNECTED TO EXISTING 250mm Ø CI LINE.
 FOR GENERAL DETAILS REFER DRAWING NO. RML/DW/R02.
 NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM POINT M TO POINT N.



DO NOT SCALE

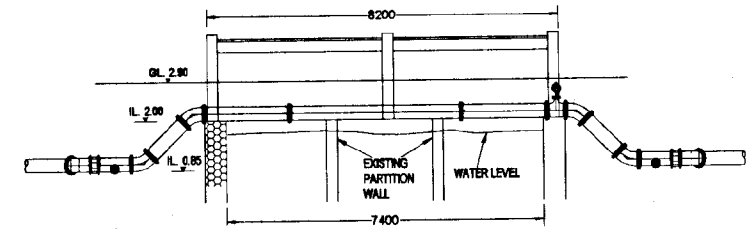
 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION ALWIS PLACE
	DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> DIV. TECHNICIAN: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DRAWN: THARANDA P.U. SUPERVISOR: <i>[Signature]</i> A.E.M. (P&I) NUMBER: F. D. A. 0 D.G.M. (P&I) NUMBER:



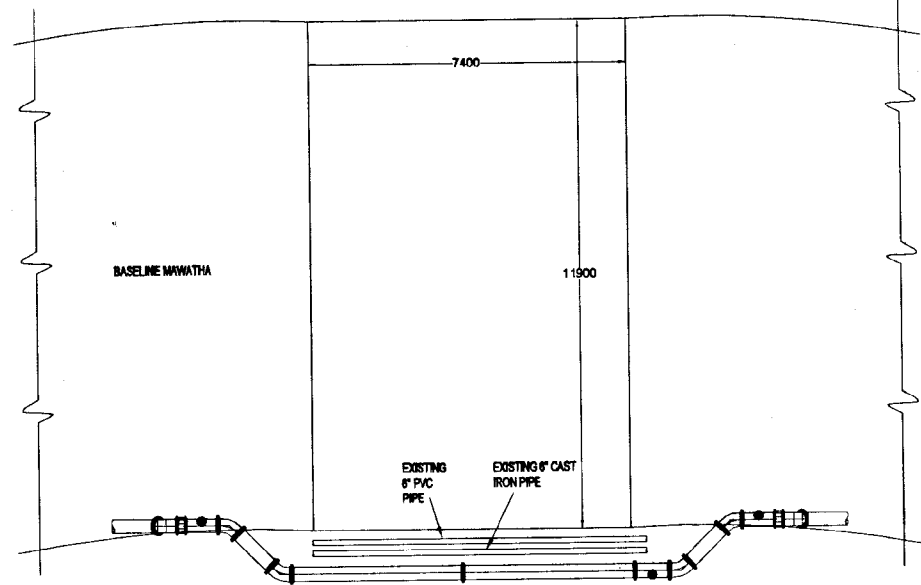
GROUND LEVEL (m)	0.00	6.00	7.00	7.00	6.00	5.00	5.00	4.70	4.00	3.00	2.00		
INVERT LEVEL (m)	7.17	7.87	8.27	8.67	8.67	8.17	7.67	7.37	6.67	5.67	4.67		
PIPE DETAILS	300 mm Ø DI												
CHAINAGE (m)	0.00	25.00	50.00	60.00	62.00	101.00	117.00	132.00	143.00	148.00	178.00	224.00	248.00
HORIZONTAL ANGLE (°)						11.25						22.5	22.5

LS ALONG MART ROAD & SRI NIGRODHARAMA MAWATHA

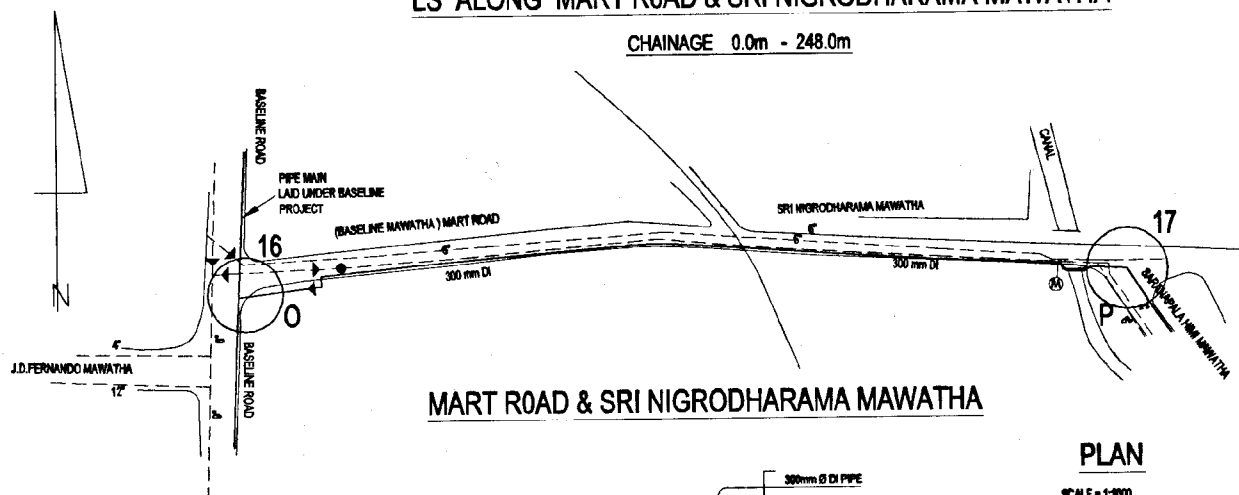
CHAINAGE 0.0m - 248.0m



SECTIONAL ELEVATION AT MART ROAD (BASELINE MAWATHA CANNEL CROSSING)



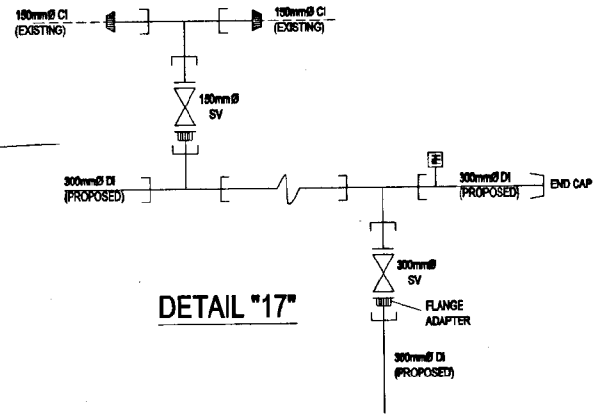
PLAN



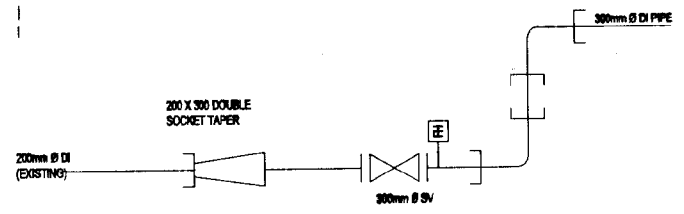
MART ROAD & SRI NIGRODHARAMA MAWATHA

PLAN

SCALE = 1:1000



DETAIL "17"



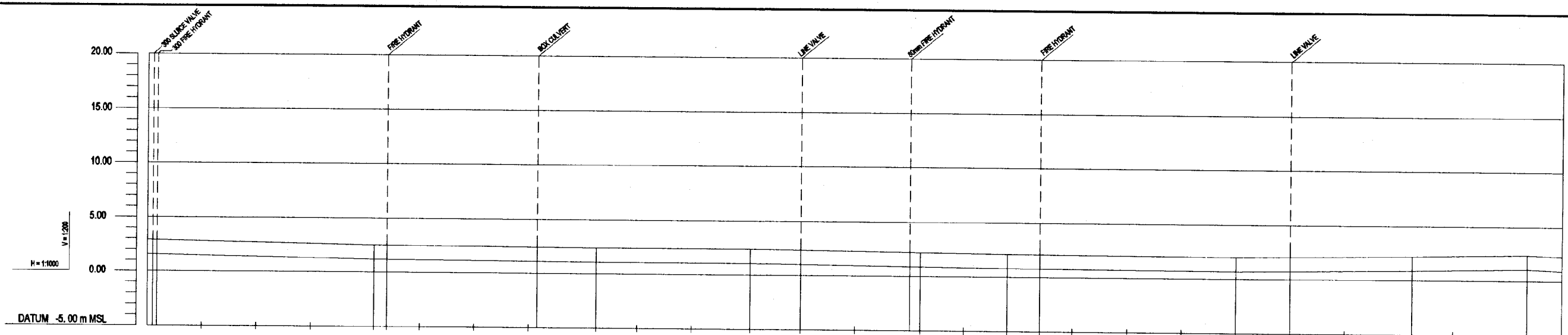
DETAIL "16"

NOTE:
RAILWAY CROSSING, PLEASE REFER Dwg. NO. STD/C/1
BENDS TO BE PROTECTED BY PROVIDING THRUST BLOCKS
AS REFER Dwg. No. STD/C - 04.
FOR GENERAL DETAILS REFER DRAWING NO. RML/DM/R/02.
NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM POINT O TO POINT P.

DO NOT SCALE

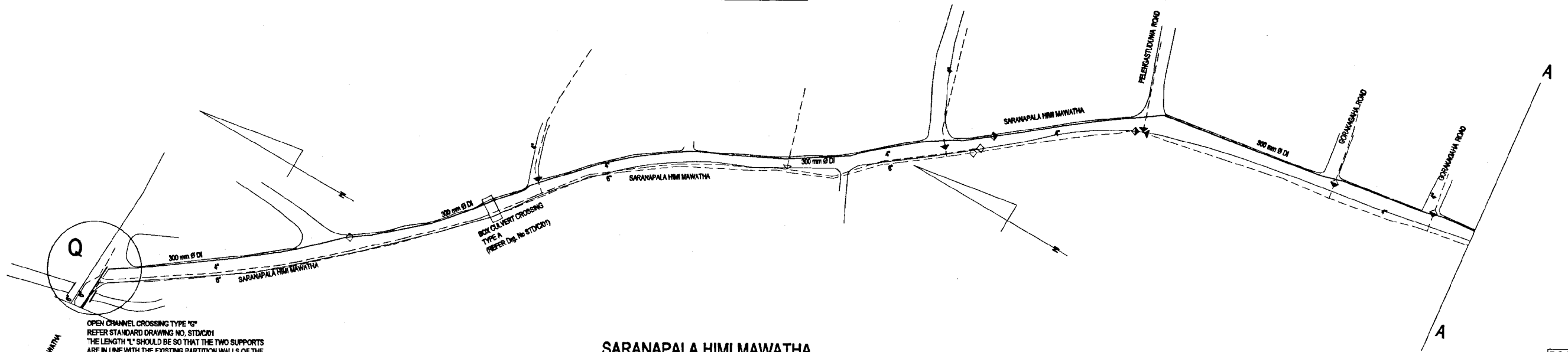
<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION MART ROAD & SRI NIGRODHARAMA MAWATHA</p>
	<p>DESIGNED: [Signature]</p>	<p>DRAWN: THARANGA</p>
<p>CHECKED: [Signature]</p>	<p>IN CHARGE: [Signature]</p>	<p>CONTRACT NO: NRW / CW</p>
<p>CV. TEAM LEADER: [Signature]</p>	<p>A.S.M. (P) INCHG: [Signature]</p>	<p>ORG. NO: RML/DM/R/09</p>
<p>TEAM LEADER: [Signature]</p>	<p>S.M. (P) INCHG: [Signature]</p>	

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
STUDY TEAM
NIHON SUDO CONSULTANTS CO. LTD.,
TOKYO, JAPAN



GROUND LEVEL (m)	2.00	2.50	2.40	2.40	2.20	2.10	2.00	2.20	2.40	2.20																	
INVERT LEVEL (m)	1.57	1.17	1.07	1.07	0.87	0.77	0.87	0.87	1.07	0.89																	
PIPE DETAILS	300 mm Ø DI PIPE																										
CHAINAGE (m)	0.00	25.00	50.00	75.00	104.00	110.00	170.00	208.00	225.00	250.00	277.00	300.00	325.00	350.00	375.00	395.00	410.00	425.00	450.00	475.00	500.00	525.00	550.00	581.00	600.00	634.00	650.00
HORIZONTAL ANGLE (°)						11.25		11.25		11.25			11.25									22.5					

LS ALONG SARANAPALA HIMI MAWATHA
CHAINAGE 0.0m - 650.0m



OPEN CHANNEL CROSSING TYPE 'G'
REFER STANDARD DRAWING NO. STD/C01
THE LENGTH 'L' SHOULD BE SO THAT THE TWO SUPPORTS ARE IN LINE WITH THE EXISTING PARTITION WALLS OF THE BOX CULVERT.

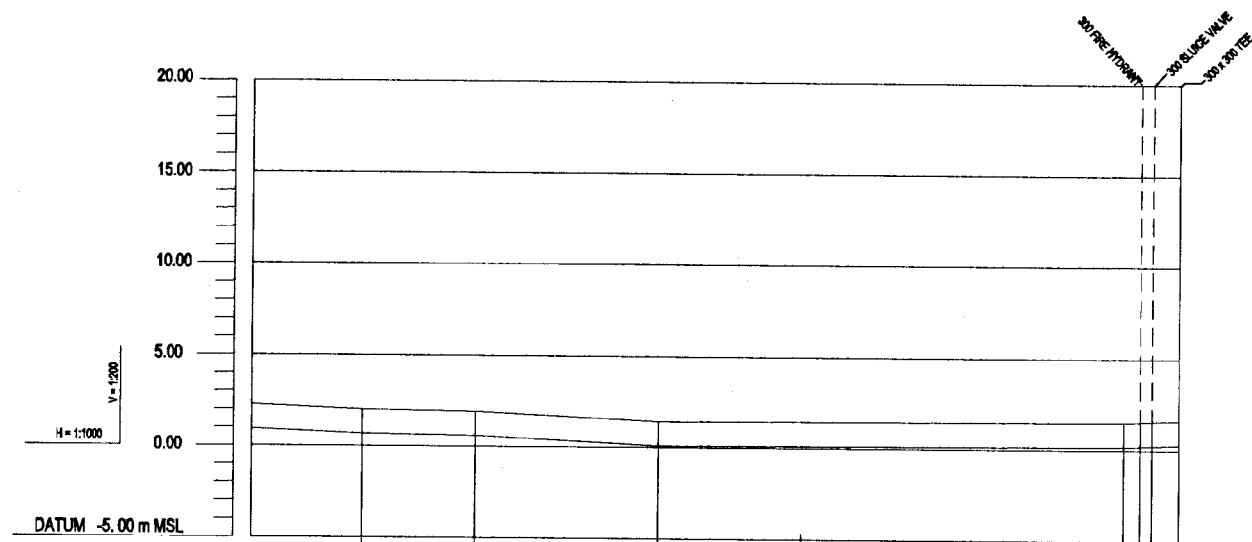
THE GAP BETWEEN THE PARTITION WALL AND THE PIPE SUPPORT TO BE BUILT UP TO THE TOP WATER LEVEL.
THE TOP LEVEL OF THE PIPE AT THE TWO EMBANKMENTS TO BE 200mm BELOW THE SURFACE.

SARANAPALA HIMI MAWATHA
PLAN
SCALE = 1:1000

NOTE:
FOR GENERAL DETAILS REFER DRAWING NO. RML/DW/R02.
CULVERT CROSSING TYPE D REFER STANDARD DRAWING NO. STD/C01.
NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM POINT Q TO SECTION A-A.
THE PROTECTION TO BE MADE BY SAND BLASTING AND APPLYING ANTICORROSIVE TO THE STABS USE CANEL CROSSINGS.

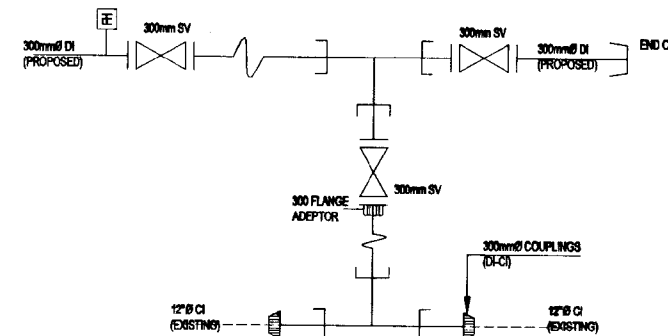
DO NOT SCALE

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION SARANAPALA HIMI MAWATHA SHEET 01 OF 02</p>
	<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>DESIGNED: [Signature]</p> <p>CHECKED: [Signature]</p> <p>DR. TEAM LEADER: [Signature]</p> <p>TEAM LEADER: [Signature]</p>

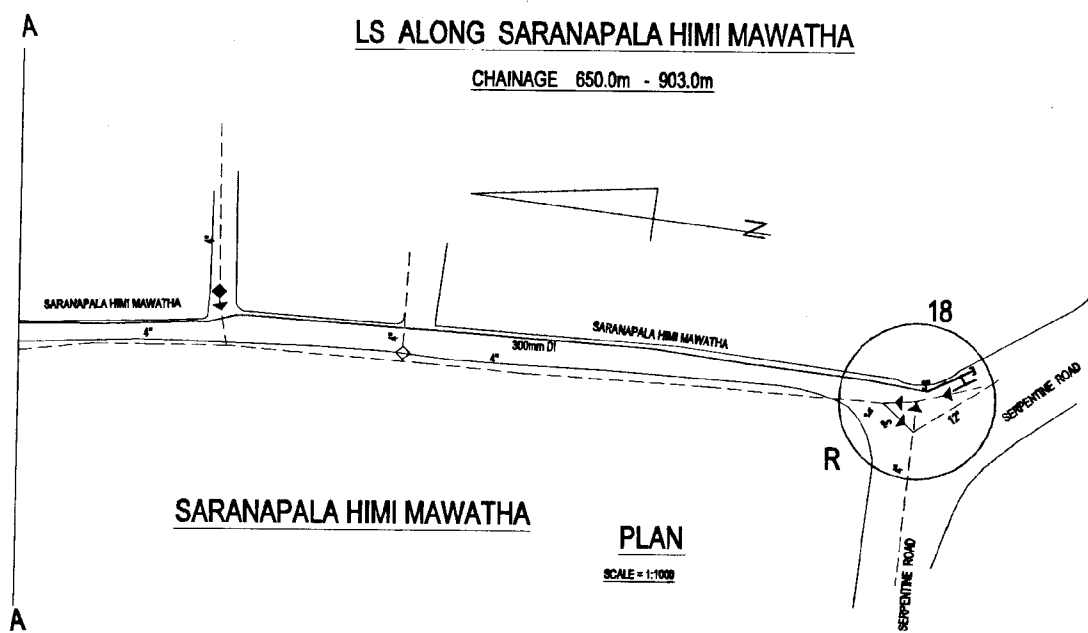


NOTE:
FOR GENERAL DETAILS REFER DRAWING NO. RML/DWG/02.
NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM SECTION A-A TO POINT R.

GROUND LEVEL (m)	2.25	2.20	1.90	1.40	1.50	1.50
INVERT LEVEL (m)	0.93	0.87	0.87	0.87	0.17	0.27
PIPE DETAILS	300 mm Ø DI PIPE					
CHAINAGE (m)	650.00	660.00	711.00	761.00	800.00	903.00
HORIZONTAL ANGLE (°)						



DETAIL "18"



LS ALONG SARANAPALA HIMI MAWATHA

CHAINAGE 650.0m - 903.0m

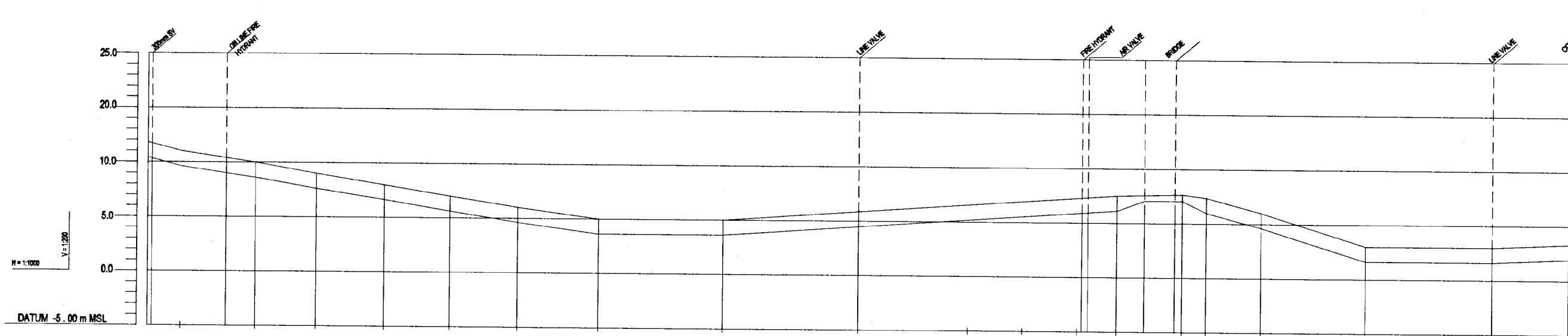
SARANAPALA HIMI MAWATHA

PLAN

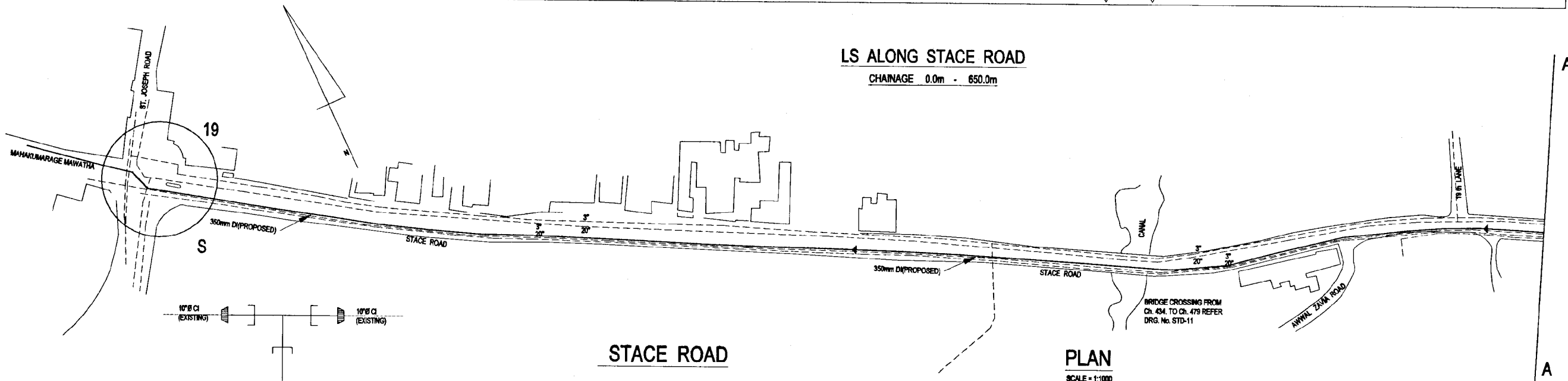
SCALE = 1:1000

DO NOT SCALE

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUJIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p> <p>DESIGNED: [Signature]</p> <p>CHECKED: [Signature]</p> <p>DV. TEAM LEADER: [Signature]</p> <p>TEAM LEADER: [Signature]</p>	<p>DR. THARANGA</p> <p>PLI (NRW/CAP) NUMBER: [Signature]</p> <p>A.G.M (P&D) NUMBER: [Signature]</p> <p>C.L.O.M (P&D) NUMBER: [Signature]</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION SARANAPALA HIMI MAWATHA</p> <p>SHEET 02 OF 02</p> <p>DATE: JUN. 2001</p> <p>CONTRACT NO: NRW / CW</p> <p>DWG. NO: RML/DM/RF - 11</p>
	<p>REV. DESCRIPTION</p>		
	<p>DO NOT SCALE</p>		
	<p>DO NOT SCALE</p>		



	0.00	15.00	40.00	77.00	100.00	130.00	160.00	200.00	225.00	325.00	375.00	400.00	425.00	440.00	450.00	470.00	480.00	500.00	557.00	610.00	650.00	
GROUND LEVEL (m)	11.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	5.00	5.00	5.00	5.00	7.50	7.00	7.00	7.00	8.00	8.00	8.00	3.00	3.40	3.71
INVERT LEVEL (m)	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	7.00	7.00	7.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00
PIPE DETAILS	350mm DI PIPE																					
CHAINAGE (m)	0.00	15.00	40.00	77.00	100.00	130.00	160.00	200.00	225.00	325.00	375.00	400.00	425.00	440.00	450.00	470.00	480.00	500.00	557.00	610.00	650.00	
HORIZONTAL ANGLE (°)	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	45°	45°	45°	45°	0°	0°	0°	0°	0°	



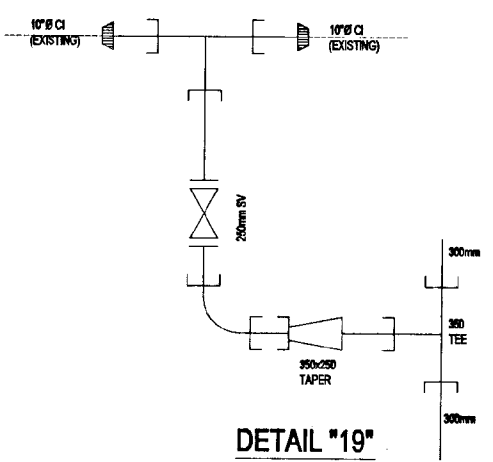
LS ALONG STACE ROAD
CHAINAGE 0.0m - 650.0m

STACE ROAD

PLAN
SCALE = 1:1000

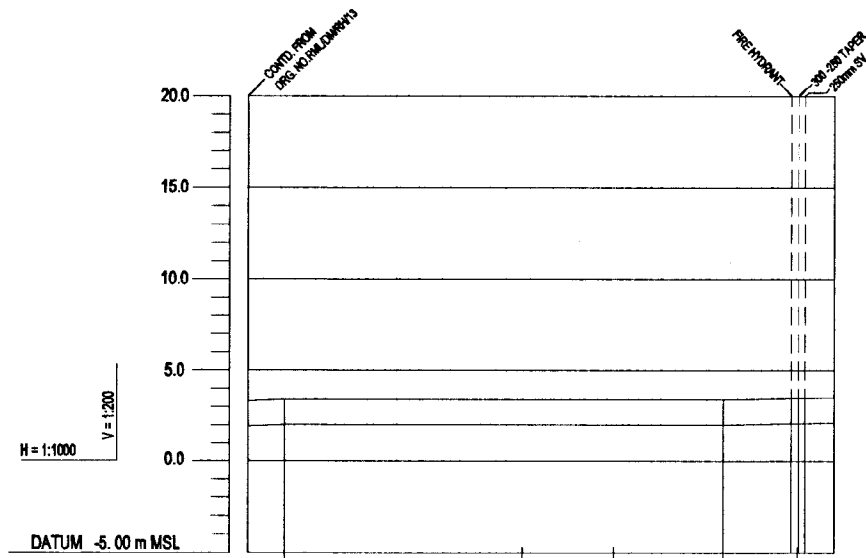
DO NOT SCALE

NOTE:
FOR GENERAL DETAILS REFER DRAWING NO. RML/DMA/GRZ.
BRIDGE CROSSING REFER DRAWING No. STD-11
NEW PIPE LINE OF 350mm Ø DI TO BE LAID FROM POINT S TO SECTION A-A.



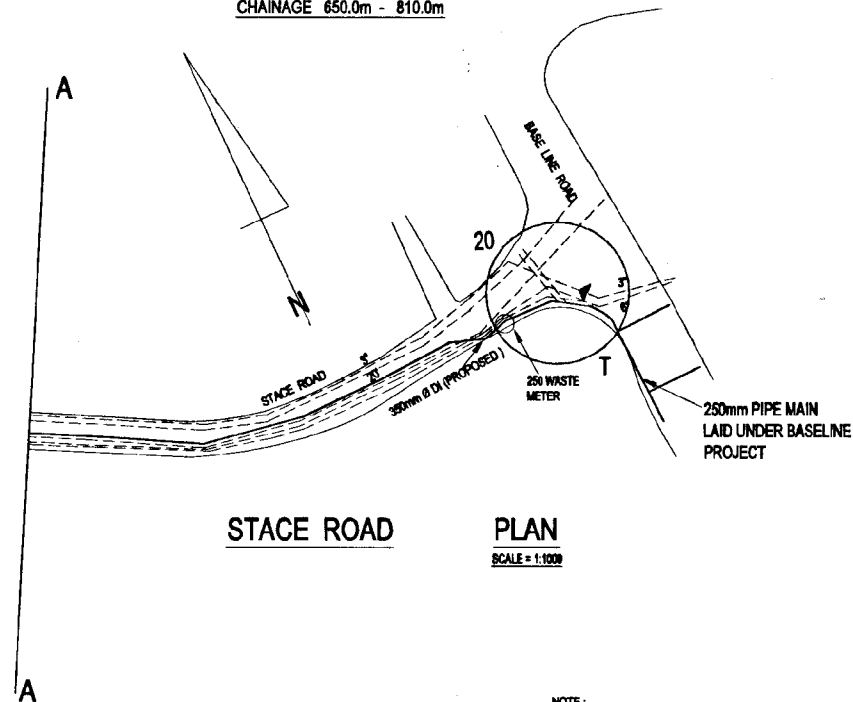
DETAIL "19"

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION STACE ROAD</p>
	<p>DESIGNED: [Signature]</p>	<p>DRAWN: THARANGA</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p>	<p>CHECKED: [Signature]</p>	<p>CONTRACT No: NRW / CW</p>
<p>NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>DR. TEAM LEADER: [Signature]</p>	<p>ORG. No: RML/DM/RF - 12</p>
	<p>TEAM LEADER: [Signature]</p>	



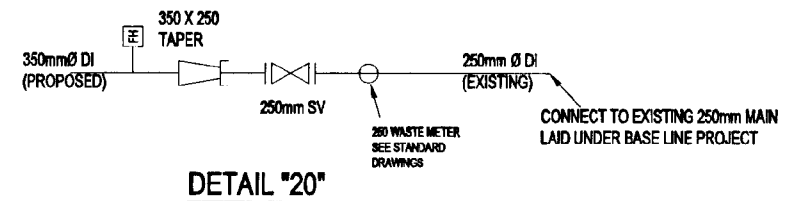
GROUND LEVEL (m)	3.21	3.40	3.40	3.50
INVERT LEVEL (m)	1.83	2.02	2.02	2.12
PIPE DETAILS	350mm DI PIPE			
CHAINAGE (m)	650.00	660.00	780.00	810.00
HORIZONTAL ANGLE (°)				

LS ALONG STAGE ROAD
CHAINAGE 650.0m - 810.0m



STAGE ROAD PLAN
SCALE = 1:1000

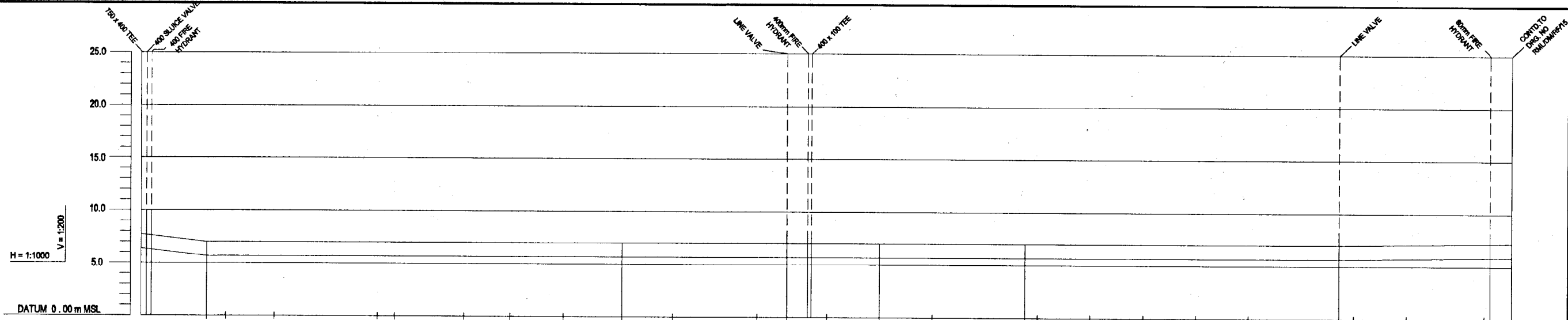
NOTE:
FOR GENERAL DETAILS REFER DRAWING NO. RML/DW/S/02
RAILWAY CROSSING REFER DRAWING NO. STD/C/07
NEW PIPE LINE OF 350mm Ø DI TO BE LAID FROM SECTION A-A TO POINT T.
ALL THE BENDS ON THE BRIDGE CROSSING TO BE PROTECTED AGAINST T
UNBALANCE FORCES USING APPROPRIATE THRUST BLOCK GIVEN IN THE
STANDARD DRAWING. No. STD-08.



DETAIL "20"

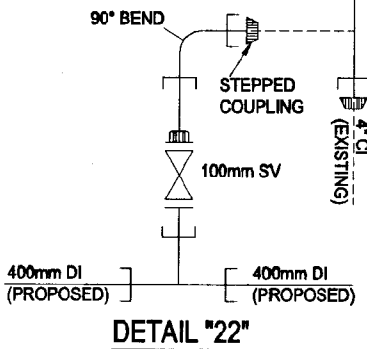
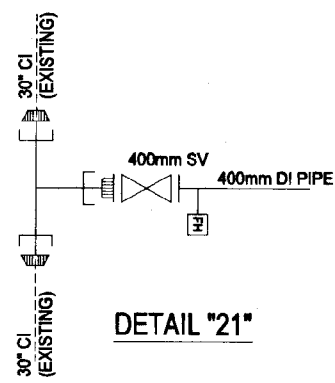
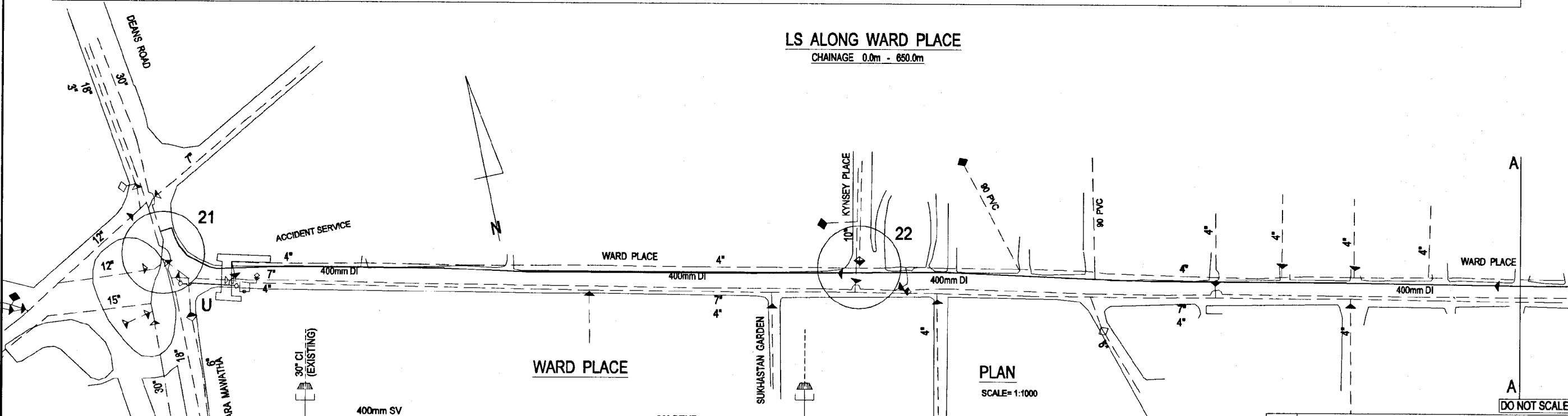
DO NOT SCALE

	NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA		SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION STAGE ROAD
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIPPON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN		DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> DR. TEAM LEADER: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DRAWN: THARANGA PA (NWS&PD)/NWS&PD: <i>[Signature]</i> A.G.M (P&D) NWS&PD: <i>[Signature]</i> D.O.M (P&D) NWS&PD: <i>[Signature]</i>



GROUND LEVEL (m)	7.70	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.20
INVERT LEVEL (m)	6.37	5.67	5.67	5.67	5.67	5.67	5.67	5.67	6.87
PIPE DETAILS	400mm Ø DI PIPE								
CHAINAGE (m)	0.00	31.00	228.00	308.00	350.00	419.00	568.00	660.00	
HORIZONTAL ANGLE (°)	45°								

LS ALONG WARD PLACE
CHAINAGE 0.0m - 650.0m

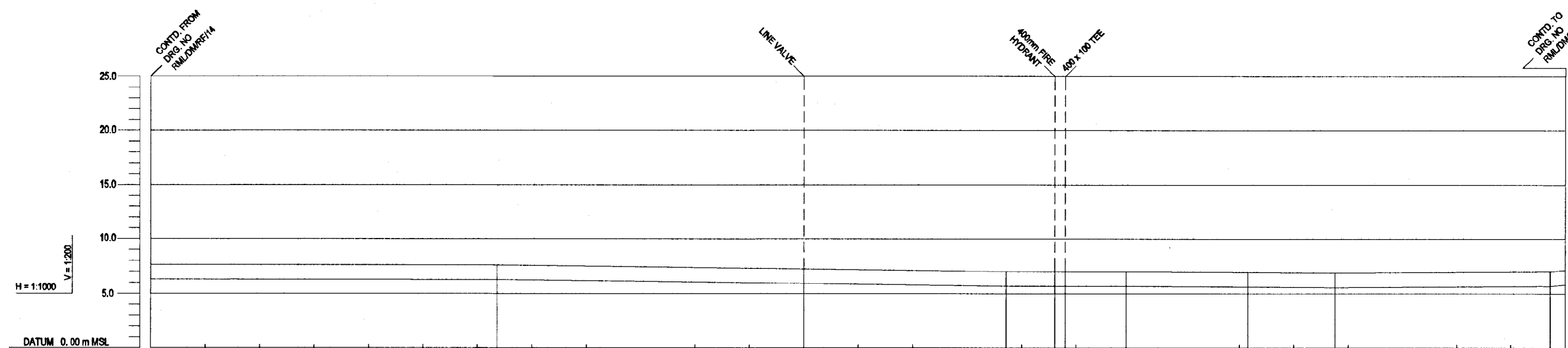


NOTE:
NEW PIPE LINE OF 400mm Ø DI TO BE LAID FROM POINT U TO SECTION A-A.

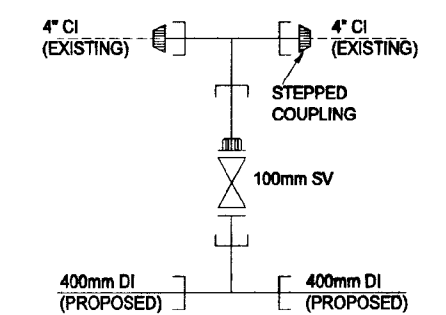
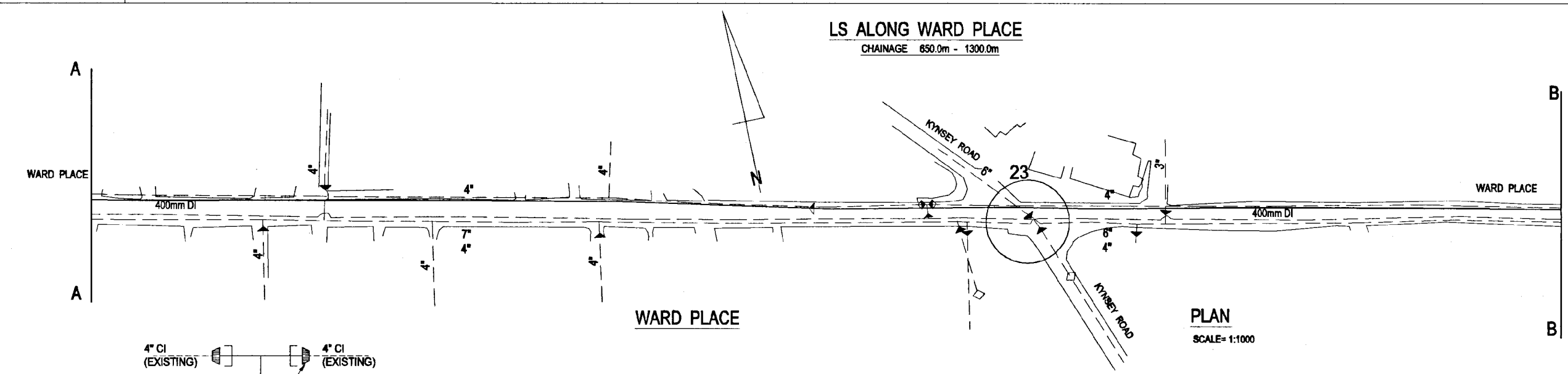
PLAN
SCALE=1:1000

DO NOT SCALE

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION WARD PLACE</p>	
	<p>DESIGNED: [Signature]</p>	<p>DRAWN: THIRANGA</p>	<p>DATE: JAN. 2001</p>
	<p>CHECKED: [Signature]</p>	<p>PM (NWS&D) NWSD: [Signature]</p>	<p>CONTRACT No: NRW / CW</p>
	<p>DT. TEAM LEADER: [Signature]</p>	<p>A.G.M (P&D) NWSD: [Signature]</p>	<p>DWG. No: RML/DW/RF-14</p>



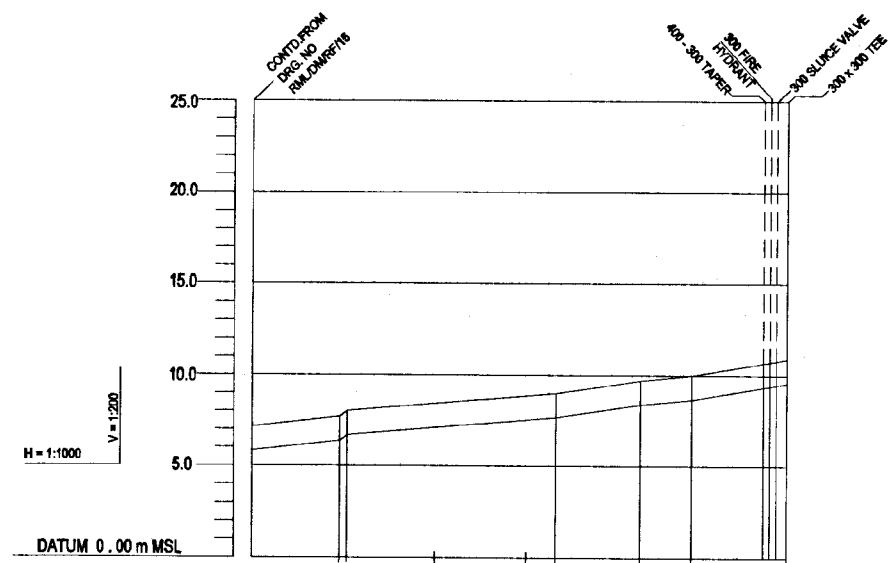
GROUND LEVEL (m)	7.20	7.60	7.00	7.00	6.95	6.90	7.00	7.15
INVERT LEVEL (m)	5.87	6.27	5.67	5.67	5.62	5.57	5.67	5.82
PIPE DETAILS	400mm Ø DI							
CHAINAGE (m)	850.0	906.00	1043.0	1070.0	1098.0	1154.0	1194.0	1293.0 1300.0
HORIZONTAL ANGLE (°)								



NOTE:
NEW PIPE LINE OF 400mm Ø DI TO BELAID FROM SECTION AA TO SECTION B-B.

DO NOT SCALE

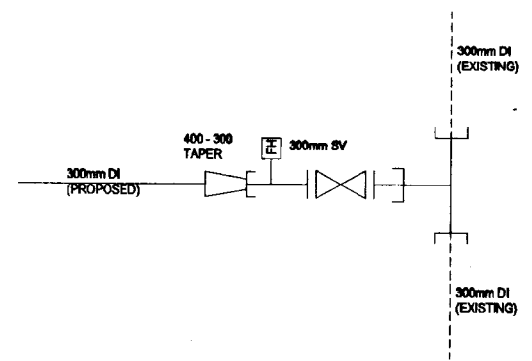
<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION WARD PLACE</p>
	<p>DESIGNED: [Signature]</p>	<p>DRAWN: THARANGA</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p>	<p>CHECKED: [Signature]</p>	<p>CONTRACT No: NRW / CW</p>
<p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>DR. TEAM LEADER: [Signature]</p>	<p>DRG. No: RML/DM/RF - 15</p>



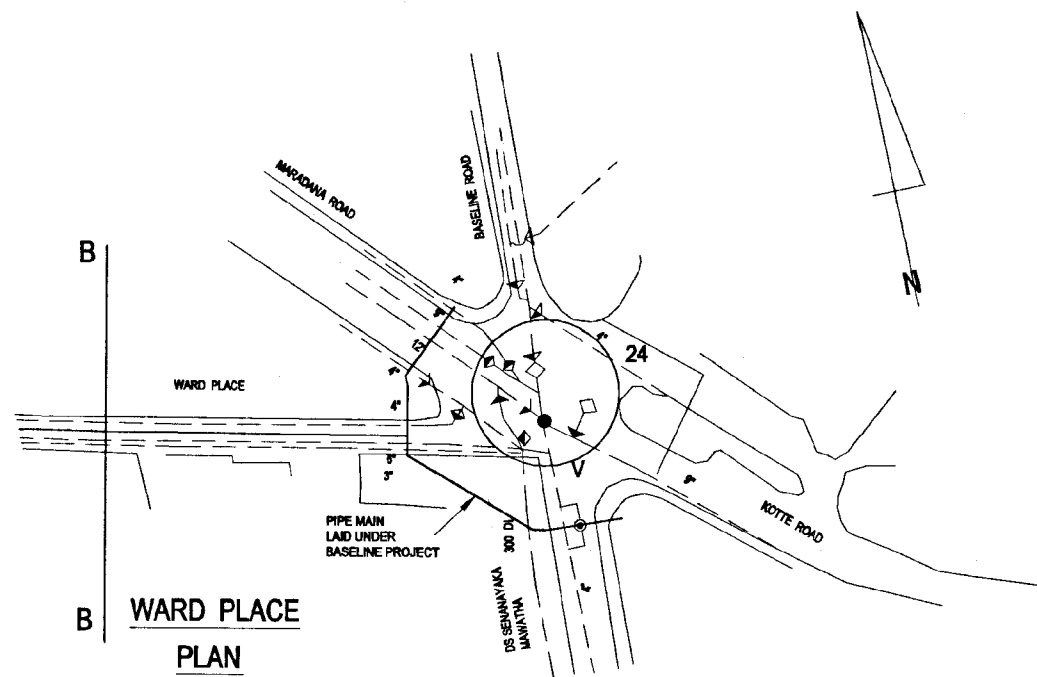
GROUND LEVEL (m)	7.18	7.70	8.00	9.00	9.70	10.00	10.90
INVERT LEVEL (m)	5.82	6.37	6.67	7.67	8.37	8.67	9.57
PIPE DETAILS	400mm DI PIPE						
CHAINAGE (m)	1300.0	1324.0	1328.0	1383.0	1408.0	1420.0	1446.0
HORIZONTAL ANGLE (°)							

LS ALONG WARD PLACE

CHAINAGE 1300.0m - 1446.0m




DETAIL "24"

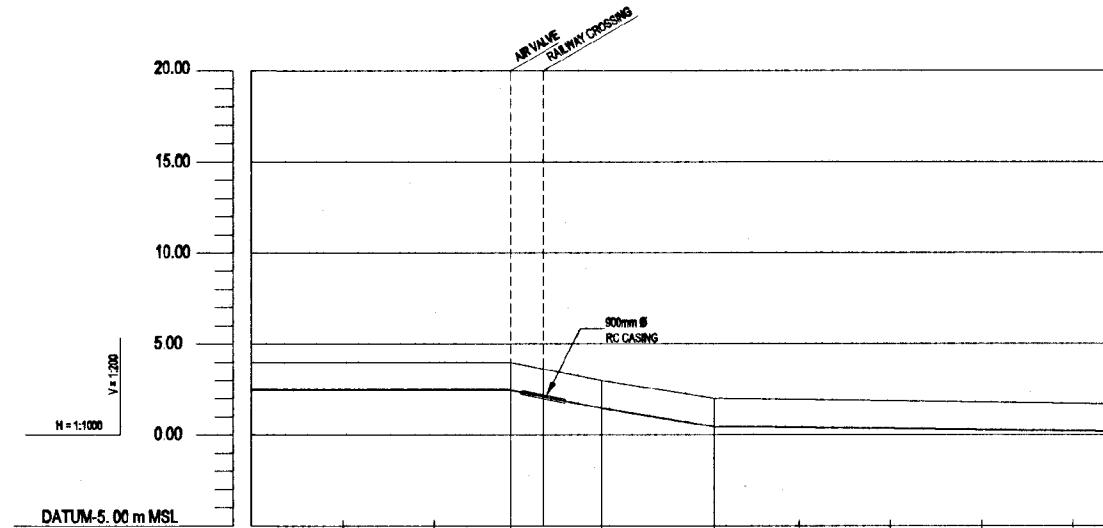


WARD PLACE PLAN
SCALE= 1:1000

NOTE:
NEW PIPE LINE OF 400mm Ø DI TO BE LAID FROM SECTION B-B TO POINT V.

DO NOT SCALE

 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC	TITLE: PLAN & LONGITUDINAL SECTION WARD PLACE
	SHEET 3 OF 3	
DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> DY. TEAM LEADER: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DRAWN: THARANGA PM (NRW/S&P) INCHARGE: <i>[Signature]</i> A.G.M (P&I) INCHARGE: <i>[Signature]</i> D.G.M (P&I) INCHARGE: <i>[Signature]</i>	DATE: JAN. 2001 CONTRACT No: NRW / CW DRG. No: RML/DW/RF - 16

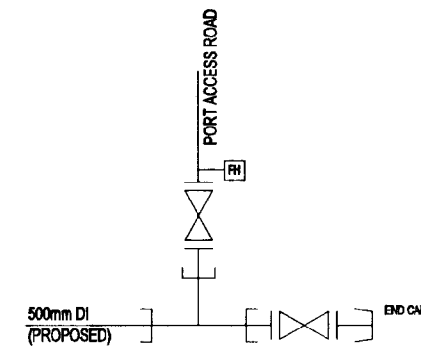
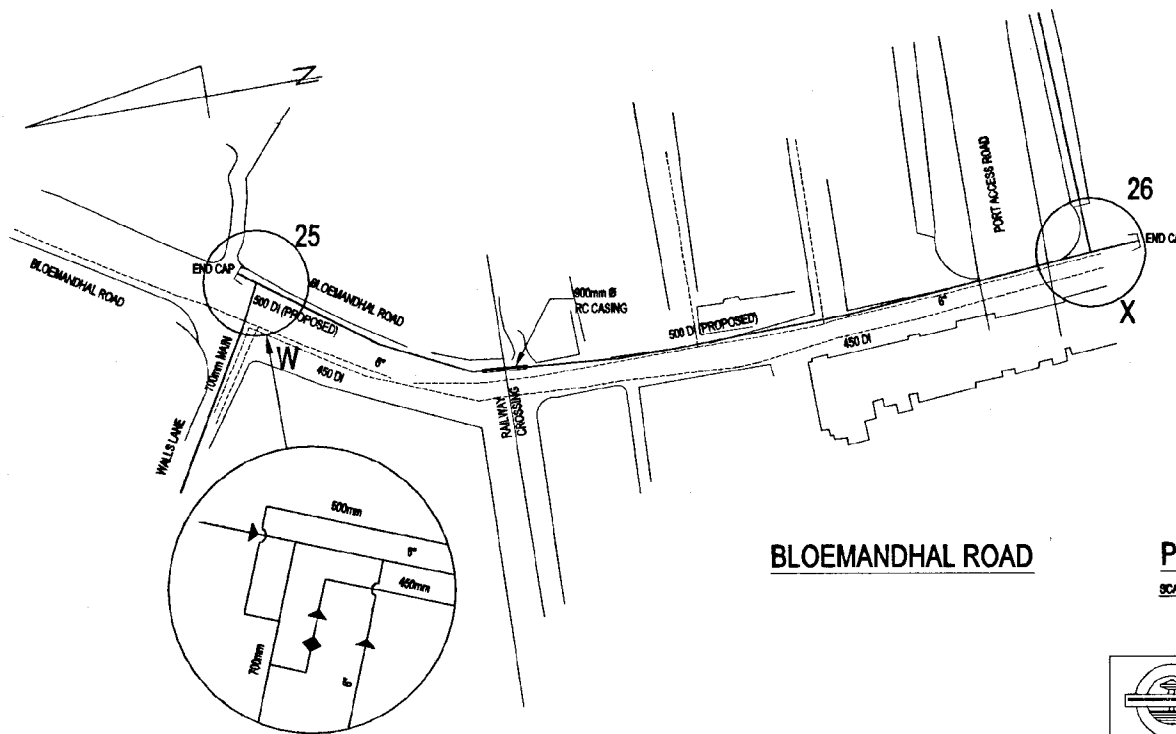
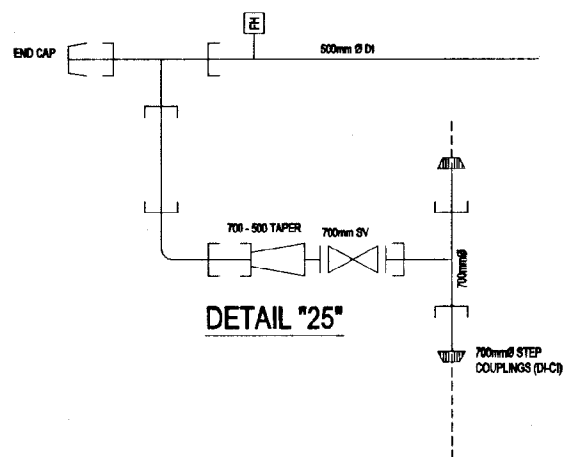


GROUND LEVEL (m)	4.00	4.00	3.00	1.70
INVERT LEVEL (m)	2.47	2.47	1.47	0.17
PIPE DETAILS	500mm DI			
CHAINAGE (m)	0.00	28.00	60.00	71.00
HORIZONTAL ANGLE (°)			22.5°	11.25°

NOTE:
RAILWAY CROSSING REFER STANDARD Dwg. NO. STD/C07

LS ALONG BLOEMANDHAL ROAD

CHAINAGE 0.0m - 237.0m




DETAIL "26"

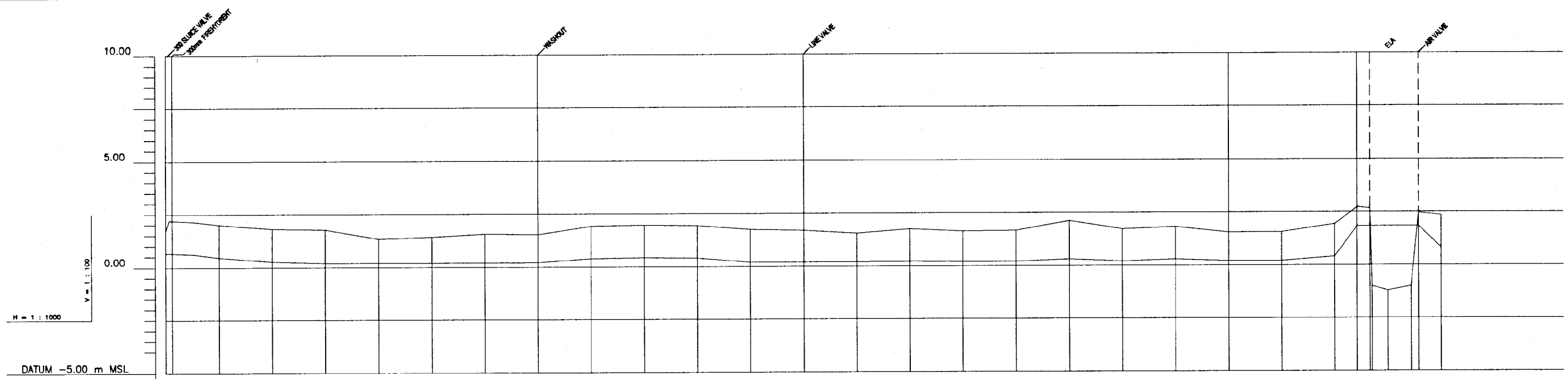
BLOEMANDHAL ROAD

PLAN

SCALE = 1:1000

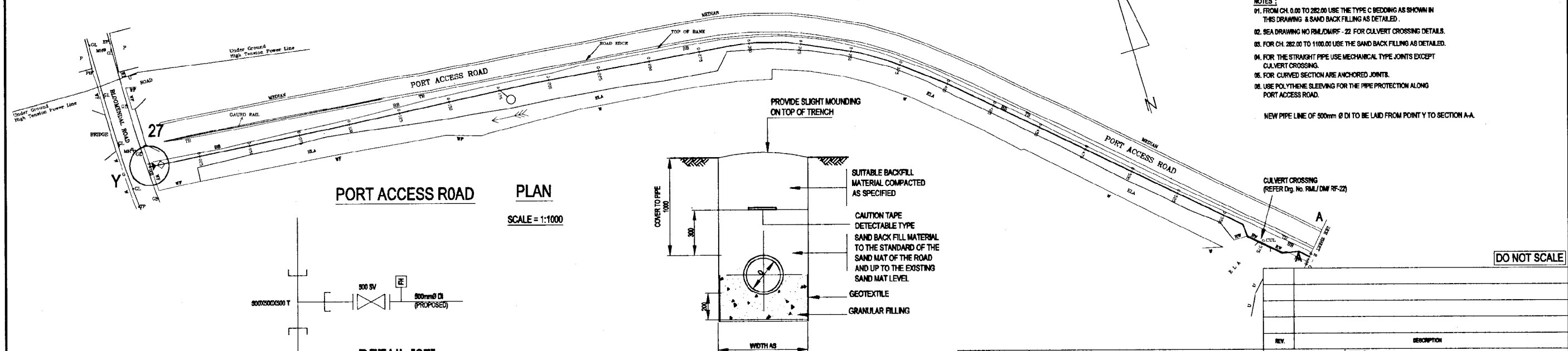
DO NOT SCALE

 <p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>		<p>TITLE: PLAN & LONGITUDINAL SECTION BLOEMANDHAL ROAD</p>	
	<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>		<p>DESIGNED: <i>[Signature]</i></p> <p>CHECKED: <i>[Signature]</i></p> <p>DR. TEAM LEADER: <i>[Signature]</i></p> <p>TEAM LEADER: <i>[Signature]</i></p>	<p>DRAWN: THARUNGA</p> <p>PM (NRWSAP) INCHARGE: <i>[Signature]</i></p> <p>A.G.M (PMD) INCHARGE: <i>[Signature]</i></p> <p>D.G.M (PMD) INCHARGE: <i>[Signature]</i></p>

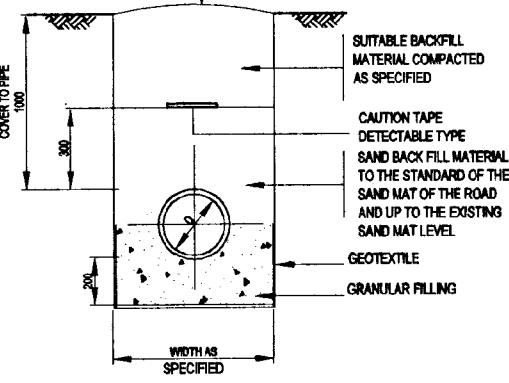
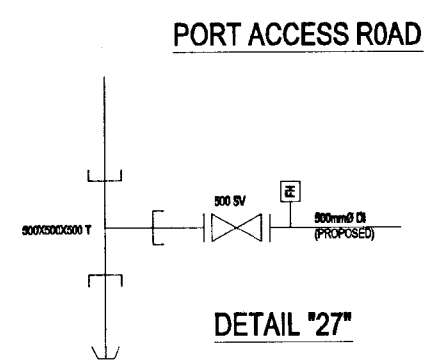


GROUND LEVEL (m)	1.70	2.00	1.80	1.76	1.33	1.41	1.55	1.52	1.91	1.95	1.92	1.73	1.68	1.53	1.74	1.62	1.65	2.10	1.70	1.81	1.54	1.55	1.92	2.52	-1.21	2.39	2.34	
INVERT LEVELS (m)	1.17	0.47	0.27	0.20	0.20	0.20	0.20	0.20	0.38	0.42	0.39	0.20	0.20	0.20	0.21	0.20	0.20	0.30	0.20	0.28	0.20	0.20	0.39	1.82	1.82	1.82	0.81	
PIPE DETAILS	500mm Ø DI																											
DISTANCE (m)	0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	590	590	600	
SLOPE																												
HORIZONTAL ANGLE (°)																												

LS ALONG PORT ACCESS ROAD
CHAINAGE 0.0m - 600.0m

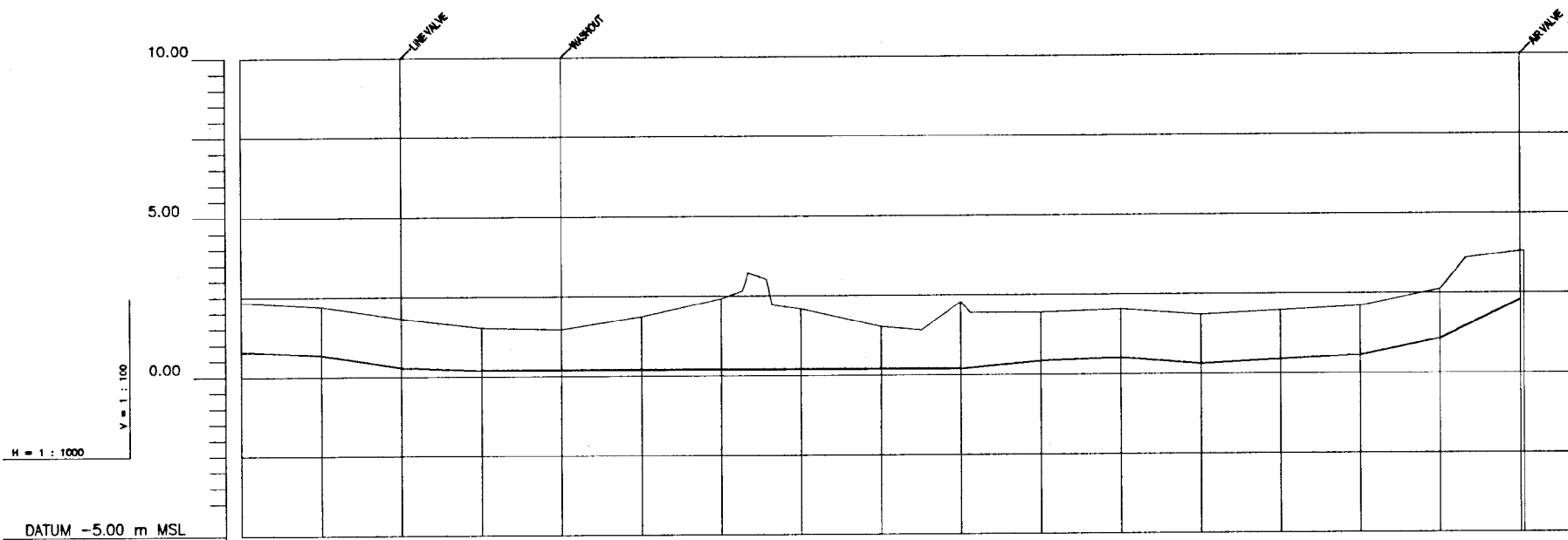


- NOTES :**
01. FROM CH. 0.00 TO 282.00 USE THE TYPE C BEDDING AS SHOWN IN THIS DRAWING & SAND BACK FILLING AS DETAILED.
 02. SEE DRAWING NO RML/DWRF-22 FOR CULVERT CROSSING DETAILS.
 03. FOR CH. 282.00 TO 1100.00 USE THE SAND BACK FILLING AS DETAILED.
 04. FOR THE STRAIGHT PIPE USE MECHANICAL TYPE JOINTS EXCEPT CULVERT CROSSING.
 05. FOR CURVED SECTION ARE ANCHORED JOINTS.
 06. USE POLYTHENE SLEEVING FOR THE PIPE PROTECTION ALONG PORT ACCESS ROAD.
- NEW PIPE LINE OF 500mm Ø DI TO BE LAID FROM POINT Y TO SECTION A-A.



BEDDING TYPE - C
FOR SOFT OR PEATY GROUND

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>DESIGNED: <i>[Signature]</i></p> <p>CHECKED: <i>[Signature]</i></p> <p>DR. TEAM LEADER: <i>[Signature]</i></p> <p>TEAM LEADER: <i>[Signature]</i></p>	<p>DESIGN: BHARANGA</p> <p>PI (PRO/SAPS) ENGINEER: <i>[Signature]</i></p> <p>A.S.M (P/CD) ENGINEER: E TO A <i>[Signature]</i></p> <p>D.A.M (P/CD) ENGINEER: <i>[Signature]</i></p>	<p>DATE: JAN. 2001</p> <p>CONTRACT NO: NRW / CW</p> <p>DRAWING NO: RML/DWRF - 18</p>
	<p>PLAN & LONGITUDINAL SECTION PORT ACCESS ROAD</p> <p>SHEET 01 OF 02</p>		<p>DO NOT SCALE</p>	

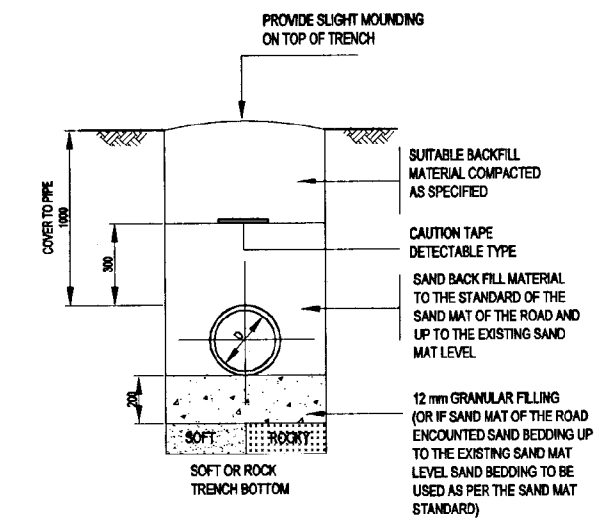


Pipe Dia. (D) (mm)	Normal Trench Width (mm)
63	450
90	450
110	500
160	550
225	600
250	600
300	650
400	750
500	900
600	1000
800	1450

Normal Pipe Dia. (mm)	Minimum Cover (mm)
63, 90	750
110, 160, 225, 250	900
Above 250	1000

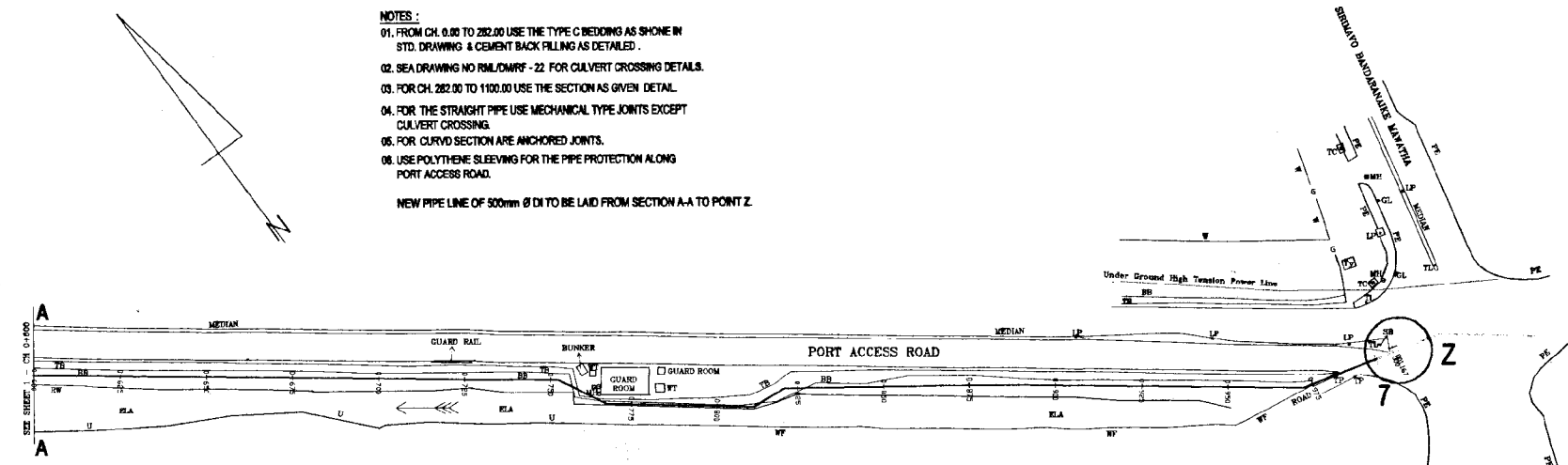
GROUND LEVEL (m)	2.34	2.20	1.82	1.52	1.47	1.86	2.41	2.08	1.52	2.28	1.81	2.03	1.84	1.97	2.10	2.80	3.81	
INVERT LEVELS (m)	0.81	0.67	0.29	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.28	0.50	0.31	0.44	0.57	1.09	2.28	
PIPE DETAILS	500mm Ø																	
DISTANCE (m)	800	625	650	675	700	725	750	775	800	810	825	850	875	900	925	950	975	1000
SLOPE	-																	
HORIZONTAL ANGLE (°)	-																	

LS ALONG PORT ACCESS ROAD
CHAINAGE 650.0m - 1015.0m

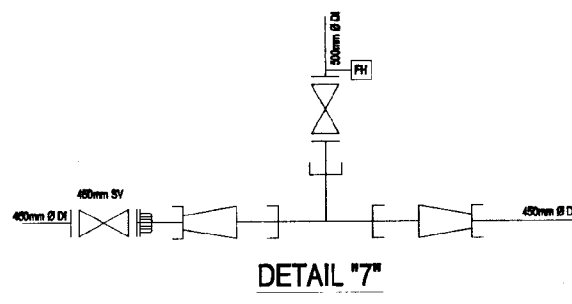


BEDDING TYPE - B
FOR WEAK GROUND OR
ROCKY TRENCH BOTTOM
CH FROM 0 + 282 TO 1 + 000

- NOTES :**
- FROM CH. 0.00 TO 282.00 USE THE TYPE C BEDDING AS SHOWN IN STD. DRAWING & CEMENT BACK FILLING AS DETAILED.
 - SEE DRAWING NO RML/DWRF - 22 FOR CULVERT CROSSING DETAILS.
 - FOR CH. 282.00 TO 1100.00 USE THE SECTION AS GIVEN DETAIL.
 - FOR THE STRAIGHT PIPE USE MECHANICAL TYPE JOINTS EXCEPT CULVERT CROSSING.
 - FOR CURVED SECTION ARE ANCHORED JOINTS.
 - USE POLYTHENE SLEEVING FOR THE PIPE PROTECTION ALONG PORT ACCESS ROAD.
- NEW PIPE LINE OF 500mm Ø DI TO BE LAID FROM SECTION A-A TO POINT Z.



PORT ACCESS ROAD PLAN
SCALE = 1:1000

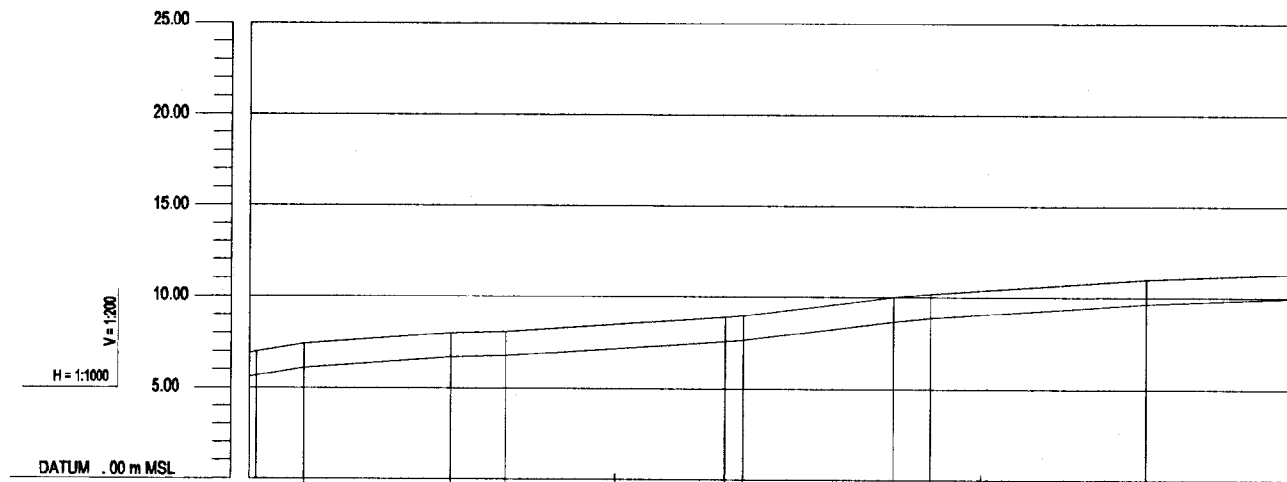


DETAIL "7"

DO NOT SCALE

 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA		SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC TITLE: PLAN & LONGITUDINAL SECTION PORT ACCESS ROAD SHEET 02 OF 02
DESIGNED: [Signature] CHECKED: [Signature] DR. TEAM LEADER: [Signature] TEAM LEADER: [Signature]	DRAWN: THARANGA PA (PW/SAPS) INCHARGE: [Signature] AGM (PW) INCHARGE: P. D. A. J. DGM (PW) INCHARGE: [Signature]	DATE: JUN. 2001 CONTRACT No: NRW / CW DRG No: RML/DWRF - 19

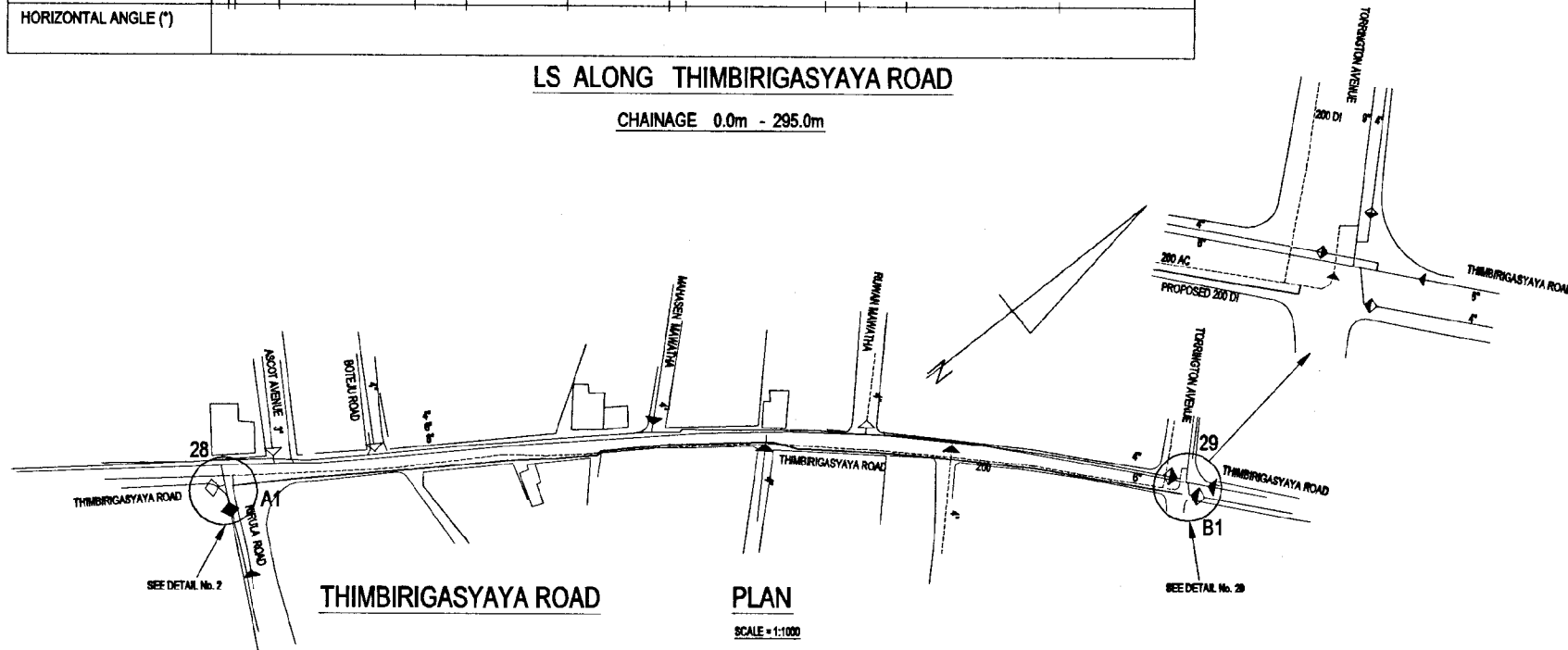
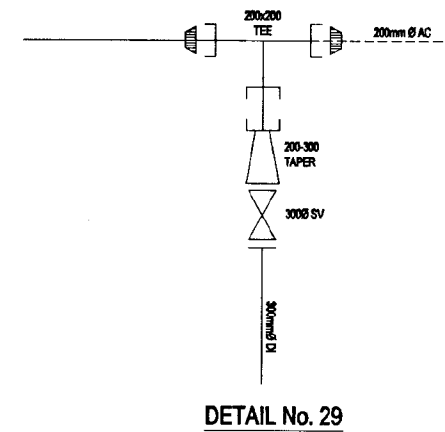
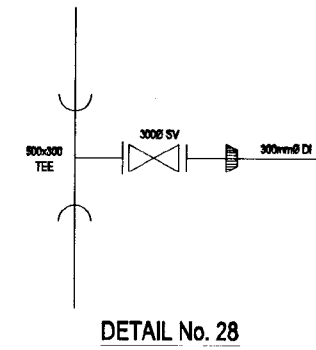
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM
 NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN



	0.00	2.00	15.00	55.00	70.00	100.00	130.00	135.00	175.00	180.00	200.00	245.00	295.00
GROUND LEVEL (m)	6.90	7.00	7.40	8.00	8.10	8.90	9.00	10.00	10.20	11.00	11.30		
INVERT LEVEL (m)	5.97	5.97	6.07	6.07	6.77	7.57	7.67	8.67	8.67	8.67	8.67	8.67	9.67
PIPE DETAILS	300mm DI												
CHAINAGE (m)	0.00	2.00	15.00	55.00	70.00	100.00	130.00	135.00	175.00	180.00	200.00	245.00	295.00
HORIZONTAL ANGLE (°)													

LS ALONG THIMBIRIGASYAYA ROAD

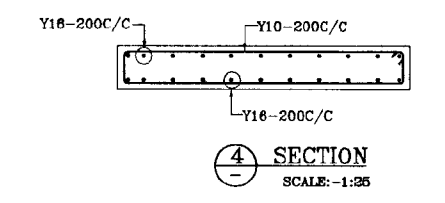
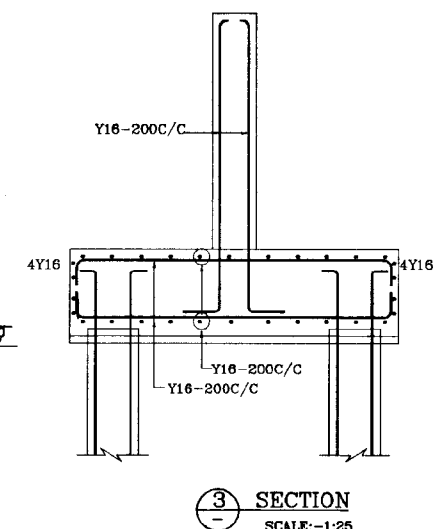
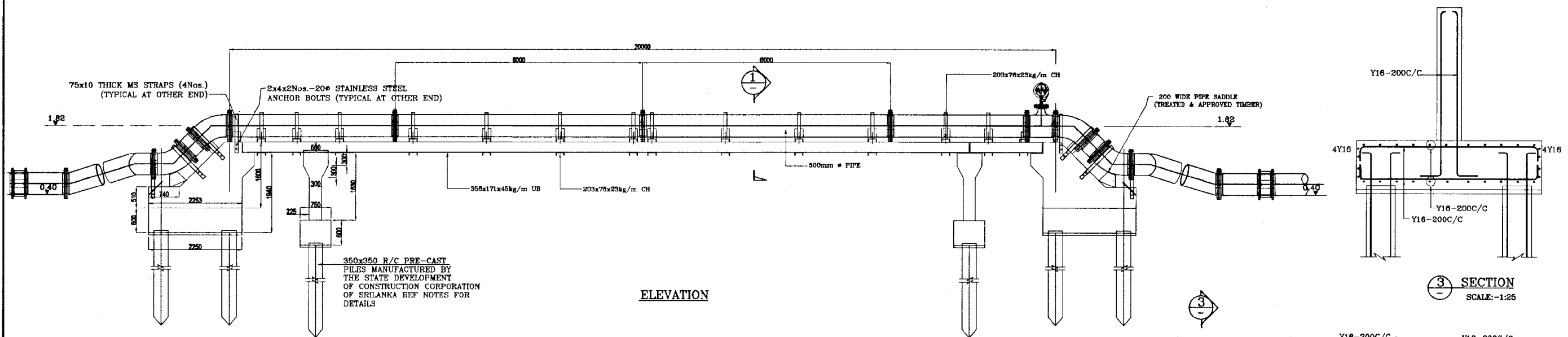
CHAINAGE 0.0m - 295.0m



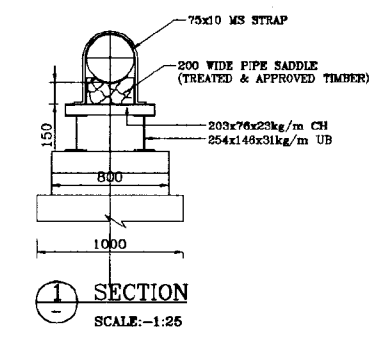
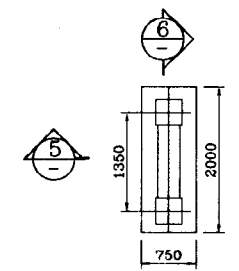
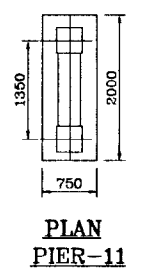
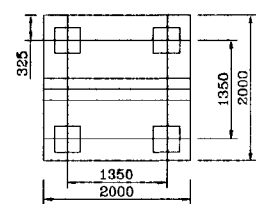
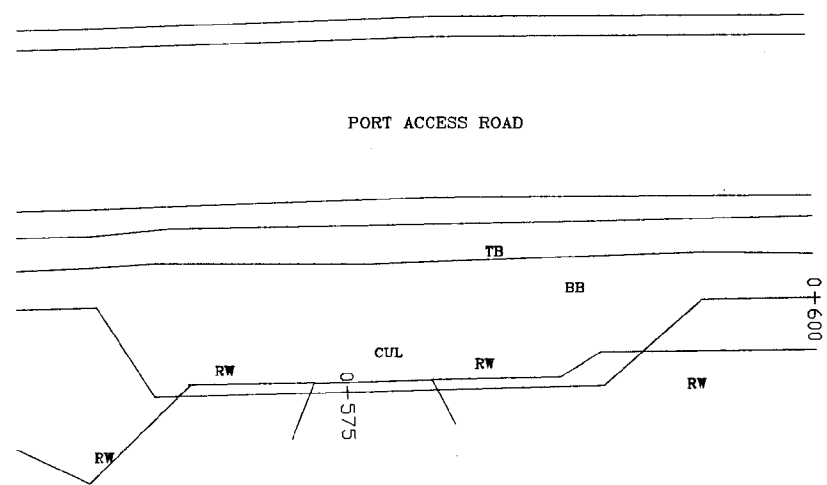
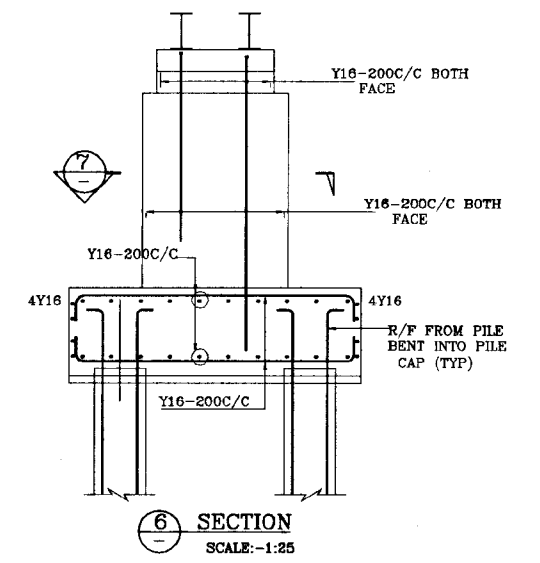
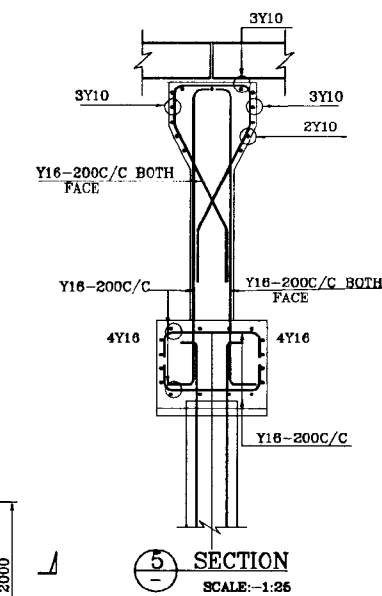
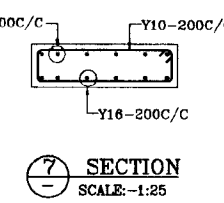
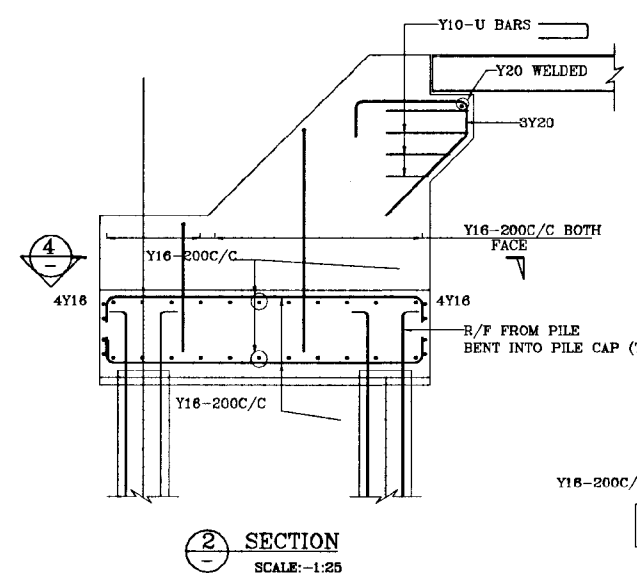
NOTE:
NEW PIPE LINE OF 300mm Ø DI TO BE LAID FROM POINT A1 TO POINT B1.

DO NOT SCALE

<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>	<p>TITLE: PLAN & LONGITUDINAL SECTION THIMBIRIGASYAYA ROAD</p>
	<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>DESIGNED: [Signature]</p> <p>CHECKED: [Signature]</p> <p>DR. TEAM LEADER: [Signature]</p> <p>TEAM LEADER: [Signature]</p>



- Refer to Standard Drawings for general notes and standard details.
- Structural concrete shall be as follows.
 - In-situ structural concrete -grade 25.
 - Pre-cast rc piles -grade 40.
- Structural steel shall be grade 43 A and shall be hot dip galvanized after fabrication.
- The safe working load of 350 x 350 pre-cast rc friction bearing piles shall be
 - 200 kN in direct vertical load (compression) and
 - 75 kN in direct vertical upward (tension)
- At least one separate test pile (3.0 times working load) and a working pile (1.5 times working load) shall be tested at Port Access road culvert crossing.
- Depth to the Bed Rock is 15m.

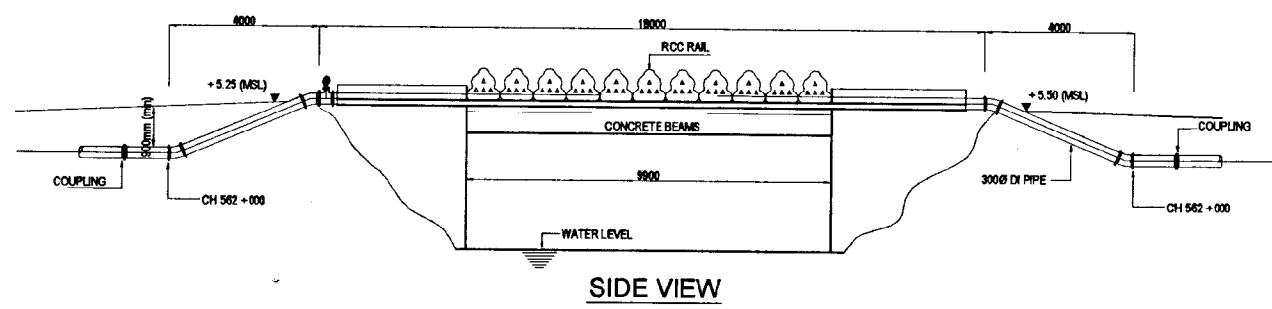


DO NOT SCALE

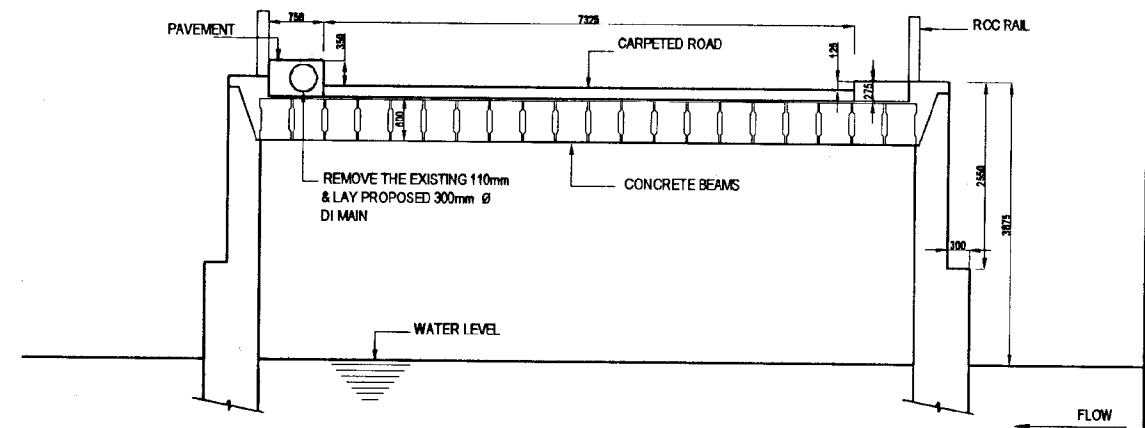
REV.	DESCRIPTION	SUB PROJECT		TITLE	
		MEDIUM & LARGE DIAMETER IN CMC		CULVERT CROSSING AT PORT ACCESS ROAD GENERAL ARRANGEMENT & R/F DETAILS	
		DESIGNED	DRAWN	DATE	
		CHECKED	THIRANGA	JUL 2001	
		DR. TEAM LEADER	PM (NRW/SAPS) NWSDB	CONTRACT No.	NRW/CW
		TEAM LEADER	AGM(P&D) NWSDB	DRG. No.	
			DCM(P&D) NWSDB		RML/DM/RF - 22

NATIONAL WATER SUPPLY AND DRAINAGE BOARD
THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA

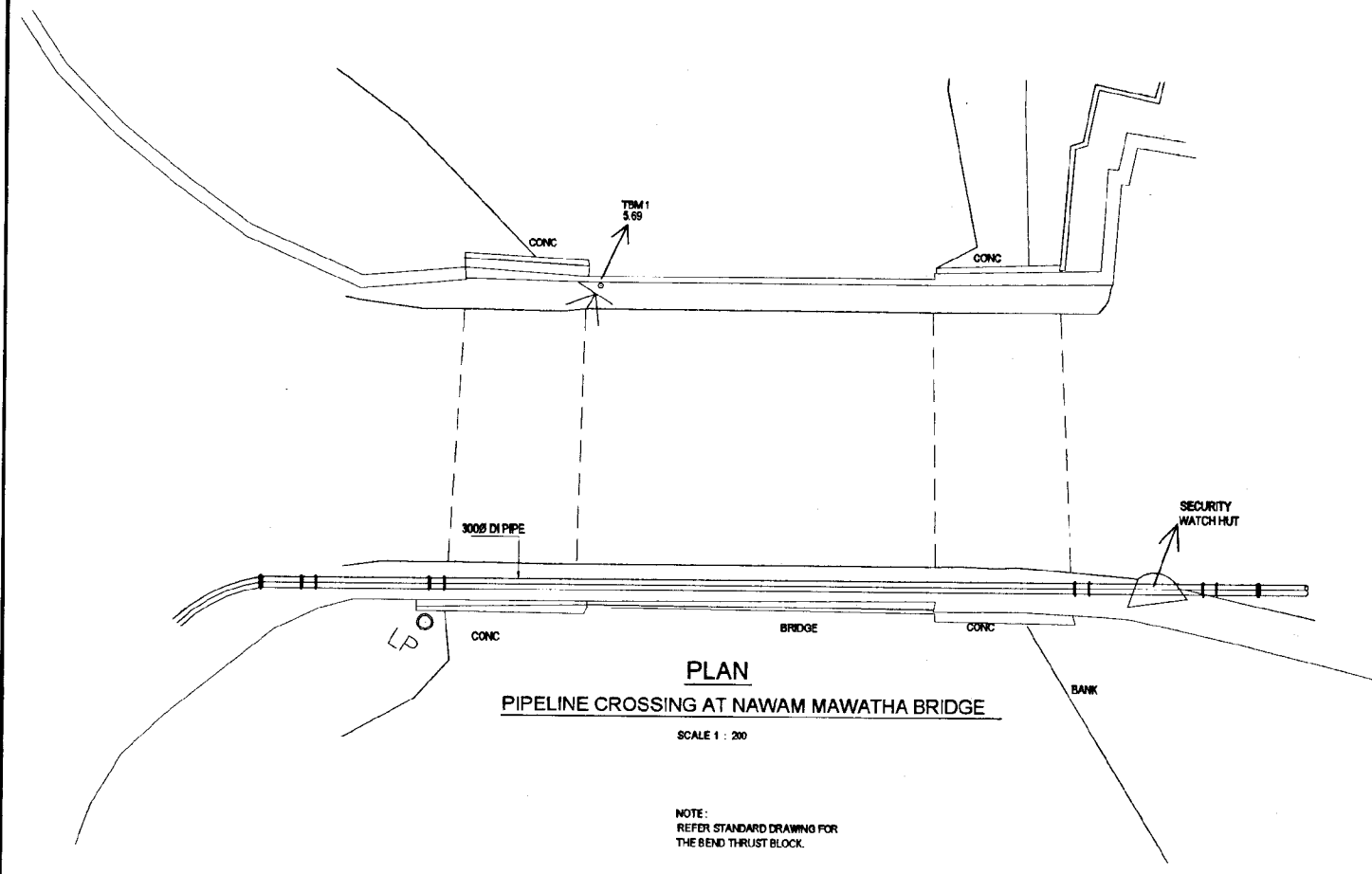
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
STUDY TEAM
NIHON SUIDO CONSULTANTS CO. LTD.,
TOKYO, JAPAN



SIDE VIEW




SECTION
SCALE 1 : 100

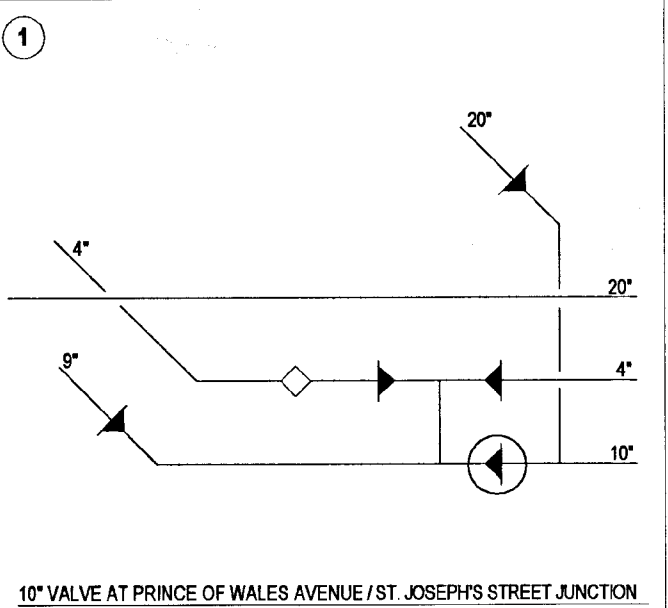


PLAN
PIPELINE CROSSING AT NAWAM MAWATHA BRIDGE
SCALE 1 : 200

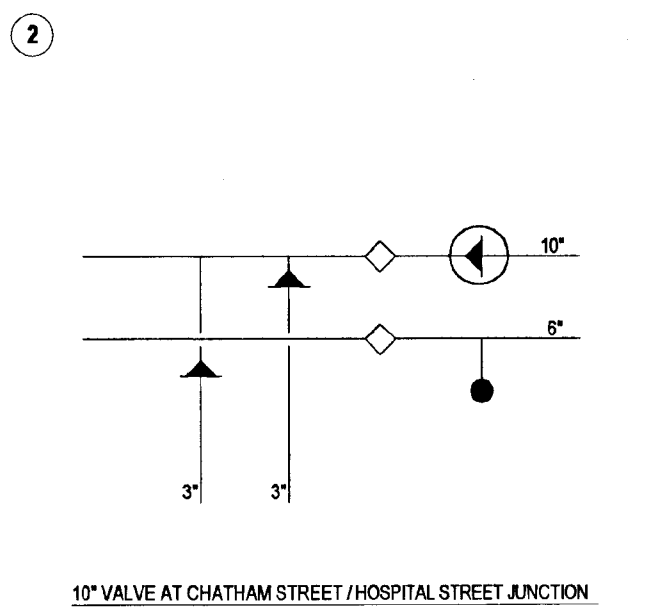
NOTE:
REFER STANDARD DRAWING FOR
THE BEND THRUST BLOCK.

DO NOT SCALE

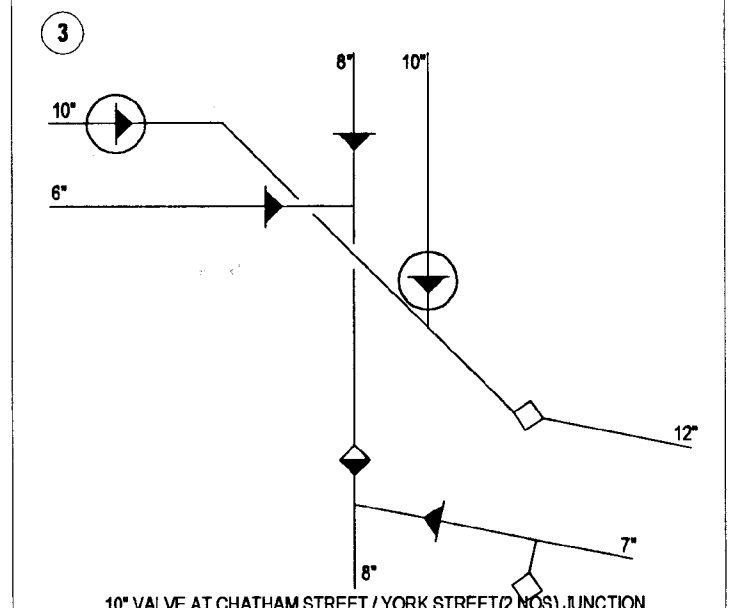
 <p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM AND LARGE DIAMETER IN CMC</p>		<p>TITLE: PIPE LINE DETAILS OF BRIDGE CROSSING AT NAWAM MAWATHA</p>	
	<p>DESIGNED: <i>[Signature]</i></p>		<p>DATE: JUN 2001</p>	
	<p>CHECKED: <i>[Signature]</i></p>		<p>CONTRACT No: NRW / CW</p>	
	<p>DR. TEAM LEADER: <i>[Signature]</i></p>		<p>DRG. No: RML/DM/RF - 23</p>	
<p>TEAM LEADER: <i>[Signature]</i></p>		<p>DATE: THIRUVANANTHAPURAM</p>		
<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p>		<p>PI (P/W/S/PS) INCHARGE: <i>[Signature]</i></p>		
<p>NIHON SUDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>		<p>A.S.M (P/W) INCHARGE: <i>[Signature]</i></p>		
		<p>D.A.M (P/W) INCHARGE: <i>[Signature]</i></p>		



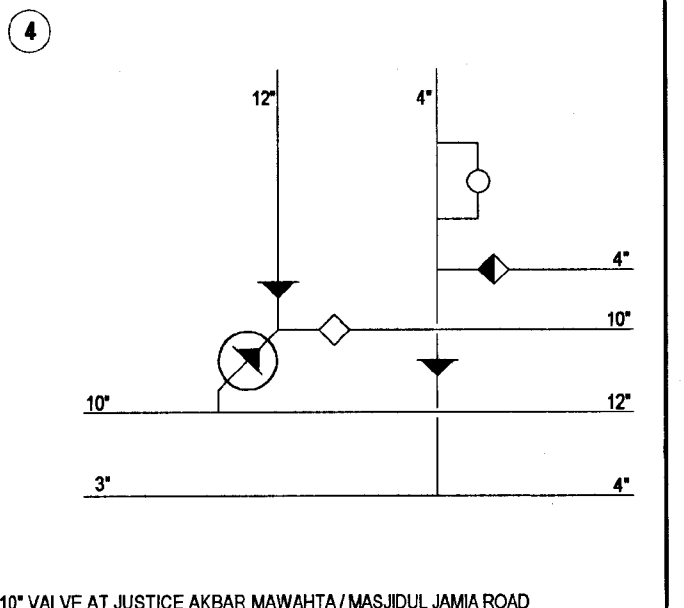
10" VALVE AT PRINCE OF WALES AVENUE / ST. JOSEPH'S STREET JUNCTION



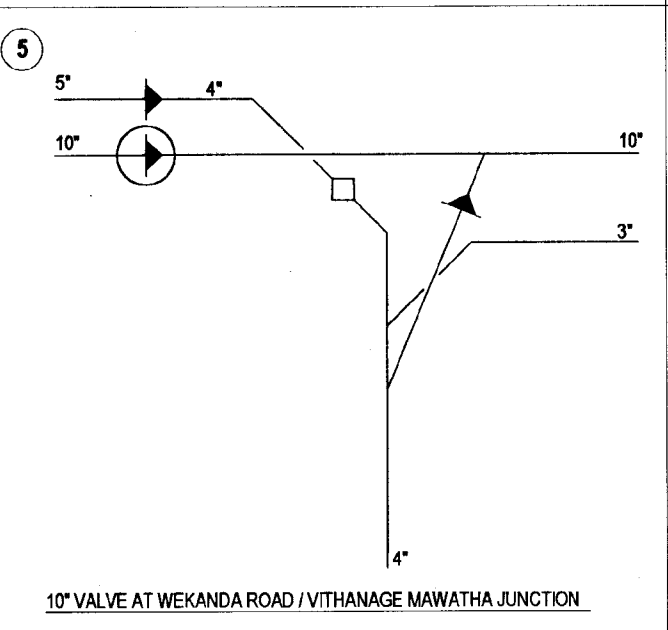
10" VALVE AT CHATHAM STREET / HOSPITAL STREET JUNCTION



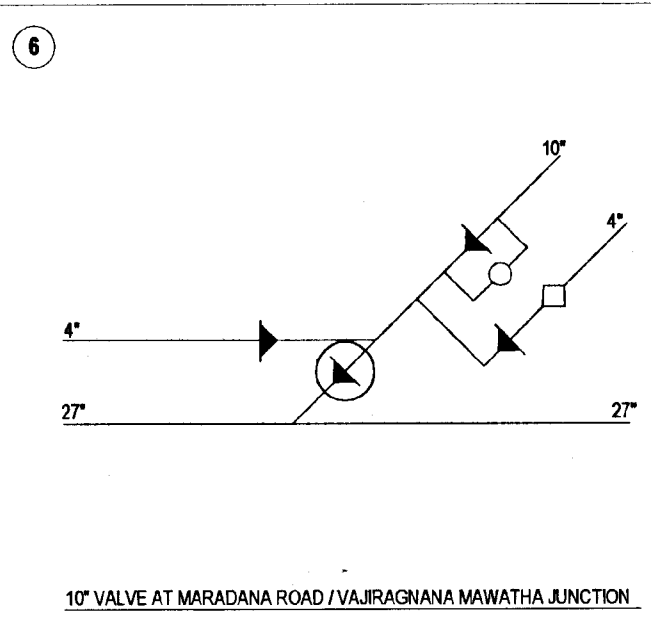
10" VALVE AT CHATHAM STREET / YORK STREET (2 NOS) JUNCTION



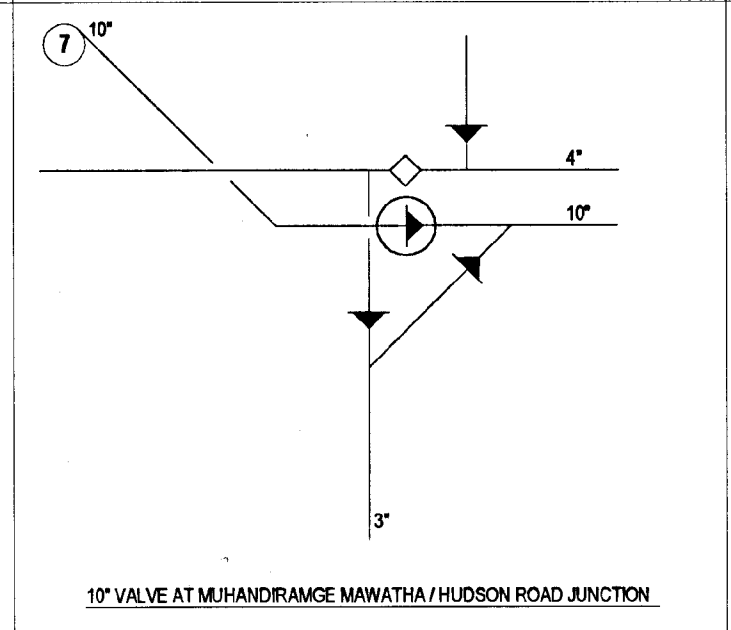
10" VALVE AT JUSTICE AKBAR MAWAHTA / MASJIDUL JAMIA ROAD JUNCTION



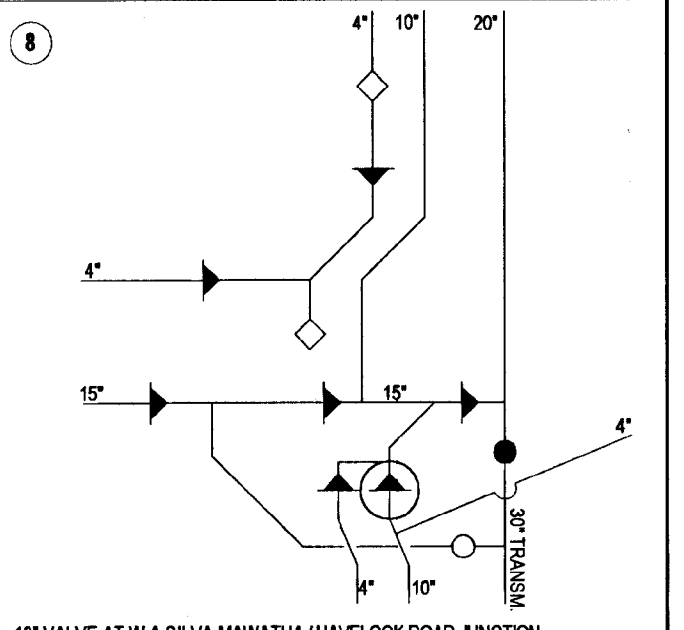
10" VALVE AT WEKANDA ROAD / VITHANAGE MAWAHTA JUNCTION



10" VALVE AT MARADANA ROAD / VAJIRAGNANA MAWAHTA JUNCTION



10" VALVE AT MUJHANDIRANGE MAWAHTA / HUDSON ROAD JUNCTION

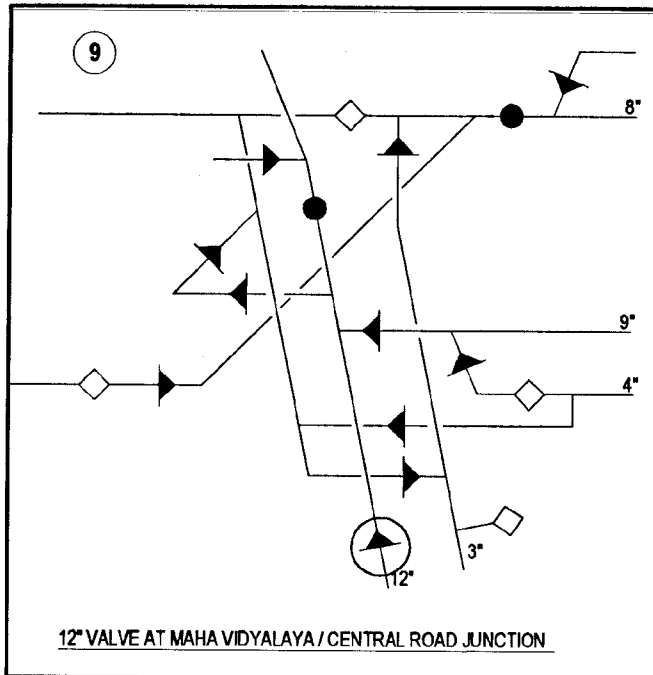


10" VALVE AT W.A SILVA MAWAHTA / HAVELOCK ROAD JUNCTION

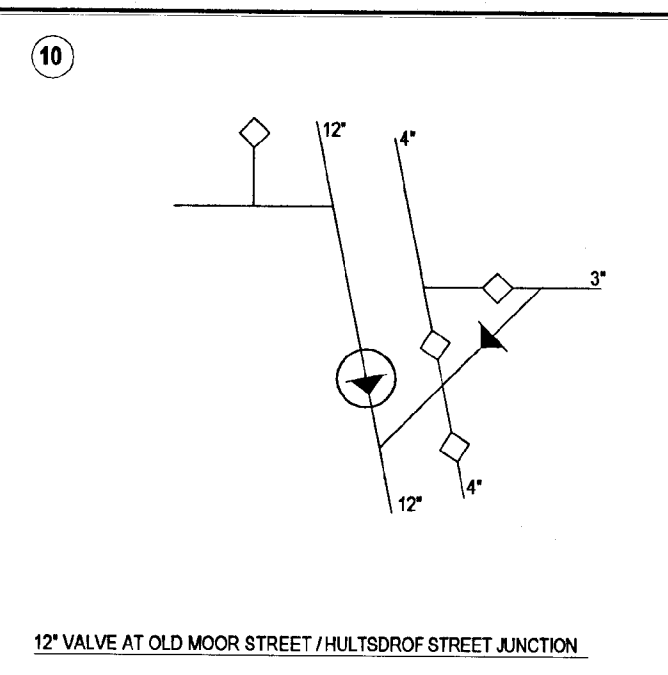
DO NOT SCALE

REV.	DESCRIPTION

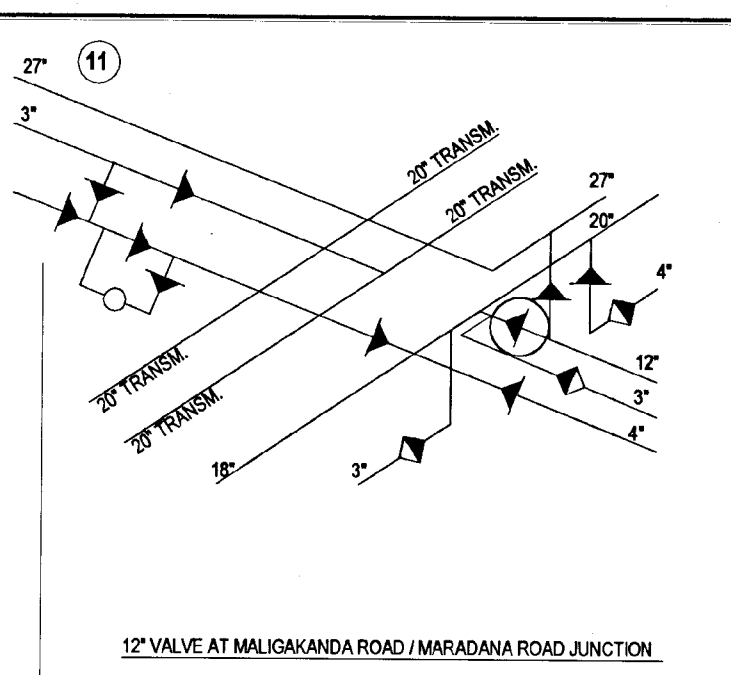
	NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	TITLE: 10" VALVES PROPOSED FOR REPLACEMENT
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM NIPPON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN	DESIGNED: [Signature] CHECKED: [Signature] DR. TEAM LEADER: [Signature] TEAM LEADER: [Signature]



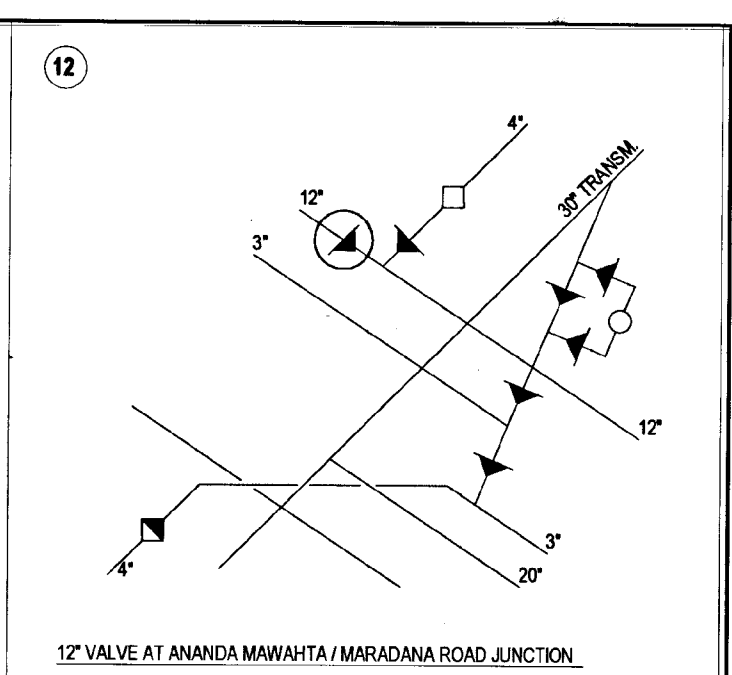
12" VALVE AT MAHA VIDYALAYA / CENTRAL ROAD JUNCTION



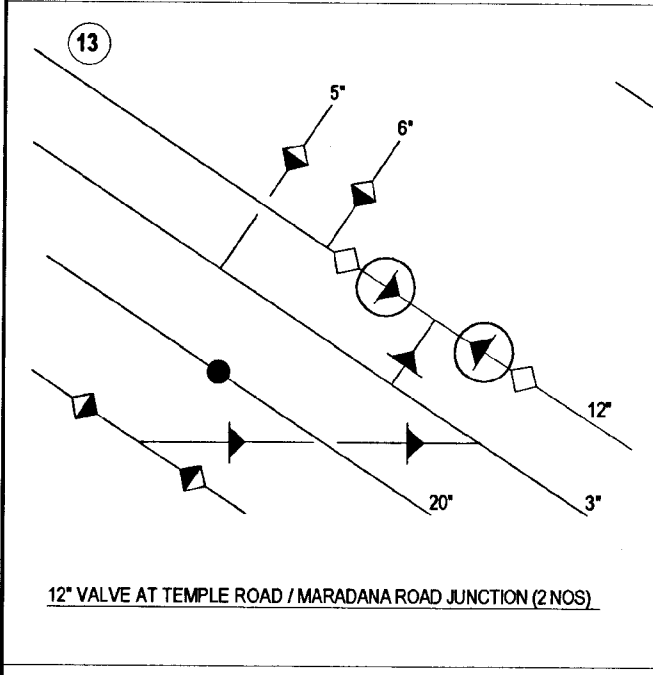
12" VALVE AT OLD MOOR STREET / HULTSDROF STREET JUNCTION



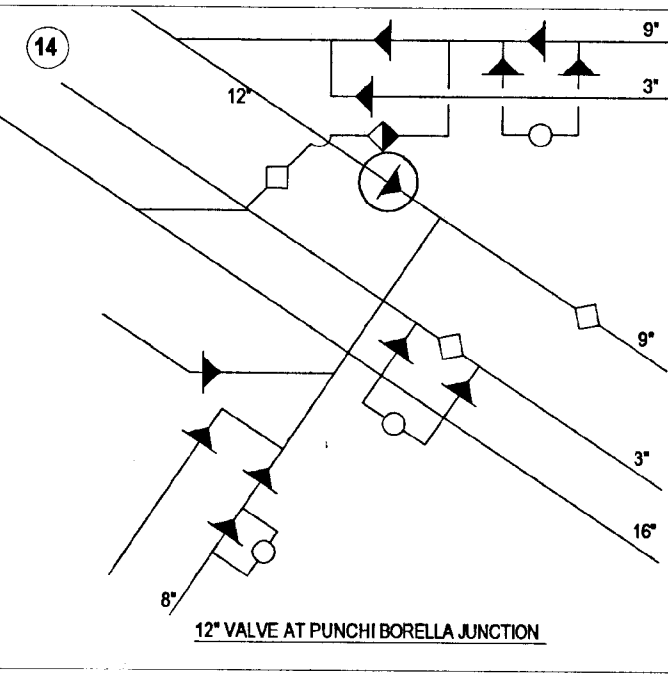
12" VALVE AT MALIGAKANDA ROAD / MARADANA ROAD JUNCTION



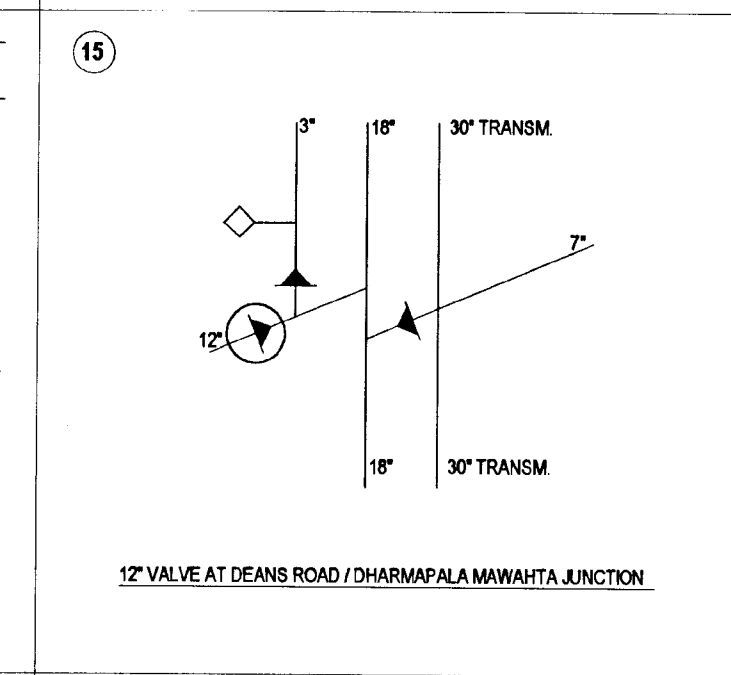
12" VALVE AT ANANDA MAWAHTA / MARADANA ROAD JUNCTION



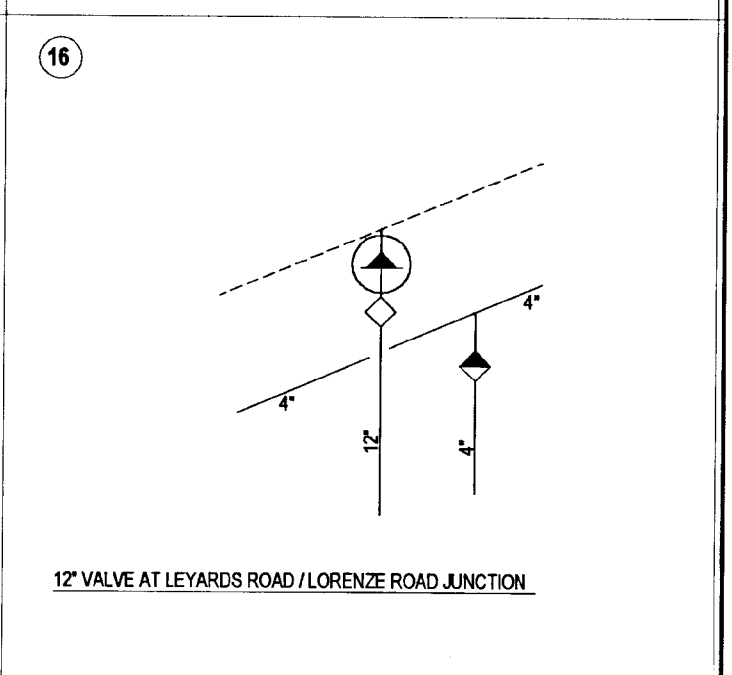
12" VALVE AT TEMPLE ROAD / MARADANA ROAD JUNCTION (2 NOS)



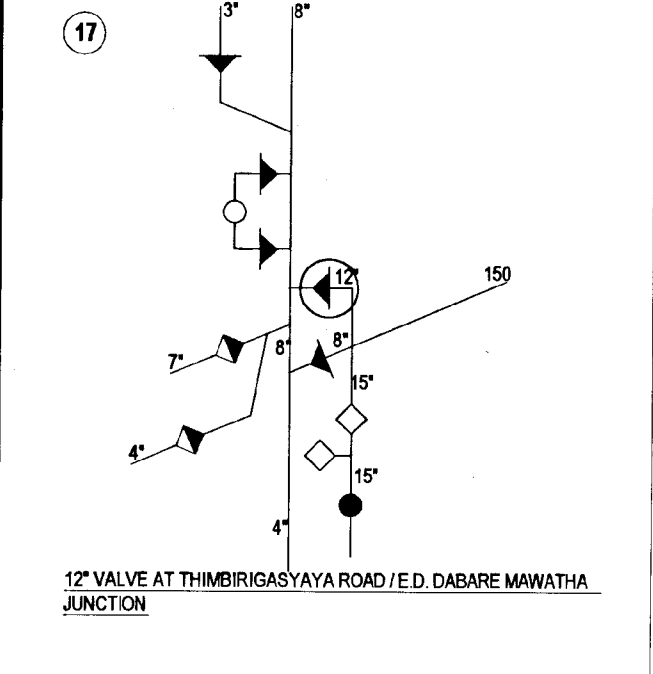
12" VALVE AT PUNCHI BORELLA JUNCTION



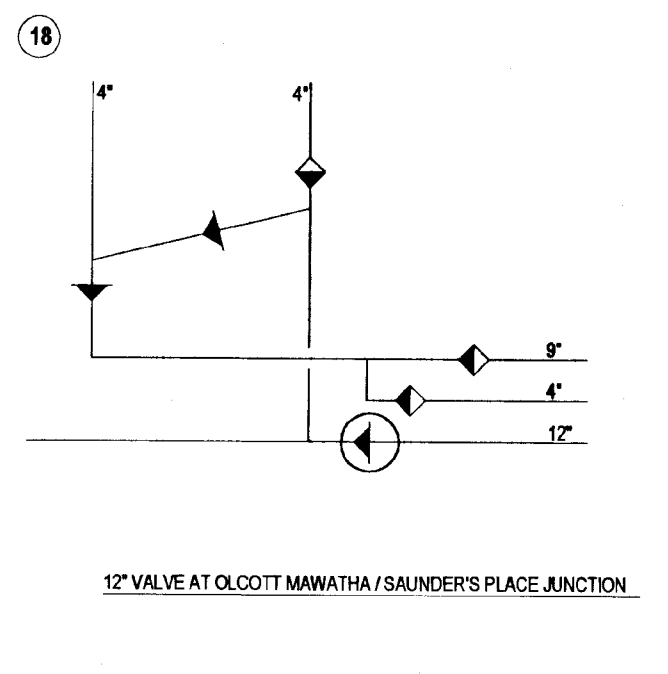
12" VALVE AT DEANS ROAD / DHARMAPALA MAWAHTA JUNCTION



12" VALVE AT LEYARDS ROAD / LORENZE ROAD JUNCTION




12" VALVE AT THIMBRIGASYAYA ROAD / E.D. DABARE MAWAHTA JUNCTION

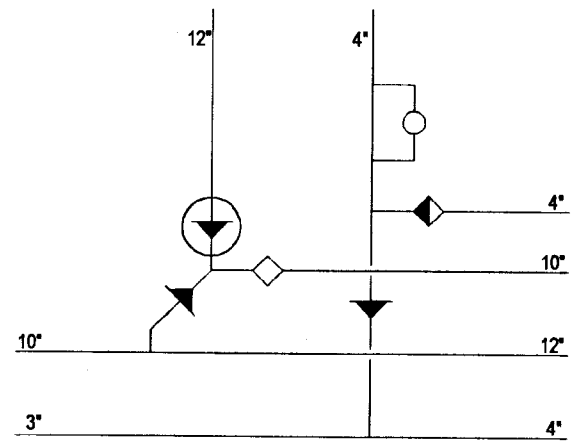


12" VALVE AT OLCOTT MAWAHTA / SAUNDER'S PLACE JUNCTION

DO NOT SCALE

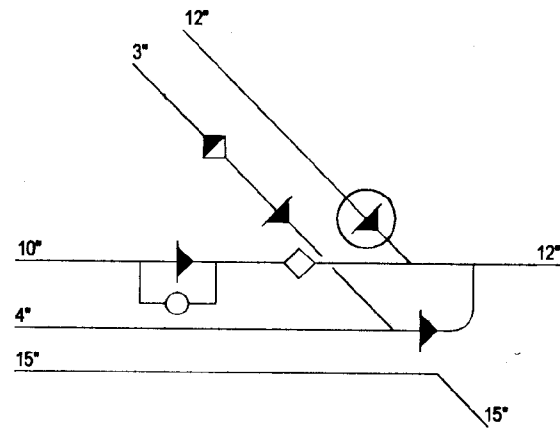
 <p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	<p>SUB PROJECT: MEDIUM & LARGE DIAMETER MAINS</p>		<p>TITLE: 12" VALVES PROPOSED FOR REPLACEMENT</p>		
	<p>DESIGNED: <i>[Signature]</i></p>		<p>DRAWN: THILIN</p>	<p>DATE: JAN. 2001</p>	
	<p>CHECKED: <i>[Signature]</i></p>		<p>PI (NRWSA'S) INCHES: <i>[Signature]</i></p>	<p>CONTRACT NO: NRW / CW</p>	
	<p>DR. TEAM LEADER: <i>[Signature]</i></p>		<p>A.S.M (P.D) INCHES: <i>[Signature]</i></p>	<p>DRG. NO: RML / DM / VR - 02</p>	
<p>TEAM LEADER: <i>[Signature]</i></p>		<p>D.S.M (P.D) INCHES:</p>	<p>SHEET 1 OF 2</p>		

19




12" VALVE AT JUSTICE AKBAR MAWAHTA / MASJIDUL ROAD JUNCTION

20

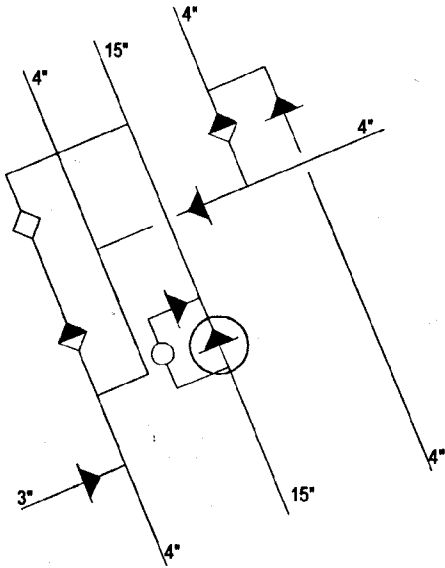


12" VALVE AT DHARMAPALA MAWAHTA / UNION PLACE JUNCTION

DO NOT SCALE

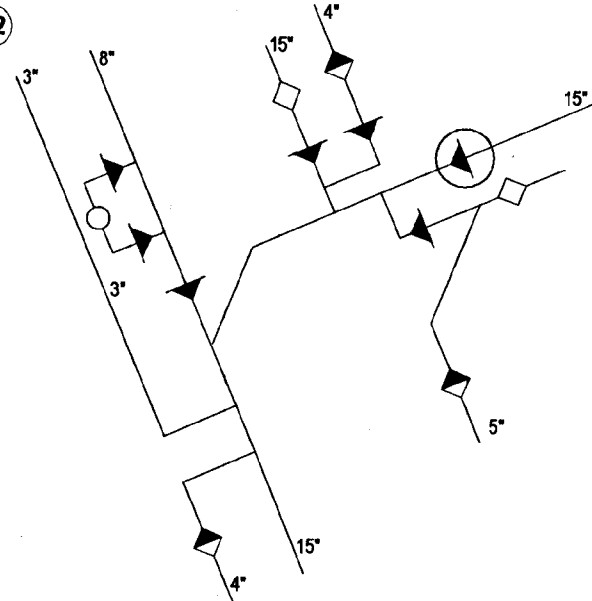
 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM & LARGE DIAMETER MAINS	TITLE: 12" VALVES PROPOSED FOR REPLACEMENT
	SHEET 2 OF 2	
DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> DR. TEAM LEADER: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DESIGN: THL/BN PM (NRW/SAP) NUMBER: <i>[Signature]</i> A.B.M (PM) NUMBER: <i>[Signature]</i> D.G.M (PM) NUMBER:	DATE: JAN. 2001 CONTRACT No: NRW / CW DRG. No: RML / DM / VR - 03

21



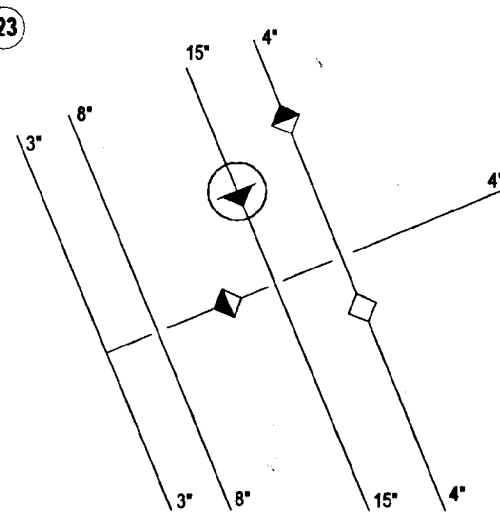
15" VALVE AT LAURIS ROAD / GALLE ROAD JUNCTION

22



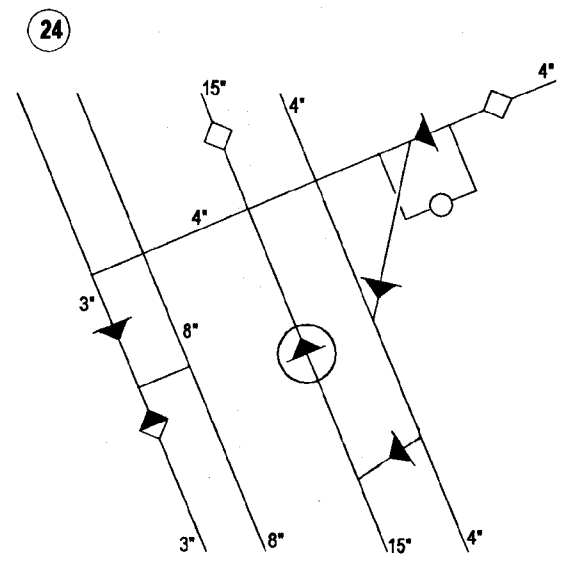
15" VALVE AT BAGATALE ROAD / GALLE ROAD JUNCTION

23



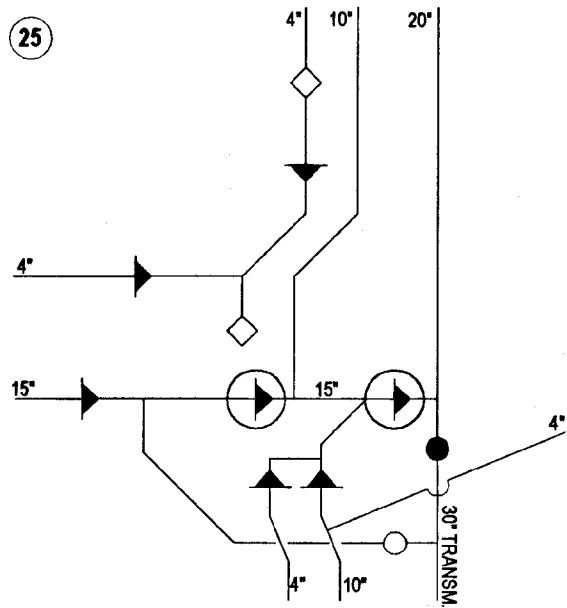
15" VALVE AT VALUKARAMA ROAD / GALLE ROAD JUNCTION

24




15" VALVE AT COLPITY LANE / GALLE ROAD JUNCTION

25

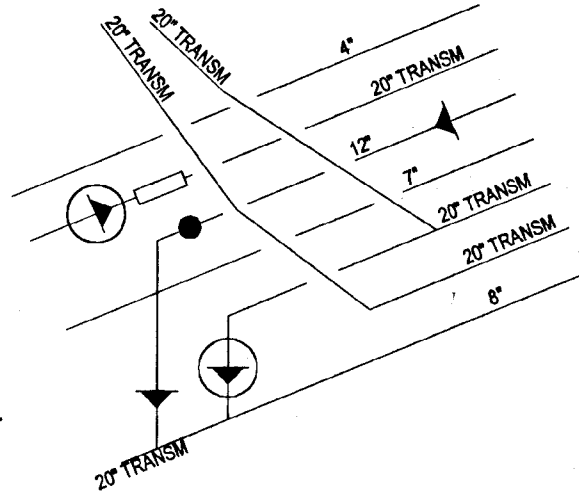


15" VALVE AT W.A SILVA MAWATHA / HAVELOCK ROAD JUNCTION

DO NOT SCALE

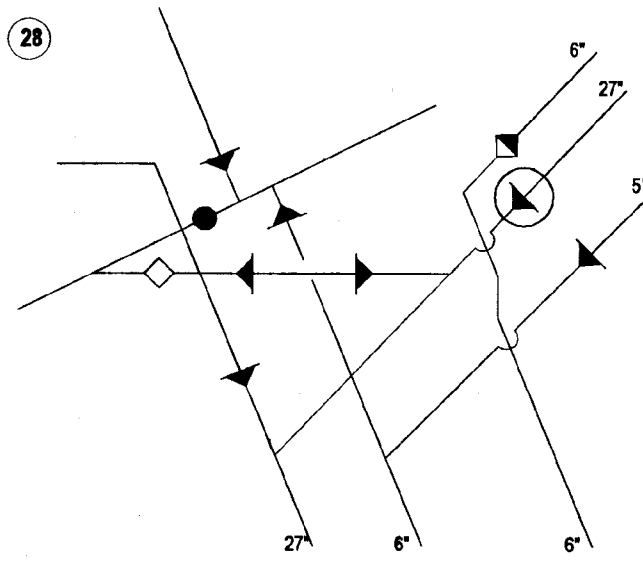
 <p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	<p>SUB PROJECT: MEDIUM & LARGE DIAMETER MAINS</p>	<p>TITLE: 15" VALVES PROPOSED FOR REPLACEMENT</p>	
	<p>DESIGNED: <i>[Signature]</i></p>	<p>DRAWN: <i>[Signature]</i></p>	<p>DATE: JAN 2001</p>
	<p>CHECKED: <i>[Signature]</i></p>	<p>PI (PHYSICAL) NUMBER: <i>[Signature]</i></p>	<p>CONTRACT NO.:</p>
	<p>DT. TEAM LEADER: <i>[Signature]</i></p>	<p>A.S.M (PHD) NUMBER: <i>[Signature]</i></p>	<p>DWG. No.:</p>
	<p>TEAM LEADER: <i>[Signature]</i></p>	<p>D.G.M (PHD) NUMBER:</p>	<p>RML / DM / VR - 04</p>

27



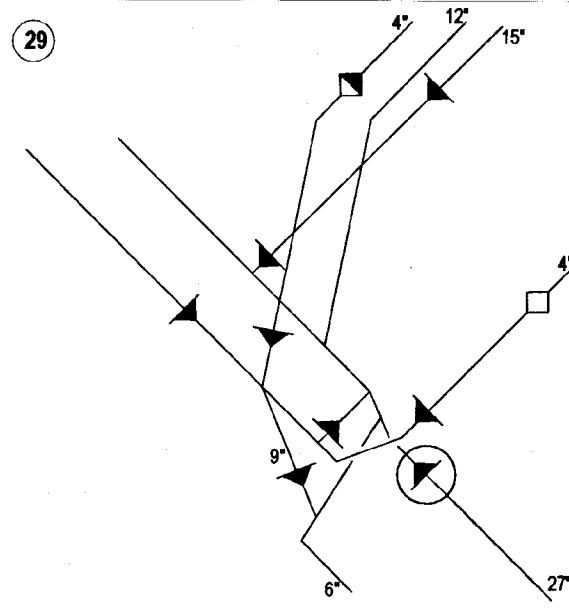
20" VALVE AT ALUTH MAWATHA / ST. JAMES STREET JUNCTION

28



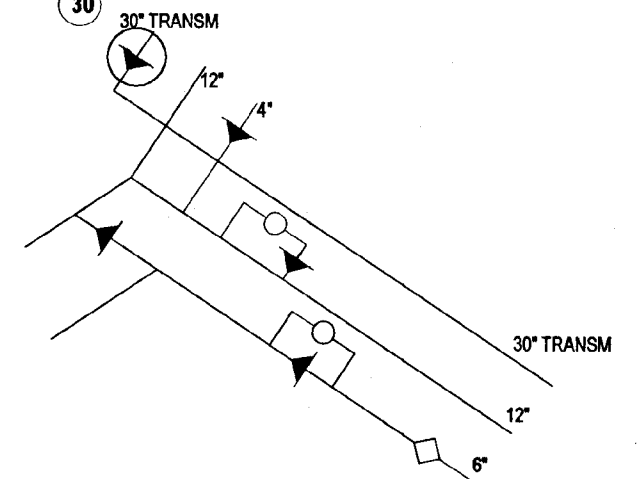
27" VALVE AT ST. SEBASTIAN HILL / HULTSDROP ROAD JUNCTION

29



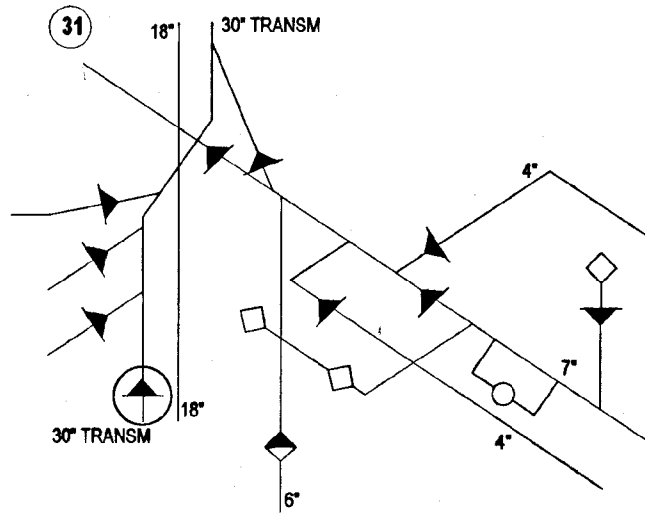
27" VALVE AT PANCHIKAWATTA / DARLY ROAD JUNCTION

30




30" VALVE AT C.W. KANNANGARA MAWATHA / INDEPENDENCE AVENUE JUNCTION

31



30" VALVE AT LIPTON ROUND ABOUT JUNCTION

DO NOT SCALE

 NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA	SUB PROJECT: MEDIUM & LARGE DIAMETER MAINS	TITLE: 20", 27" & 30" VALVES PROPOSED FOR REPLACEMENT
	DESIGNED: <i>P. M. S.</i> CHECKED: <i>M. S.</i> DR. TEAM LEADER: <i>[Signature]</i> TEAM LEADER: <i>[Signature]</i>	DRAWN: <i>[Signature]</i> PM (PROVISED) NUMBER: <i>[Signature]</i> A.G.M (PROV) NUMBER: <i>E. D. A. J.</i> S.G.M (PROV) NUMBER:

N

LEGEND

REPLACEMENT

Rehabilitation of Small Dia. Pipe Network in CMC area		
1	NRW/CW	RS/DM/RP/01 1 st Cross Street
2	NRW/CW	RS/DM/RP/02 2 nd Cross street
3	NRW/CW	RS/DM/RP/03 3 rd Cross street
4	NRW/CW	RS/DM/RP/04 4 th Cross street
5	NRW/CW	RS/DM/RP/05 5 th Cross street
6	NRW/CW	RS/DM/RP/06 Keysor street
7	NRW/CW	RS/DM/RP/07 Main street
8	NRW/CW	RS/DM/RP/08 Reclamation/Sea Beach Rd
9	NRW/CW	RS/DM/RP/09 Malwatta Road
10	NRW/CW	RS/DM/RP/10 Olcott Mawatha
11	NRW/CW	RS/DM/RP/11 Maliban Street
12	NRW/CW	RS/DM/RP/12 Prince Street
13	NRW/CW	RS/DM/RP/13 Sameera's lane, Market
14	NRW/CW	RS/DM/RP/14 Butcher's St., China Lane
15	NRW/CW	RS/DM/RP/15 Gabos Lane
16	NRW/CW	RS/DM/RP/16 Kadiration Road
17	NRW/CW	RS/DM/RP/17 1 st Rohini Lane
18	NRW/CW	RS/DM/RP/18 2 nd Rohini Lane
19	NRW/CW	RS/DM/RP/19 Mayuri Lane
20	NRW/CW	RS/DM/RP/20 Cafferman's Lane
21	NRW/CW	RS/DM/RP/21 Lotus Road
22	NRW/CW	RS/DM/RP/22 Sri Wickrema Mawatha
23	NRW/CW	RS/DM/RP/23 Francewatta Road
24	NRW/CW	RS/DM/RP/24 Mattakuliya Farm Road
25	NRW/CW	RS/DM/RP/25 Muthuwella Mawatha
26	NRW/CW	RS/DM/RP/26 Muthuwella Mawatha
27	NRW/CW	RS/DM/RP/27 Sea Street
28	NRW/CW	RS/DM/RP/28 Aluthmawatha Road
29	NRW/CW	RS/DM/RP/29 Aluthmawatha Road
30	NRW/CW	RS/DM/RP/30 Modara Street
31	NRW/CW	RS/DM/RP/31 Modara Street
32	NRW/CW	RS/DM/RP/32 Vivekananda Hill
33	NRW/CW	RS/DM/RP/33 Madampitiya Road
34	NRW/CW	RS/DM/RP/34 Bloemendhal Road
35	NRW/CW	RS/DM/RP/35 Bloemendhal Road
36	NRW/CW	RS/DM/RP/36 Bloemendhal Road
37	NRW/CW	RS/DM/RP/37 Bloemendhal Road
38	NRW/CW	RS/DM/RP/38 Messenger Street
39	NRW/CW	RS/DM/RP/39 Messenger Street
40	NRW/CW	RS/DM/RP/40 Quarry Road
41	NRW/CW	RS/DM/RP/41 Hospital Road
42	NRW/CW	RS/DM/RP/42 College Street
43	NRW/CW	RS/DM/RP/43 Mattakuliya Centre Road
44	NRW/CW	RS/DM/RP/44 Upper St. Andrew's Place
45	NRW/CW	RS/DM/RP/45 Ferguson Road
46	NRW/CW	RS/DM/RP/46 Mayfield Lane
47	NRW/CW	RS/DM/RP/47 Paramananda Mawatha
48	NRW/CW	RS/DM/RP/48 Paramananda Mawatha
49	NRW/CW	RS/DM/RP/49 Bloemendhal Lane
50	NRW/CW	RS/DM/RP/50 Arthur De Silva Mawatha
51	NRW/CW	RS/DM/RP/51 Mattakuliya Church Road
52	NRW/CW	RS/DM/RP/52 Prince of Wales Avenue
53	NRW/CW	RS/DM/RP/53 Prince of Wales Avenue
54	NRW/CW	RS/DM/RP/54 Prince of Wales Avenue
55	NRW/CW	RS/DM/RP/55 Prince of Wales Avenue
56	NRW/CW	RS/DM/RP/56 Nagalagam Street
57	NRW/CW	RS/DM/RP/57 Nagalagam Street
58	NRW/CW	RS/DM/RP/58 Rajamalwatta Road
59	NRW/CW	RS/DM/RP/59 St. Wilfred's Lane
60	NRW/CW	RS/DM/RP/60 St. James Lane
61	NRW/CW	RS/DM/RP/61 George R. de Silva Mawatha
62	NRW/CW	RS/DM/RP/62 George R. de Silva Mawatha
63	NRW/CW	RS/DM/RP/63 Central Road
64	NRW/CW	RS/DM/RP/64 New Moor Street
65	NRW/CW	RS/DM/RP/65 Dam Street
66	NRW/CW	RS/DM/RP/66 Dam Street
67	NRW/CW	RS/DM/RP/67 Huiltsdorf Street
68	NRW/CW	RS/DM/RP/68 Silversmith Street
69	NRW/CW	RS/DM/RP/69 Mirania Street
70	NRW/CW	RS/DM/RP/70 Sri Sangaraja Mawatha
71	NRW/CW	RS/DM/RP/71 Sri Sangaraja Mawatha
72	NRW/CW	RS/DM/RP/72 Abdul Jabbar Mawatha
73	NRW/CW	RS/DM/RP/73 Kelaniganga Mill Road
74	NRW/CW	RS/DM/RP/74 Saunder's Place
75	NRW/CW	RS/DM/RP/75 Lower St. Andrew's Place
76	NRW/CW	RS/DM/RP/76 St. Anthony Street
77	NRW/CW	RS/DM/RP/77 Mayfield Road
78	NRW/CW	RS/DM/RP/78 Wasala Road
79	NRW/CW	RS/DM/RP/79 St. Joseph's Street


LEGEND

- SLUICE VALVE
- SUSPECTED SLUICE VALVE
- STAND POST
- FIRE HYDRANT
- AIR VALVE
- FIRE HYDRANT & SLUICE VALVE
- WASHOUT VALVE
- CHAMBER
- CENTER LINE
- BY PASS LINE
- NOT MAPPED ACCURATELY

Notes:

1. Plan of the existing distribution main and the junction details extract from the 1:1000 Drawings of the NWS&DB and the details at the junction should be verified at site.
2. Longitudinal section produced from the spot level given in the 1:1000 Drgs and pipe diameters for the proposed pipe lines are in mms and existing pipes are inches and levels are in meters.
3. All the interconnections and accessories on the proposed main should similar in location to the accessories on the existing pipe line proposed for replacement and as per Standard Drawings. STD/C-10
4. When new pipe connecting to the existing main please refer the Standard connection detail given in drawing No. STD/C-10.
5. The route of the proposed main to be in close proximity to the existing pipe wherever possible.
6. The shop drawings of the proposed main to be produced after a topographic survey and utility tracing. (Utilities like Telecom Cables, Electrical Cables, Sewer Lines, Storm Water Pipes /Drains etc. to avoid damage to them)
7. For Standard Drgs. Please refer STD/C/01-10
8. All existing pipes proposed for replacement are cast iron pipes.
9. All the proposed pipes to be Type 600 uPVC socket and spigot pipes with rubber ring joints and Fittings to be as specified.
10. All existing service connections to be transferred to the new pipe after the pressure test of new pipe with new service connections as per Standard Drawing. STD/C-09
11. The each of ten sample pipes investigated shows that existing Medium and Large Diameter pipes are at a depth range of 0.55-1.35m and the existing small diameter pipes are at a depth range of 0.5-1.3m
12. The minimum size of the by-pass should be 100mm Dia.
13. Cross reference to be made for Drawing Nos. Starting from RML/DM/RF, RML/DM/RH, RS/DM/RP and RS/DM/RH.
14. Bend to be protected using Thrust Blocks as per Standard Drawings. STD /c -08

DO NOT SCALE


NATIONAL WATER SUPPLY AND DRAINAGE BOARD
 THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER
 IN THE GREATER COLOMBO AREA

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 STUDY TEAM
 NIHOW SUIDO CONSULTANTS CO. LTD.,
 TOKYO, JAPAN

SUB PROJECT:		TITLE:	
GENERAL		KEY PLAN REHABILITATION OF SMALL DIAMETER PIPES	
DESIGNED:	DRAWN:	THARANGA	DATE: JAN. 2001
CHECKED:	PI (NRW/RP) INCHES:	CONTRACT NO.:	NRW / CW
DR. HEAD OFFICE:	A.O.M (P) INCHES:	DRG. NO.:	RS/DM/G-01
TEAM LEADER:	D.S.M (P) INCHES:		

N

LEGEND

REPLACEMENT

LEGEND

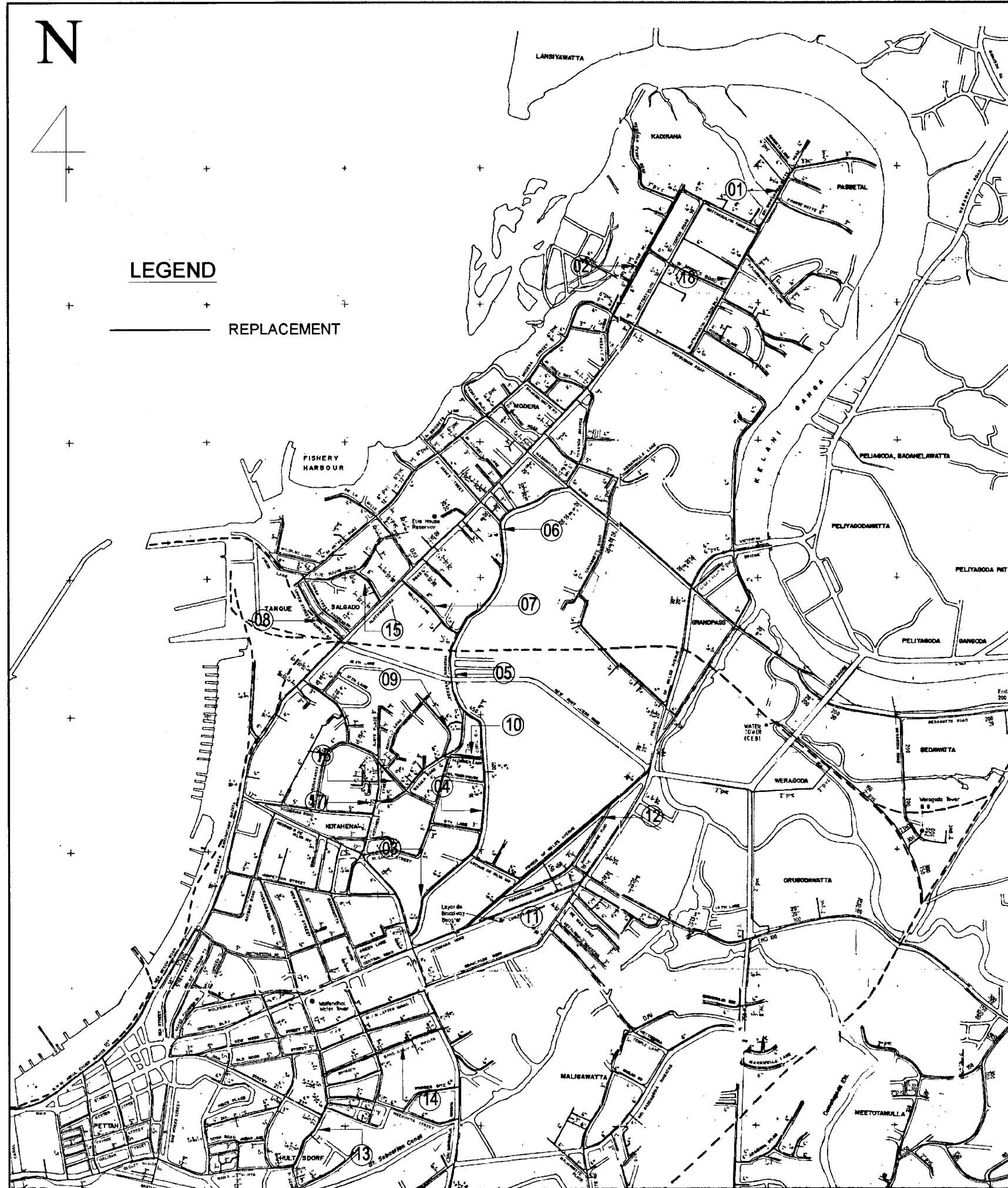
- SLUICE VALVE
- SUSPECTED SLUICE VALVE
- STAND POST
- FIRE HYDRANT
- AIR VALVE
- FIRE HYDRANT & SLUICE VALVE
- WASHOUT VALVE
- CHAMBER
- CENTER LINE
- BY PASS LINE
- NOT MAPPED ACCURATELY

Rehabilitation of Small Dia. Pipe Network in CMC area Scraping & Lining			
1	NRW/CW	RS/DM/RH/01	Sri Wickrema Mawatha
2	NRW/CW	RS/DM/RH/02	Vystwke Road
3	NRW/CW	RS/DM/RH/03	Bloemendhal Road
4	NRW/CW	RS/DM/RH/04	Bloemendhal Road
5	NRW/CW	RS/DM/RH/05	Bloemendhal Road
6	NRW/CW	RS/DM/RH/06	Bloemendhal Road
7	NRW/CW	RS/DM/RH/07	Walls Lane
8	NRW/CW	RS/DM/RH/08	Upper St. Andrew's Place
9	NRW/CW	RS/DM/RH/09	Paramananda Mawatha
10	NRW/CW	RS/DM/RH/10	Bloemendhal Lane
11	NRW/CW	RS/DM/RH/11	Prince of Wales Avenue
12	NRW/CW	RS/DM/RH/12	Prince of Wales Avenue
13	NRW/CW	RS/DM/RH/13	Hultsdorf Street
14	NRW/CW	RS/DM/RH/14	Silversmith Street
15	NRW/CW	RS/DM/RH/15	Elie House Lane
16	NRW/CW	RS/DM/RH/16	Mayfield Road
17	NRW/CW	RS/DM/RH/17	Wasala Road
18	NRW/CW	RS/DM/RH/18	Mattakkuliya Church Road

Notes:

1. Plan of the existing distribution main and the junction details extract from the 1:1000 Drawings of the NWS&DB and the details at the junction should be verified at site.
2. Longitudinal section produced from the spot levels given in the 1:1000 Drgs and pipe diameters for existing pipes are inches and levels are in meters.
3. All the accessories on the mains and valves immediately on Branch pipes proposed for scraping and lining should be replaced with new accessories.
4. The shop drawings of the proposed main to be produced after a utility tracing. (Utilities like Telecom Cables, Electrical Cables, Sewer Lines, Storm Water Pipes /Drains etc. to avoid damage to them)
5. For standard details refer Standard Drgs STD/C/01-10
6. All existing pipes proposed for rehabilitation are cast iron pipes.
7. The each of ten random sample pipes investigated shows that existing Medium and Large Diameter pipes are at a depth range of 0.55-1.35m and the existing small diameter pipes are at a depth range of 0.5-1.3m
8. The minimum size of the by-pass should be of 100 mm in Dia. wherever possible.
9. Cross reference to be made for Drawing Nos. Starting from RML/DM/RF, RS/DM/RP, RS/DM/RH and RML/DM/RH.
10. Scraping and Lining to be carried out for the sections given and Valve locations and tight bends and tees to be used as entry points of lining. The lining of the removed pieces to be carried out above ground and fix it back with necessary coupling.
11. Bend to be protected using Thrust Blocks as per Standard Drawing No. STD/C - 08
12. Service connections to be replaced with new service connections as per Standard Drawing No. STD/C - 10.
13. Continuity of the water supply to all houses affected to be ensured.

DO NOT SCALE



<p>NATIONAL WATER SUPPLY AND DRAINAGE BOARD THE PROJECT FOR THE REDUCTION OF NON-REVENUE WATER IN THE GREATER COLOMBO AREA</p>	SUB PROJECT: GENERAL	TITLE: KEY PLAN REHABILITATION OF SMALL DIAMETER PIPES (SCRAPING & LINING)
	DESIGNED: [Signature]	DATE: JAN 2001
<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) STUDY TEAM</p> <p>NIHON SUIDO CONSULTANTS CO. LTD., TOKYO, JAPAN</p>	CHECKED: [Signature]	CONTRACT No: NRW / CW
	DRY TEAM LEADER: [Signature]	DRG. No: RS/DM/G-02
	TEAM LEADER: [Signature]	