

JAPAN INTERNATIONAL COOPERATION AGENCY

DHAKA WATER SUPPLY AND

SEWERAGE AUTHORITY

THE PEOPLE'S REPUBLIC OF BANGLADESH

THE STUDY
ON
THE SEWERAGE SYSTEM
IN
NORTH DHAKA
IN
THE PEOPLE'S REPUBLIC OF BANGLADESH

FINAL REPORT

SUPPORTING REPORT

JULY 1998

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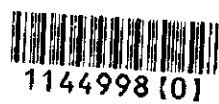
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PART 1
MASTER PLAN

A. 3

**EXISTING SEWERAGE SYSTEM
IN SOUTH DHAKA**

Appendix 3.2.1 Summary Data of MODS Zone Offices

MODS Zone I

Zone Area	Approx. 90 sq.km
Population	Approx. 2,000,000
Present Water Supply	160,100 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Pump Station, Sewer Lift Station	4 Nos.	All running	Narinda P/S Bashaboo L/S Sayedabad L/S Faridabad L/S
Sewer Line	φ 200 -1,350mm L = 150 km	Bad - 20 km	Need repair
O & M Equipment			
a) Water Carrier	4 Nos.	Old - 3 Nos. New - 1 No.	2 Nos. (1,000 gal) 1 No. (1,500 gal)
b) Pick-up Truck	2 Nos.	Good	1 No.
c) Sludge Dewater Pump	2 Nos.	Good	5 Nos.
d) Motor Cycle	12 Nos.	Good - 10 Nos. Bad - 2 Nos.	4 Nos.
e) Mobile Generator	1 No.	Bad	3 Nos.
f) Fixed Generator	12 Nos.	Running	
g) Hydraulic Jetting Machine	1 No.	Running	
i) Tractor	Nil	-	1 No. with 2 trolley
Manpower	Total Staff 274 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 4,652,000 Tk O & M Budget 2,105,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone II

Zone Area	Approx. 30 sq.km
Population	Approx. 1,100,000
Present Water Supply	123,000 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	3 Nos.	2 Nos. running 1 No. under repair (Hazaribag L/S)	Azimpur L/S Nawabgonj L/S Hazaribag L/S
Sewer Line	φ 150 - 600mm L = 110 km	Bad - 2.4 km	Need repair
<u>O & M Equipment</u>			
a) Car	1 No.	Running	Routine check-up
b) Water Carrier	1 No.	Condemned	1 No.
c) Pick-up Truck	2 Nos.	Under repair	1 No.
d) Tempo	2 Nos.	Running	2 Nos.
e) Motor Cycle	5 Nos.	3 Nos. running	3 Nos.
f) Mobile Generator	Nil	-	1 No.
g) Fixed Generator	4 Nos.	Running	
Manpower	Total Staff 194 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 6,700,000 Tk O & M Budget 4,000,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone III

Zone Area	Approx. 35 sq.km
Population	Approx. 1,400,000
Present Water Supply	144,600 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	2 Nos.	All running	Asadgate L/S New Market L/S
Sewer Line	∅ 200 - 450mm L = 90 km	Bad - 3 km	New - 15 km Repair - 3 km
O & M Equipment			
a) Car	1 No.	Running	2 Nos. (1,800 gal)
b) Water Carrier	6 Nos.	All running 2 Nos. routine check	1 No. (1,000 gal)
c) Pick-up Truck	2 Nos.	1 No. for auction	1 No.
d) Sludge Suction Pump	1 No.	Running	1 No.
e) Motor Cycle	10 Nos.	Bad - 5 Nos.	5 Nos.
f) Mobile Generator	4 Nos.	Running 3 Nos. routine check	
g) Fixed Generator	6 Nos.	Running 1 No. routine check	
i) Tractor	1 No.	Running	1 No.
j) Tempo	2 Nos.	Running	1 No.
k) Hydraulic Jetting Machine	1 No.	Running	1 No.
Manpower	Total Staff 215 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 6,160,000 Tk O & M Budget 1,710,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone IV

Zone Area	Approx. 50 sq.km
Population	Approx. 1,500,000
Present Water Supply	132,800 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	Nil	-	
Sewer Line	L = 93 km	-	Small-Bore System Not in operation since discharge P/S is not yet completed
<u>O & M Equipment</u>			
a) Car	1 No.	For auction	1 No.
b) Water Carrier	3 Nos.	Old - 2 Nos.	2 Nos. (1,000 gal)
c) Pick-up Truck	1 No.	At Workshop	1 No.
d) Tempo	2 Nos.	1 No. at Workshop	1 No.
e) Motor Cycle	5 Nos.	Bad - 2 Nos.	3 Nos.
f) Mobile Generator	1 No.	Running	1 No.
g) Fixed Generator	4 No.	Running	
i) Tractor	Nil	-	1 No. with 2 trolley
Manpower	Total Staff 176 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 4,488,000 Tk O & M Budget 800,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone V

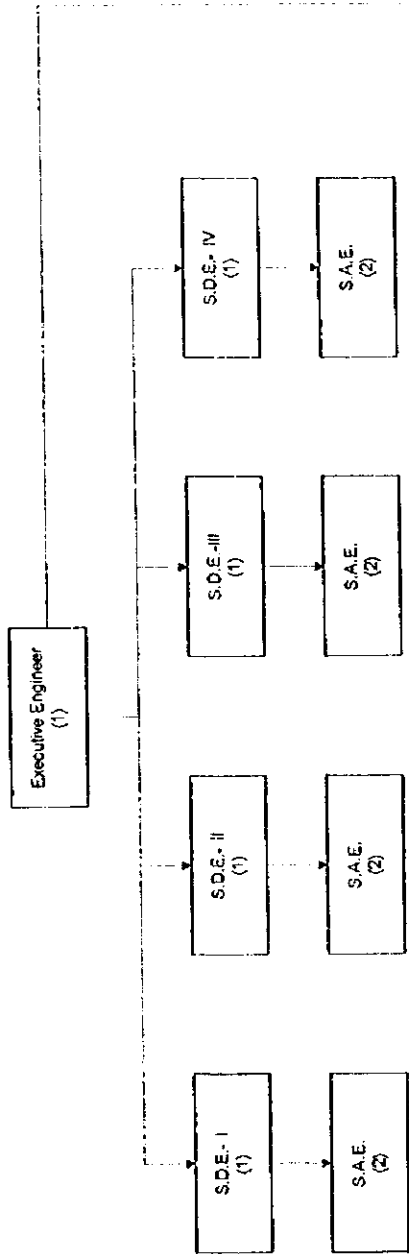
Zone Area	Approx. 65 sq.km
Population	Approx. 1,400,000
Present Water Supply	153,900 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	3 Nos.	All running	Tejgaon L/S Mohakhali L/S Banani L/S
Sewer Line	φ 200 - 900mm L = 61 km	Good	
O & M Equipment			
a) Car	1 No.	For auction	1 No.
b) Water Carrier	3 Nos.	1 No. for auction 2 Nos. Running	2 Nos. (1,800 gal) 1 No.
c) Pick-up Truck	2 Nos.	At Workshop	1 No.
d) Tempo	2 Nos.	1 No. at Workshop	4 Nos.
e) Motor Cycle	6 Nos.	Bad - 1 No.	1 No.
f) Mobile Generator	Nil	-	-
g) Fixed Generator	8 Nos.	7 Nos. Running 1 No. under repair	1 No.
h) Hydraulic Jetting Machine	Nil	-	1 No.
i) Tractor	Nil	-	2 Nos.
j) Trolley	Nil	-	
Manpower	Total Staff	232 person	For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 5,800,000 Tk <u>O & M Budget 2,215,000 Tk</u> Manhole Cover 530,000 Tk Bamboo Stick 55,000 Tk Manhole Repair 40,000 Tk L/S O & M 15,000 Tk Intermediate MH 630,000 Tk Pump House Repair 200,000 Tk Water Line Repair 175,000 Tk Sewer Line Repair 170,000 Tk		Water Supply and Sewerage. Salary is excluded

MODS Zone VI

Zone Area	Approx. 40 sq.km
Population	Approx. 1,600,000
Present Water Supply	135,600 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	5 Nos.	All running	Medical College I/S P & T L/S Mogbazar L/S Mothertek L/S Goran L/S
Sewer Line	φ 200 - 900mm L = 120 km	Bad - 10 km	Need repair
<u>O & M Equipment</u>			
a) Car	1 No.	Very old	1 No.
b) Water Carrier	5 Nos.	2 Nos. under repair	
c) Pick-up Truck	2 Nos.	1 No. is auctionable	1 No.
d) Tempo	2 Nos.	Running	
e) Motor Cycle	7 Nos.	3 Nos. very old	6 Nos.
f) Mobile Generator	Nil	-	1 No.
g) Fixed Generator	8 Nos.	Running	1 No.
h) Trolley	Nil	-	4 Nos.
i) Sludge Dewater Pump	2 Nos.	Running	
Manpower	Total Staff 242 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 2,312,477 Tk O & M Budget 312,000 Tk (Water supply and sewerage. Salary is excluded)		



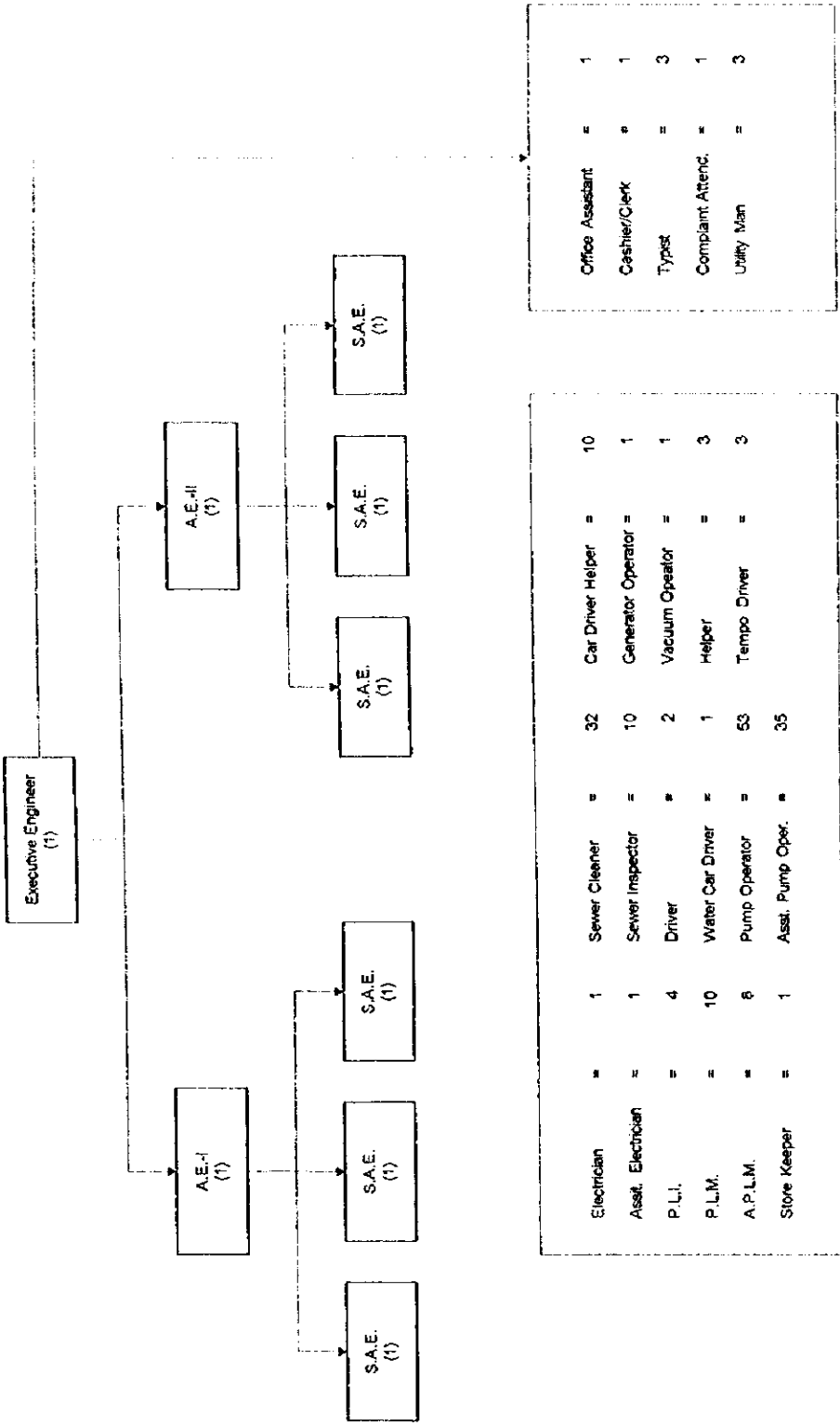
Office Assistant	=	1
Typist/Clerk	=	8
Cashier	=	1
Store Keeper	=	2
Utility Man	=	6
Driver	=	10
Complaint Attend.	=	2

P.L.I.	=	5	Sewer Cleaner	=	40
P.L.M.	=	12	Sewer Inspector	=	7
A.P.L.M.	=	14	Helper	=	11
Pump Operator	=	76			
Asst. Pump Oper.	=	66			

LEGEND
 S.D.E. = Subdivision Engineer
 S.A.E. = Sub-Assistant Engineer
 P.L.I. = Pipeline Inspector
 P.L.M. = Pipeline Mechanic
 A.P.L.M. = Assistant Pipeline Mechanic

Total Number of Officers and Staff = 274

Appendix 3.2.2(1)
 Organization Chart for MODS Zone I



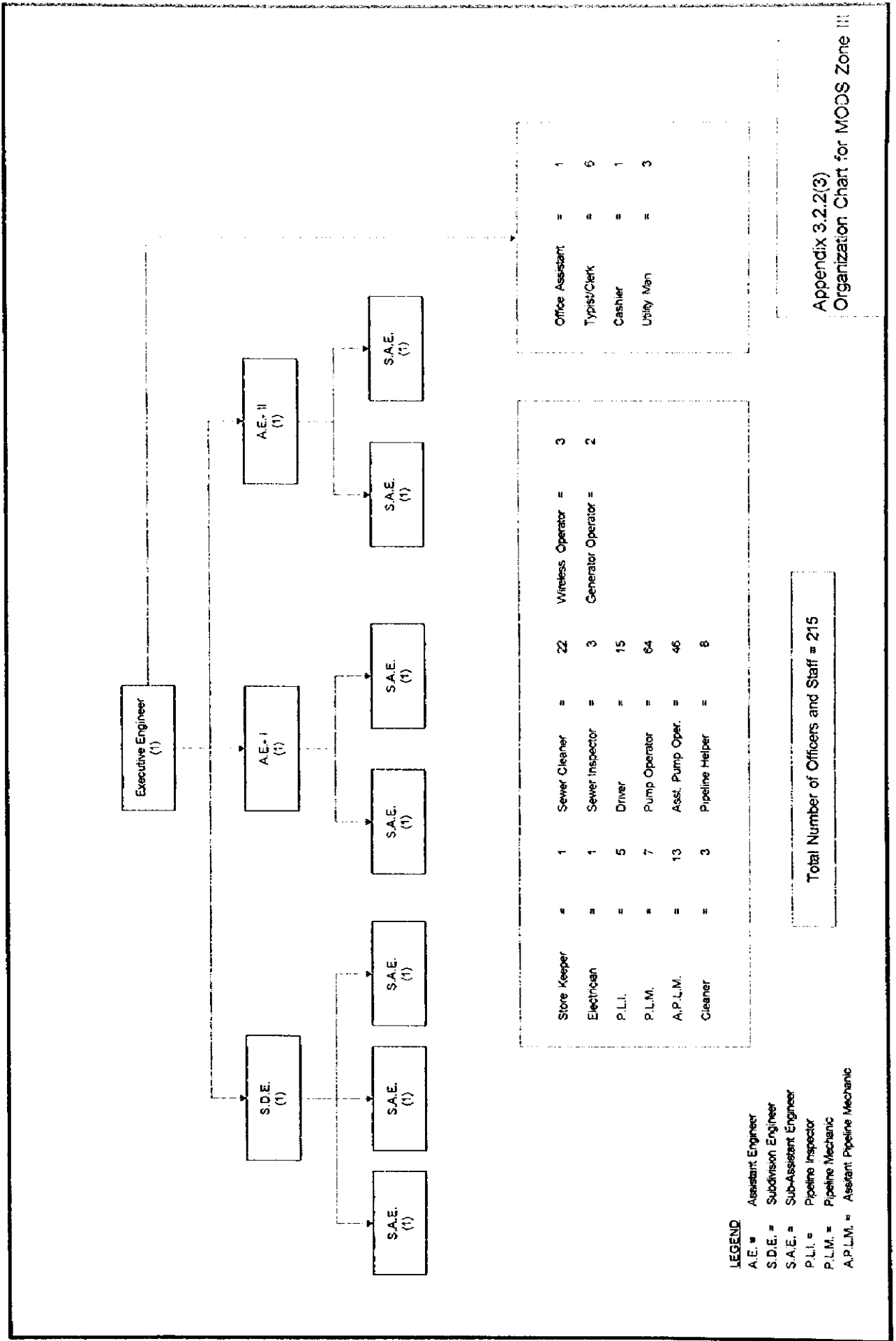
Electrician	=	1	Sewer Cleaner	=	32	Car Driver Helper	=	10
Asslt. Electrician	=	1	Sewer Inspector	=	10	Generator Operator	=	1
P.L.I.	=	4	Driver	=	2	Vacuum Operator	=	1
P.L.M.	=	10	Water Car Driver	=	1	Helper	=	3
A.P.L.M.	=	8	Pump Operator	=	53	Tempo Driver	=	3
Store Keeper	=	1	Asst. Pump Oper.	=	35			

Office Assistant	=	1
Cashier/Clerk	=	1
Typist	=	3
Complaint Attenc.	=	1
Utility Man	=	3

LEGEND
 A.E. = Assistant Engineer
 S.A.E. = Sub-Assistant Engineer
 P.L.I. = Pipeline Inspector
 P.L.M. = Pipeline Mechanic
 A.P.L.M. = Assistant Pipeline Mechanic

Total Number of Officers and Staff = 194

Appendix 3.2.2(2)
 Organization Chart for MODS Zone II



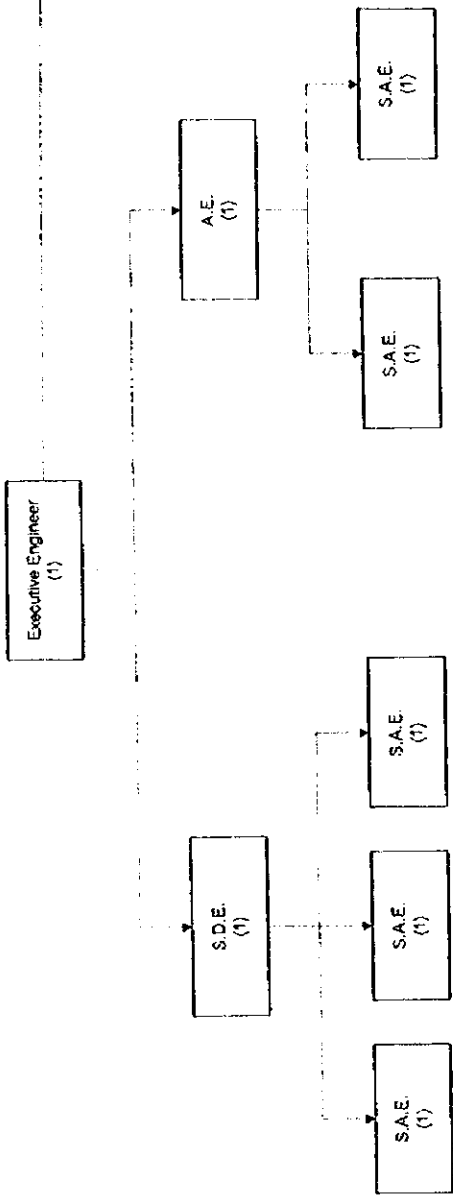
LEGEND
 A.E. = Assistant Engineer
 S.D.E. = Subdivision Engineer
 S.A.E. = Sub-Assistant Engineer
 P.L.I. = Pipeline Inspector
 P.L.M. = Pipeline Mechanic
 A.P.L.M. = Assistant Pipeline Mechanic

Store Keeper	=	1	Sewer Cleaner	=	22	Wireless Operator	=	3
Electrician	=	1	Sewer Inspector	=	3	Generator Operator	=	2
P.L.I.	=	5	Driver	=	15			
P.L.M.	=	7	Pump Operator	=	64			
A.P.L.M.	=	13	Asst. Pump Oper.	=	46			
Cleaner	=	3	Pipeline Helper	=	8			

Office Assistant	=	1
Typist/Clerk	=	6
Cashier	=	1
Utility Man	=	3

Total Number of Officers and Staff = 215

Appendix 3.2.2(3)
 Organization Chart for MOOS Zone III



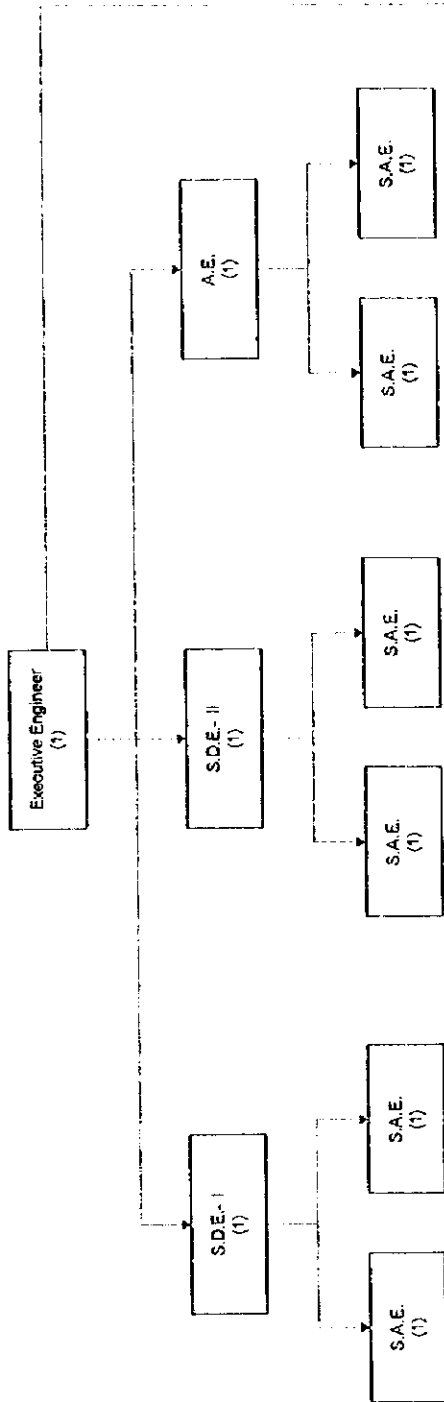
Office Assistant	=	1
Typist/Clerk	=	5
Cashier	=	1
Office Cleaner	=	2
Revenue Inspector	=	1

Electrician	=	2
P.L.I.	=	3
P.L.M.	=	4
A.P.L.M.	=	53
Store Keeper	=	55
Utility Man	=	1
Wires Operator	=	2
Helper	=	3
Tempo Driver	=	2
Sewer Cleaner	=	2
Sewer Inspector	=	3
Car Driver	=	4
Pump Operator	=	53
Asst. Pump Oper.	=	55
Utility Man	=	1

LEGEND
 A.E. = Assistant Engineer
 S.D.E. = Subdivision Engineer
 S.A.E. = Sub-Assistant Engineer
 P.L.I. = Pipeline Inspector
 P.L.M. = Pipelines Mechanic
 A.P.L.M. = Assistant Pipeline Mechanic

Total Number of Officers and Staff = 176

Appendix 3.2.2(4)
 Organization Chart for MODS Zone IV



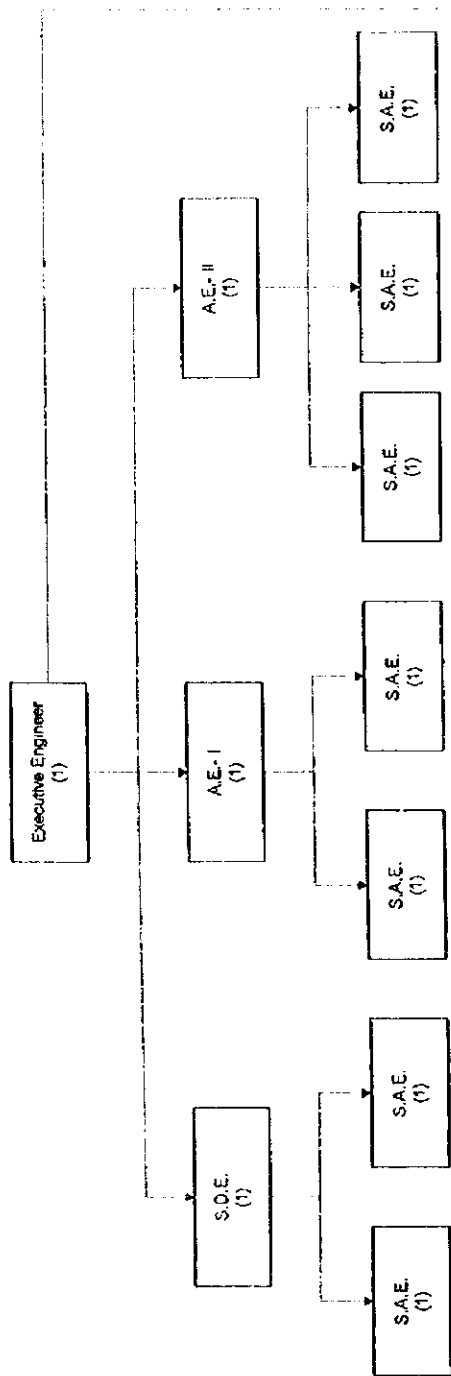
Store Keeper	=	1	Sewer Cleaner	=	21	Wireless Operator	=	1
Asst. Store Keeper	=	1	Sewer Inspector	=	4	Helper	=	4
P.L.I.	=	3	Driver	=	9	Generator Operator	=	1
P.L.M.	=	8	Pump Operator	=	44			
A.P.L.M.	=	13	Asst. Pump Oper.	=	99			
Asst. Electrician	=	1	Utility Man	=	4			

Office Assistant	=	1
Typist/Clerk	=	4
Cashier	=	1
Office Cleaner	=	1

- LEGEND**
- A.E. = Assistant Engineer
 - S.D.E. = Sub-Division Engineer
 - S.A.E. = Sub-Assistant Engineer
 - P.L.I. = Pipeline Inspector
 - P.L.M. = Pipeline Mechanic
 - A.P.L.M. = Assistant Pipeline Mechanic

Total Number of Officers and Staff = 231

Appendix 3.2.2(5)
Organization Chart for MODS Zone V



Store Keeper	=	1	Sewer Cleaner	=	24	Wireless Operator	=	1
Electrician	=	1	Sewer Inspector	=	6	Helper	=	8
P.L.I.	=	4	Driver	=	11	Complaint Attend.	=	1
P.L.M.	=	8	Pump Operator	=	74			
A.P.L.M.	=	5	Asst. Pump Oper.	=	73			
Pipeline Helper	=	2	Cleaner	=	2			

Office Assistant	=	1
Typist/Clerk	=	3
Cashier	=	1
Utility Man	=	4
Work Assistant	=	1

LEGEND
 A.E. = Assistant Engineer
 S.D.E. = Subdivision Engineer
 S.A.E. = Sub-Assistant Engineer
 P.L.M. = Pipeline Mechanic
 A.P.L.M. = Assistant Pipeline Mechanic

Total Number of Officers and Staff = 242

Appendix 3.2.2(6)
 Organization Chart for MODS Zone VI

Appendix 3.3.1 Present Status of Pump Station and Lift Stations

1. Present Status of Pump Stations

Zone I: Narinda Pump Station(OLD)

1. Facilities replaces and/or newly equipped by the Japanese Grant

Horizontal Centrifugal Pump ϕ 400mm x 31.9 cum/min x 12.2m x 85 kW x 1 unit
Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Transformer, Valves,
Water Level Meter

2. Other existing Facilities

Horizontal Centrifugal Pump ϕ 400mm x 31.9 cum/min x 12.2m x 90 kW x 1 unit
Horizontal Centrifugal Pump ϕ 300mm x 11.4 cum/min x 12.2m x 37 kW x 2 units
Horizontal Centrifugal Pump ϕ 300mm x 31.9 cum/min x 12.2m x 55 kW x 1 unit
Vertical Centrifugal Pump ϕ 400mm x 31.9 cum/min x 12.2m x 95 kW x 1 unit

3. Present Condition

- Operational status of pumps and other facilities
All 6 pumps are operational
Due to the lack of spare parts, vacuum pump is not functioning properly (can not produce vacuum)
Others are operational
- Measurement of incoming and discharging sewage rate
None
- Operational status of water level indicator
Operational
- ON - OFF operation practice
Manual
- Sludge/Screening cleaning and disposal
No cleaning since the pump is not operated due to small sewage income
- In case of breakdown
O & M team in Narinda will be dispatched
- Telecommunication system
Wireless system (to Pagla, DWASA office)
- Daily O & M activities
Not operated due to small sewage income
- Others

Zone I: Narinda Pump Station(NEW)

1. Facilities replaces and/or newly equipped by the Japanese Grant

Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Transformer, Valves,
Water Level Meter

2. Other existing facilities

Vertical Centrifugal Pump 31.9 cum/min x 17.5m x 95 kW x 3 units

Vertical Centrifugal Pump 11.4 cum/min x 17.5m x 37 kW x 2 units

Vertical Centrifugal Pump 4.5 cum/min x 17.5m x 18.5 kW x 2 units

3. Present Condition

- Operational status of pumps and other facilities
Among 7 pumps, 5 are operational. 2 are under repair(impeller worn out, bearing)
Due to the lack of spare parts, vacuum pump is not functioning properly (can not produce vacuum)
Others are operational
- Measurement of incoming and discharging sewage rate
None
- Operational status of water level indicator
Non-functional
- ON - OFF operation practice
Manual
- Sludge/Screening cleaning and disposal
Done by Zone Cleaning Section everyday
- In case of breakdown
O & M team in Narinda will be dispatched
- Telecommunication system
Wireless system (to Pagla , DWASA office)
- Daily O & M activities
Only No.1 is operated 24 hours
- Others

2. Present Status of Lift Stations

Zone I: Bashaboo Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Generator, Valves, Water Level Meter

2. Other existing facilities

Vertical Centrifugal Pump 9.1 cum/min x 12 m x 22 kW x 2 units

Vertical Centrifugal Pump 6.8 cum/min x 12 m x 15 kW x 2 units

Vertical Centrifugal Pump 2.3 cum/min x 12 m x 11 kW x 1 unit

3. Present Conditions

- Operational status of pumps and other facilities
5 pumps are operational. 1 starter's magnetic contactor was burnt due to voltage fluctuation
Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
Generator was burnt last July 1993 due to short circuit
Others are operational
- Measurement of incoming and discharging sewage rate
None
- Operational status of water level indicator
Non-functional
- ON - OFF operation practice
Manual
- Sludge/Screening cleaning and disposal
Zone cleaning section comes once/week
- In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda
- Telecommunication system
None
- Daily O & M activities
Shift 1 : P-1 7:00 - 9:00, P-2 10:00 - 12:00, P-5 13:00 - 14:00
Shift 2 : P-2 15:00 - 17:00, P-1 18:00 - 20:00, P-4 21:00 - 22:00
Shift 3 : P-1 23:00 - 01:00, P-4 02:00 - 03:00, P-2 04:00 - 06:00
- Others

Zone I: Faridabad Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

Detachable Type Submersible Pump

φ 150 x 2.3 cum/min x 10 m x 7.5 kW x 2 units

Inlet Gate, Screen, Control Panel, Generator, Valves, Discharge Piping, Water Level Meter

2. Present Condition

- **Operational status of pumps and other facilities**

- **Measurement of incoming and discharging sewage rate**
None

- **Operational status of water level indicator**
Non-functional

- **ON - OFF operation practice**
Manual

- **Sludge/Screening cleaning and disposal**
Operator cleans every day

- **In case of breakdown**
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

- **Telecommunication system**
None

- **Daily O & M activities**
Shift 1 : P-4 8:00 - 10:00, P-5 10:00 - 12:00
Shift 2 : P-5 14:00 - 16:00, P-5 16:00 - 18:00
Shift 3 : P-5 22:00 - 24:00

- **Others**

Zone I: Sayedabad Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Generator, Water Level Meter

2. Other existing facilities
Vertical Centrifugal Pump 9.1 cum/min x 12 m x 22 kW x 2 units
Vertical Centrifugal Pump 6.8 cum/min x 12 m x 15 kW x 2 units
Vertical Centrifugal Pump 2.3 cum/min x 12 m x 11 kW x 1 unit

3. Present Condition
 - Operational status of pumps and other facilities
Existing 5 pumps are all operational
Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
Others are operational

 - Measurement of incoming and discharging sewage rate
None

 - Operational status of water level indicator
Non-functional

 - ON - OFF operation practice
Manual

 - Sludge/Screening cleaning and disposal
Zone cleaning section comes once/week

 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

 - Telecommunication system
None

 - Daily O & M activities
Shift 1 : P-4 8:00 - 10:00, P-5 10:00 - 12:00
Shift 2 : P-5 14:00 - 16:00, P-5 16:00 - 18:00
Shift 3 : P-5 22:00 - 24:00

 - Others

Zone II: Azimpur Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Sump Pump, Inlet Gate, Screen, Control Panel, Generator, Water Level Meter
2. Other existing facilities
Vertical Forced Pump ϕ 150mm x 2.3 cum/min x 7.5 m x 7.5 kW x 2 units
3. Present Condition
 - Operational status of pumps and other facilities. All 2 pumps are operational
 - Measurement of incoming and discharging sewage rate
None
 - Operational status of water level indicator
Non-operational
 - ON - OFF operation practice
Manual
 - Sludge/Screening cleaning and disposal
Zone cleaning section comes once/week
 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda
 - Telecommunication system
None
 - Daily O & M activities
Shift 1 : P-1 8:00 - 10:00, P-2 12:00 - 14:00
Shift 2 : P-1 16:00 - 18:00, P-2 20:00 - 22:00
Shift 3 : P-1 24:00 - 2:00, P-2 4:00 - 6:00
 - Others
Test run of generator is done by generator operator of the Zone Office once/week
Overflow occurs due to the capacity shortage of sewer downstream

Zone II: Hazaribag Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

Detachable Type Submersible Pump

- φ 250 x 4.6 cum/min x 15 m x 22 kW x 2 units
- φ 150 x 2.3 cum/min x 15 m x 11 kW x 2 units

Inlet Gate, Screen, Control Panel, Transformer, Valves, Splash Box, Discharge Piping, Water Level Meter

2. Present Condition

- Operational status of pumps and other facilities
All 4 pumps are operational
Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
Others are operational
- Measurement of incoming and discharging sewage rate
None
- Operational status of water level indicator
Non-functional
- ON - OFF operation practice
Manual
- Sludge/Screening cleaning and disposal
No cleanings were needed due to scarce screenings.
- In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda
- Telecommunication system
None
- Daily O & M activities
On last November, 1996, electricity was shut-down due to the damage of double huge insulator. Zone office request DWASA to provide it to DESA(Dhaka Electricity Supply Authority) but DWASA is not yet approved.
At present, sewage flows down by gravity through the by-pass gate
- Others
The metal door and frames of L/S is damaged by sulfate gas emitted from Tannery Factory
The tannery's wastewater flows into the pond nearby causing odor problem

Zone II: Nawabgonj Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Detachable Type Submersible Pump ϕ 150mm x 2.3 cum/min x 10 m x 7.5 kW x 2 units
Inlet Gate, Screen, Control Panel, Generator, Valves, Water Level Meter

2. Present Condition
 - Operational status of pumps and other facilities
1 pump was burnt on last April, 1997
Others are operational

 - Measurement of incoming and discharging sewage rate
None

 - Operational status of water level indicator
Operational

 - ON - OFF operation practice
Manual

 - Sludge/Screening cleaning and disposal
Zone cleaning section comes twice/week

 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

 - Telecommunication system
None

 - Daily O & M activities
Operating night time only since the capacity of sewers downstream is not sufficient
No.2 pump 1:00 - 3:00, 4:00 - 5:00

 - Others
Although the generator is operational, battery is damaged

Zone III: Asadgate Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Water Level Meter

2. Other existing facilities
Vertical Centrifugal Pump 2.3 cum/min x 7.5 m x 3.7 kW x 3 units

3. Present Condition
 - Operational status of pumps and other facilities
Among the existing 3 pumps, No. 3 is under repair (grand packing).
Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
Others are operational

 - Measurement of incoming and discharging sewage rate
None

 - Operational status of water level indicator
Non-functional

 - ON - OFF operation practice
Manual

 - Sludge/Screening cleaning and disposal
Zone Cleaning section comes once a week.

 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

 - Telecommunication system
None

 - Daily O & M activities
Shift 1 : P-1 and P-2 6:00 - 12:00
Shift 2 : P-1 and P-2 14:00 - 18:00
Shift 3 : P-1 and P-2 22:00 - 24:00

 - Others
DWASA water meter workshop and laboratory building is located beside the L/S

Zone III: New Market Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Water Level Meter
2. Other existing facilities
Vertical Centrifugal Pump 4.5 cum/min x 7.5 m x 7.5 kW x 2 units
Vertical Centrifugal Pump 2.3 cum/min x 7.5 m x 3.7 kW x 2 units
3. Present Condition
 - Operational status of pumps and other facilities
2 pumps are operational
2 pumps are non-functional due to worn out of shaft
Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
Others are operational
 - Measurement of incoming and discharging sewage rate
None
 - Operational status of water level indicator
Non-operational
 - ON - OFF operation practice
Manual
 - Sludge/Screening cleaning and disposal
Zone cleaning section comes 2nd/week(in Wet Season), once/week(in Dry Season)
 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda
 - Telecommunication system
None
 - Daily O & M activities
Shift 1 : P-3 8:00 - 11:00
Shift 2 : P-3 14:00 - 17:00
Shift 3 : P-3 23:00 - 1:00
 - Others

Zone V: Banani Lift Station

1. Existing Facilities

Pump Type : Submergible Pump ϕ 100mm x 1.5 cum/min x 10 m x 5.5 kW x 3 units
Inlet Gate, Control Panel

2. Present Status

- Operational status of pumps and other facilities
Three pumps and other facilities are operational

- Measurement of incoming and discharging sewage rate
None

- ON - OFF operation practice
Manual

- Sludge/Screening cleaning and disposal
No screen was installed. Zone cleaning section send vacuum car once a year.

- In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda.

- Telecommunication system
None

- Daily O & M activities
Unknown

Zone V: Mohakhali Lift Station

1. Existing Facilities

Pump Type : Submergible Pump ϕ 150mm x 2.1 cum/min x 10 m x 9.5 kW x 3 units
Inlet Gate, Control Panel

2. Present Status

- Operational status of pumps and other facilities
No.2 is under repair (Motor was burnt on last 15 Jan, 1997)

- ON - OFF operation practice
Manual

- Sludge/Screening cleaning and disposal
No screen was installed. Zone cleaning section send vacuum car once a year.

- In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda.

- Telecommunication system
None

- Daily O & M activities
Shift 1 P-1 7:00 - 8:00, P-2 8:00 - 10:00, P-1 10:00 - 13:00
Shift 2 P-1 14:00 - 15:00, 16:00 - 17:00
Shift 3 P-1 22:00 - 23:00

Zone V: Tejgaon Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Water Level Meter

2. Other existing facilities
Vertical Centrifugal Pump 9.1 cum/min x 12 m x 22 kW x 2 units
Vertical Centrifugal Pump 6.8 cum/min x 12 m x 15 kW x 1 unit
Vertical Centrifugal Pump 2.3 cum/min x 12 m x 11 kW x 2 units

3. Present Condition
 - Operational status of pumps and other facilities
All 5 pumps are operational
Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
Others are operational

 - Measurement of incoming and discharging sewage rate
None

 - Operational status of water level indicator
Non-functional

 - ON - OFF operation practice
Manual

 - Sludge/Screening cleaning and disposal
Zone cleaning section comes 4th/month

 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

 - Telecommunication system
None

 - Daily O & M activities
Seldom operated since by-pass gate was open to let the incoming sewage flow by gravity

 - Others

Zone VI: Dhaka Medical College Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Discharge Piping, Water Level Meter

2. Other existing facilities

Vertical Centrifugal Pump ϕ 100 mm x 2.3 cum/min x 7.5 m x 11 kW x 1 unit

Vertical Centrifugal Pump ϕ 100mm x 1.1 cum/min x 7.5 m x 3.7 kW x 2 units

3. Present Condition

- Operational status of pumps and other facilities
No.1 pump's starter is malfunctioning(magnetic contactor was burnt)
The other 2 are operational
Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
Others are operational
- Measurement of incoming and discharging sewage rate
None
- Operational status of water level indicator
Non-operational
- ON - OFF operation practice
Manual
- Sludge/Screening cleaning and disposal
Operator cleans every day
- In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda
- Telecommunication system
None
- Daily O & M activities
Shift 1 : P-2 7:00 - 10:00, P-3 10:00 - 13:00
Shift 2 : P-2 14:00 - 16:00, P-3 18:00 - 21:00
Shift 3 : P-2 22:00 - 24:00, P-3 2:00 - 5:00
- Others

Zone VI: Mogbazar Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Detachable Submerged Pump ϕ 200mm x 4.6 cum/min x 10 m x 18.5 kW x 2 units
Inlet Gate, Screen, Control Panel, Generator, Water Level Meter

2. Present Condition
 - Operational status of pumps and other facilities
1 starter and pump was burnt, others are operational

 - Measurement of incoming and discharging sewage rate
None

 - Operational status of water level indicator
Non-operational

 - ON - OFF operation practice
Manual

 - Sludge/Screening cleaning and disposal
Zone cleaning section comes 4th/month

 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

 - Telecommunication system
None

 - Daily O & M activities
No operation record

 - Others
Though generator is operational, battery is damaged

Zone VI: Motherak Lift Station

1. Existing Facilities

Pump Type : Submersible Pump ϕ 100mm x 1.5 cum/min x 10 m x 5.5 kW x 3 units

Inlet Gate, Control Panel

2. Present Condition

- **Operational status of pumps and other facilities**
All pumps and other facilities are operational

- **Measurement of incoming and discharging sewage rate**
None

- **ON - OFF operation practice**
Manual

- **Sludge/Screening cleaning and disposal**
By Zone office, once a year

- **In case of breakdown**
Inform Zone office

- **Telecommunication system**
None

- **Daily O & M activities**
Unknown

- **Others**

Zone VI: P & T Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
Sump Pump, Inlet Gate, Screen, Control Panel, Generator, Water Level Meter
2. Other existing facilities
Vertical Forced Pump 6.8 cum/min x 9 m x 15 kW x 2 units
3. Present Condition
 - Operational status of pumps and other facilities. 2 pumps are operational.
 - Measurement of incoming and discharging sewage rate
None
 - Operational status of water level indicator
Operational
 - ON - OFF operation practice
Manual
 - Sludge/Screening cleaning and disposal
Zone cleaning section comes once/week
 - In case of breakdown
Operator will inform to Zone Office and Zone Office will call O & M team in Narinda
 - Telecommunication system
None
 - Daily O & M activities
Shift 1 : P-1 6:00 - 8:00, P-2 8:00 - 10:00, P-1 10:30 - 11:00, P-2 11:00 - 13:30
Shift 2 : P-1 13:30 - 13:40, P-2 14:25 - 15:00
P-1 15:10 - 15:40, P-2 16:00 - 16:45
P-1 17:25 - 17:55, P-2 18:00 - 18:15
P-1 19:00 - 19:55, P-2 19:30 - 21:20
Shift 3 : P-1 and P-2 22:00 - 24:00, 02:00 - 03:00, 04:00 - 06:00
 - Others

Goran Lift Station

1. Existing Facilities

**Pump Type : Submergible Pump ϕ 100mm x 1.5 cum/min x 10 m x 5.5 kW x 3 units
Inlet Gate, Control Panel**

2. Present Condition

- **Operational status of pumps and other facilities**
All pumps and other facilities are operational

- **Measurement of incoming and discharging sewage rate**
None

- **ON - OFF operation practice**
Manual

- **Sludge/Screening cleaning and disposal**
By Zone office, once a year

- **In case of breakdown**
Inform Zone office

- **Telecommunication system**
None

- **Daily O & M activities**
Unknown

- **Others**

Appendix 3.3.2 Detail Drawings of Lift and Pump Stations

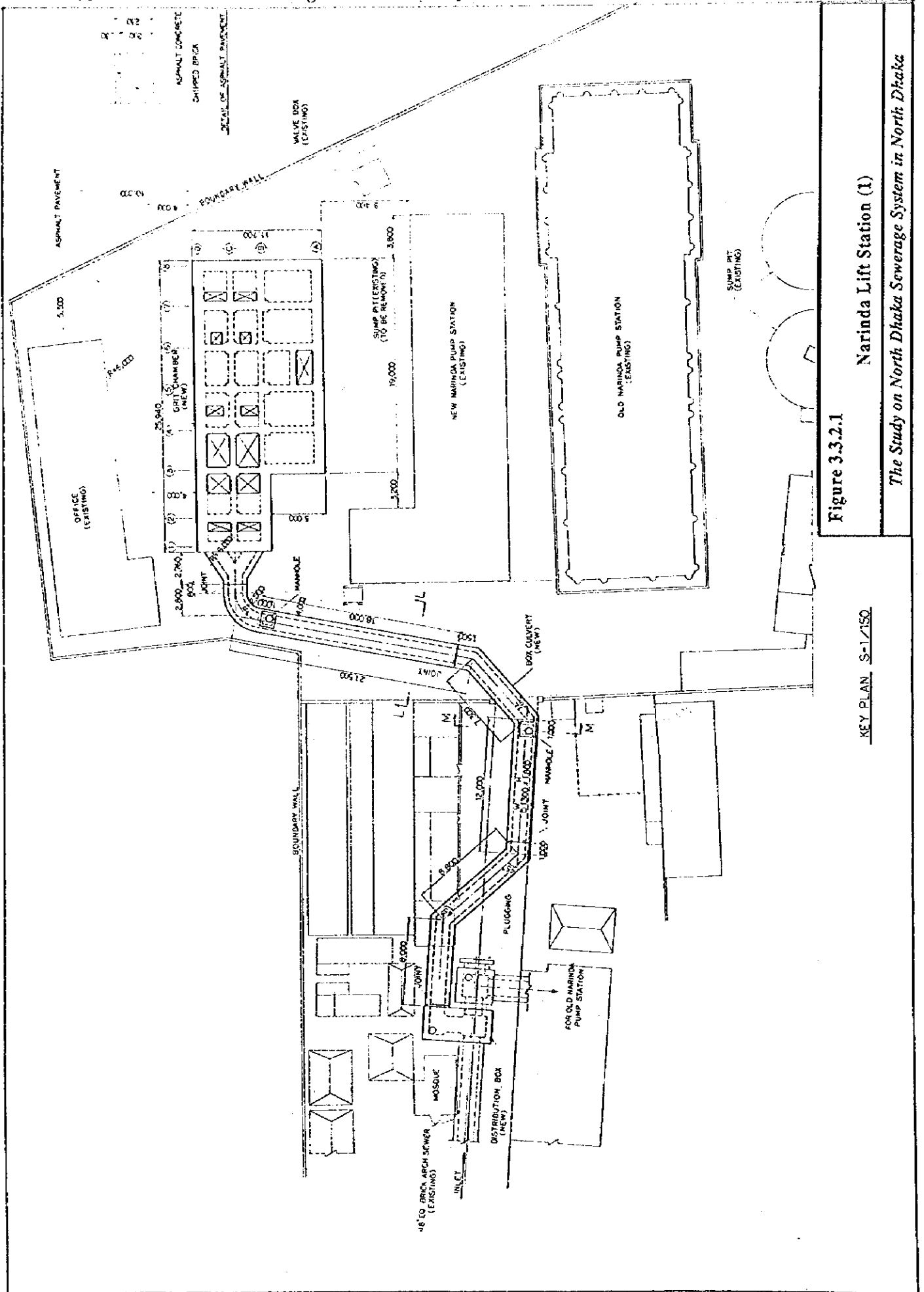
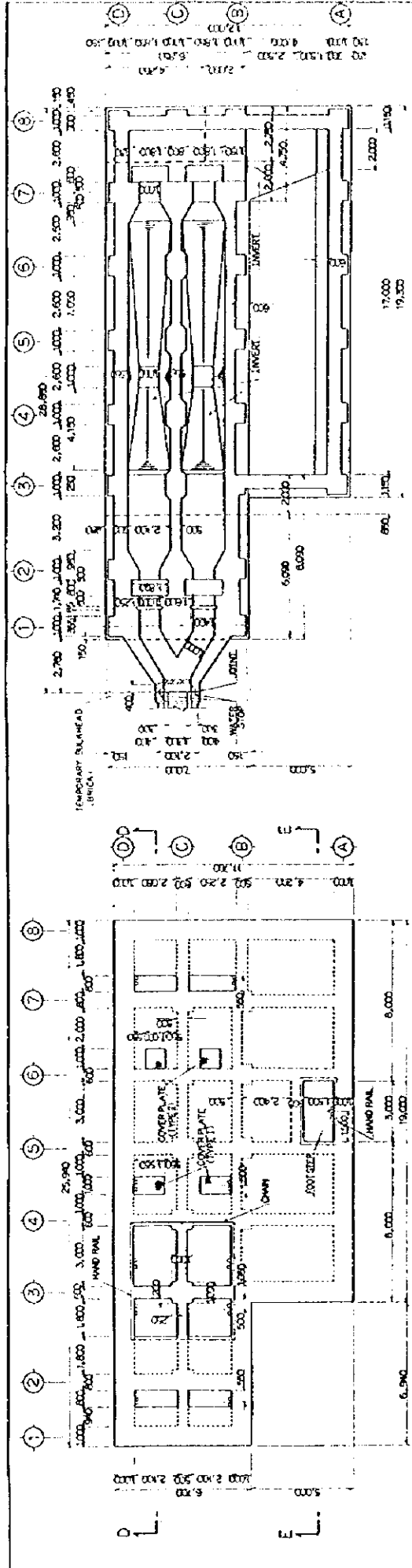


Figure 3.3.2.1 Narinda Lift Station (1)

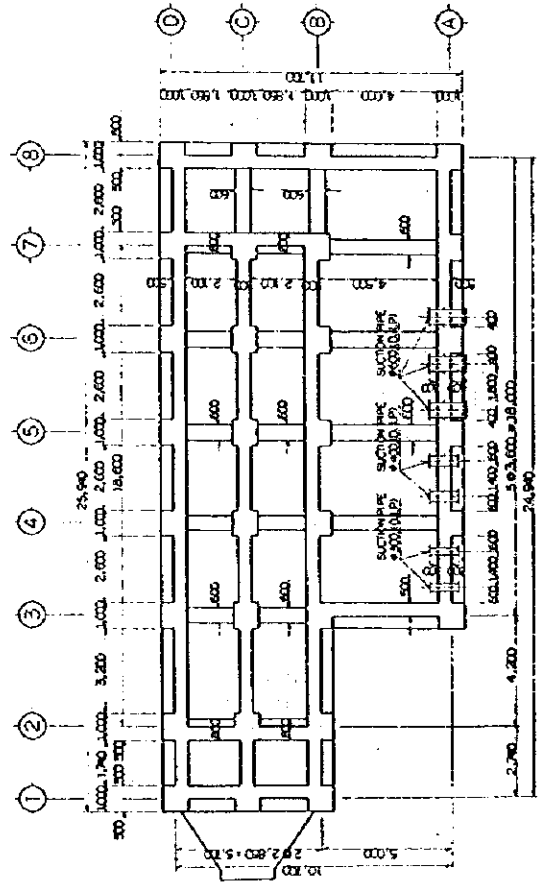
The Study on North Dhaka Sewerage System in North Dhaka

KEY PLAN, S-1/150



SECTION C-C S=1/100

SECTION A-A S=1/100



SECTION B-B S=1/100

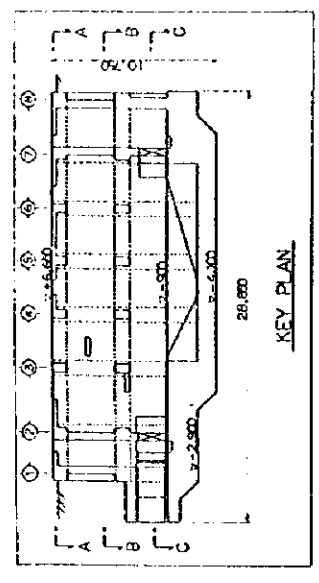


Figure 3.3.2.2
Narinda Lift Station (2)
The Study on North Dhaka Sewerage System in North Dhaka

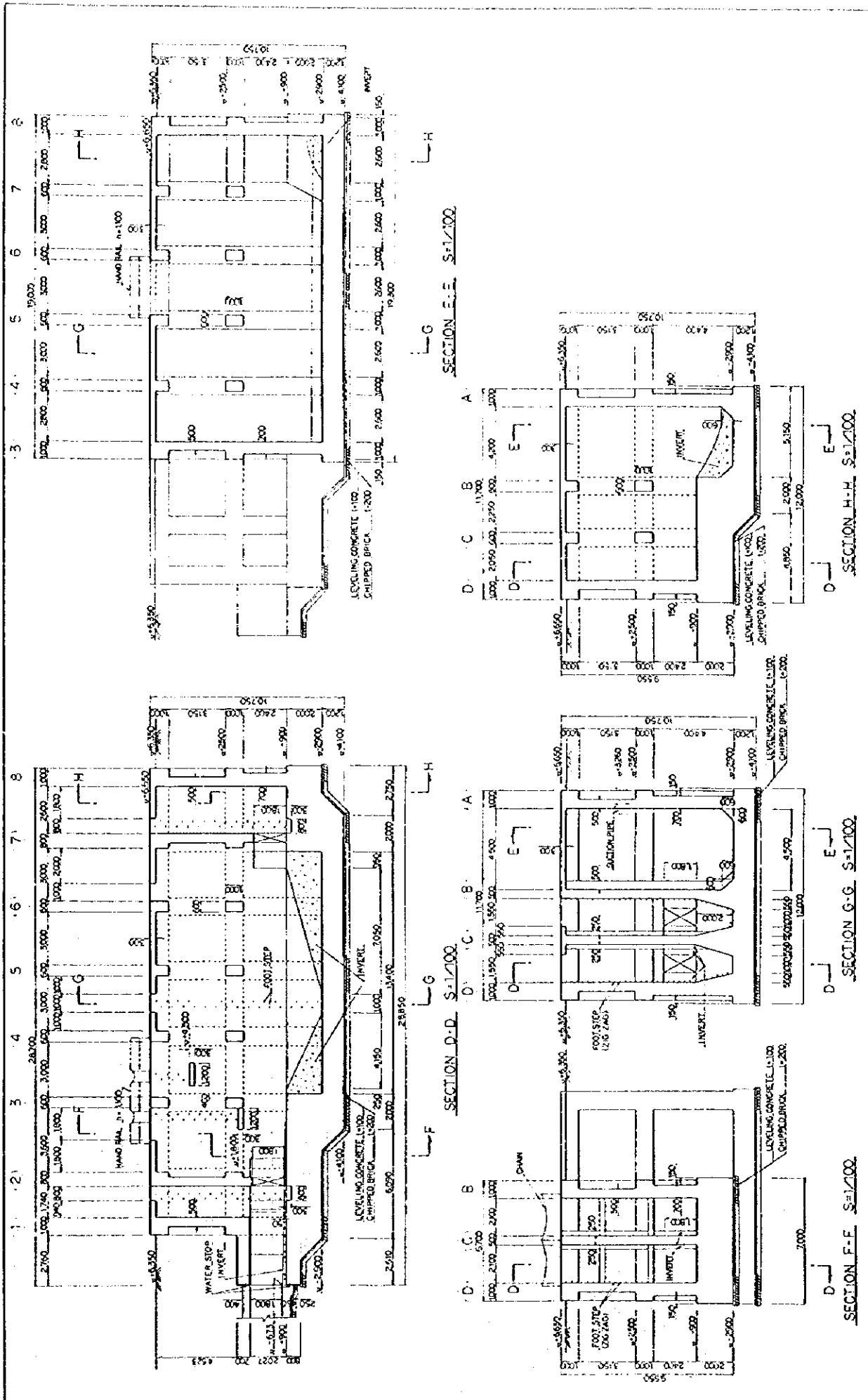
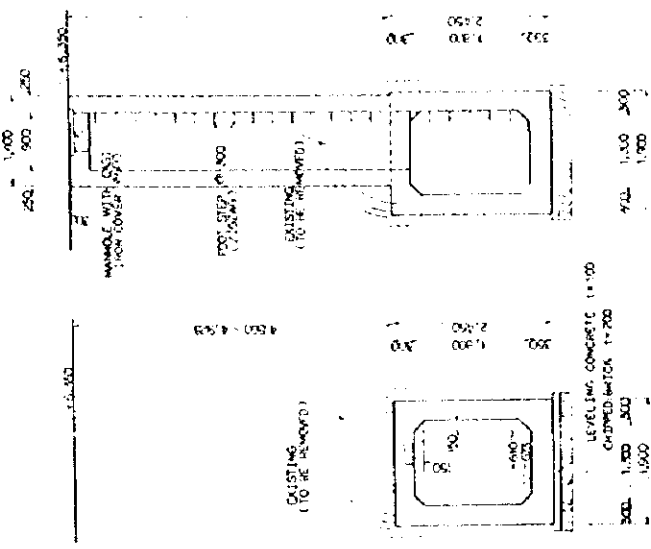


Figure 3.3.2.3

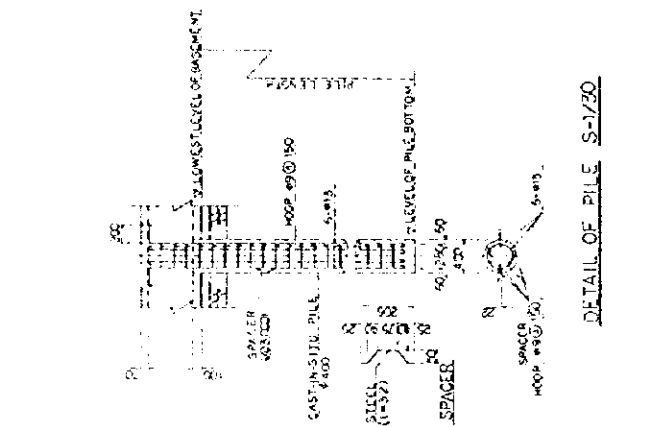
Narinda Lift Station (3)

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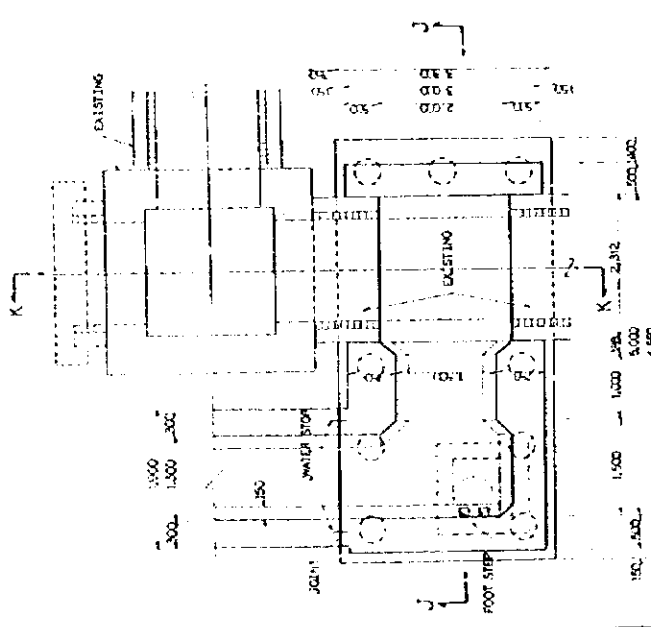


SECTION M-M S=1/40

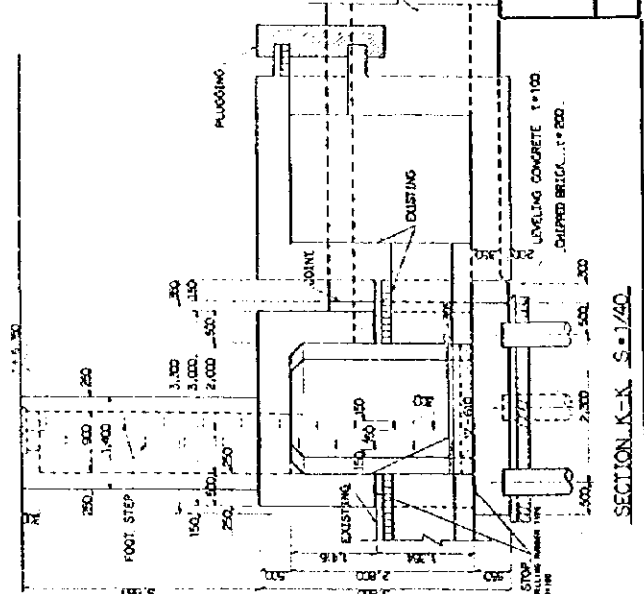
SECTION L-L S=1/40



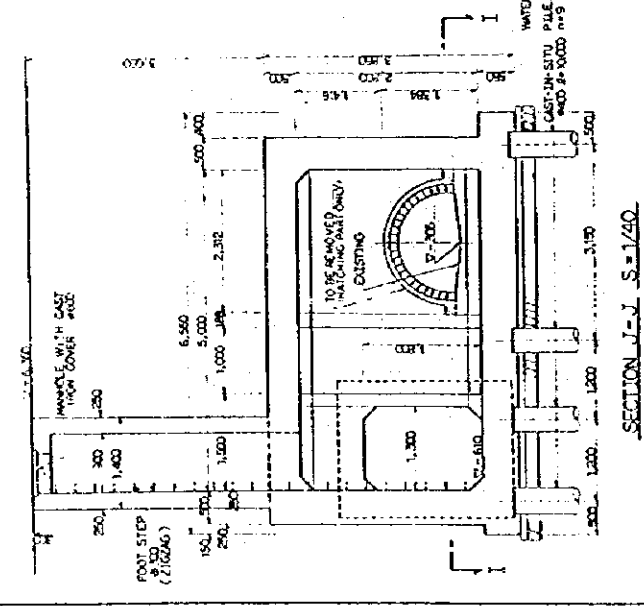
DETAIL OF PILE S=1/20



SECTION I-I S=1/40



SECTION K-K S=1/40



SECTION J-J S=1/40

Figure 3.3.2.4
Narinda Lift Station (4)
The Study on North Dhaka Sewerage System in North Dhaka

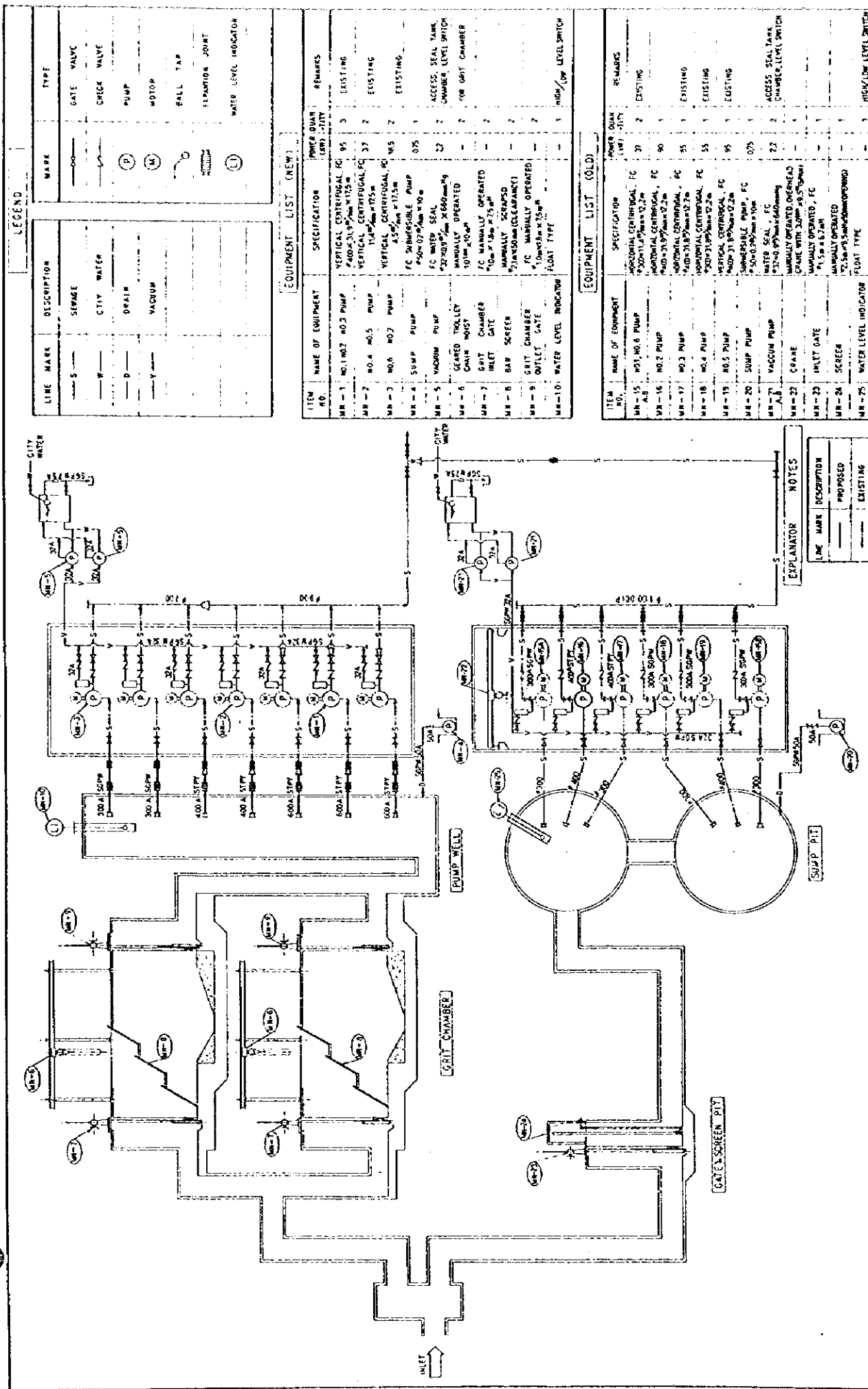


Figure 3.3.2.5

Narinda Lift Station (5)

The Study on North Dhaka Sewerage System in North Dhaka

EQUIPMENT LIST (NEW)	
ITEM NO.	NAME OF EQUIPMENT
MR-1	No.1 No.2 No.3 PUMP
MR-2	MR. NO.5. PUMP
MR-3	MR. NO.7. PUMP
MR-4	SUMP PUMP
MR-5	VACUUM PUMP
MR-6	GEARED TROLLEY
MR-7	GRIT CHAMBER
MR-8	BAR SCREEN
MR-9	GRIT CHAMBER
MR-10	WATER LEVEL INDICATOR
EQUIPMENT LIST (OLD)	
ITEM NO.	NAME OF EQUIPMENT
MR-15	NO.1 NO.5 PUMP
MR-16	MR.2 PUMP
MR-17	MR.3 PUMP
MR-18	MR.4 PUMP
MR-19	MR.5 PUMP
MR-20	SUMP PUMP
MR-21	VACUUM PUMP
MR-22	CRANE
MR-23	INLET GATE
MR-24	SCREEN
MR-25	WATER LEVEL INDICATOR

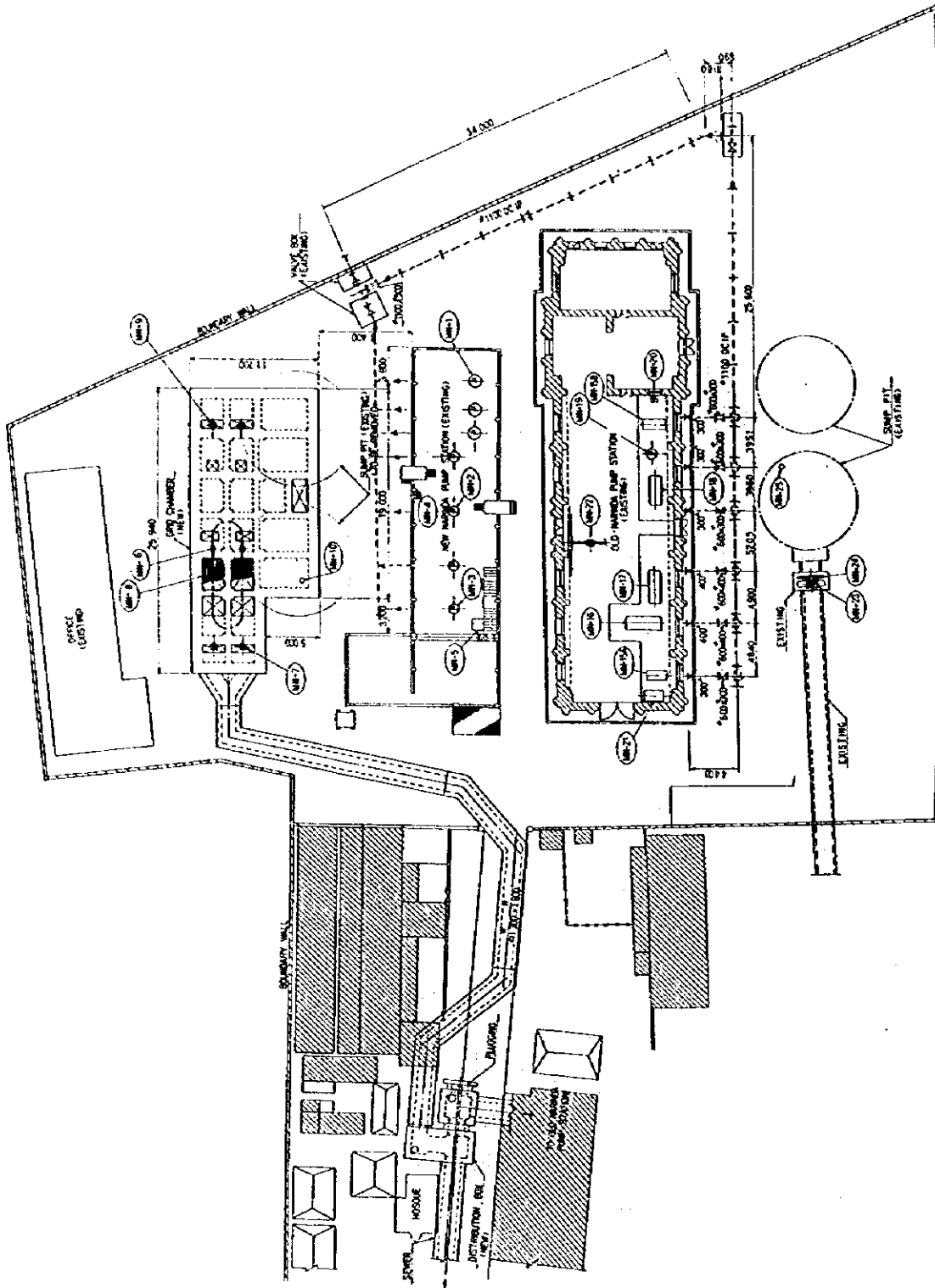


Figure 3.3.2.6

Narinda Lift Station (6)

The Study on North Dhaka Sewerage System in North Dhaka

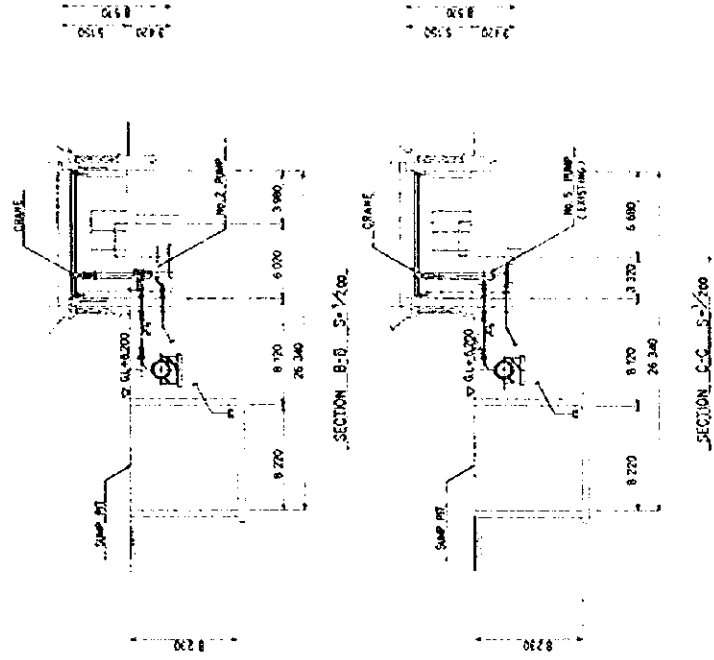
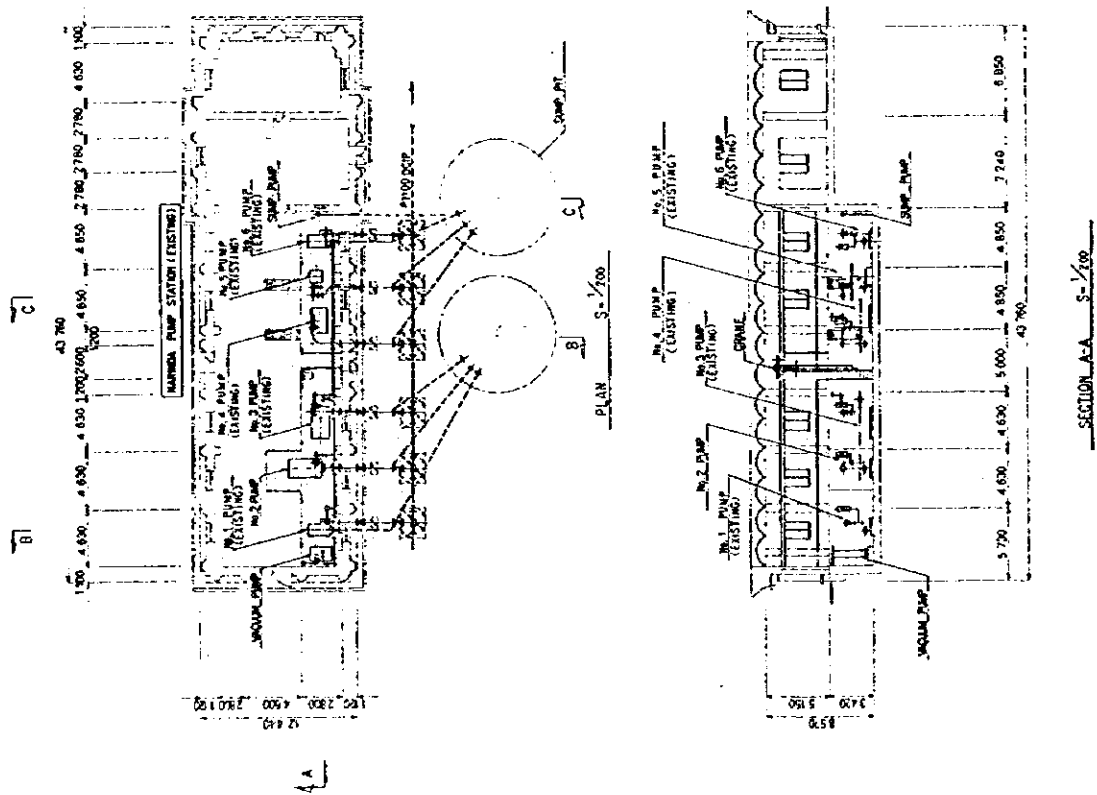


Figure 3.3.2.7

Narinda Lift Station (7)

The Study on North Dhaka Sewerage System in North Dhaka

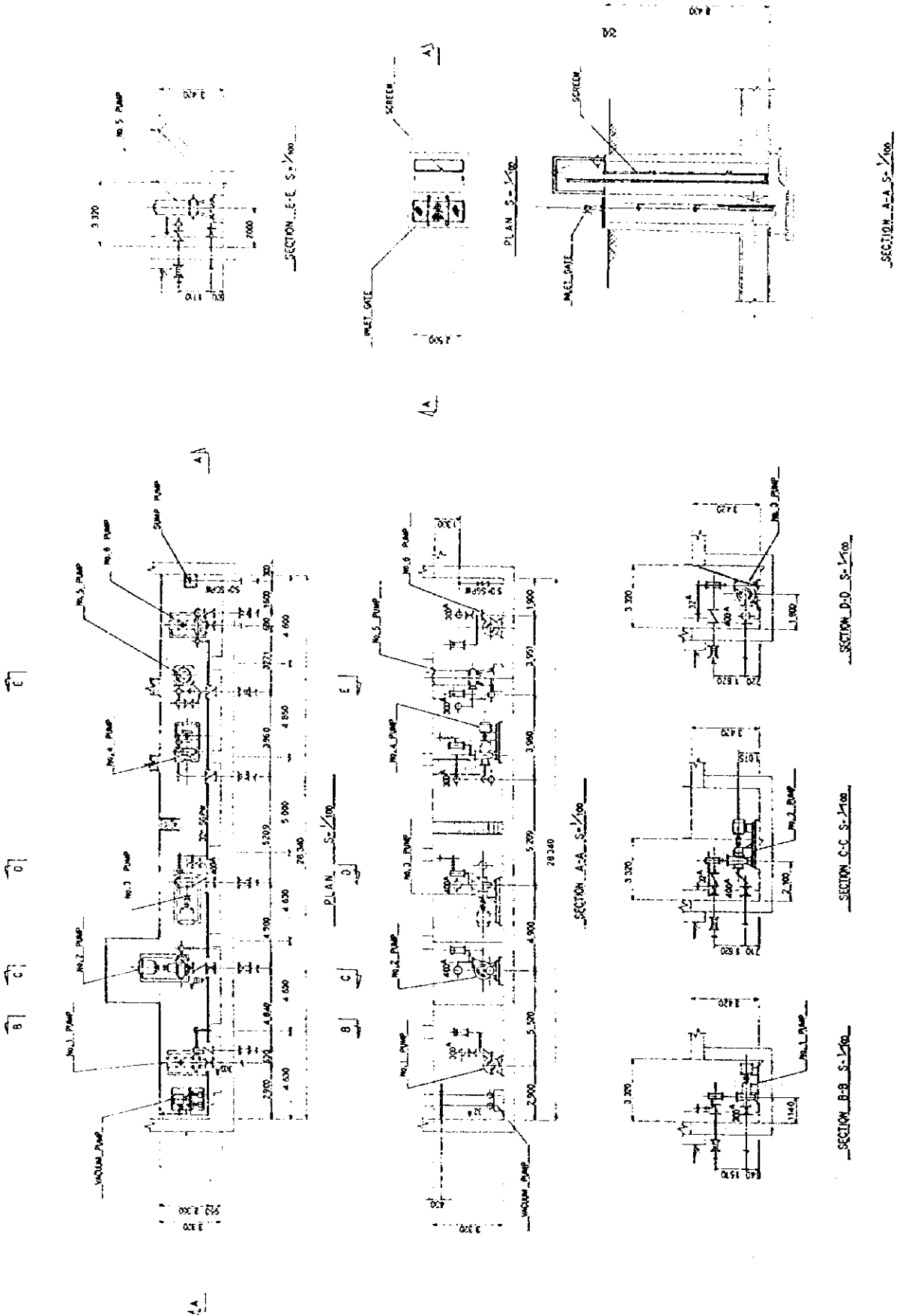


Figure 3.3.2.8

Narinda Lift Station (S)

The Study on North Dhaka Sewerage System in North Dhaka

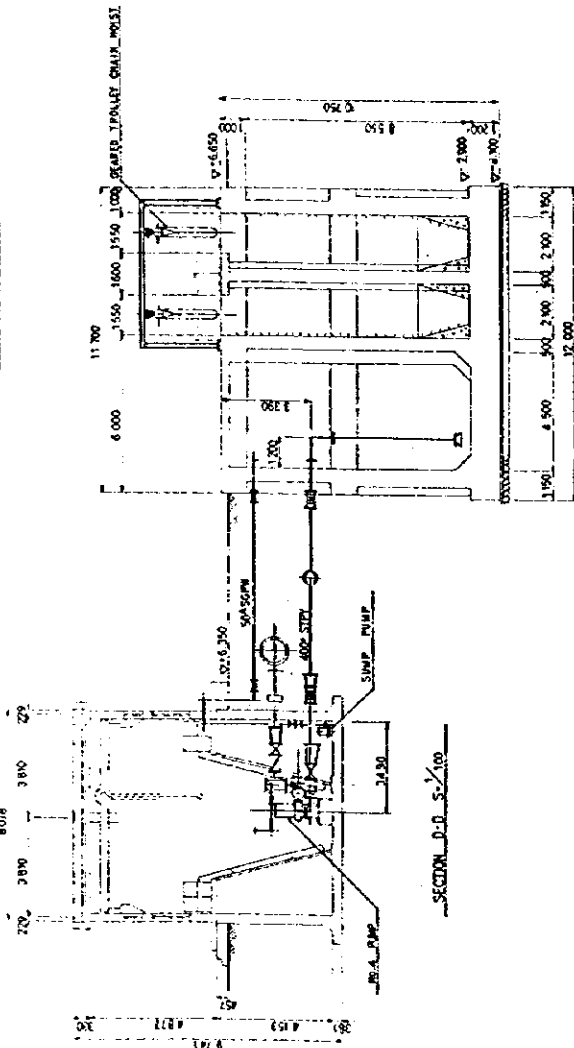
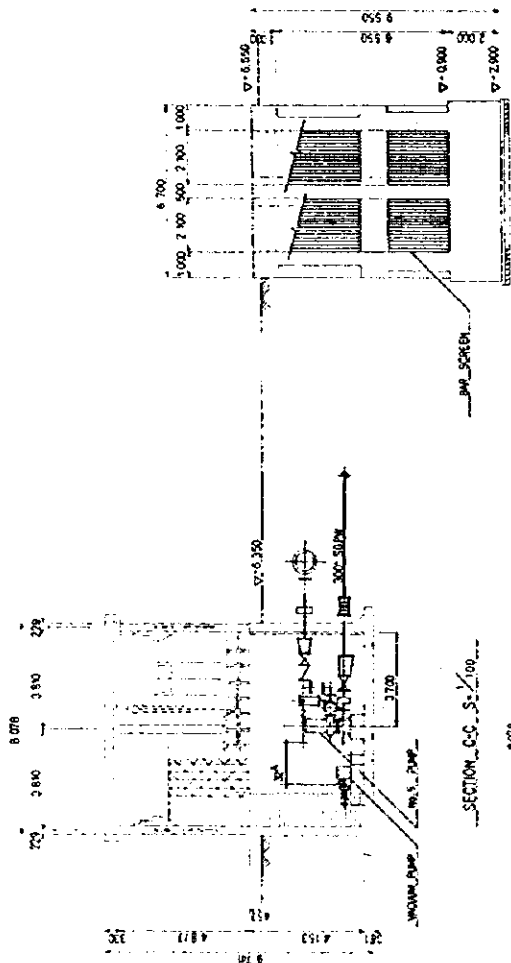
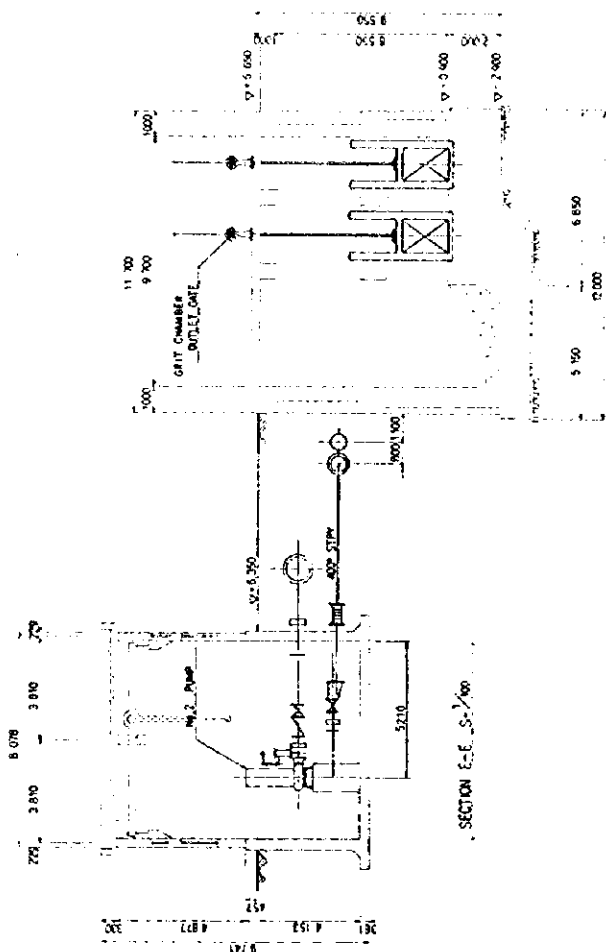
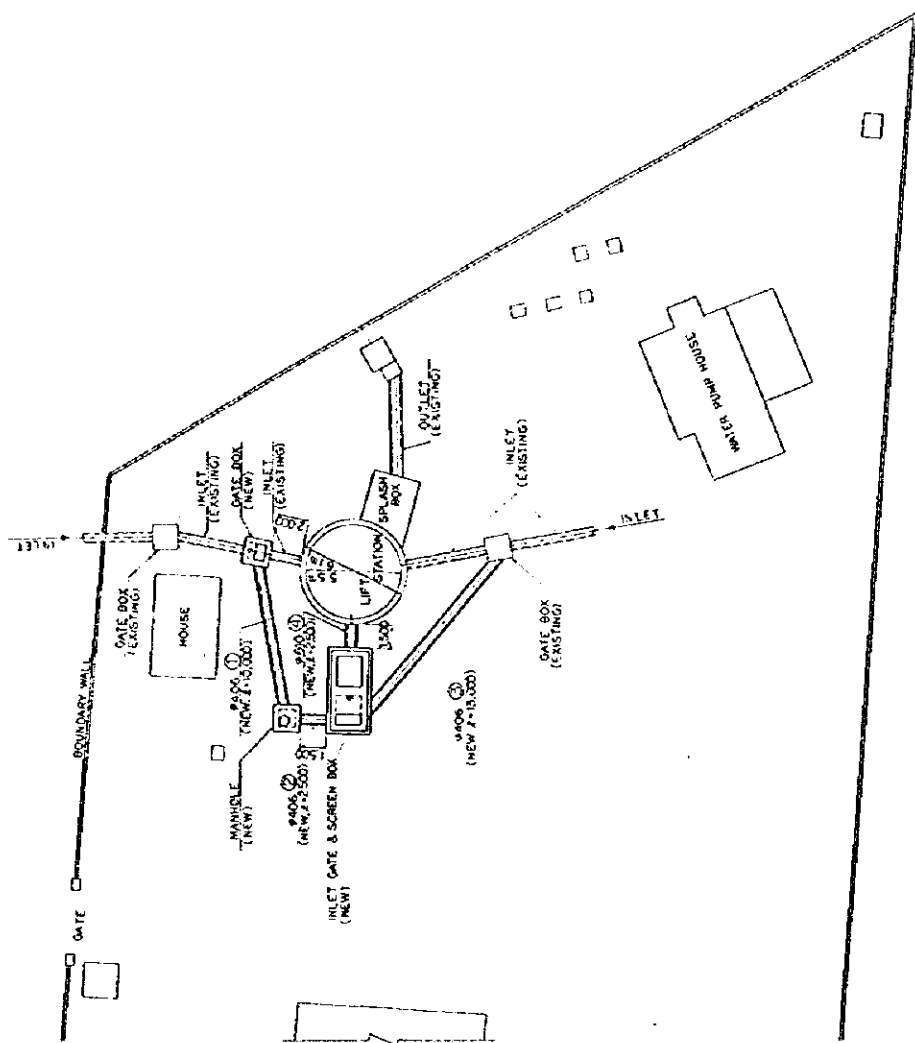


Figure 3.3.2.10

Narinda Lift Station (10)

The Study on North Dhaka Sewerage System in North Dhaka



KEY PLAN S-1/150

Figure 3.3.2.11

Asad Gate Lift Station (I)

The Study on North Dhaka Sewerage System in North Dhaka

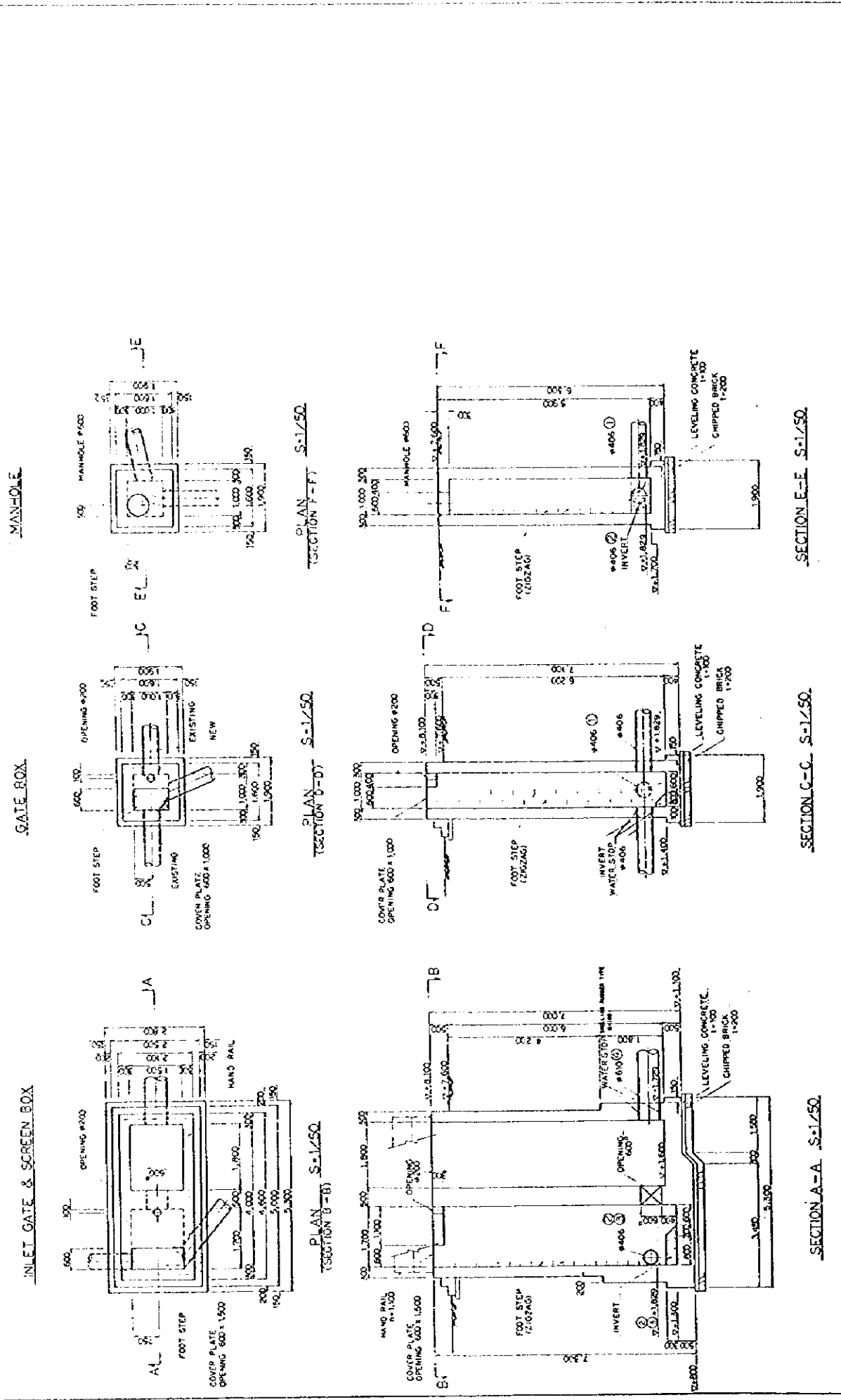


Figure 3.3.2.12

Asad Gate Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

REINFORCEMENT SCHEDULE	
STRUCTURE (ASAD GATE)	
ROOF	R10
FLOOR	R10
PAV. FINISHING	R10
WALL	R10
ROOF	R10
INT. FINISHING	R10
SLAB	C18 BAR CONCRETE R10@200
WALL	R10
CEILING	R10
DOOR	R10
WINDING	R10
PLUMBING	R10
W.P. COVERS	R10
PAVING	R10
HANDLING	R10
CONCRETE	R10

NOTE:
 1. INTERNAL PRESSURE CAPACITY OF WATER TIGHT
 MEMBERS IS NOT LESS THAN 1.0m/cu m.
 2. JOINTS SHALL BE FINED WITH
 CAPABLE RESIN JACKETS.

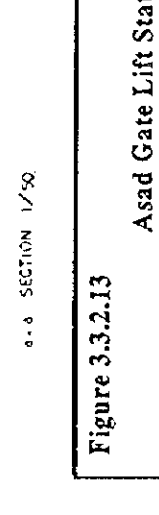
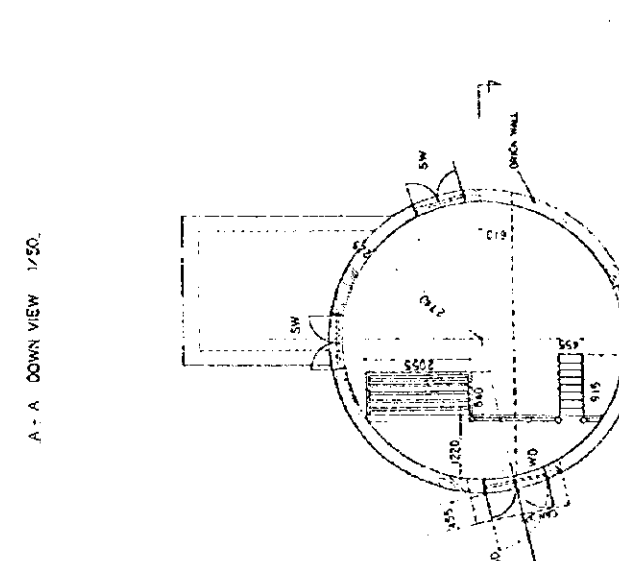
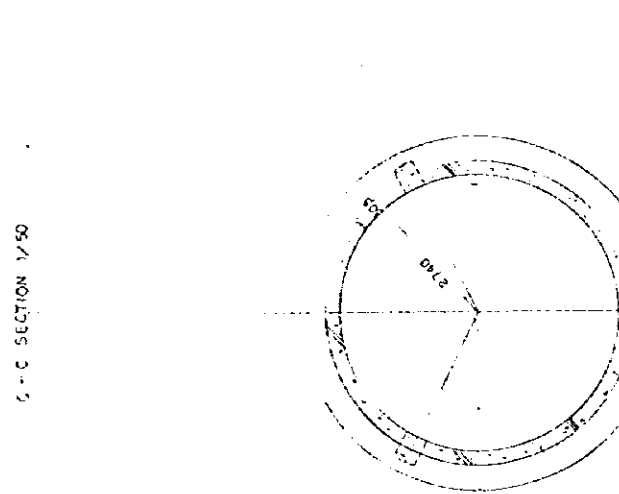
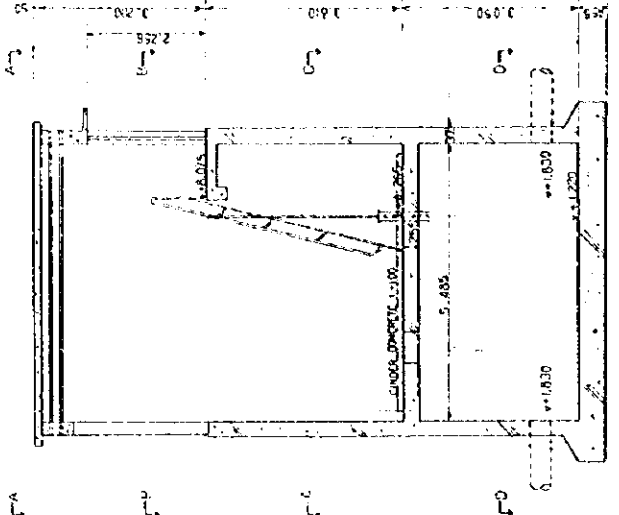
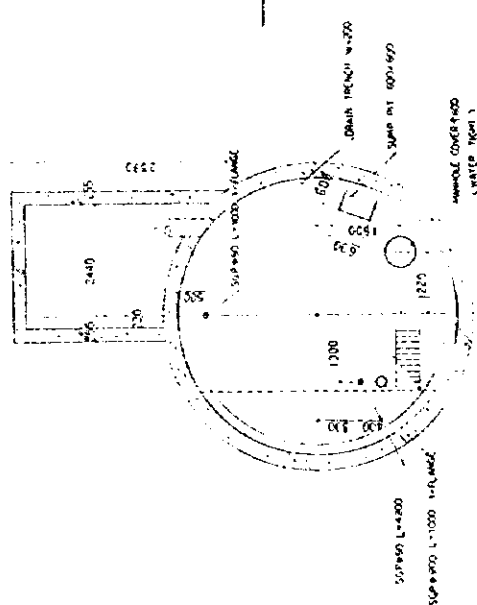
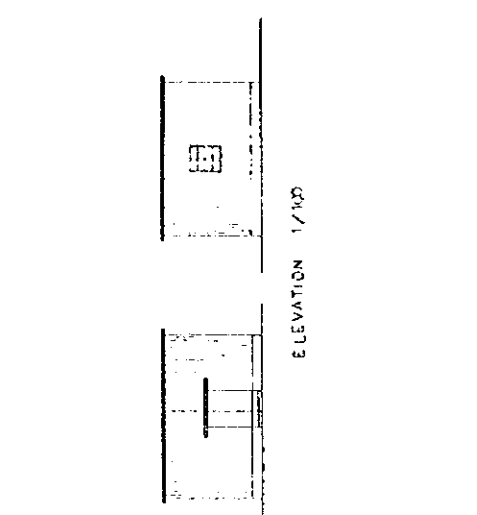


Figure 3.3.2.13 Asad Gate Lift Station (3)

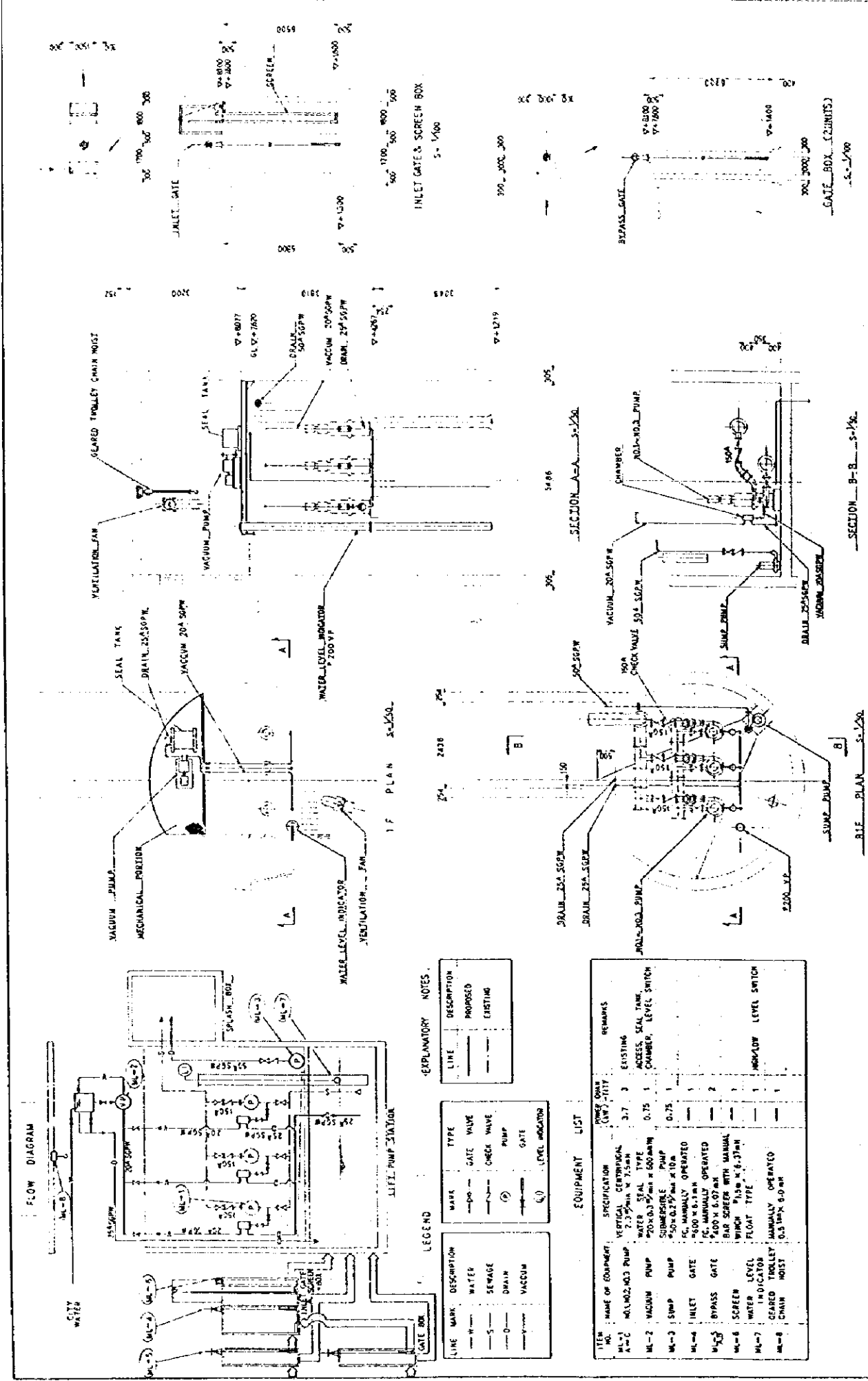


Figure 3.3.2.14
Asad Gate Lift Station (4)
The Study on North Dhaka Sewerage System in North Dhaka

EXPLANATORY NOTES

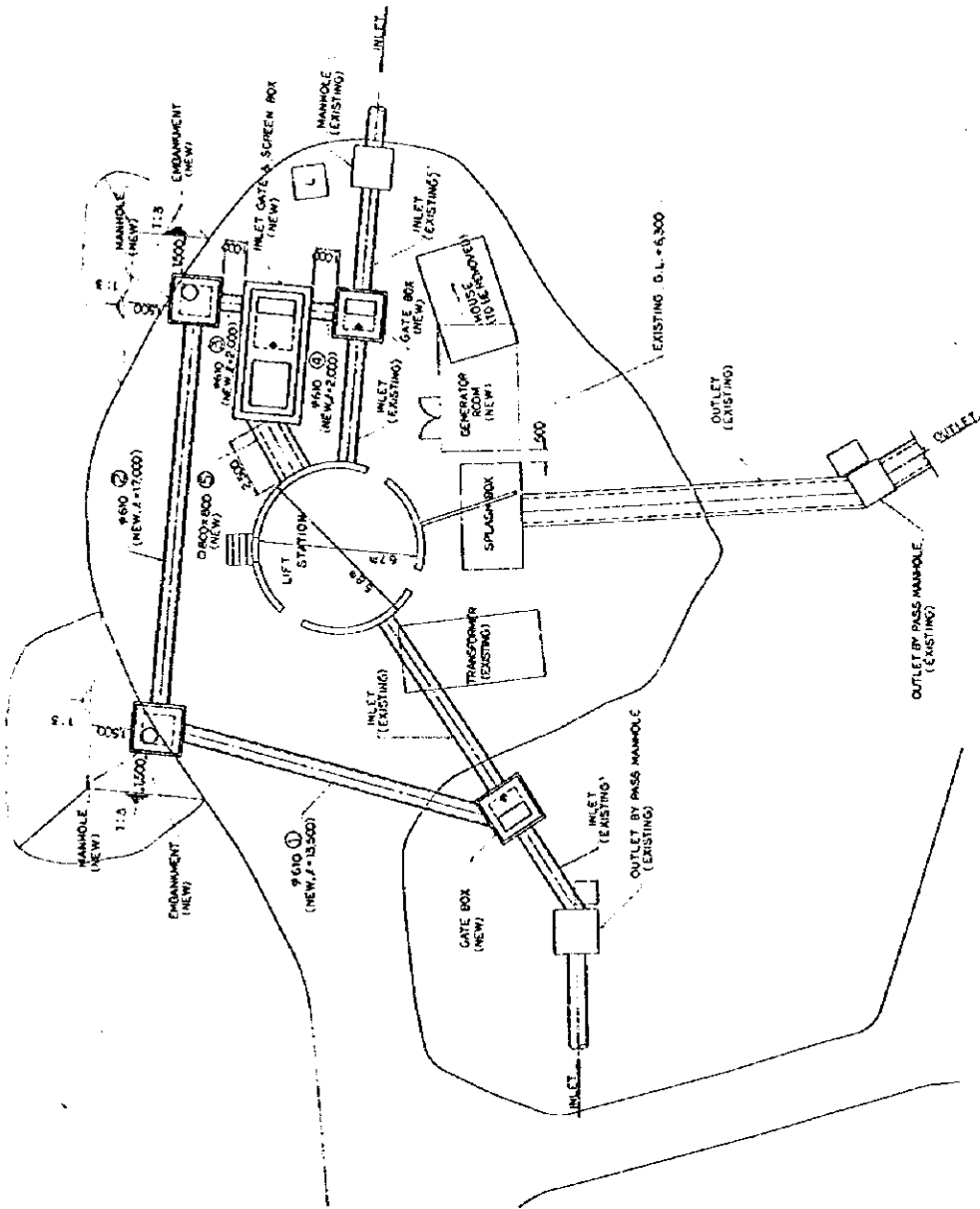
LINE	DESCRIPTION	TYPE
---	PROPOSED	
---	EXISTING	

LEGEND

LINE MARK	DESCRIPTION	MARK	TYPE
W	WATER	—	GATE VALVE
S	SEWAGE	—	CHECK VALVE
D	DRAIN	⊙	PUMP
V	VACUUM	⊙	GATE
⊙	LEVEL INDICATOR	⊙	LEVEL INDICATOR

EQUIPMENT LIST

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	QTY ONLY	REMARKS
ML-1	VERTICAL CENTRIFUGAL PUMP	2500 x 1500 x 1500	3	EXISTING
ML-2	WATER SEAL TYPE PUMP	200 x 600 x 1500	1	ACCESS SEAL TANK CHAMBER, LEVEL SWITCH
ML-3	SUBMERSIBLE PUMP	500 x 627 mm x 1000	1	
ML-4	INLET GATE	500 x 6.17 m	1	
ML-5	BYPASS GATE	500 x 6.17 m	1	
ML-6	SCREEN	1500 x 1500 x 1.17 m	1	MANUALLY OPERATED
ML-7	WATER LEVEL INDICATOR	1500 x 1500 x 1.17 m	1	MANUALLY OPERATED
ML-8	GEARED TROLLEY CHAIN MOIST	0.3 m x 0.3 m	1	



KEY PLAN S-1/100

Figure 3.3.2.15

Tejgaon Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

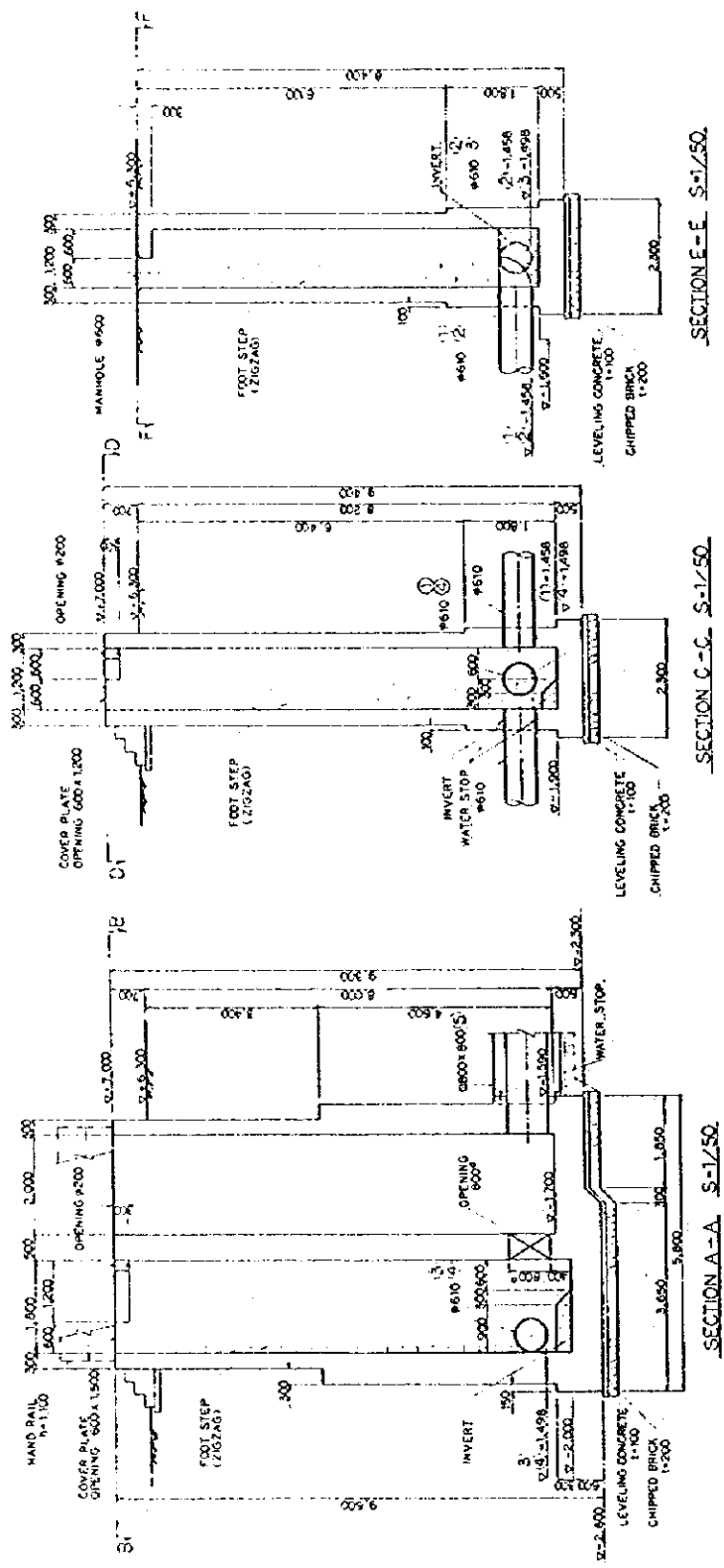
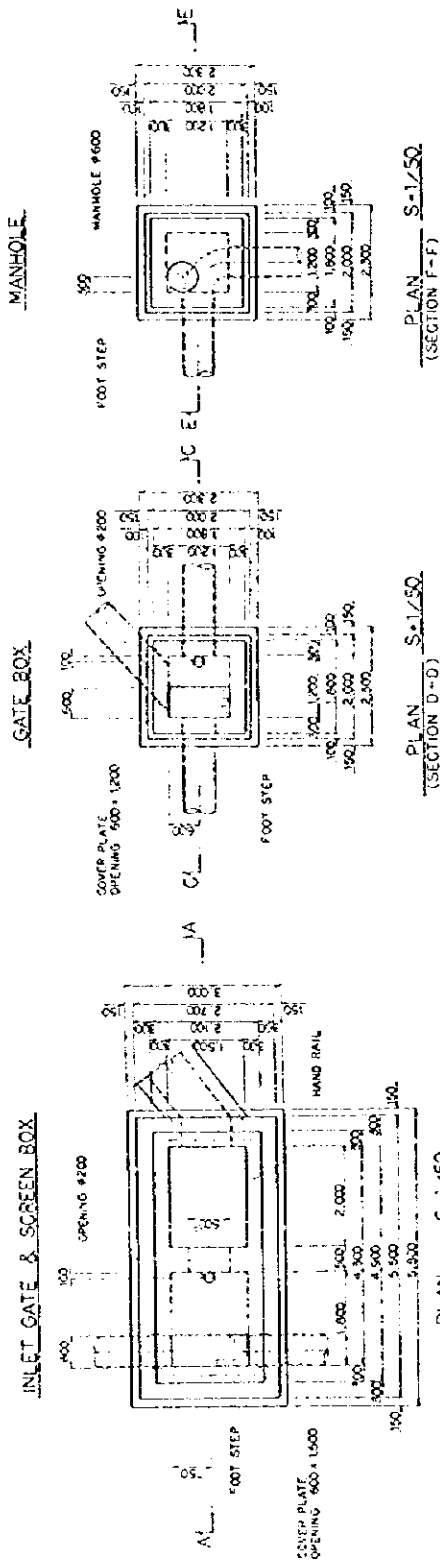


Figure 3.3.2.16
 Tejgaon Lift Station (2)
 The Study on North Dhaka Sewerage System in North Dhaka

MEMBERSHIP OF SCRAMBLE

STRUCTURE	WALL
FLOOR	WALL
ROOF	WALL
DOOR	WALL
WINDOW	WALL
CEILING	WALL
PAINT	WALL
FLUSHING	WALL
FIXTURES	WALL
DOOR	WALL
WINDOW	WALL
CEILING	WALL
PAINT	WALL
FLUSHING	WALL
FIXTURES	WALL
DOOR	WALL
WINDOW	WALL
CEILING	WALL
PAINT	WALL
FLUSHING	WALL
FIXTURES	WALL
DOOR	WALL
WINDOW	WALL
CEILING	WALL
PAINT	WALL
FLUSHING	WALL
FIXTURES	WALL
DOOR	WALL
WINDOW	WALL
CEILING	WALL
PAINT	WALL
FLUSHING	WALL
FIXTURES	WALL
DOOR	WALL
WINDOW	WALL
CEILING	WALL
PAINT	WALL
FLUSHING	WALL
FIXTURES	WALL

NOTE:
 1. INTERNAL PRESSURE CAPACITY OF MATERIALS
 SHOULD BE NOT LESS THAN 1 BAR.
 2. ALL JOINTS SHALL BE SEALED WITH
 CAPSULE RESIN JOINTS.

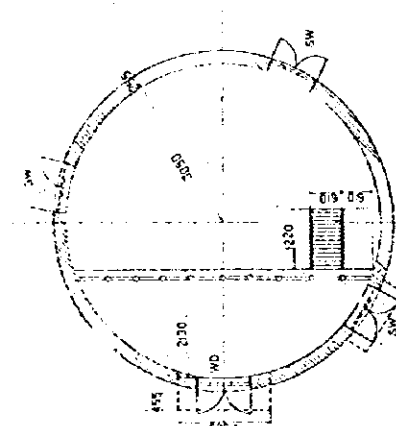
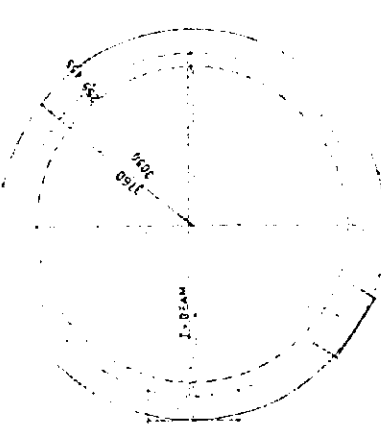
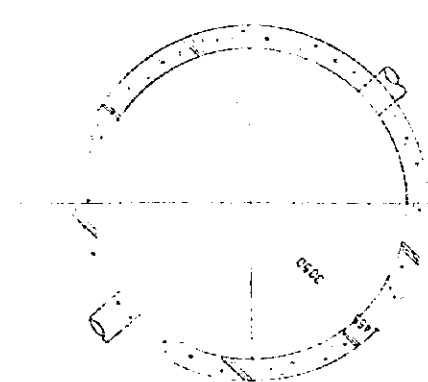
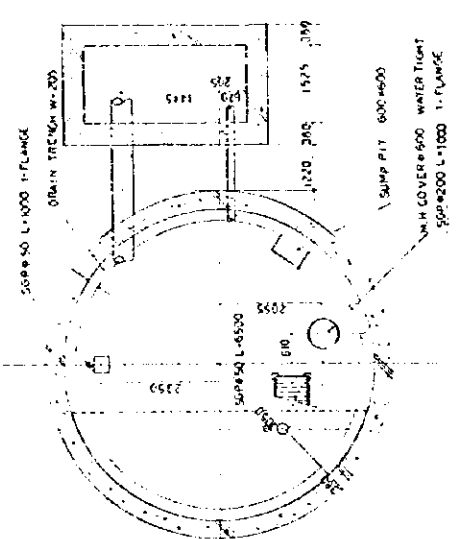
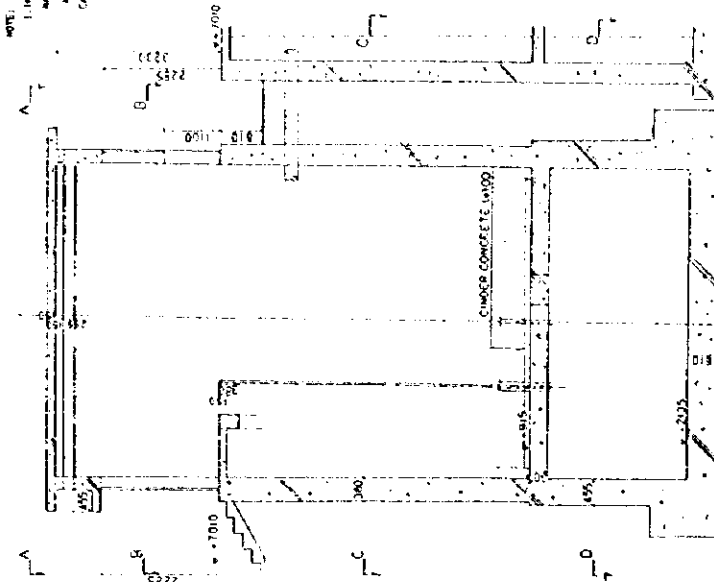
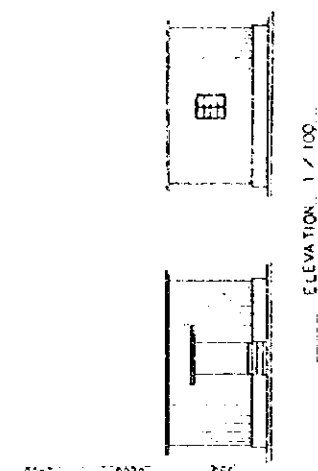


Figure 3.3.2.17

Tejgaon Lift Station (3)

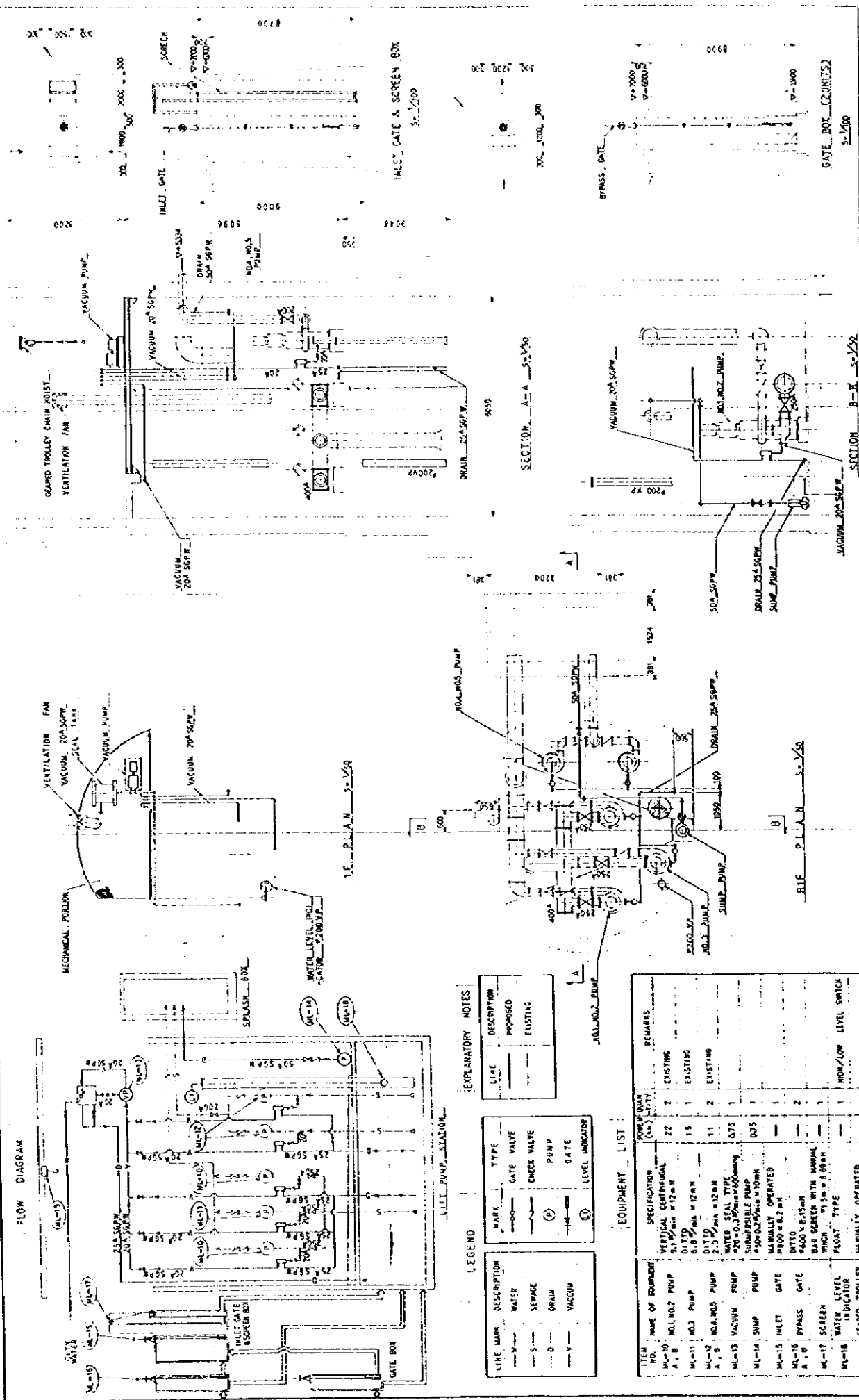


Figure 3.3.2.18

Tejgaon Lift Station (4)

The Study on North Dhaka Sewerage System in North Dhaka

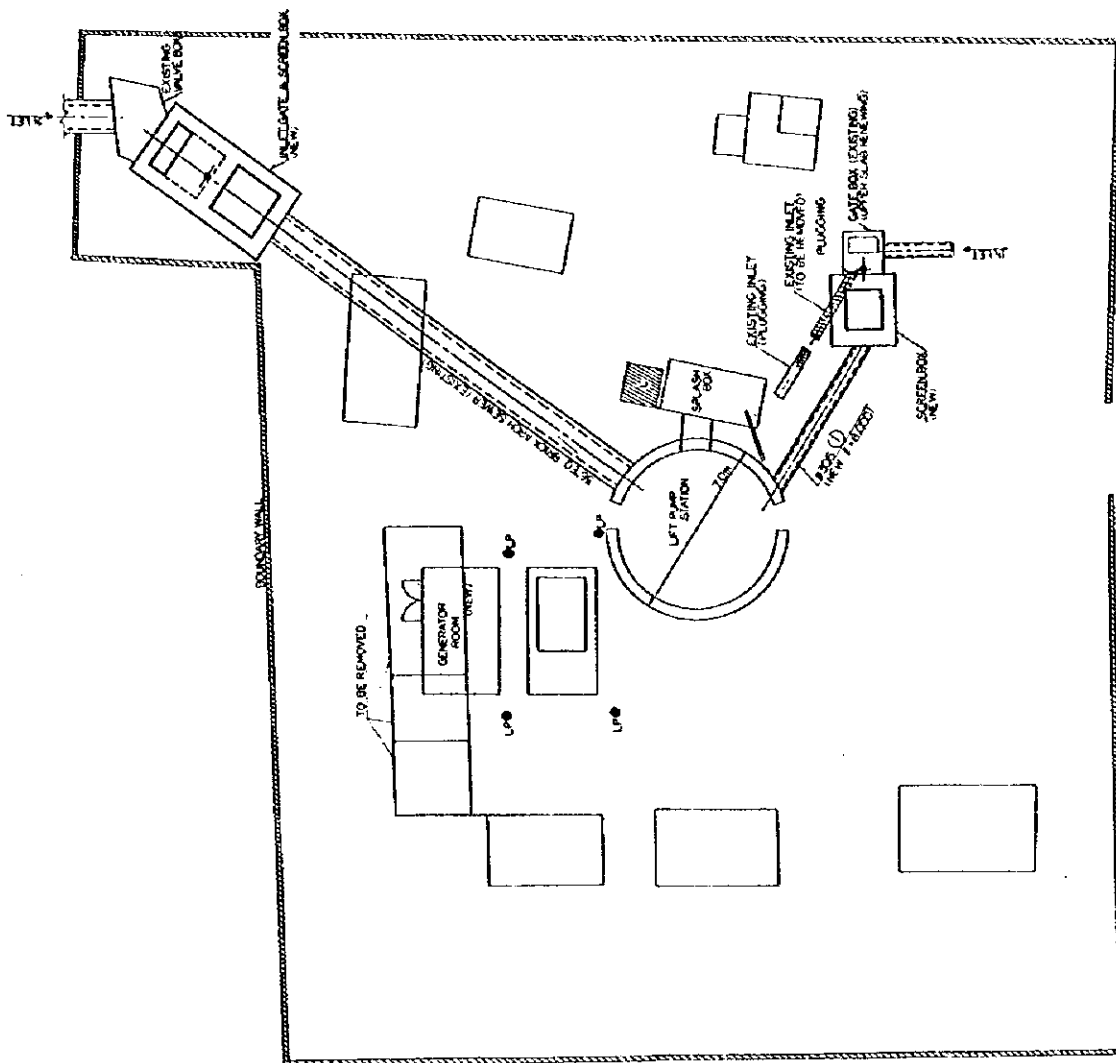
LEGEND

LINE MARK	DESCRIPTION	MARK	TYPE
— W —	WATER	—	GATE VALVE
— S —	SEWAGE	—	CHECK VALVE
— D —	DRAIN	⊙	PUMP
— V —	VACUUM	—	GATE
		⊕	LEVEL INDICATOR

EQUIPMENT LIST

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER RATING (KW)	QUANTITY	REMARKS
M-10	M-10, M-10.2 PUMP	VERTICAL CENTRIFUGAL 5.175 m x 12 m x 8	22	7	EXISTING
A, B	M-11 M-11.3 PUMP	0.18 m x 12 m x 12 m	15	1	EXISTING
M-12	M-12 M-12.5 PUMP	0.18 m x 12 m x 12 m	11	2	EXISTING
A, B	M-13 VACUUM PUMP	WATER SEAL TYPE 270 x 0.375 m x 100 mm	0.75	1	EXISTING
M-14	PUMP	SUBMERSIBLE PUMP 500/625 m x 100 m	0.75	1	EXISTING
M-15	INLET GATE	MANUALLY OPERATED 1800 x 8.2 m	—	1	EXISTING
M-16	BYPASS GATE	OTTO 1400 x 8.15 m	—	2	EXISTING
M-17	SCREEN	BAR SCREEN WITH MANUAL WHICH 11.5 m x 8.0 m	—	1	EXISTING
M-18	WATER LEVEL INDICATOR	FLOAT TYPE	—	1	HIGH/LOW LEVEL SWITCH
M-19	GEARED TROLLEY CHAIR MOIST	MANUALLY OPERATED 0.5 m x 6.0 m	—	1	EXISTING

EXPLANATORY NOTES



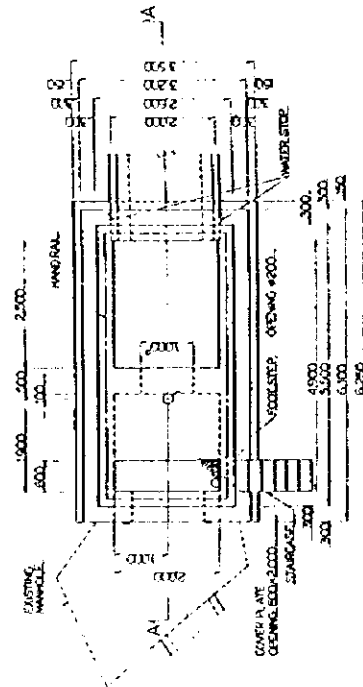
KEY PLAN. S=1/100.

Figure 3.3.2.19

Bashaboo Lift Station (I)

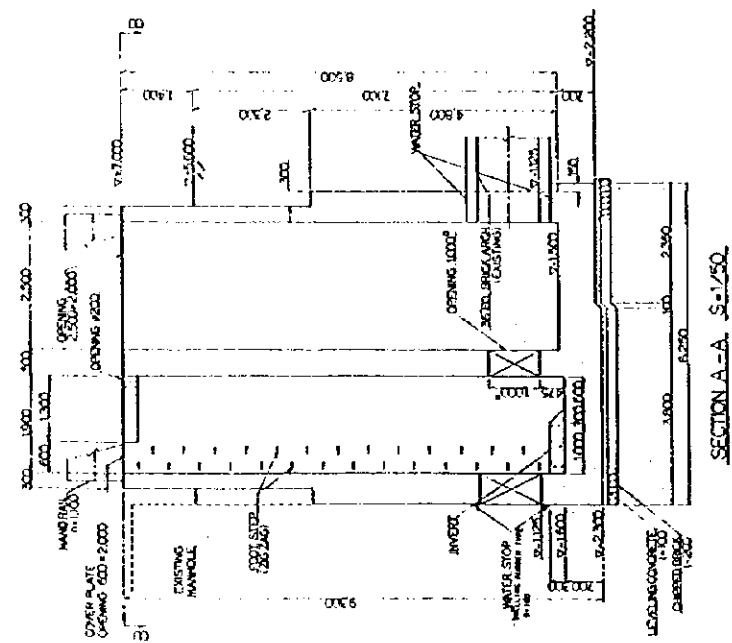
The Study on North Dhaka Sewerage System in North Dhaka

INLET GATE & SCREEN BOX



PLAN B-B S=1/50

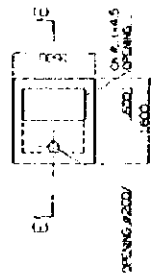
PLAN D-D S=1/50



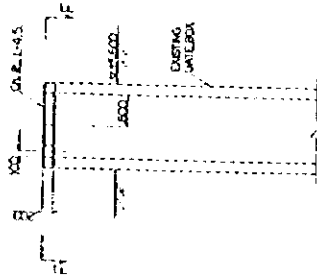
SECTION A-A S=1/50

SECTION C-C S=1/50

GATE BOX



PLAN F-F S=1/50



SECTION E-E S=1/50

Figure 3.3.2.20

Bashaboo Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

REHABILITATION MEMORANDUM	
STRUCTURE	(BASHABOO)
NO.	
FLOOR	
WALL	
ROOF	
DOOR	
WINDOW	
CEILING	
PAINT	
GLASS	
IRONWORK	
PLUMBING	
ELECTRICAL	
MECHANICAL	
PAVING	
LANDSCAPE	
OTHER	
DATE	
BY	
CHECKED	
APPROVED	
SCALE	

NOTE:
 1. INTERNAL PRESSURE CAPACITY OF WATER TIGHT MANHOLE IS NOT LESS THAN 3.0kg/cm².
 MANHOLE FRAME SHALL BE FIXED WITH CAPABLE WITH INGRESS.

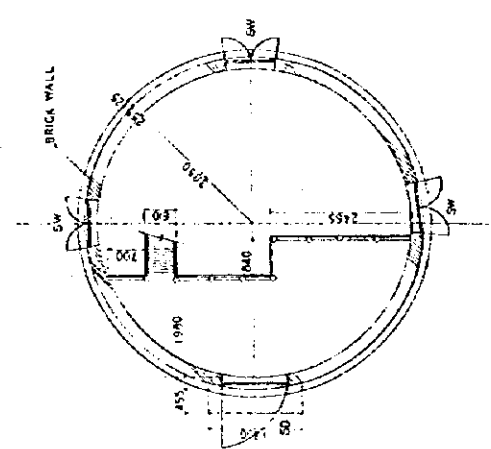
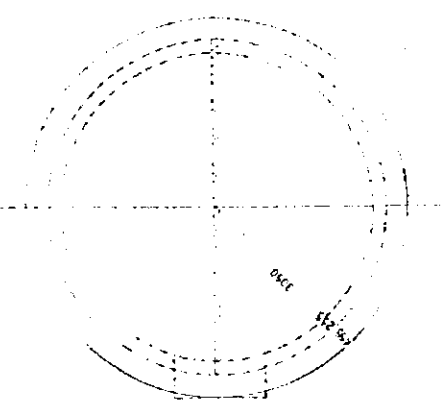
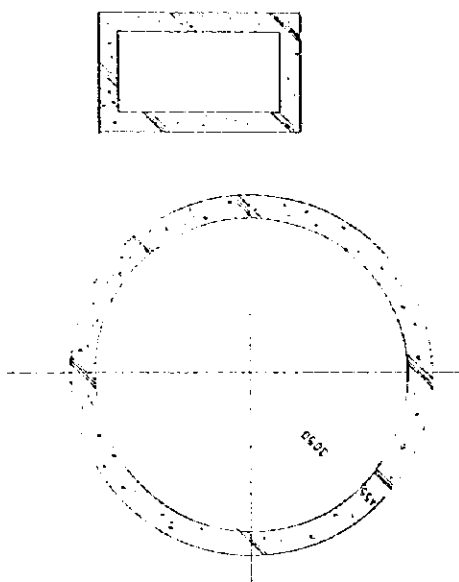
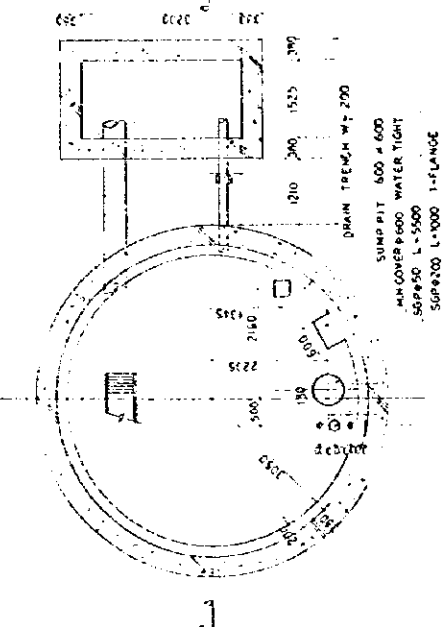
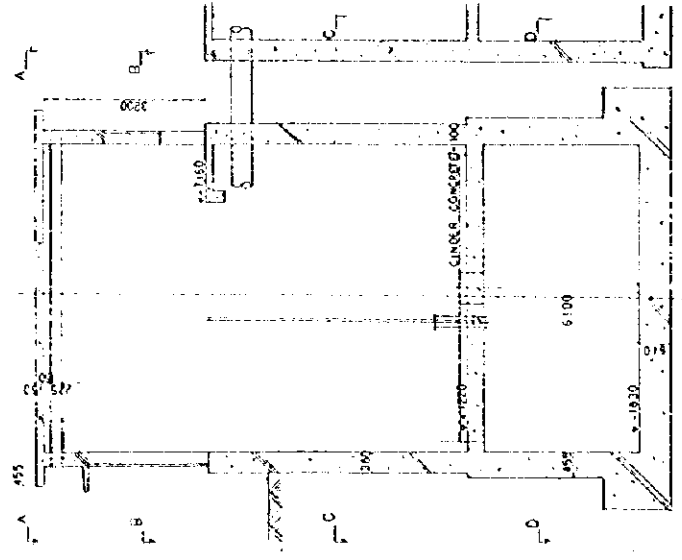
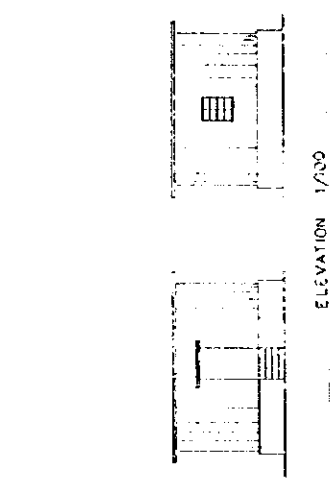


Figure 3.3.2.21
Bashaboo Lift Station (3)
The Study on North Dhaka Sewerage System in North Dhaka

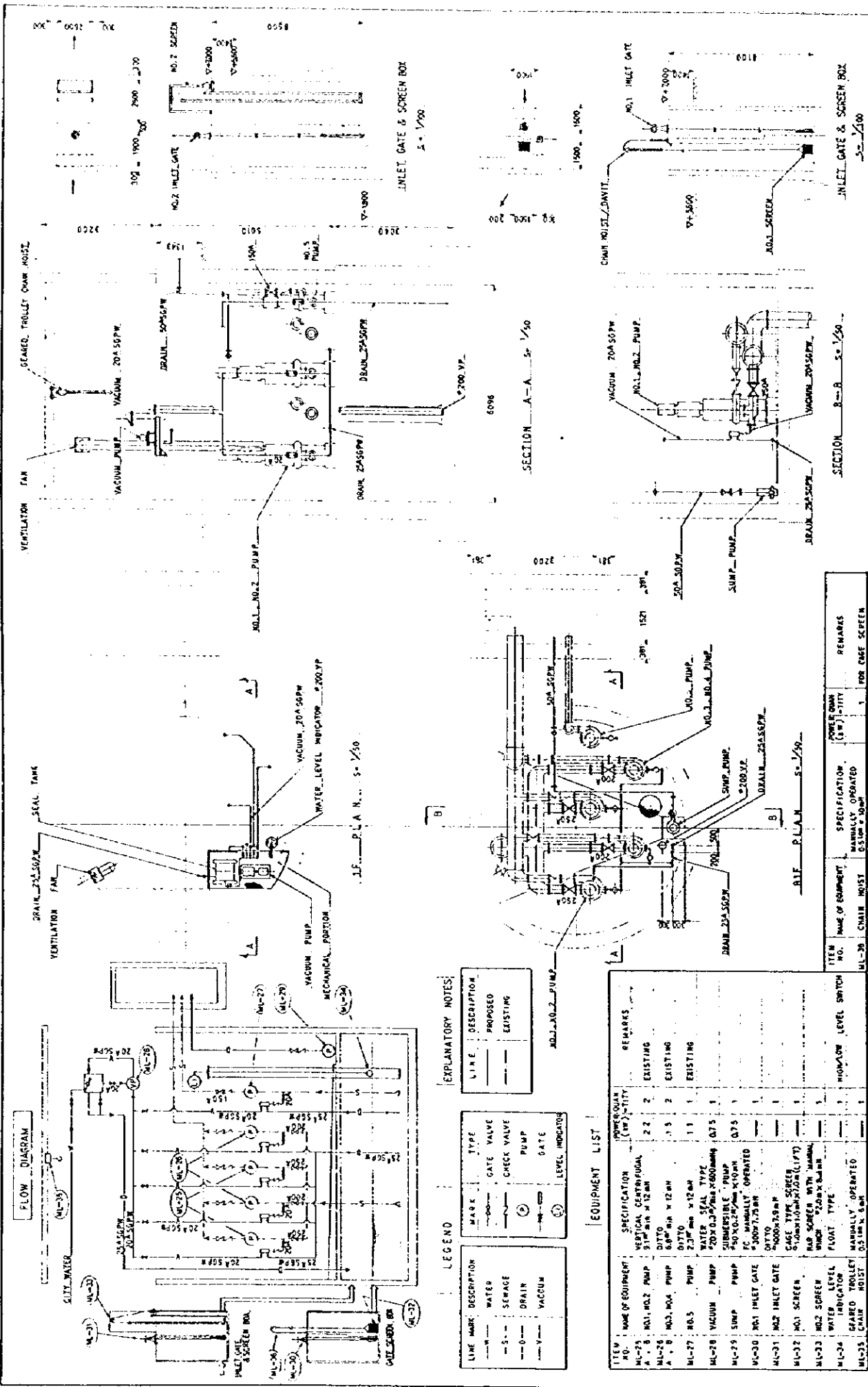


Figure 3.3.2.22

Bashaboo Lift Station (4)

The Study on North Dhaka Sewerage System in North Dhaka

EXPLANATORY NOTES:

LINE	DESCRIPTION	TYPE
---	WATER	
-S-	SEWAGE	
-D-	DRAIN	
-V-	VACUUM	

LEGEND

MARK	DESCRIPTION	TYPE
○	GATE VALVE	
□	CHECK VALVE	
⊕	PUMP	
⊖	GATE	
⊙	LEVEL INDICATOR	

EQUIPMENT LIST

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER QUANTITY (HP)	REMARKS
ML-25	NO. 1, NO. 2 PUMP	VERTICAL CENTRIFUGAL 51 HP MIN X 12 IN	2 2	EXISTING
ML-26	NO. 3, NO. 4 PUMP	DITTO 6.8 HP MIN X 12 IN	1 3	EXISTING
ML-27	NO. 5 PUMP	DITTO 2.3 HP MIN X 12 IN	1 1	EXISTING
ML-28	VACUUM PUMP	WATER SEAL TYPE 20 X 0.3 P/Min X 0.000mm	0.75	
ML-29	SUMP PUMP	SUBMERSIBLE PUMP 450 X 0.25 P/Min X 0.000mm	0.75	
ML-30	NO. 1 INLET GATE	FC MANUALLY OPERATED 3009 X 7.5 IN		
ML-31	NO. 2 INLET GATE	DITTO 3009 X 7.5 IN		
ML-32	NO. 1 SCREEN	CAGE TYPE SCREEN 1700 X 1000 X 100 (1 FT)		
ML-33	NO. 2 SCREEN	NO. 2 SCREEN WITH JAMMING BRIDGE 1700 X 1000 X 100		
ML-34	WATER LEVEL	FLOAT TYPE		
ML-35	SEATED TROLLEY	MANUALLY OPERATED 0.5 HP MIN X 0.000		
ML-36	CHAIR HOIST			

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER QUANTITY (HP)	REMARKS
ML-36	CHAIR HOIST	MANUALLY OPERATED 0.5 HP MIN X 0.000		FOR CASE SCREEN

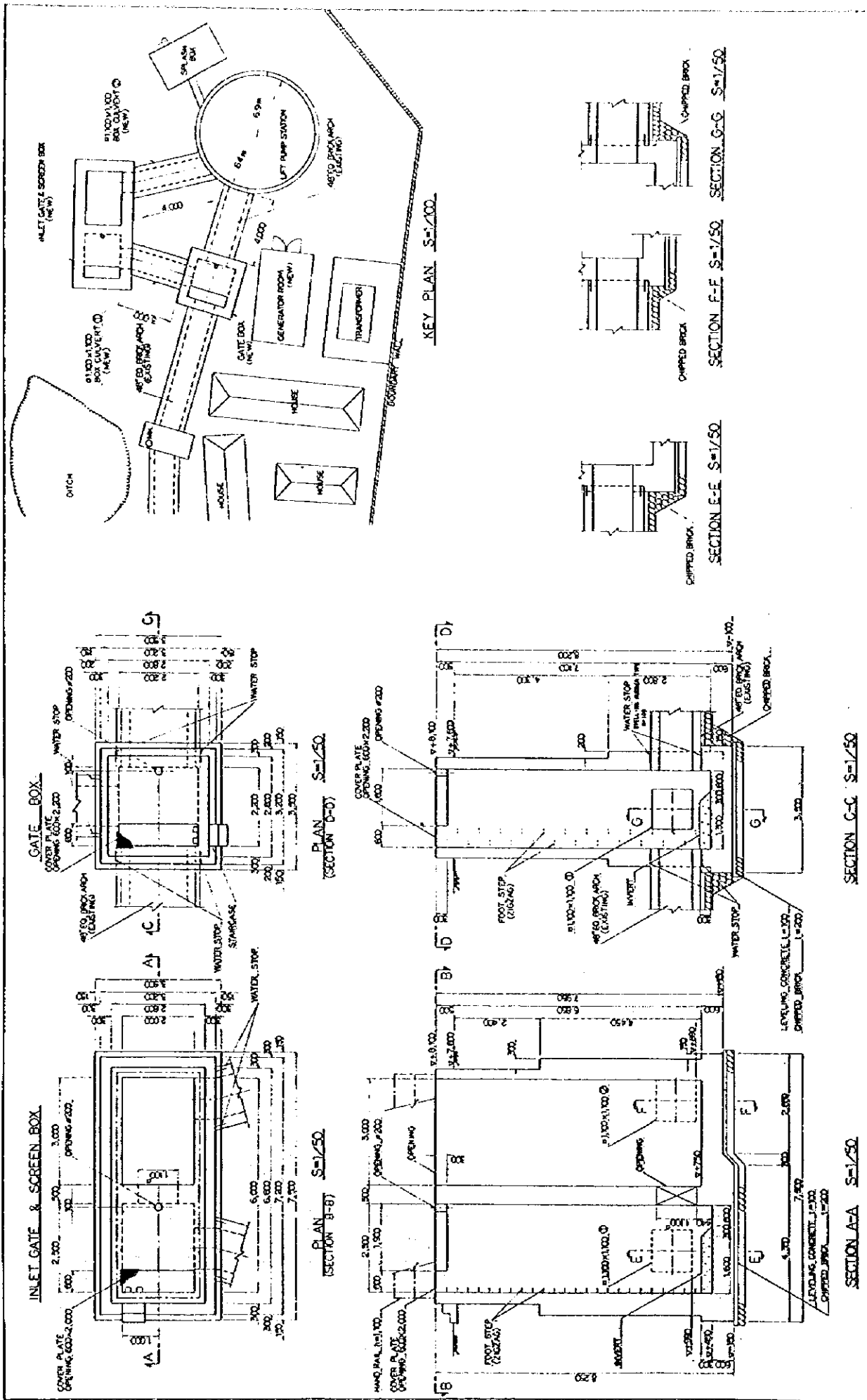


Figure 3.3.2.23

Sayedabad Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

REHABILITATION SCHEDULE

SCHEDULE NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
1	ROOF		SQ.M	
2	WALL		SQ.M	
3	WALL FINISHING		SQ.M	
4	FLOOR		SQ.M	
5	FLOOR FINISHING		SQ.M	
6	CEILING		SQ.M	
7	CEILING FINISHING		SQ.M	
8	DOOR		NO.	
9	WINDOW		NO.	
10	GLASS		SQ.M	
11	GLASS FINISHING		SQ.M	
12	PLASTER		SQ.M	
13	CONCRETE		CUM	
14	BRICK		CUM	
15	STEEL		KG	
16	ROOF FINISHING		SQ.M	
17	WALL FINISHING		SQ.M	
18	FLOOR FINISHING		SQ.M	
19	CEILING FINISHING		SQ.M	
20	PAINT		SQ.M	
21	GLASS		SQ.M	
22	PLASTER		SQ.M	
23	CONCRETE		CUM	
24	BRICK		CUM	
25	STEEL		KG	
26	ROOF FINISHING		SQ.M	
27	WALL FINISHING		SQ.M	
28	FLOOR FINISHING		SQ.M	
29	CEILING FINISHING		SQ.M	
30	PAINT		SQ.M	
31	GLASS		SQ.M	
32	PLASTER		SQ.M	
33	CONCRETE		CUM	
34	BRICK		CUM	
35	STEEL		KG	

NOTE:
 1. INTERNAL PRESSURE CAPACITY OF WATER TIGHT
 MANHOLE IS NOT LESS THAN 1.0m/m².
 MANHOLE FRINGE SHALL BE TIED WITH
 CASTLE TEST ANCHORS.

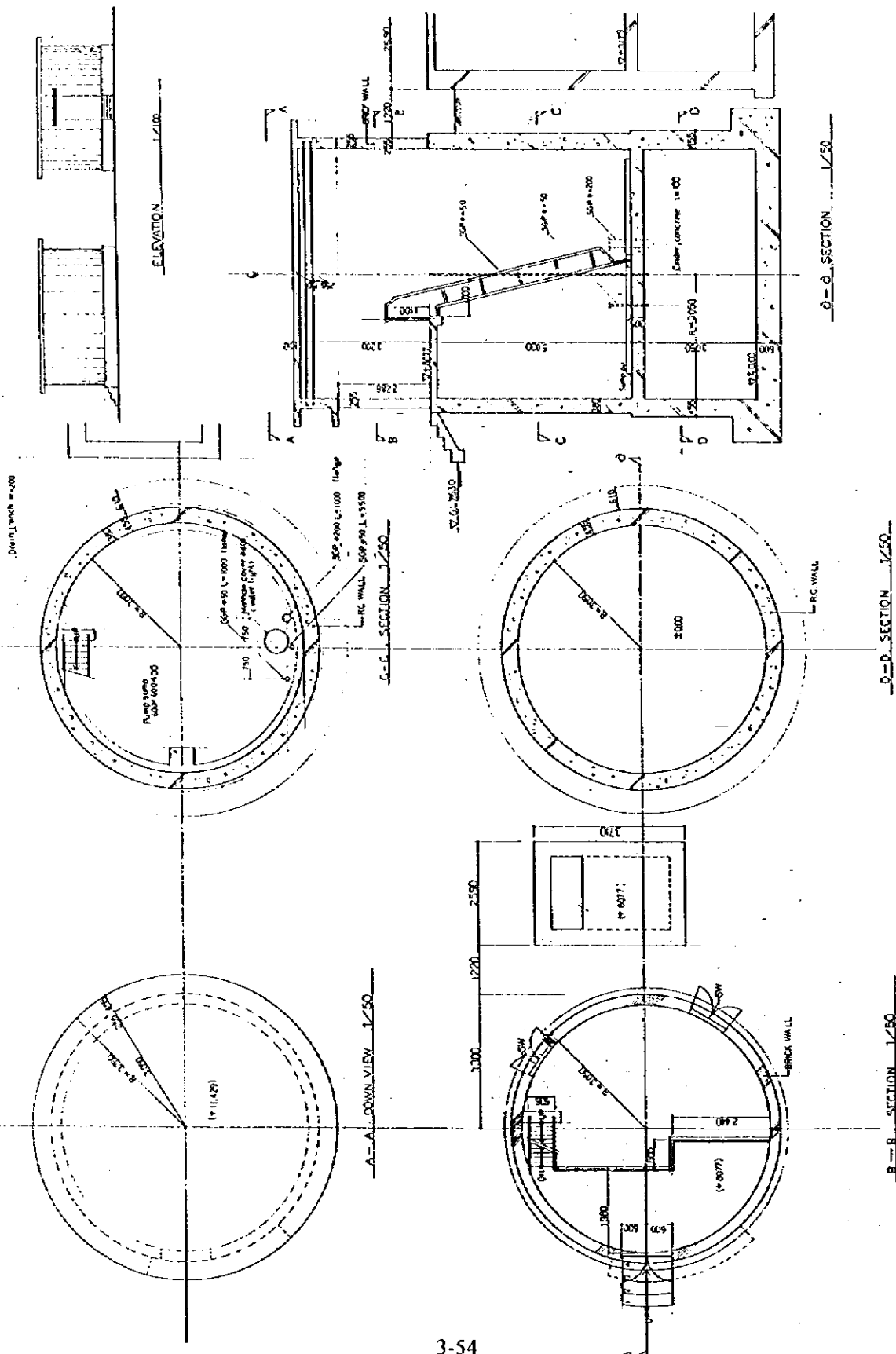
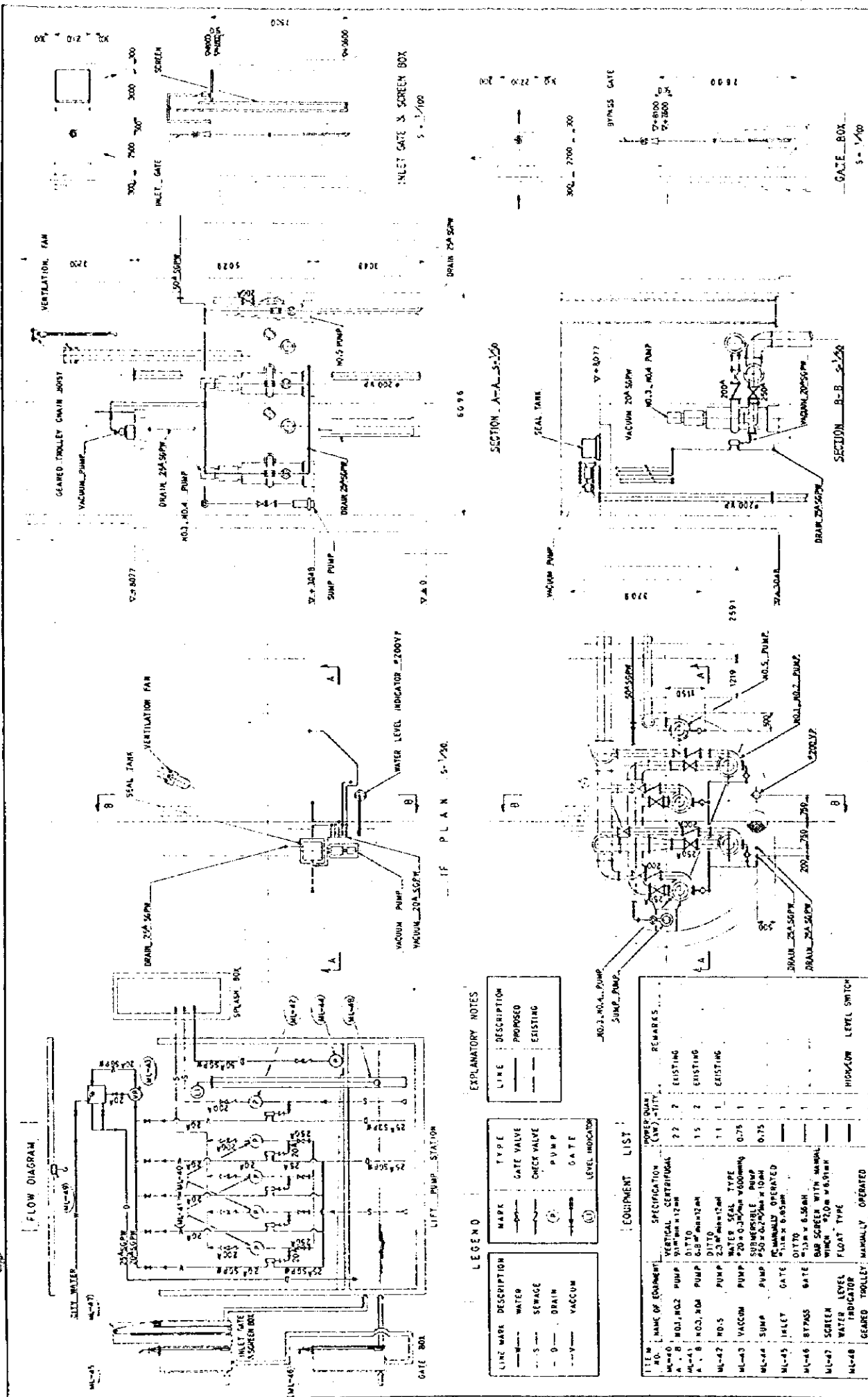


Figure 3.3.2.24
 Sayedabad Lift Station (2)
 The Study on North Dhaka Sewerage System in North Dhaka



EXPLANATORY NOTES

LINE	DESCRIPTION
---	PROPOSED
---	EXISTING

LEGEND

MARK	TYPE
---	GATE VALVE
---	CHECK VALVE
---	PUMP
---	GATE
---	LEVEL INDICATOR

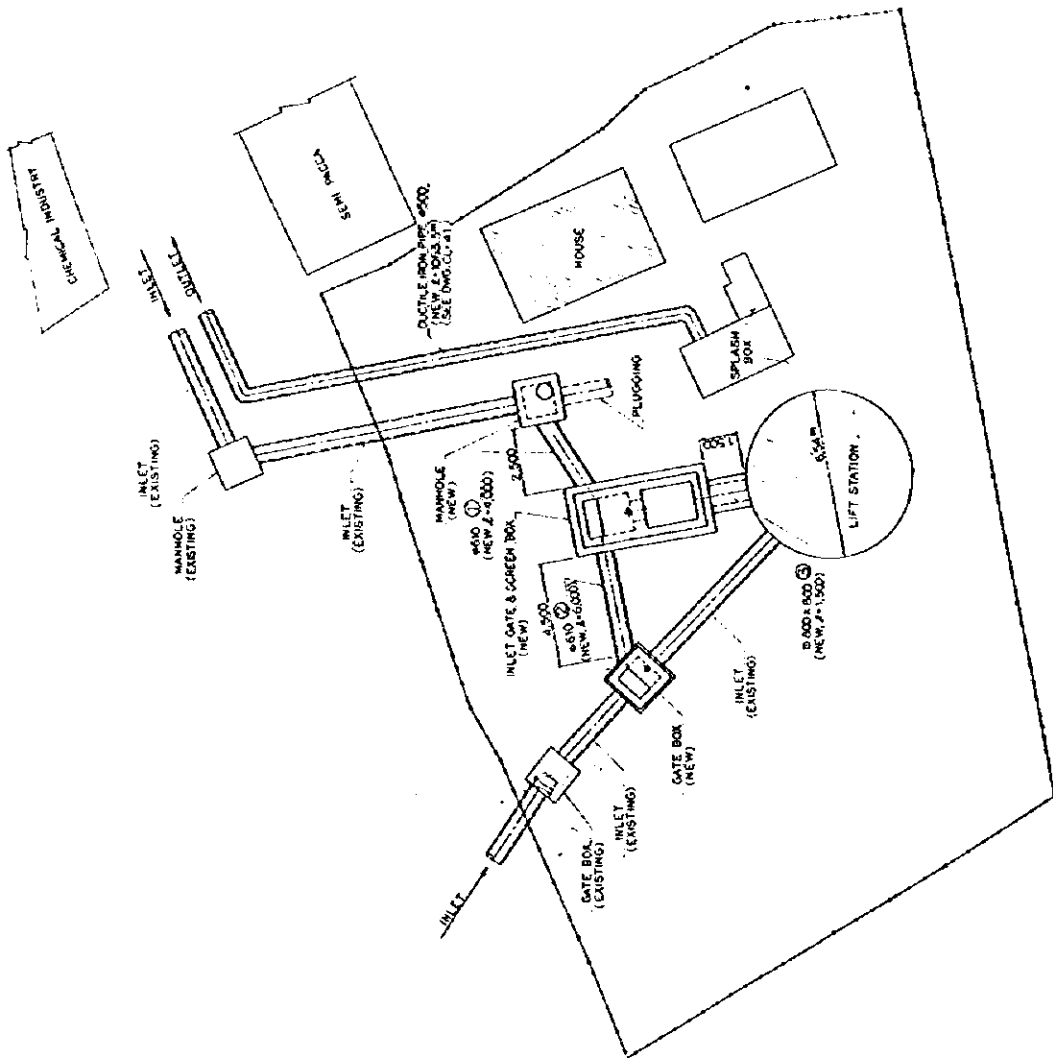
EQUIPMENT LIST

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER QUANTITY (KW)	REMARKS
M-40	VERTICAL CENTRIFUGAL PUMP	911mm H 12mm	22	EXISTING
A-1	DITTO		15	EXISTING
M-41	DITTO		11	EXISTING
M-42	WATER SEAL TYPE PUMP	200 x 0.31mm x 400mm	0.75	1
M-43	SUBMERSIBLE PUMP	200 x 0.27mm x 100mm	0.75	1
M-44	MANUALLY OPERATED GATE	31mm x 6.85mm	1	1
M-45	DITTO	31mm x 6.85mm	1	1
M-46	BYPASS GATE	31mm x 6.85mm	1	1
M-47	BYPASS GATE	31mm x 6.85mm	1	1
M-48	WATER LEVEL INDICATOR	WHICH 120mm x 6.91mm	1	1
M-49	GEARED TROLLEY CHAIN HOIST	MANUALLY OPERATED 0.5 MAX CO. Wt	1	1

Figure 3.3.2.25

Sayedabad Lift Station (3)

The Study on North Dhaka Sewerage System in North Dhaka



KEY PLAN S-1/100

Figure 3.3.2.26

Hazaribag Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

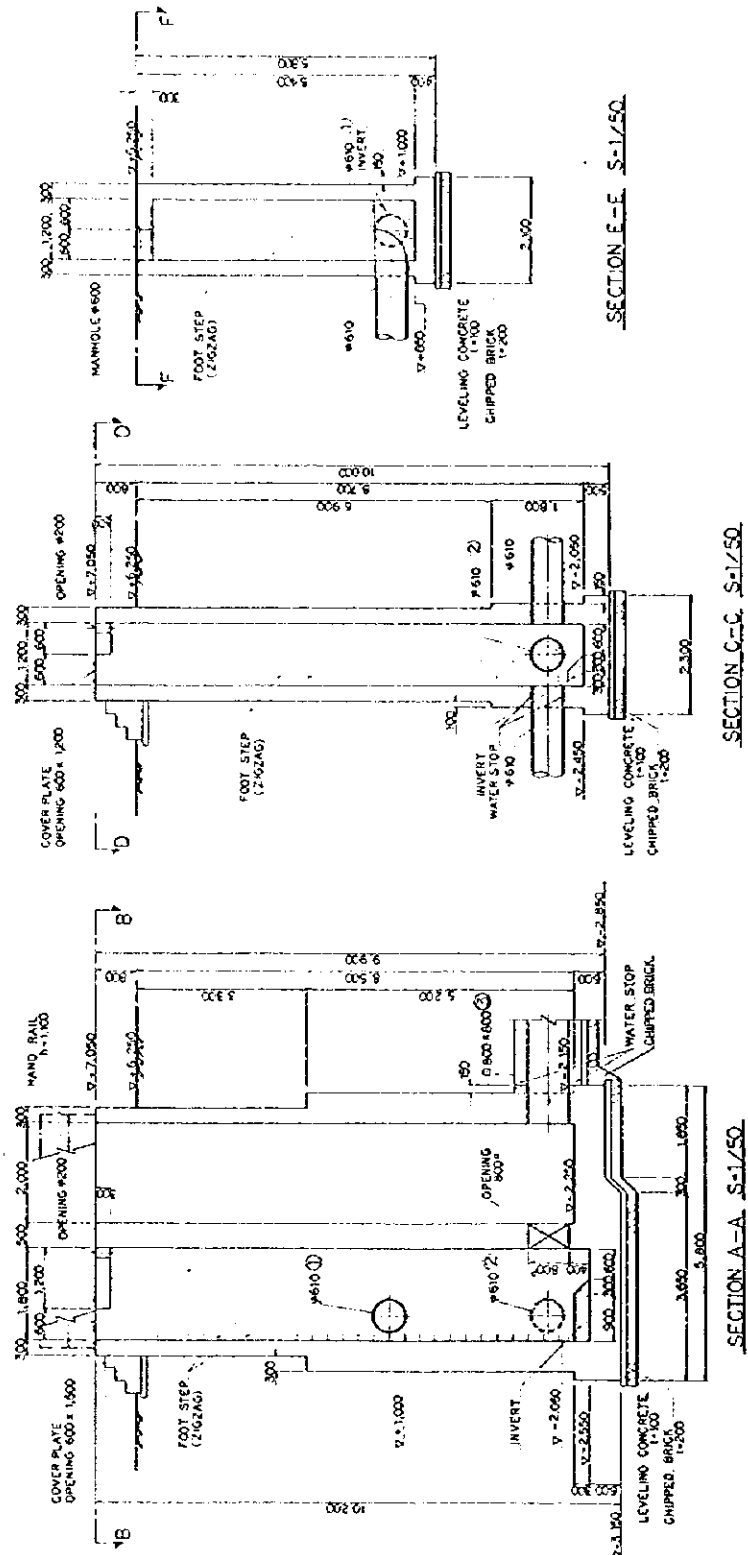
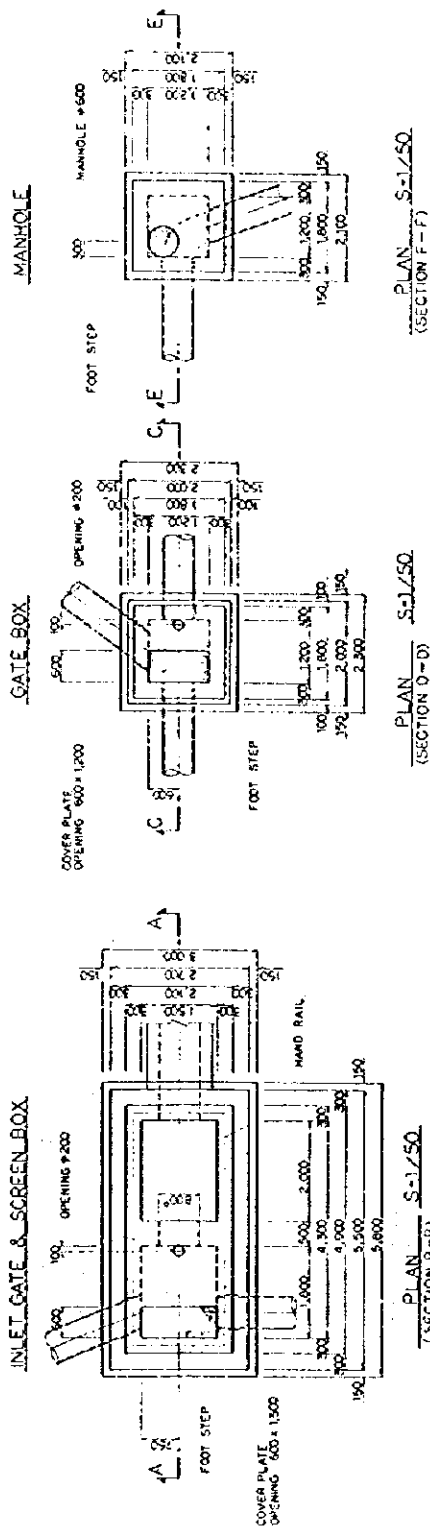


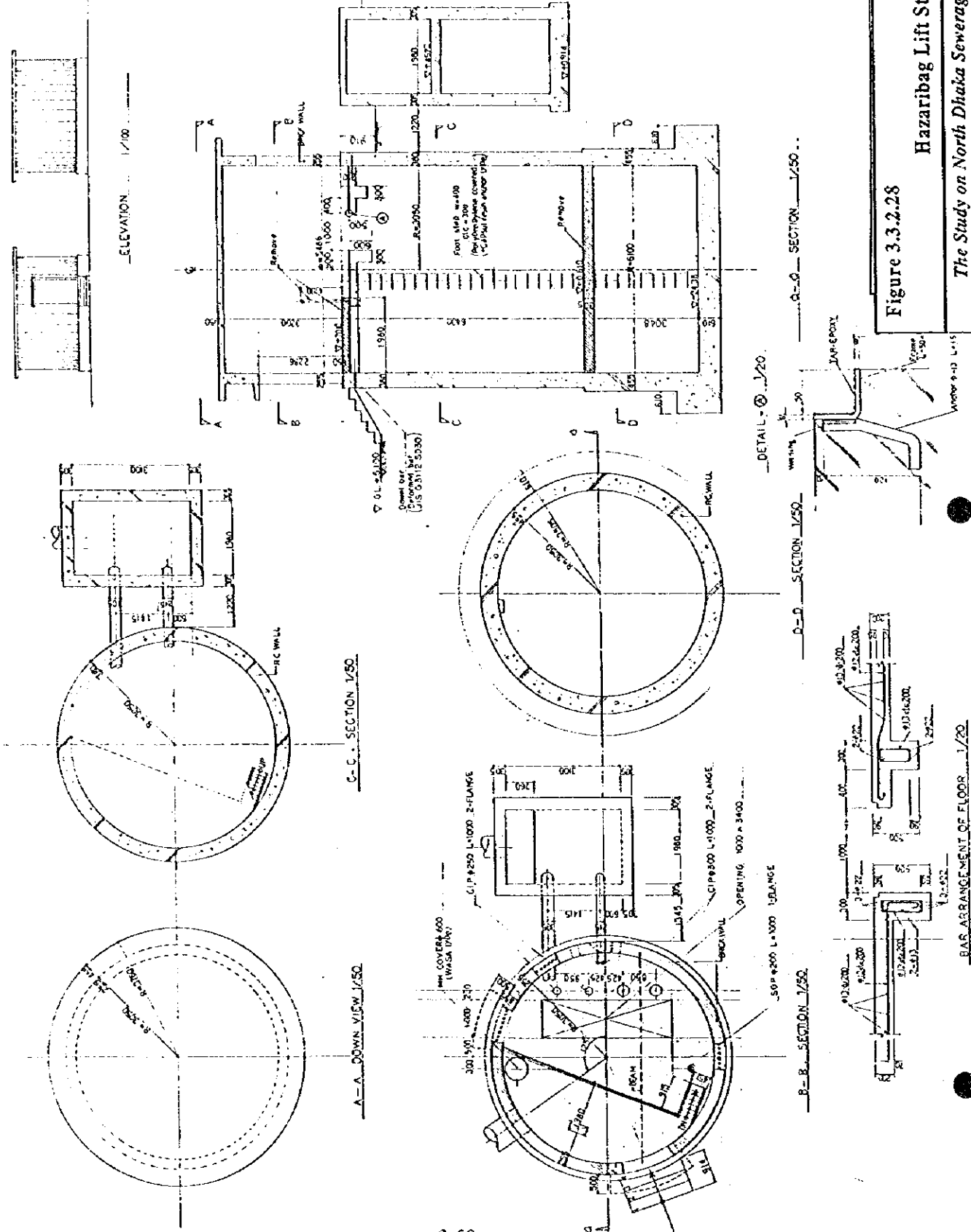
Figure 3.3.2.27

Hazariabag Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

REHABILITATION SCHEDULE

ITEM	QUANTITY	UNIT
ROOF		SQ. METERS
FLOOR		SQ. METERS
WALL		SQ. METERS
WIND		SQ. METERS
CEILING		SQ. METERS
PAINT		SQ. METERS
WALL		SQ. METERS
FLOOR		SQ. METERS
WIND		SQ. METERS
CEILING		SQ. METERS
PAINT		SQ. METERS
WALL		SQ. METERS
FLOOR		SQ. METERS
WIND		SQ. METERS
CEILING		SQ. METERS
PAINT		SQ. METERS
WALL		SQ. METERS
FLOOR		SQ. METERS
WIND		SQ. METERS
CEILING		SQ. METERS
PAINT		SQ. METERS
WALL		SQ. METERS
FLOOR		SQ. METERS
WIND		SQ. METERS
CEILING		SQ. METERS
PAINT		SQ. METERS
WALL		SQ. METERS
FLOOR		SQ. METERS
WIND		SQ. METERS
CEILING		SQ. METERS
PAINT		SQ. METERS



Hazaribag Lift Station (3)

Figure 3.3.2.28

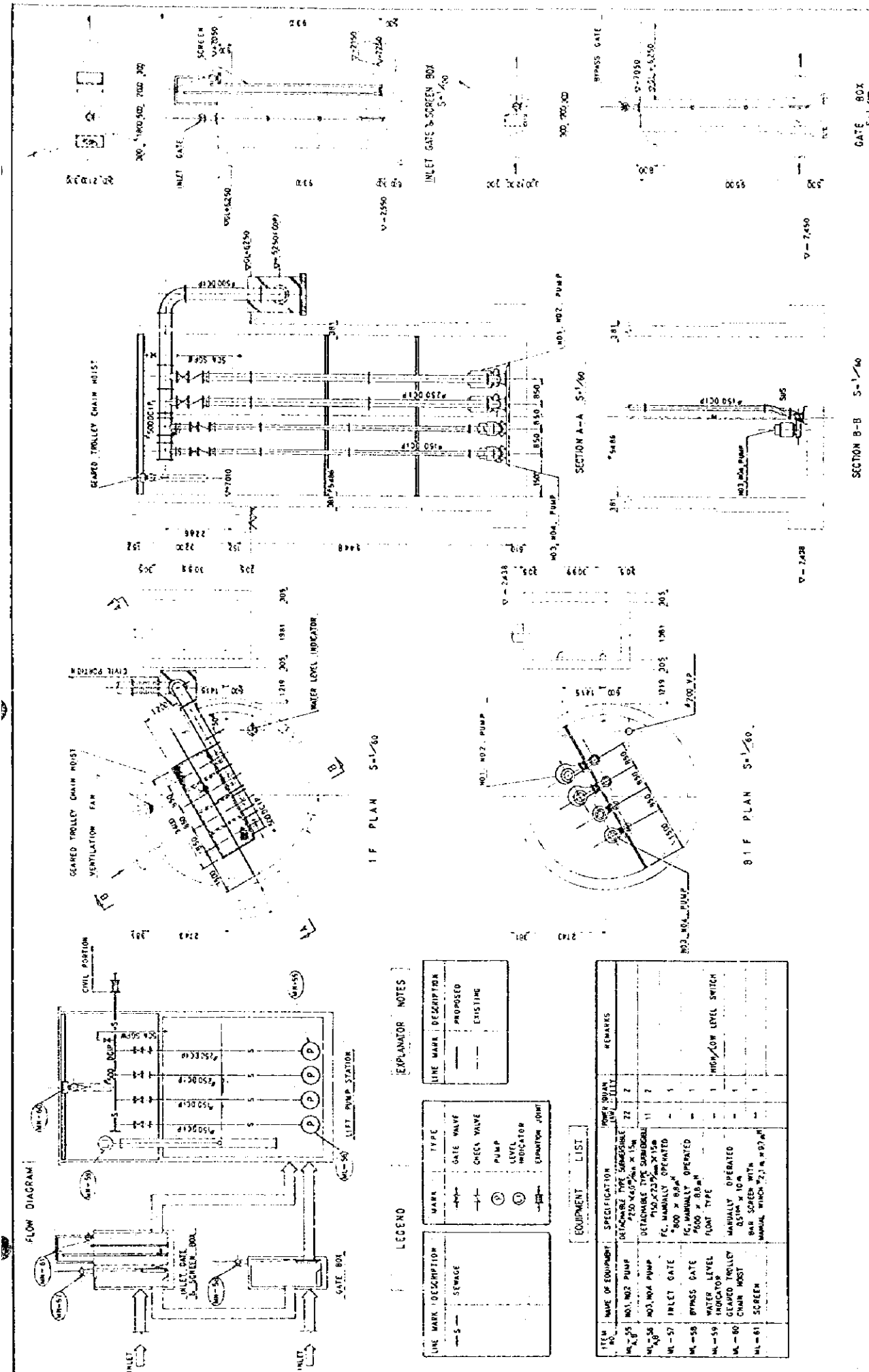
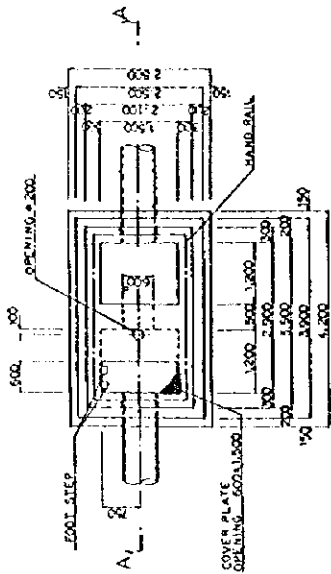
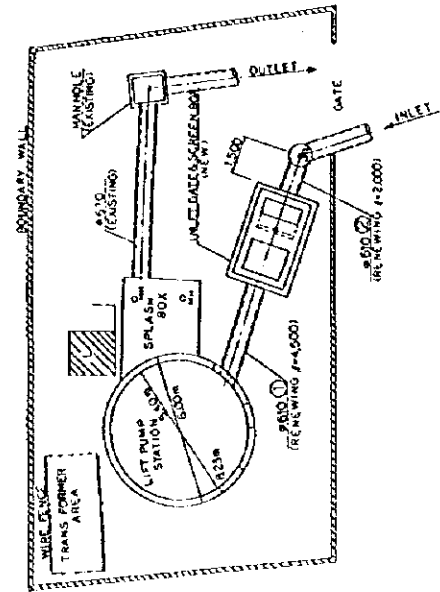


Figure 3.3.2.29 Hazaribag Lift Station (4)
The Study on North Dhaka Sewerage System in North Dhaka

NEW MARKET
INLET GATE & SCREEN BOX

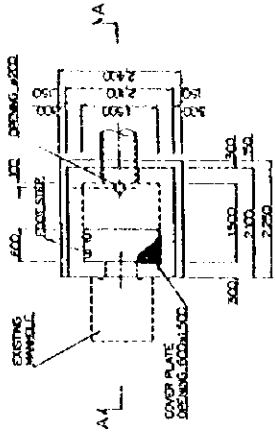


PLAN SECTION B-B S=1/50

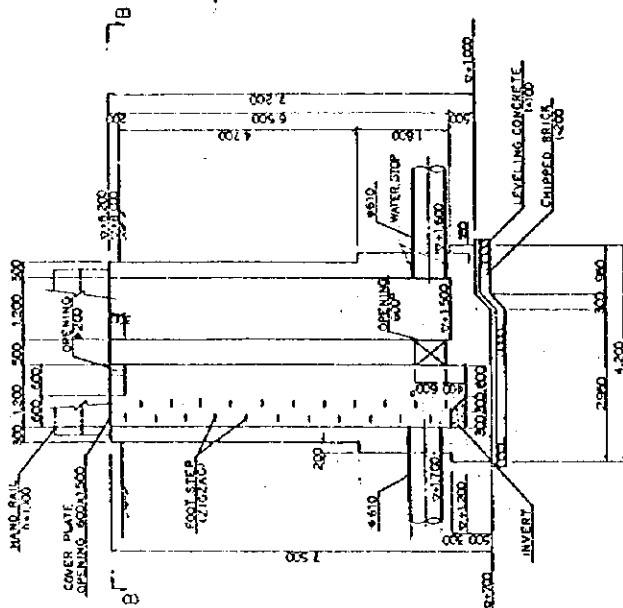


KEY PLAN S=1/200

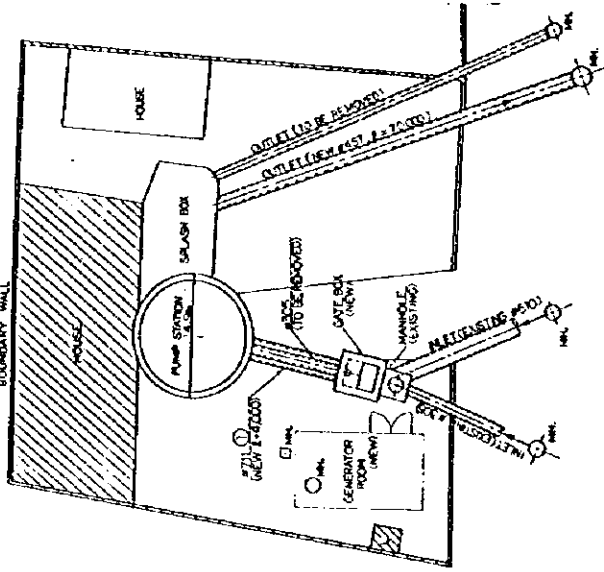
FARIDABAD
GATE BOX



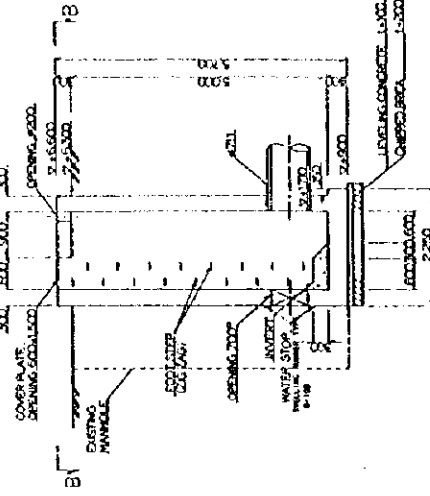
PLAN SECTION B-B S=1/50



SECTION A-A S=1/50



KEY PLAN S=1/200



SECTION A-A S=1/50

Figure 3.3.2.30

New Market & Faridabad Lift Station

The Study on North Dhaka Sewerage System in North Dhaka

QUALIFICATION SCHEDULE	
ITEM	QUALIFICATION
1. SITEWORK	100% BARRETT
2. FLOOR	WIL
3. ROOF	WIL
4. SUB-FINISHING	WIL
5. PAINT	WIL
6. W.P. COVER	WIL
7. W.P. COVER	WIL
8. W.P. COVER	WIL
9. W.P. COVER	WIL
10. W.P. COVER	WIL
11. W.P. COVER	WIL
12. W.P. COVER	WIL
13. W.P. COVER	WIL
14. W.P. COVER	WIL
15. W.P. COVER	WIL
16. W.P. COVER	WIL
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18. W.P. COVER	WIL
19. W.P. COVER	WIL
20. W.P. COVER	WIL
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99. W.P. COVER	WIL
100. W.P. COVER	WIL

NOTE:
 1. INTERNAL PRESSURE CAPACITY OF RECTANGULAR MANHOLE IS NOT LESS THAN 1.0kg/cm².
 2. MANHOLE FRAME SHALL BE TYPED WITH CAST-IRON WITH RINGS.

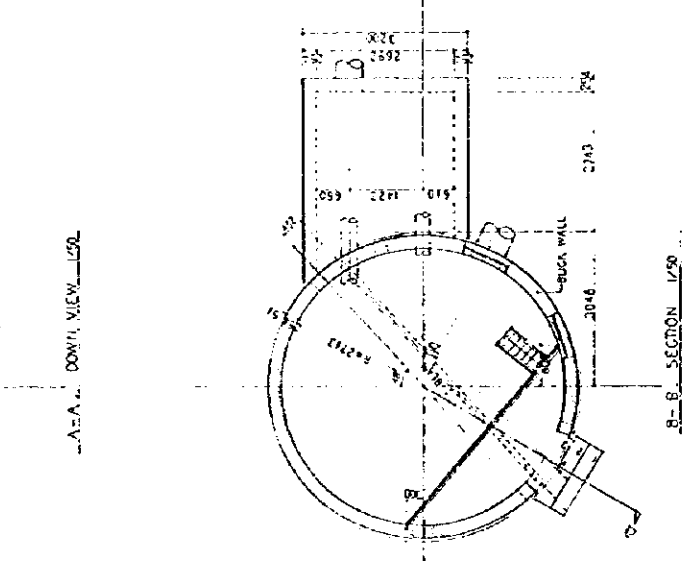
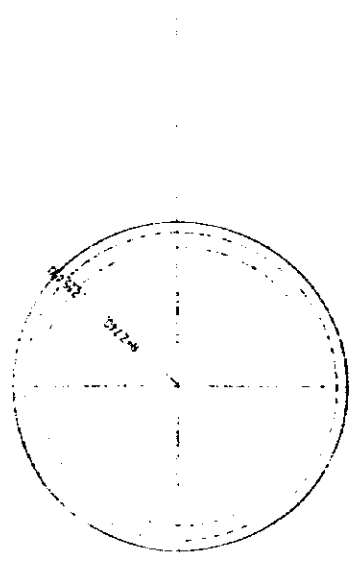
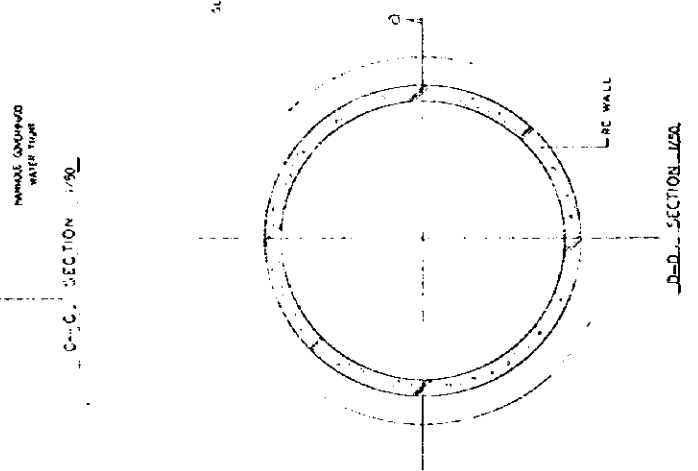
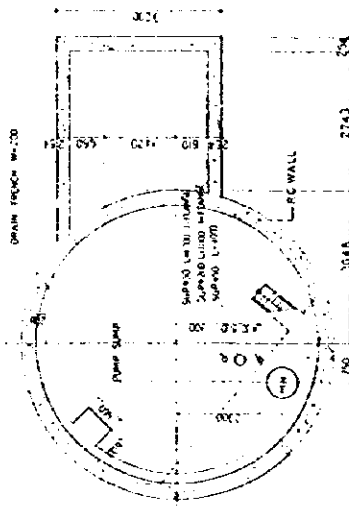
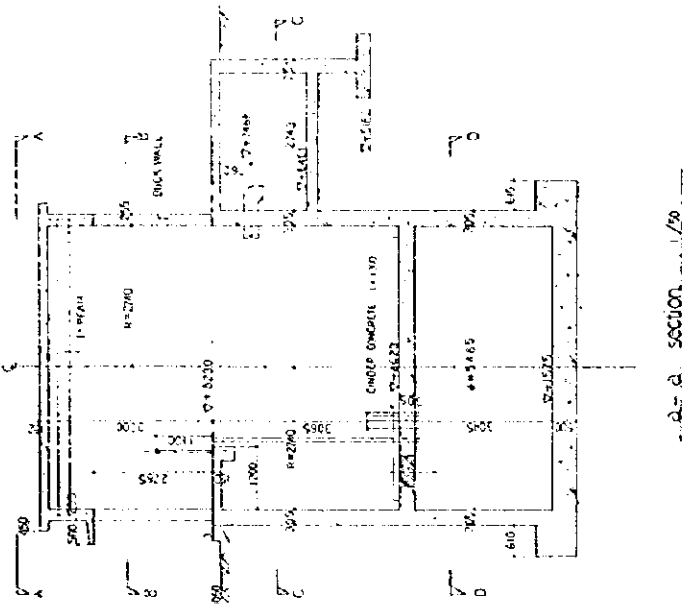
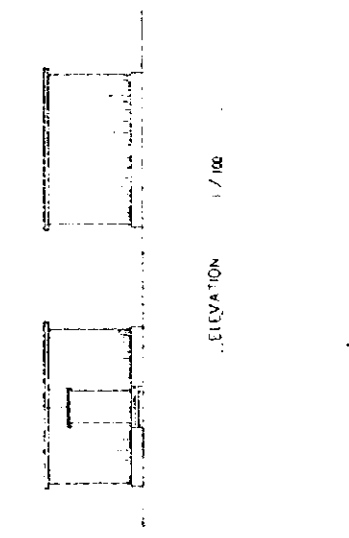


Figure 3.3.2.31 New Market Lift Station (1)
 The Study on North Dhaka Sewerage System in North Dhaka

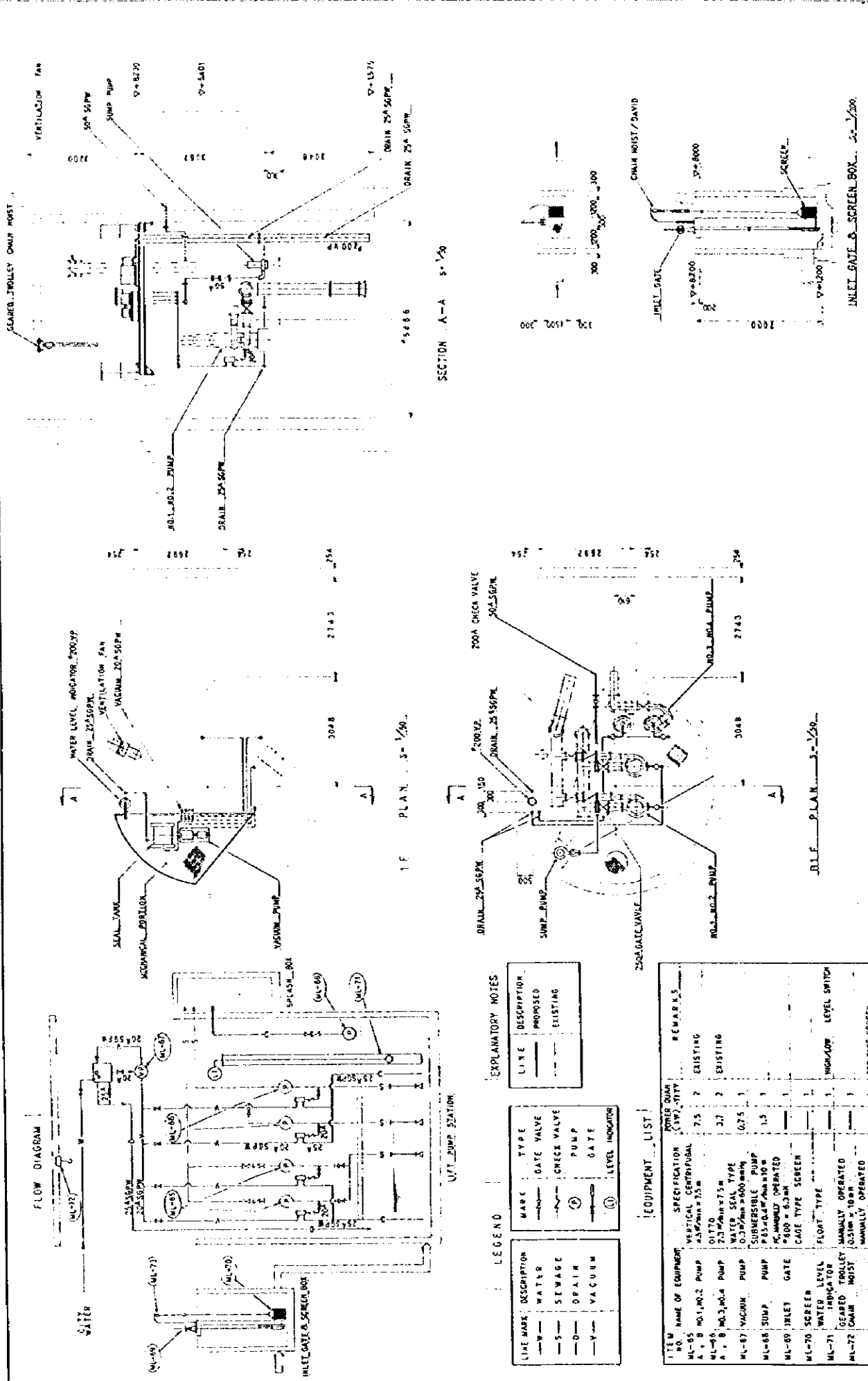


Figure 3.3.2.32
New Market Lift Station (2)
The Study on North Dhaka Sewerage System in North Dhaka

