

**MINISTRY OF FINANCE
MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT AND
CO-OPERATIVES
KHULNA WATER SUPPLY AND SEWERAGE AUTHORITY (KWASA)
THE PEOPLE'S REPUBLIC OF BANGLADESH**

**FEASIBILITY STUDY
FOR
KHULNA WATER SUPPLY
IMPROVEMENT PROJECT
IN
THE PEOPLE'S REPUBLIC OF
BANGLADESH**

FINAL REPORT

**VOLUME IV
DRAWINGS**

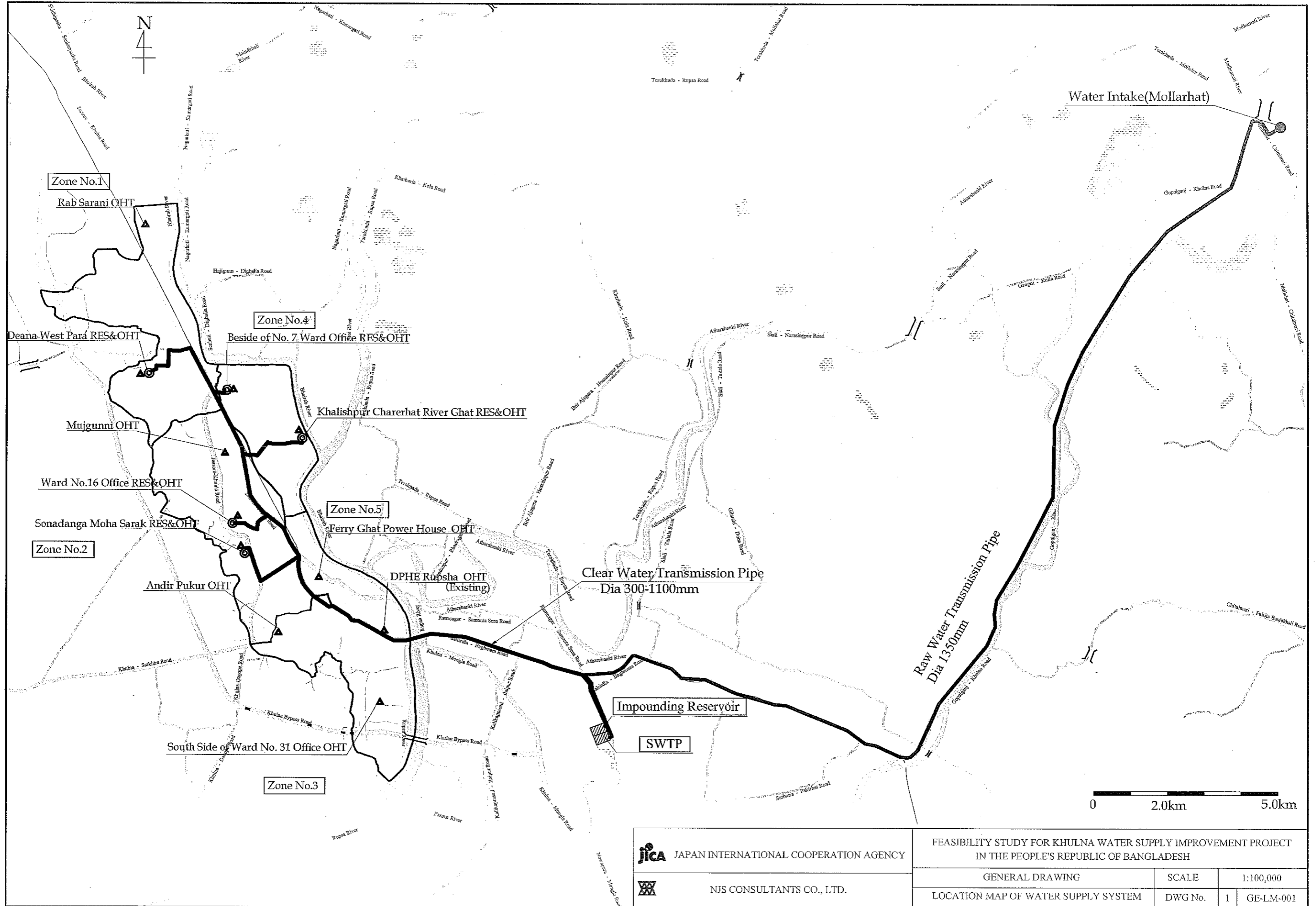
MARCH 2011

**JAPAN INTERNATIONAL COOPERATION AGENCY
NJS CONSULTANTS CO., LTD.**

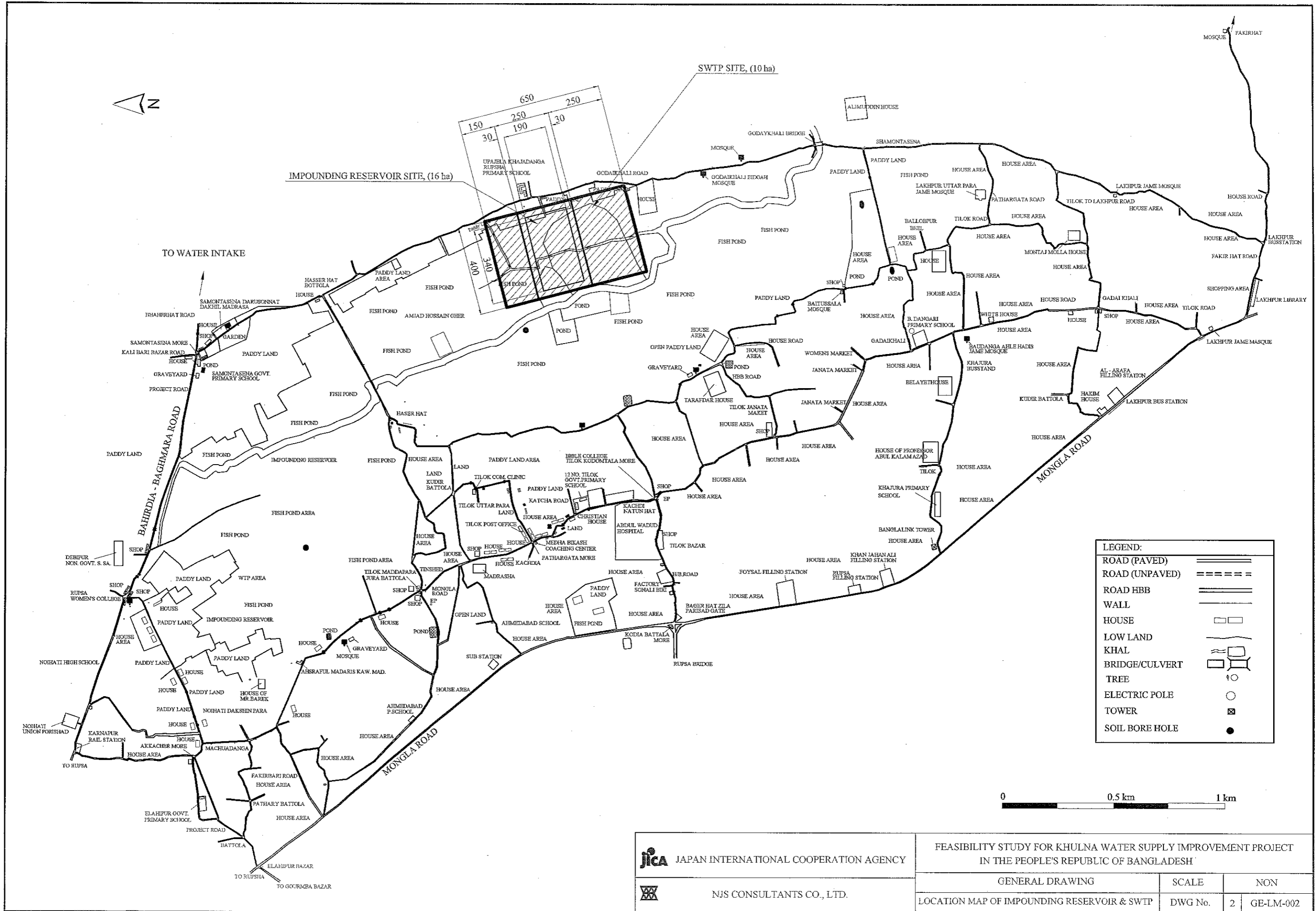
GED
CR(3)
11-038

List of Drawing for Khulna Water Supply Improvement Project

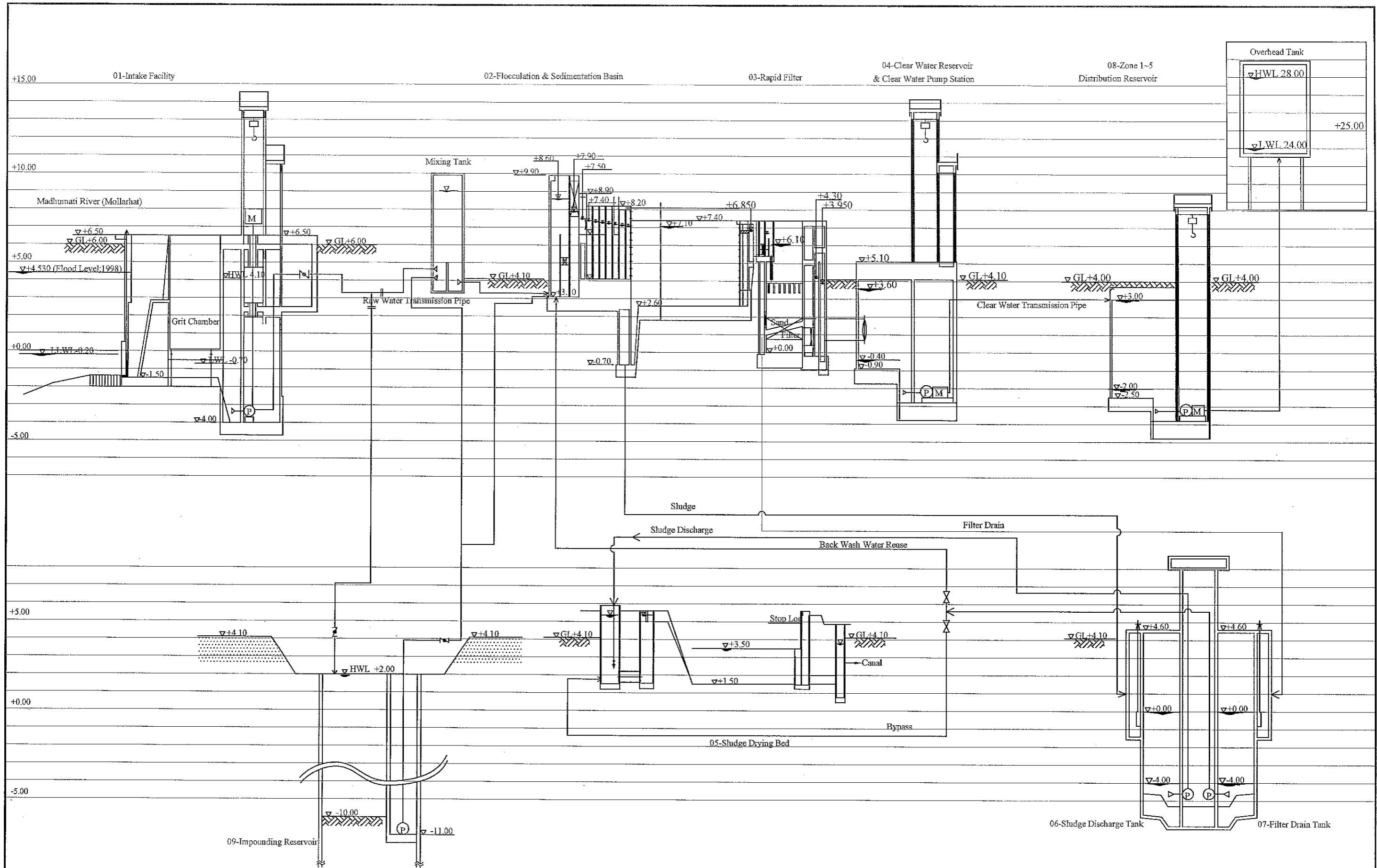
Drawing No.		Drawing Title		Scale	Drawing No.		Drawing Title		Scale
<General>					<Clear Water Transmission Pipe>				
1	GE-LM-001	General Drawing	Location Map of Water Supply System	1:100,000	57	CWT-G-001	Clear Water Transmission Pipe	General Map of Clear Water Transmission Pipe	NON
2	GE-LM-002	General Drawing	Location Map of Impounding Reservoir & SWTP	NON	58 - 69	CWT-PP-001 to 012	Clear Water Transmission Pipe	Plan & Profile -1 to 12	H-1:2000, V-1:200
3	GE-HP-001	General Drawing	Hydraulic Profile	V- 1:200	70- 74	CWT-CS-001 to 005	Clear Water Transmission Pipe	Cross Section -1 to 5	1:400
4	GE-PFD-001	General Drawing	Process Schematic & Flow Diagram -1	NON	75	CWT-RC-001	Clear Water Transmission Pipe	River Crossing Plan & Section	1:1,000
5	GE-PFD-002	General Drawing	Process Schematic & Flow Diagram -2	NON	<Distribution Reservoir>				
6	GE-IFD-001	General Drawing	Instrument Flow Diagram -1	NON	76	DR-LP-001	Distribution Reservoir	Location Map of Distribution Reservoir & Overhead Tank	1:85,000
7	GE-IFD-002	General Drawing	Instrument Flow Diagram -2	NON	77	DR-G-001	Distribution Reservoir	Layout Plan of Deana West Para Reservoir & Overhead Tank	1:400
<Water Intake Facility>					78	DR-G-002	Distribution Reservoir	Layout Plan of Ward No. 16 Office Reservoir & Overhead Tank	1:400
8	IF-G-001	Water Intake Facility	Layout Plan	1:1,500	79	DR-G-003	Distribution Reservoir	Layout Plan of Beside of Sonadanga Moha Sarak Reservoir & Overhead Tank	1:500
9	IF-PS-001	Water Intake Facility	Top & Bottom Plan	1:300	80	DR-G-004	Distribution Reservoir	Layout Plan of Beside of No.7 Ward Office Reservoir & Overhead Tank	1:400
10	IF-PS-002	Water Intake Facility	Section A-A	1:300	81	DR-G-005	Distribution Reservoir	Layout Plan of Khalishpur Charerhat Reservoir & Overhead Tank	1:400
11	IF-SLD-001	Water Intake Facility	Single Line Diagram	NON	82	DR-PS-001	Distribution Reservoir	Plan & Section (V= 18,000m ³)	1:400
<Raw Water Transmission Pipe>					83	DR-PS-002	Distribution Reservoir	Plan & Section (V= 15,000m ³)	1:400
12	RWT-G-001	Raw Water Transmission Pipe	General Map of Raw Water Transmission Pipe	1:80,000	84	DR-PS-003	Distribution Reservoir	Plan & Section (V= 9,000m ³)	1:300
13 -35	RWT-PP-001 to 023	Raw Water Transmission Pipe	Plan & Profile -1 to 23	H-1:2000, V-1:200	85	DR-PS-004	Distribution Reservoir	Plan & Section (V= 8,000m ³)	1:300
36 - 41	RWT-CS-001 to 006	Raw Water Transmission Pipe	Cross Section -1 to 6	1:400	86	DR-PS-005	Distribution Reservoir	Plan & Section (V= 5,000m ³)	1:300
42	RWT-PB-001	Raw Water Transmission Pipe	Standard Drawings of Water Bridge-1	1:50, 100	<Overhead Tank>				
43	RWT-PB-002	Raw Water Transmission Pipe	Standard Drawings of Water Bridge-2	1:50, 100, 200	87	OHT-G-001	Overhead Tank	Layout Plan of Rab Sarani Overhead Tank	1:400
<Impounding Reservoir>					88	OHT-G-002	Overhead Tank	Layout Plan of Mujgunni Overhead Tank	1:400
44	IP-PS-001	Impounding Reservoir	Plan & Section	1:3000	89	OHT-G-003	Overhead Tank	Layout Plan of Andir Pukur Overhead Tank	1:400
45	IP-PS-002	Impounding Reservoir	Pump Pit Plan & Section	1:200	90	OHT-G-004	Overhead Tank	Layout Plan of South Side of Ward No.31 Office Overhead Tank	1:400
46	IP-SLD-001	Impounding Reservoir	Single Line Diagram	NON	91	OHT-G-005	Overhead Tank	Layout Plan of Ferry Ghat Power House Overhead Tank	1:400
<Surface Water Treatment Plant (SWTP)>					92	OHT-G-006	Overhead Tank	Layout Plan of DPHE Rupsha Overhead Tank	1:400
47	SWTP-G-001	Surface Water Treatment Plant	Layout Plan (up to Year 2025)	1:1,250	93	OHT-D-001	Overhead Tank	Plan & Section	1:200
48	SWTP-G-002	Surface Water Treatment Plant	Layout Plan (after Year 2025)	1:1,250	<Distribution Pipe Network>				
49	SWTP-MT-001	Surface Water Treatment Plant	Mixing Tank Plan & Section	1:200	94	DPN-G-001	Distribution Pipe Network	General Map of Distribution Network	1:40,000
50	SWTP-SB-001	Surface Water Treatment Plant	Sedimentation Basin Plan & Section	1:400	95	DPN-PNP-001	Distribution Pipe Network	Pipe Network Plan (Zone -1)	1:30,000
51	SWTP-RP-001	Surface Water Treatment Plant	Rapid Sand Filter Plan & Section	1:300	96	DPN-PNP-002	Distribution Pipe Network	Pipe Network Plan (Zone -2)	1:30,000
52	SWTP-CWR-001	Surface Water Treatment Plant	Clear Water Reservoir & Clear Water Pump Station Plan & Section	1:300	97	DPN-PNP-003	Distribution Pipe Network	Pipe Network Plan (Zone -3)	1:30,000
53	SWTP-SDB-001	Surface Water Treatment Plant	Sludge Drying Bed Plan & Section	1:300, 100, 50	98	DPN-PNP-004	Distribution Pipe Network	Pipe Network Plan (Zone -4)	1:30,000
54	SWTP-AB-001	Surface Water Treatment Plant	Administration Building Plan -1	1:100	99	DPN-PNP-005	Distribution Pipe Network	Pipe Network Plan (Zone -5)	1:30,000
55	SWTP-AB-002	Surface Water Treatment Plant	Administration Building Plan -1	1:100	100	DPN-TCM-001	Distribution Pipe Network	Tube Well Pipe Connection Map	1:50,000
56	SWTP-SLD-001	Surface Water Treatment Plant	Single Line Diagram	NON					





FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
GENERAL DRAWING	SCALE	1:100,000	
LOCATION MAP OF WATER SUPPLY SYSTEM	DWG No.	1	GE-LM-001

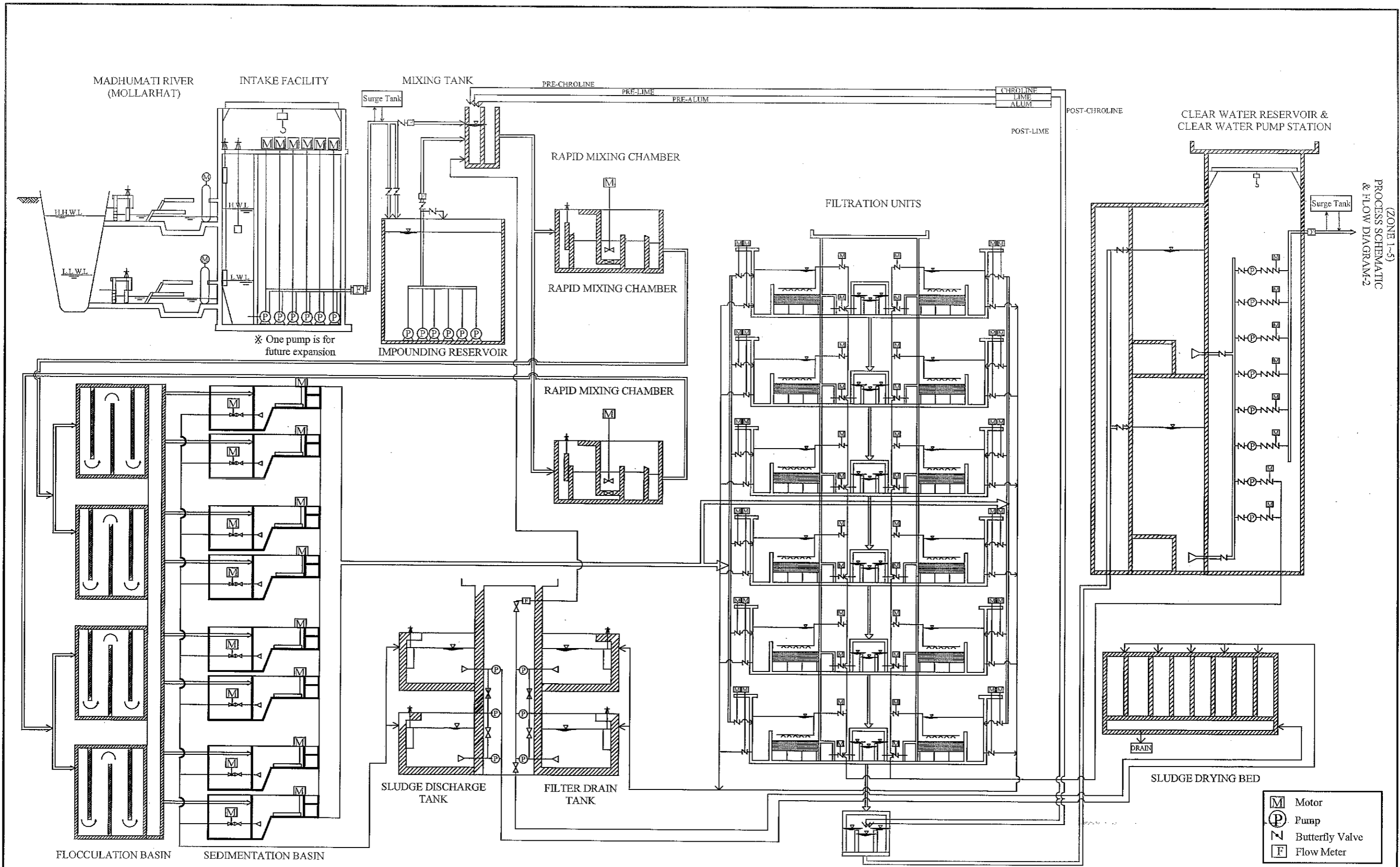


JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	GENERAL DRAWING	SCALE	NON
LOCATION MAP OF IMPOUNDING RESERVOIR & SWTP	DWG No.	2	GE-LM-002



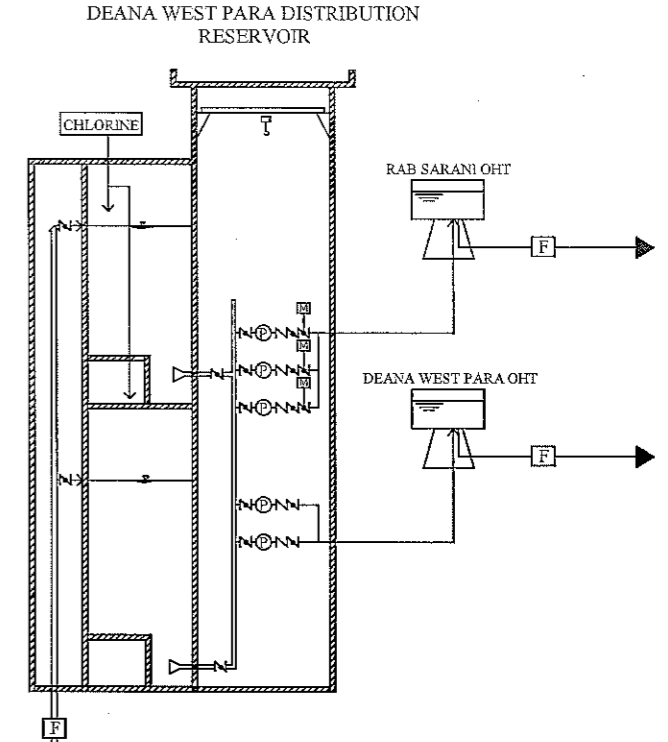
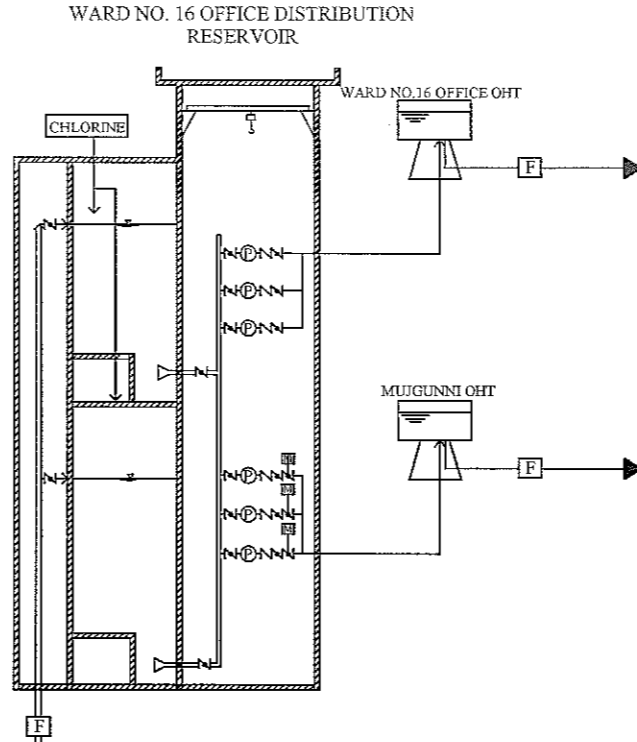
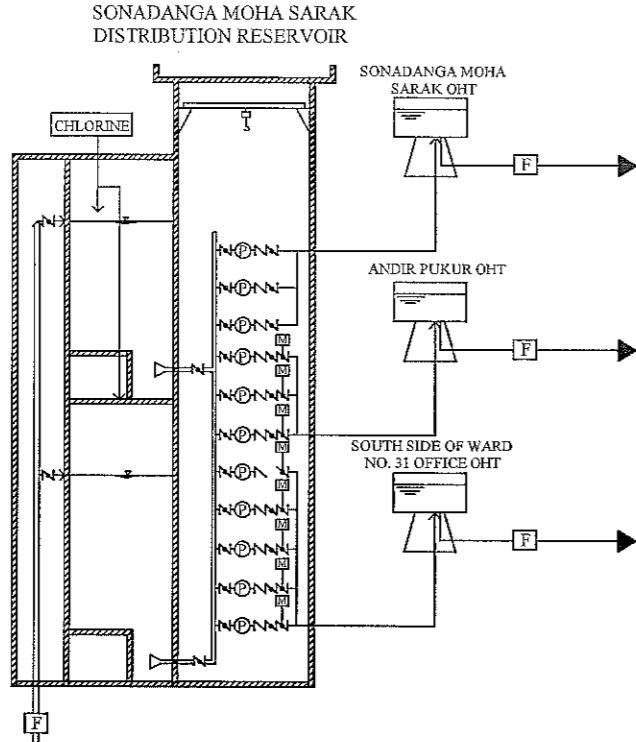
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FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
GENERAL DRAWING	SCALE	H-1:200	
HYDRAULIC PROFILE	DWG No.	3	GE-HP-001

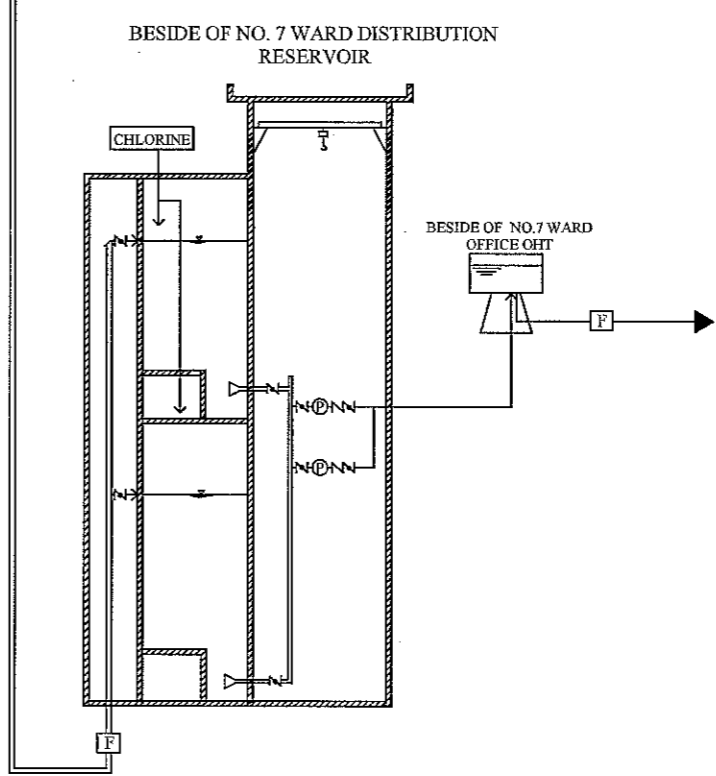
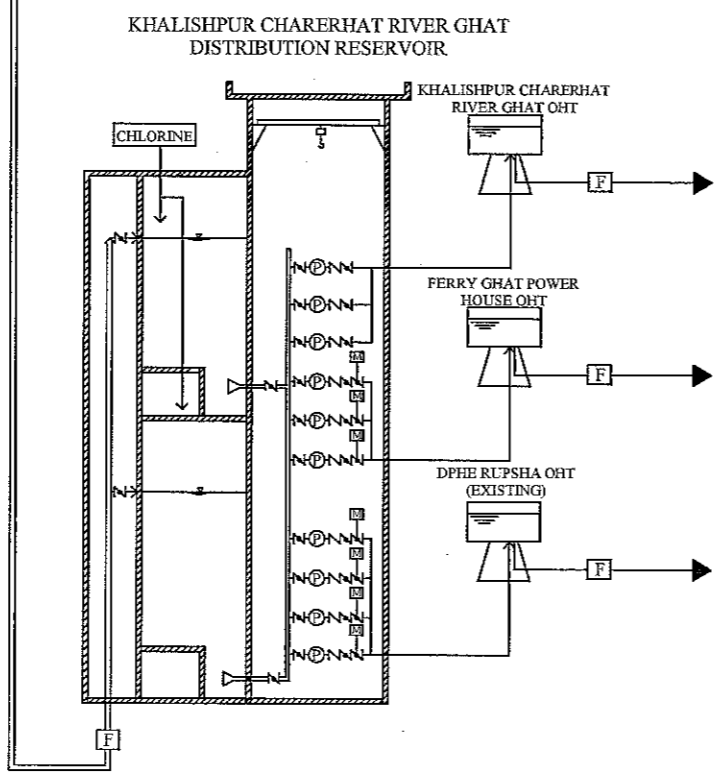


(ZONE 1-5)
PROCESS SCHEMATIC
& FLOW DIAGRAM-2

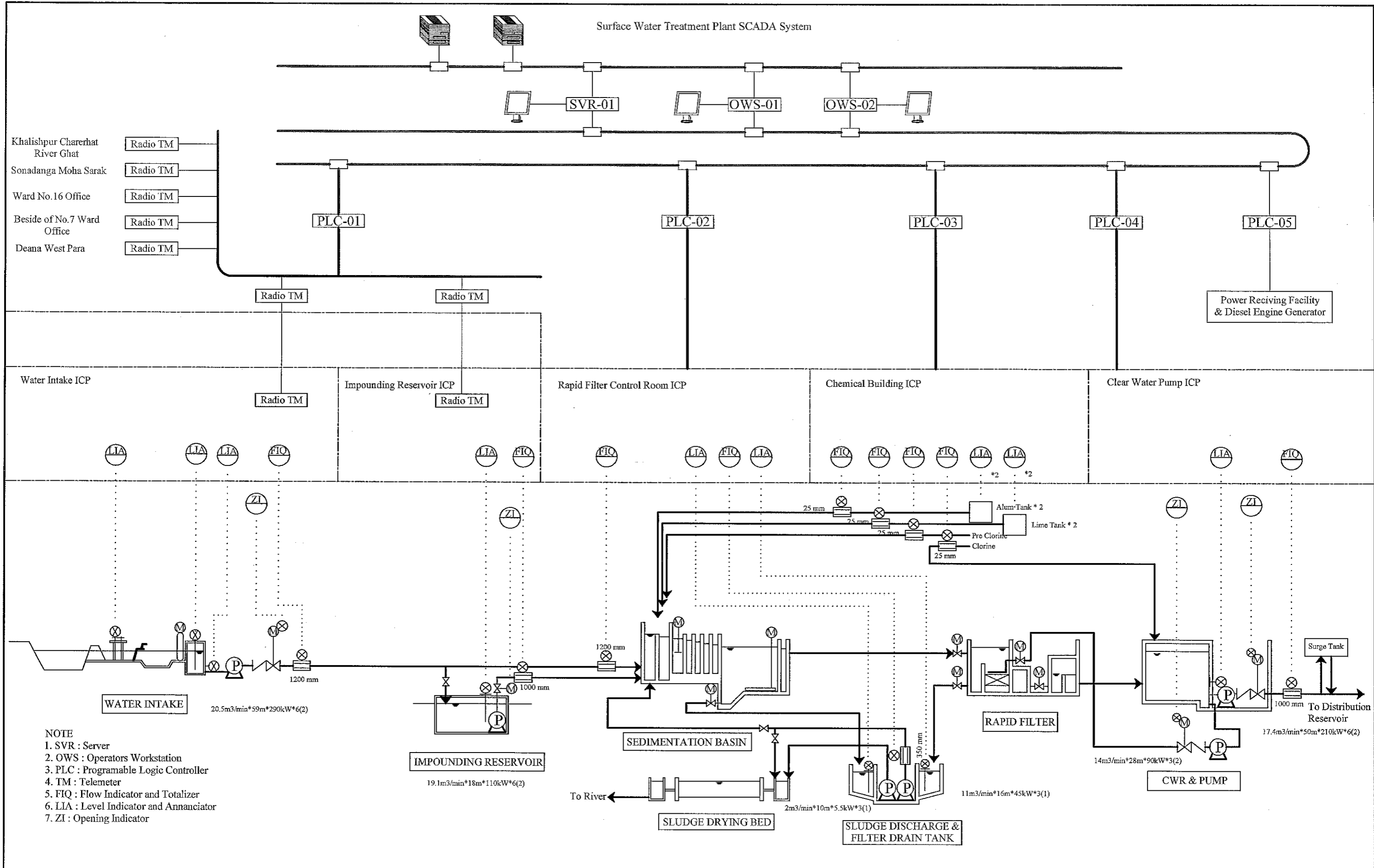
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	GENERAL DRAWING PROCESS SCHEMATIC & FLOW DIAGRAM-1	SCALE DWG No.	NON 4 GE-PFD-001



FROM PROCESS SCHEMATIC & FLOW DIAGRAM-1

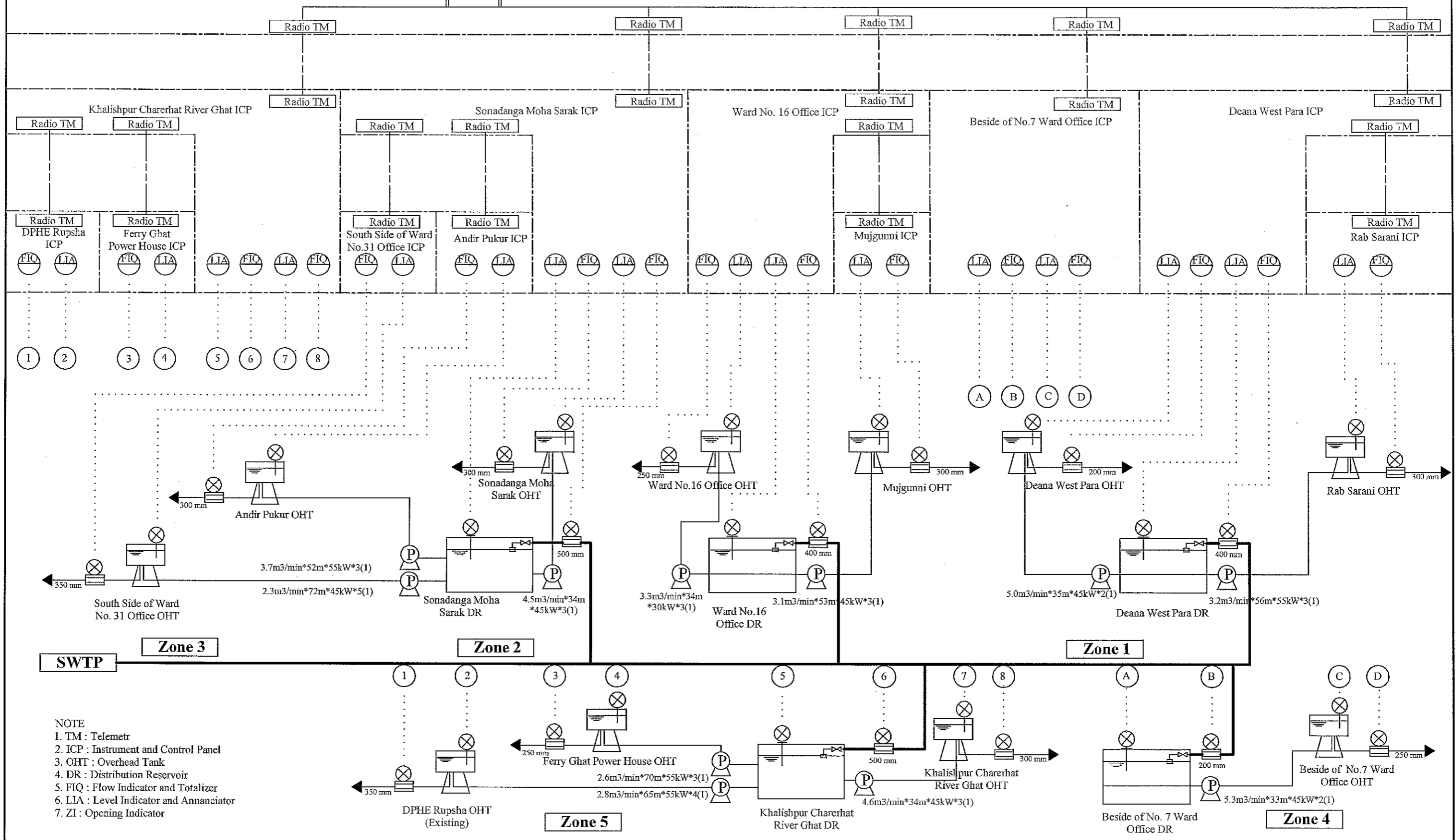


- Motor
- Pump
- Butterfly Valve
- Flow Meter



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	GENERAL DRAWING INSTRUMENT FLOW DIAGRAM-1	SCALE DWG No.	NON 6 GE-IFD-001

Surface Water Treatment Plant SCADA System

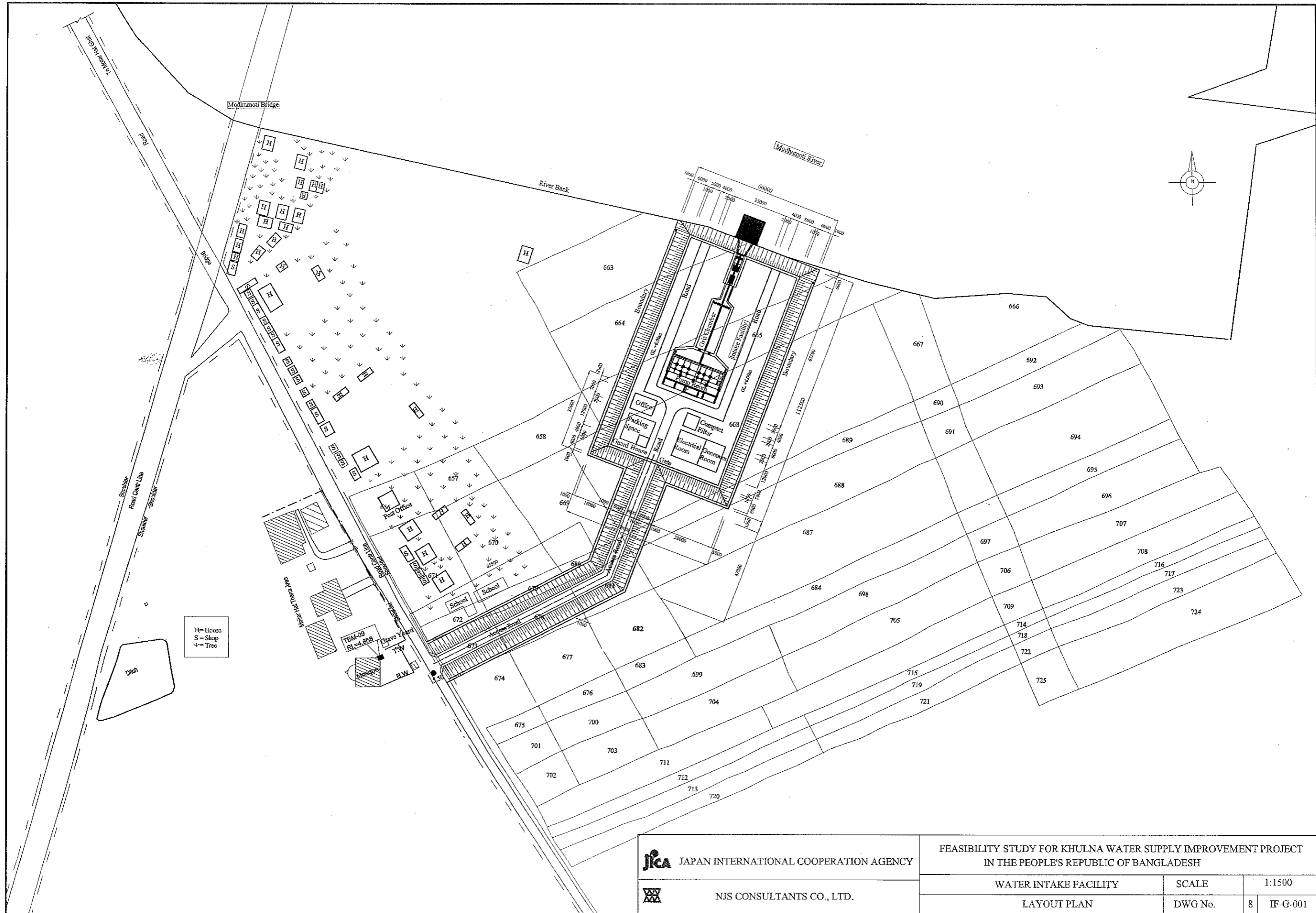


NOTE
 1. TM : Telemetr
 2. ICP : Instrum and Control Panel
 3. OHT : Overhead Tank
 4. DR : Distribution Reservoir
 5. FIQ : Flow Indicator and Totalizer
 6. LIA : Level Indicator and Annanciator
 7. ZI : Opening Indicator

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FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
 IN THE PEOPLE'S REPUBLIC OF BANGLADESH

GENERAL DRAWING	SCALE	NON
INSTRUMENT FLOW DIAGRAM-2	DWG No.	7 GE-IFD-002



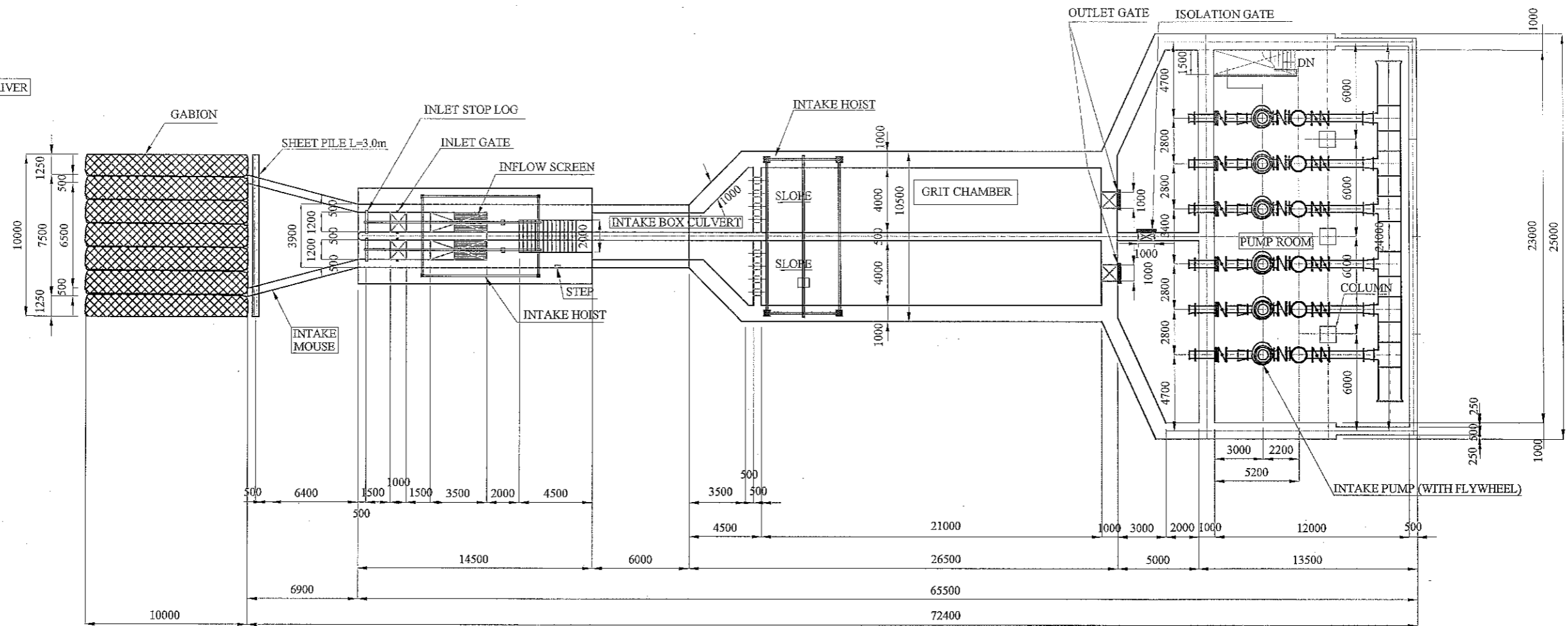
H= House
S = Shop
V= Tree

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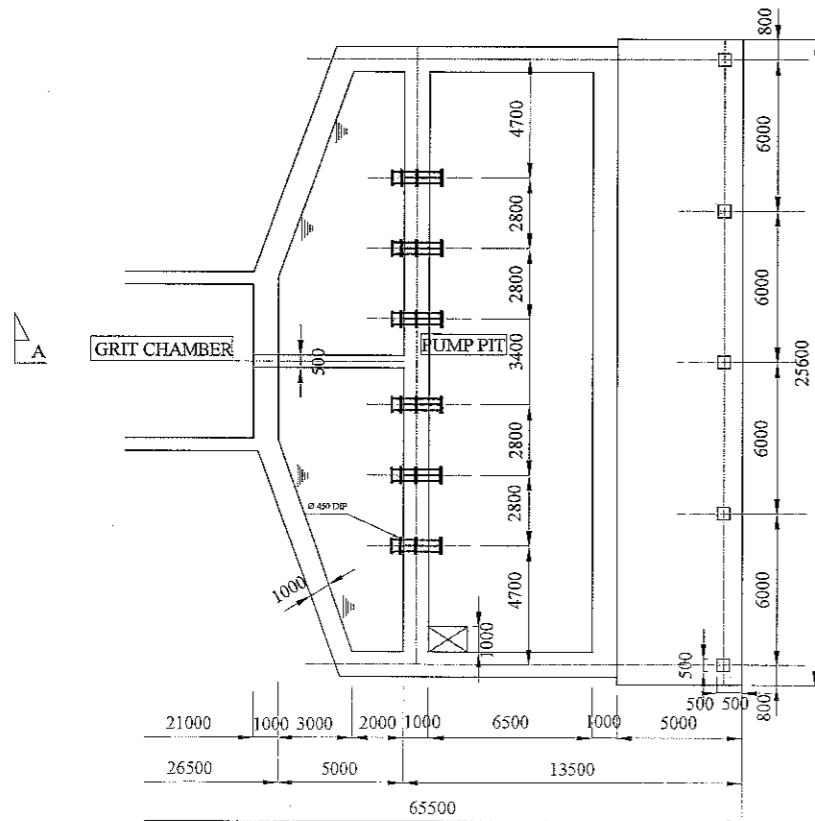
FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
 IN THE PEOPLE'S REPUBLIC OF BANGLADESH

WATER INTAKE FACILITY	SCALE	1:1500
LAYOUT PLAN	DWG No.	8 IF-G-001

MODHUMOTI RIVER



TOP PLAN
SCALE 1:300



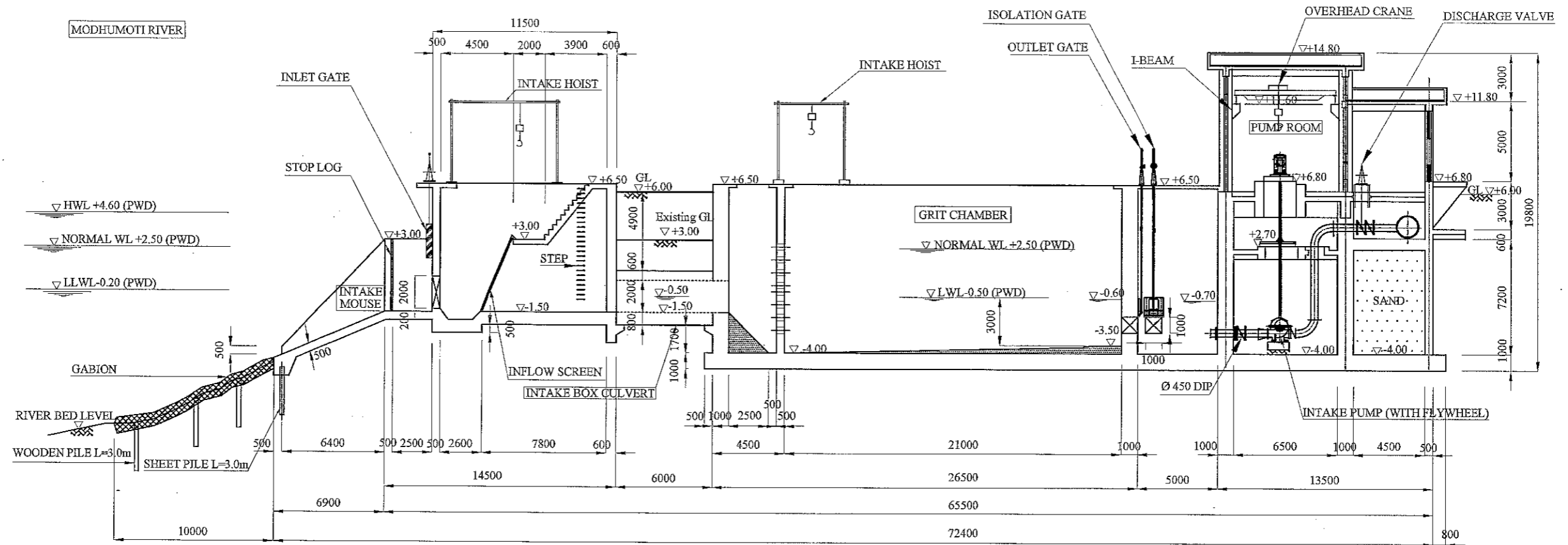
BOTTOM PLAN
SCALE 1:300

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NJS NJS CONSULTANTS CO., LTD.

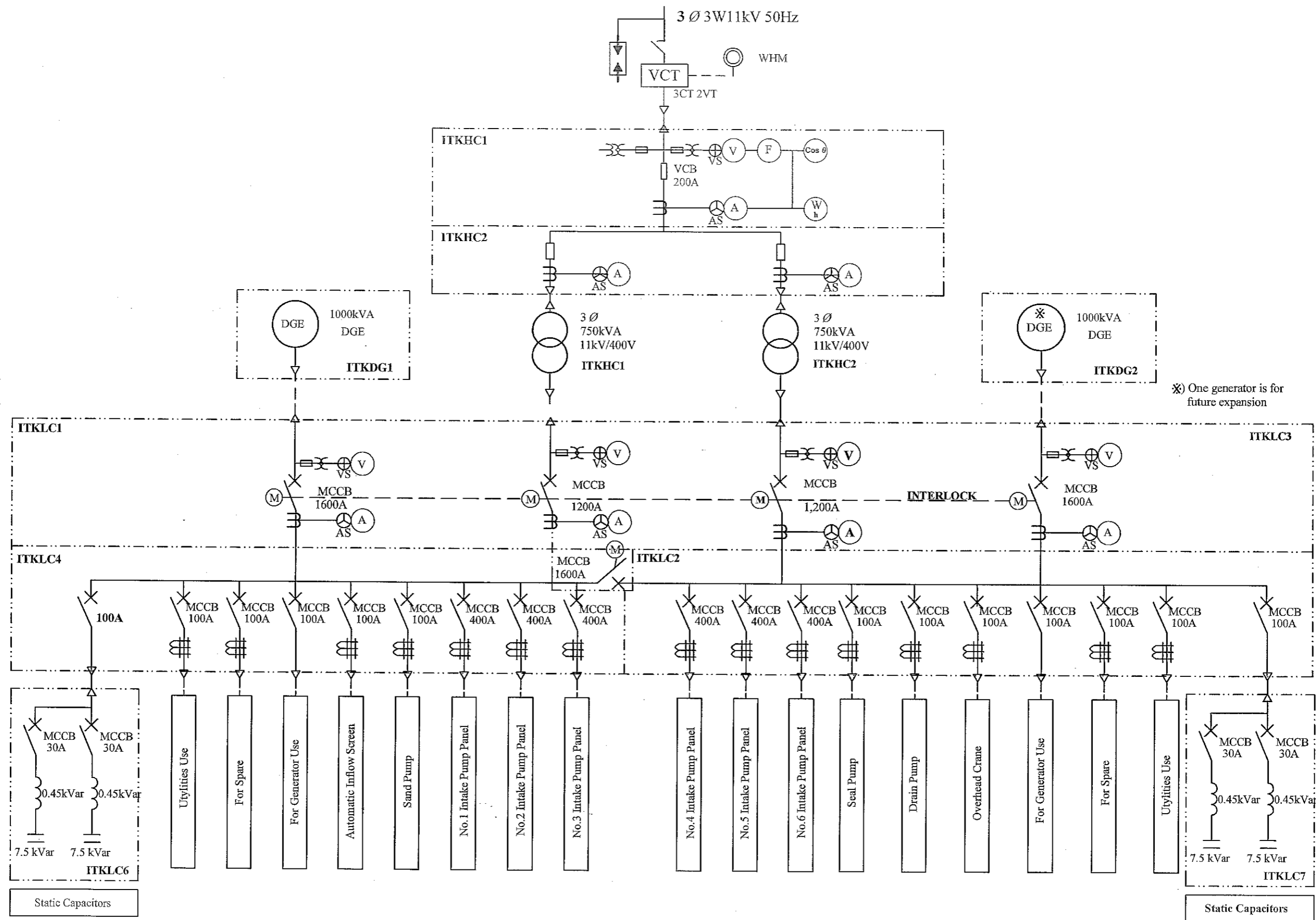
FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

WATER INTAKE FACILITY	SCALE	1:300
TOP & BOTTOM PLAN	DWG No.	9 IF-PS-001



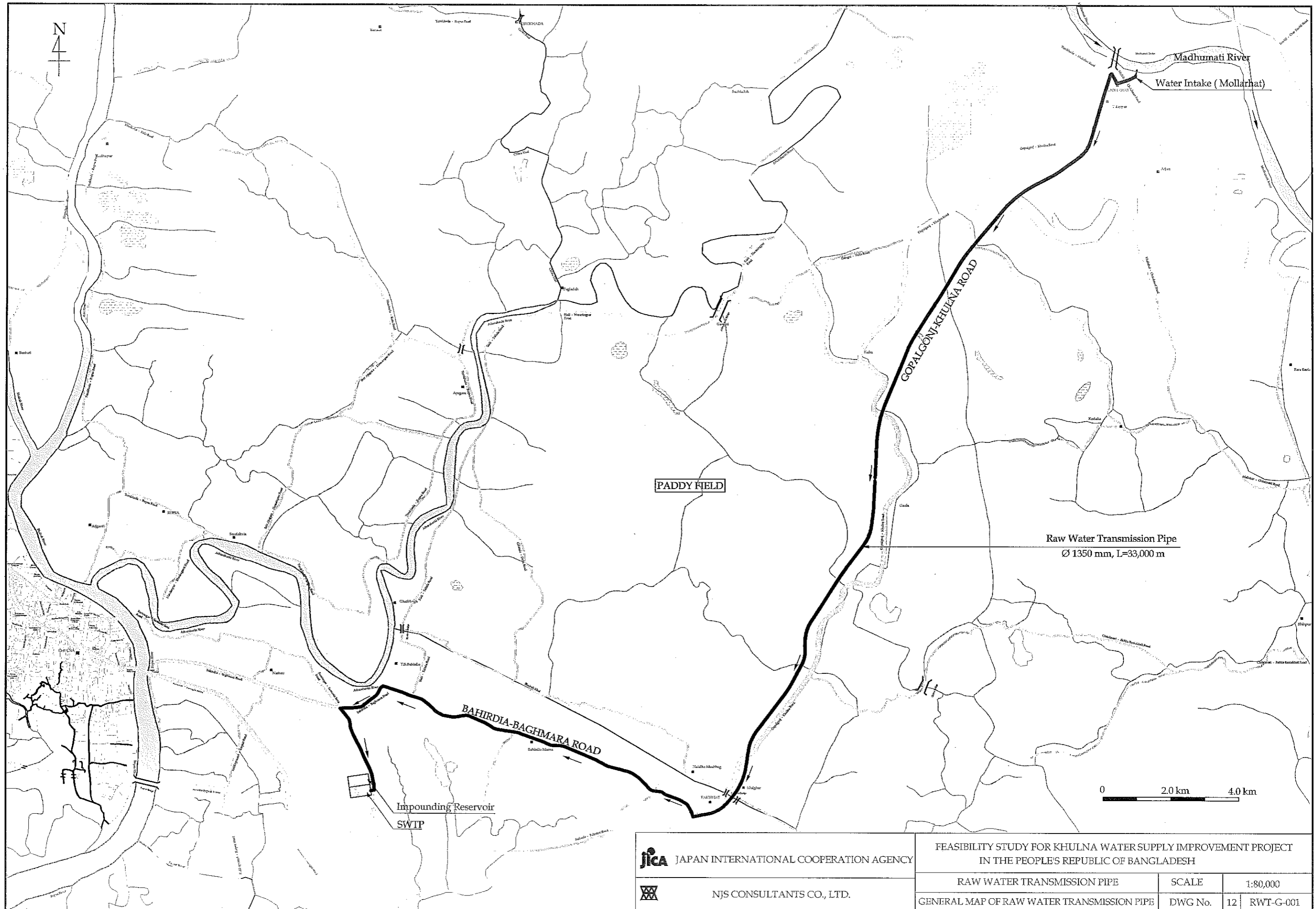
SECTION A-A
SCALE 1:300

JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	WATER INTAKE FACILITY	SCALE	1:300
NJS CONSULTANTS CO., LTD.	SECTION A-A	DWG No.	10 IF-PS-002



*) One generator is for future expansion

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	WATER INTAKE FACILITY SINGLE LINE DIAGRAM	SCALE DWG No.	NON 11 IF-SLD-001



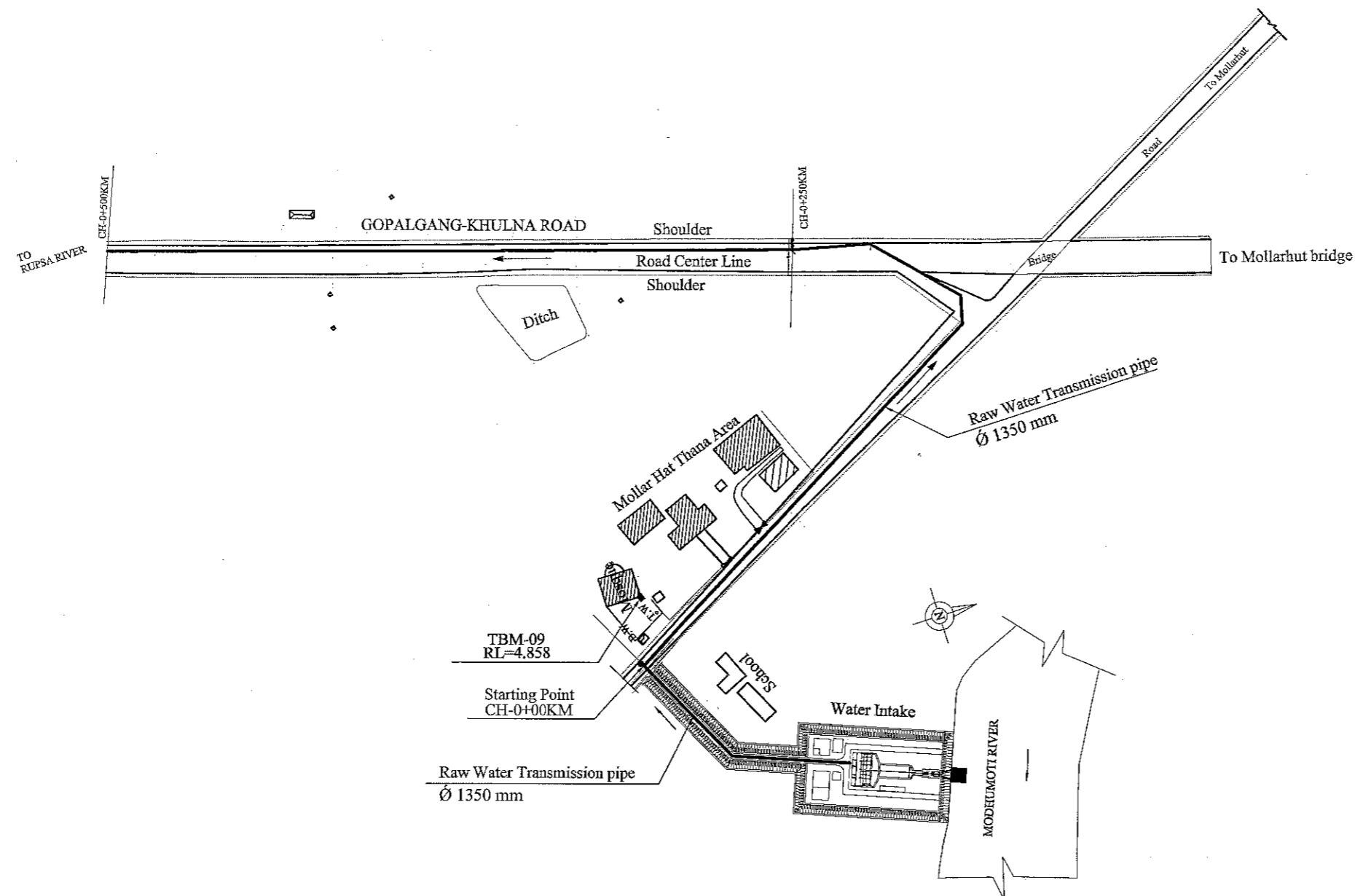
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FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

NJS NJS CONSULTANTS CO., LTD.

RAW WATER TRANSMISSION PIPE
GENERAL MAP OF RAW WATER TRANSMISSION PIPE

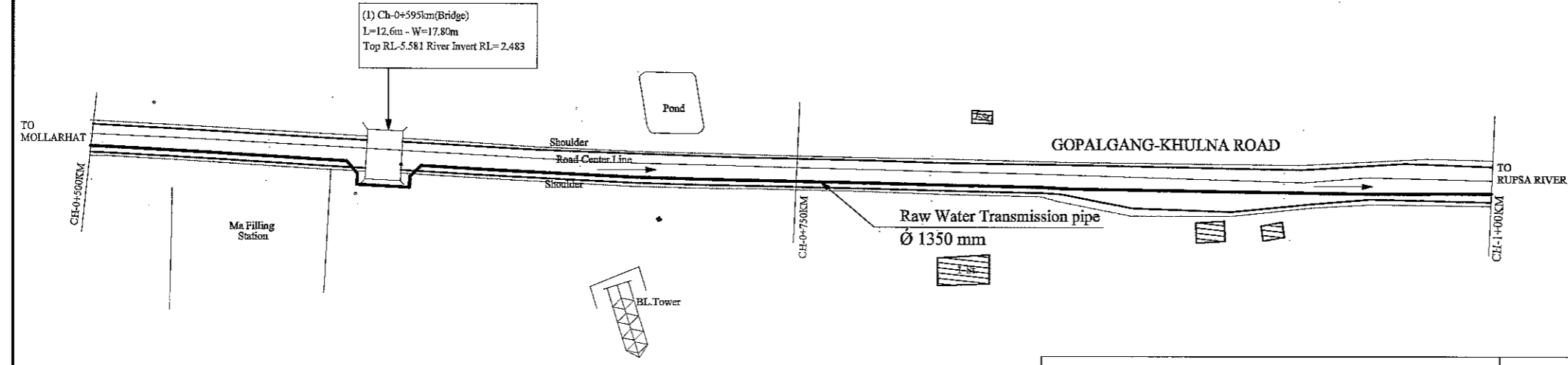
SCALE	1:80,000
DWG No.	12
	RWT-G-001



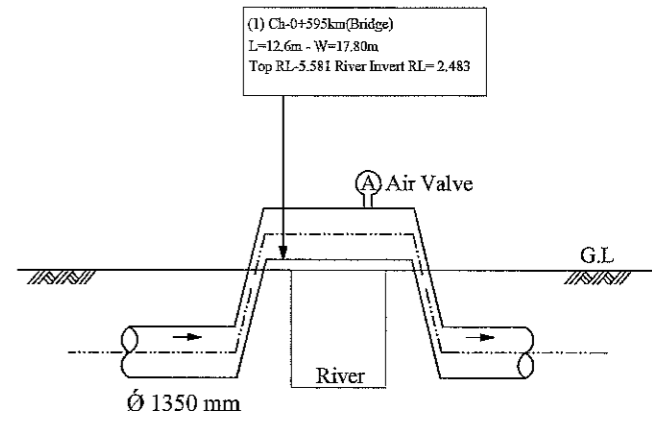
PLAN CH-0+00KM TO CH-0+500 KM
SCALE 1:2000

LEGEND:

Area Boundary Line	—
Road	====
Shoulder	=====
Water Bodies	~~~~
House / Building	▨
Bridge / Culvert	⌈ ⌋
TBM	■
Electric Pole	○
R&H Pillar	◊

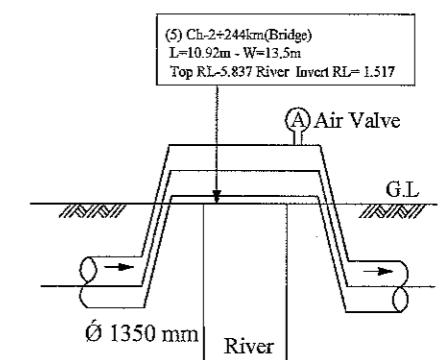
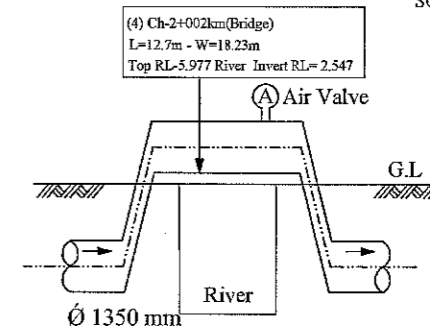
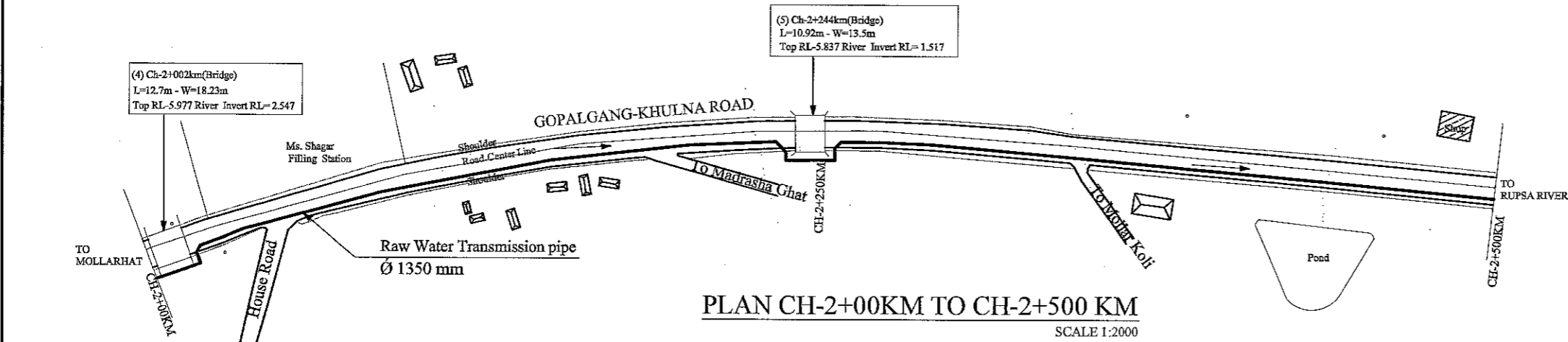
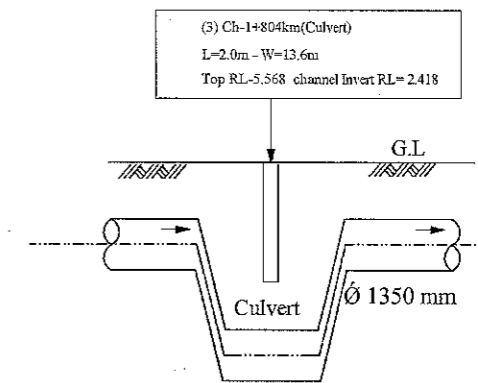
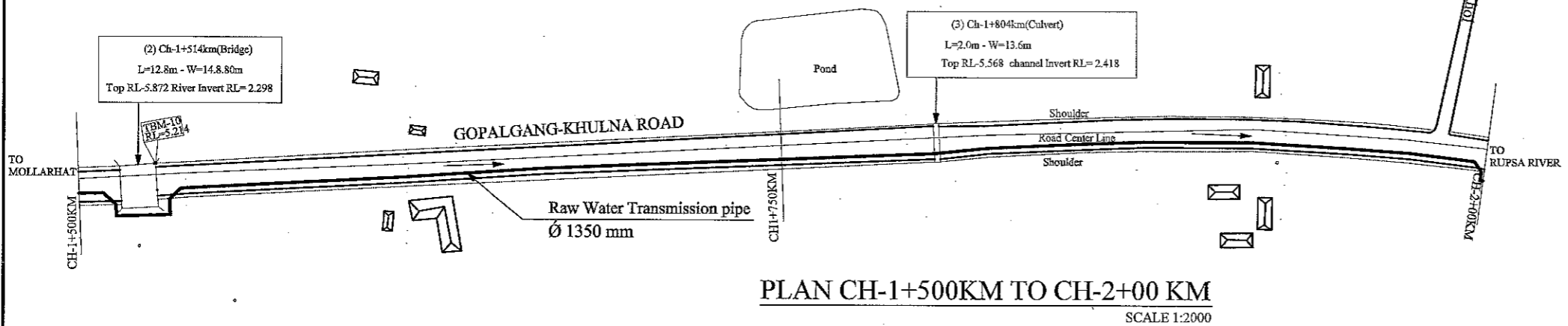
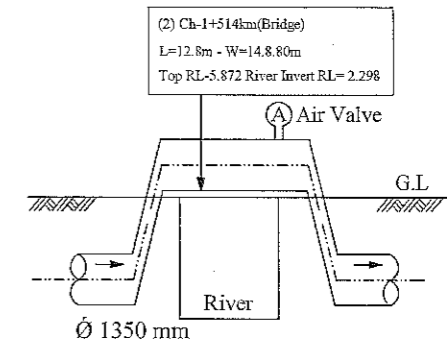
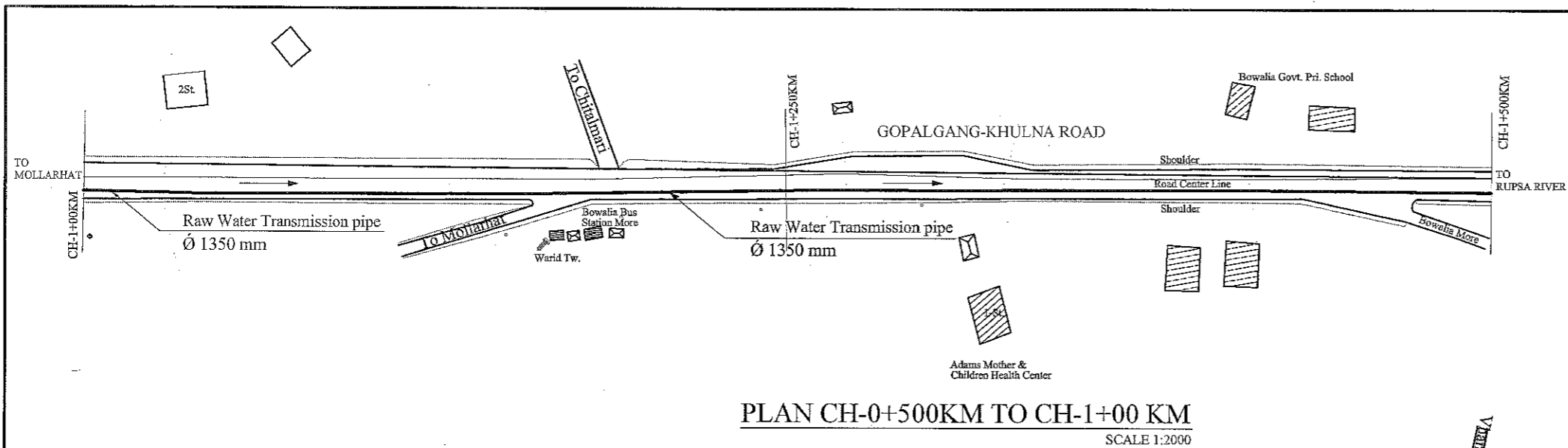


PLAN CH-0+500KM TO CH-1+00 KM
SCALE 1:2000



PROFILE (1) CH-0+595KM(BRIDGE)
SCALE 1:200

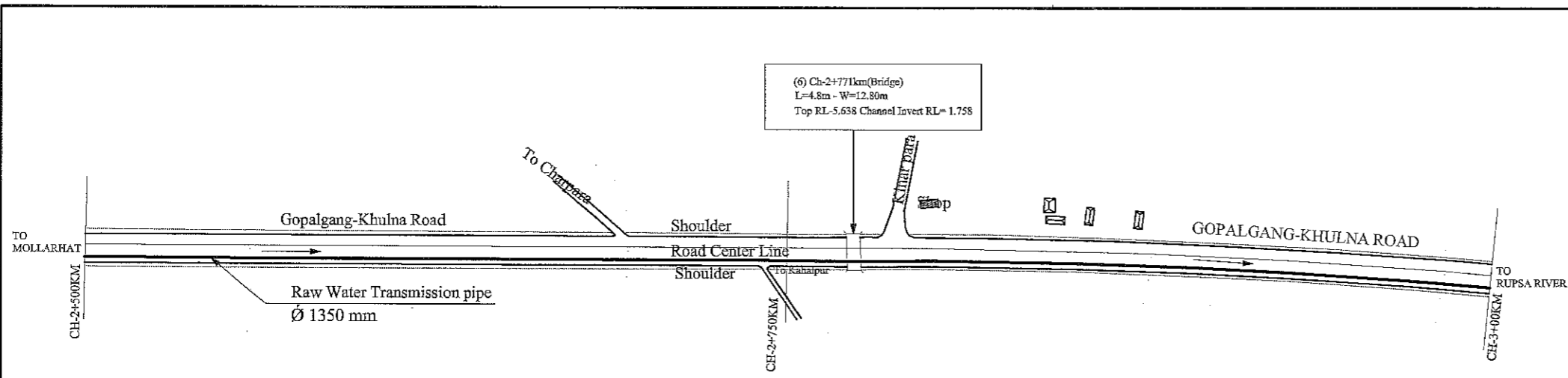
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	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 1	SCALE DWG No. 13	H-1:2000 V-1:200 RWT-PP-001



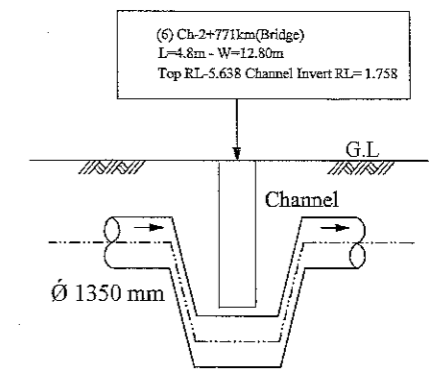
LEGEND:

Area Boundary Line	---
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▨
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	⊙

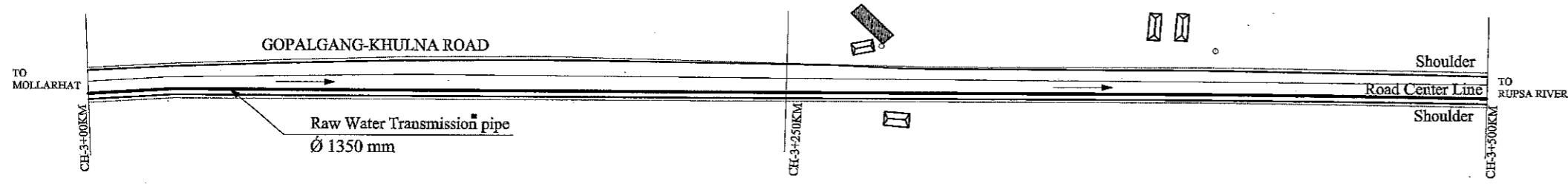
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	RAW WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
PLAN AND PROFILE - 2	DWG No.	14	RWT-PP-002



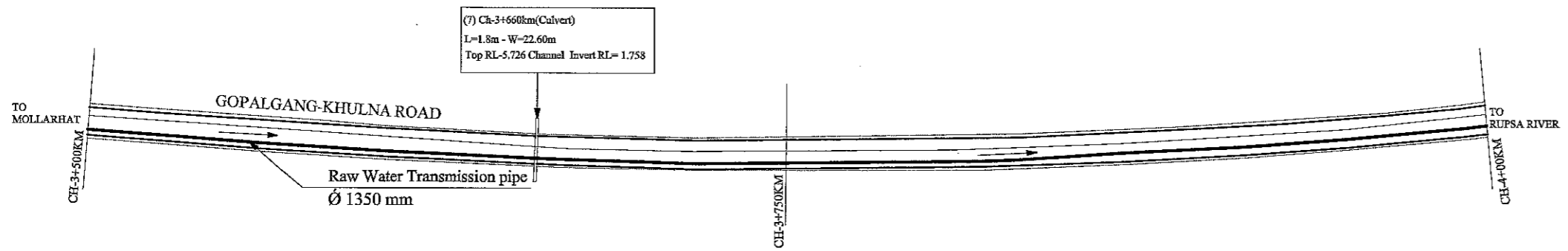
PLAN CH-2+500KM TO CH-3+00 KM
SCALE 1:2000



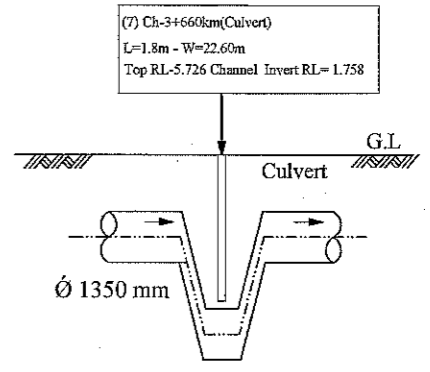
PROFILE (6) CH-2+771KM(BRIDGE)
SCALE 1:200



PLAN CH-3+00KM TO CH-3+500 KM
SCALE 1:2000



PLAN CH-3+500KM TO CH-4+00 KM
SCALE 1:2000

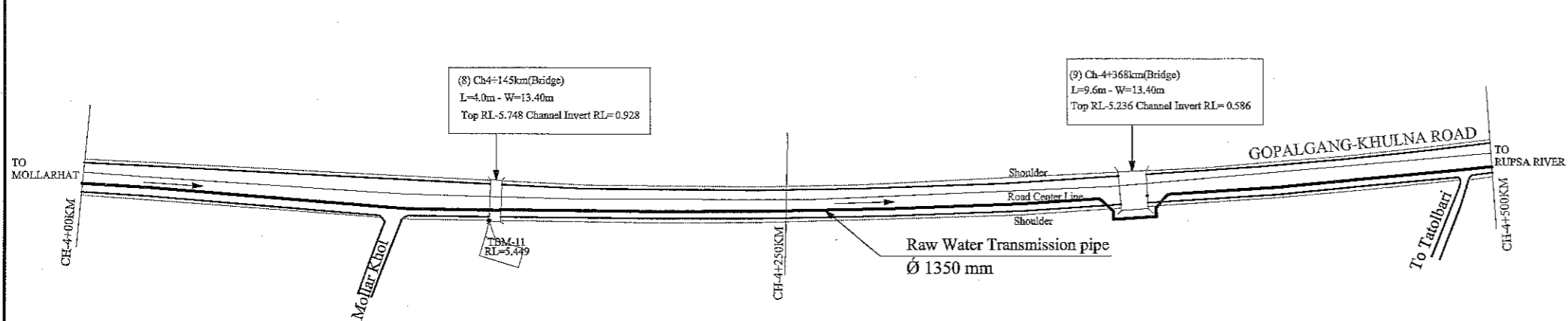


PROFILE (7) CH-3+660KM(CULVERT)
SCALE 1:200

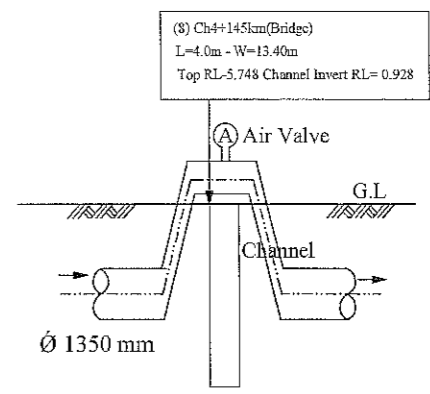
LEGEND:

Area Boundary Line	———
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	◇

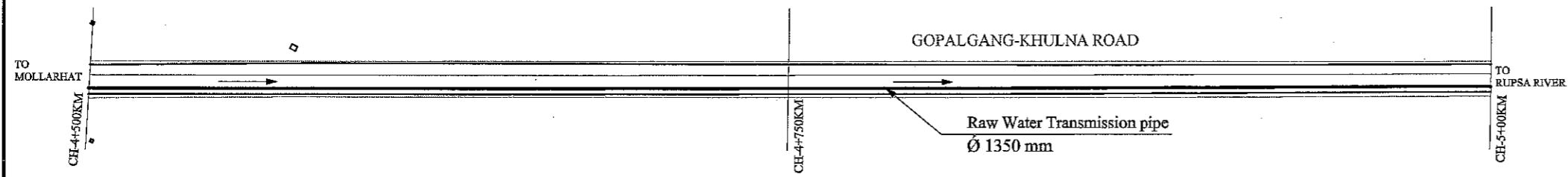
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	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 3	SCALE DWG No.	H-1:2000 V-1:200 15



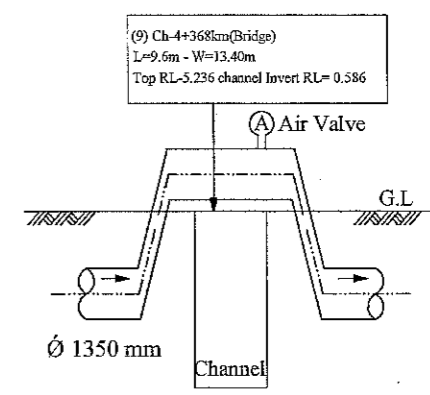
PLAN CH-4+00KM TO CH-4+500 KM
SCALE 1:2000



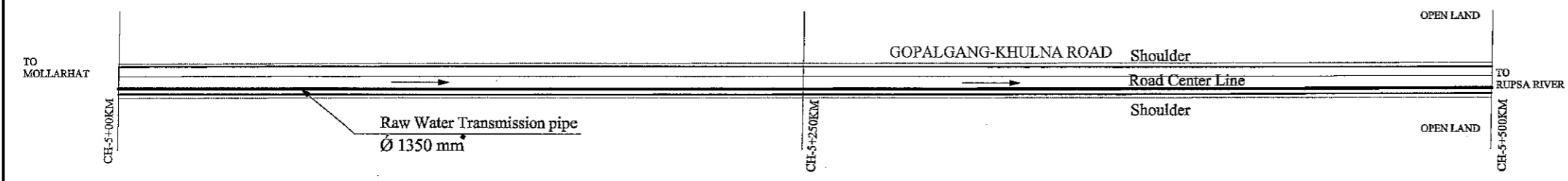
PROFILE (8) CH4+145KM(BRIDGE)
SCALE 1:200



PLAN CH-4+500KM TO CH-5+00 KM
SCALE 1:2000



PROFILE (9) CH-4+368KM(BRIDGE)
SCALE 1:200

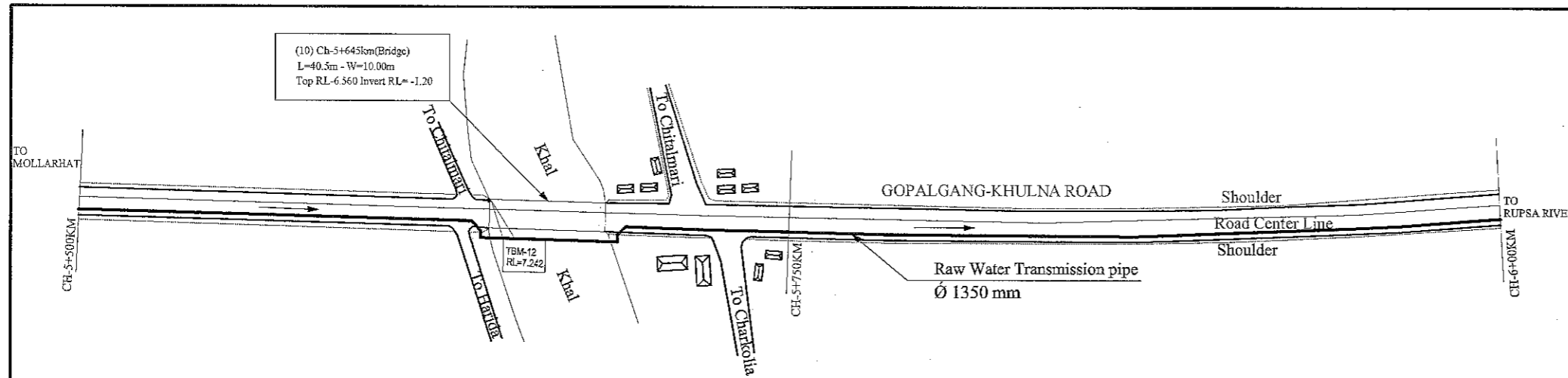


PLAN CH-5+00KM TO CH-5+500 KM
SCALE 1:2000

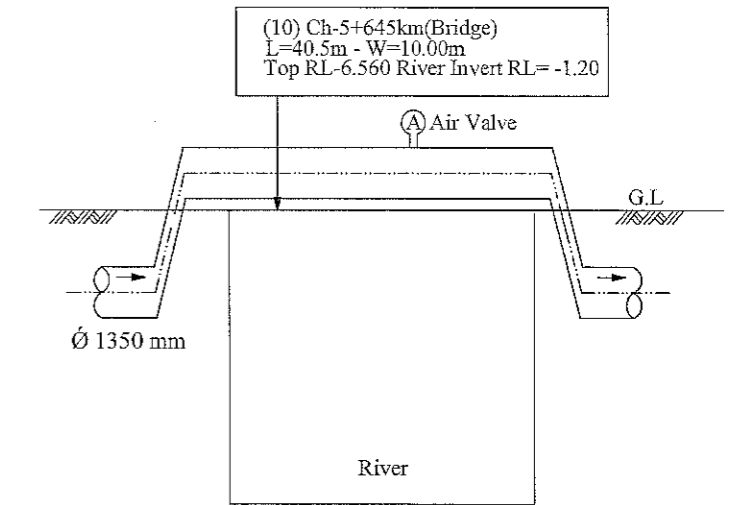
LEGEND:

Area Boundary Line	———
Road	=====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	◇

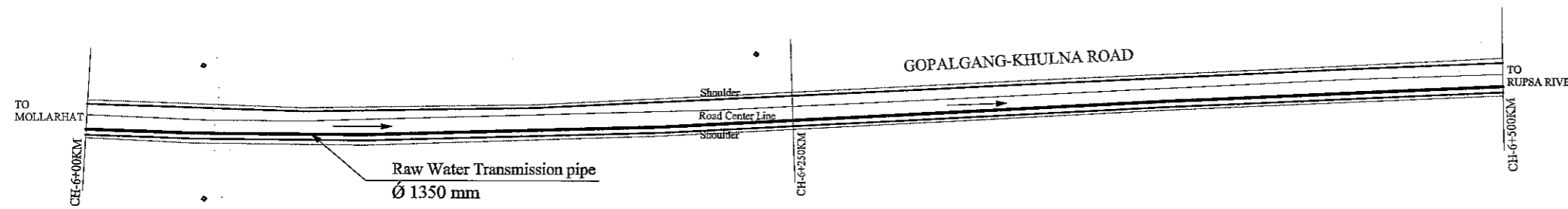
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	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 4	SCALE DWG No.	H-1:2000 V-1:200 16



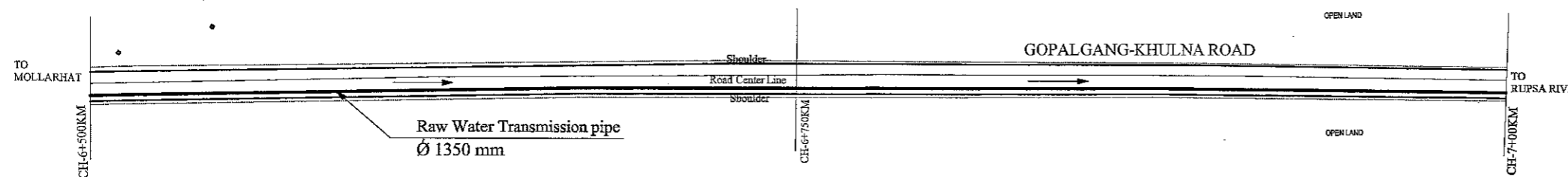
PLAN CH-5+500KM TO CH-6+00 KM
SCALE 1:2000



PROFILE(10)CH-5+645KM(BRIDGE)
SCALE 1:200



PLAN CH-6+00KM TO CH-6+500 KM
SCALE 1:2000

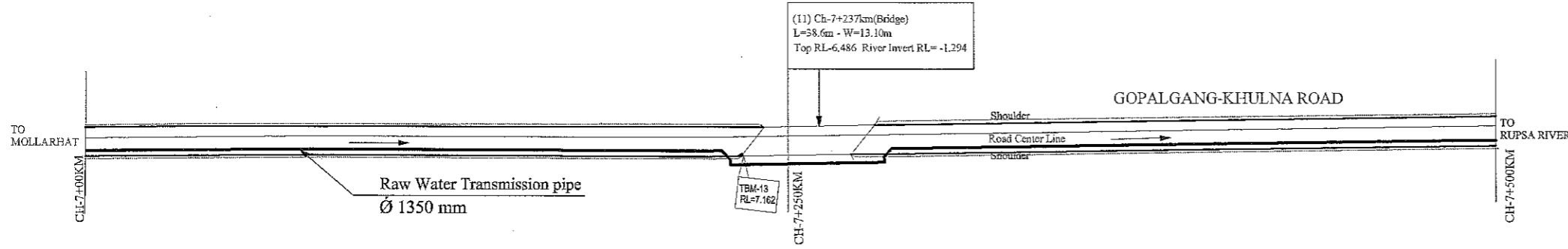


PLAN CH-6+500KM TO CH-7+00 KM
SCALE 1:2000

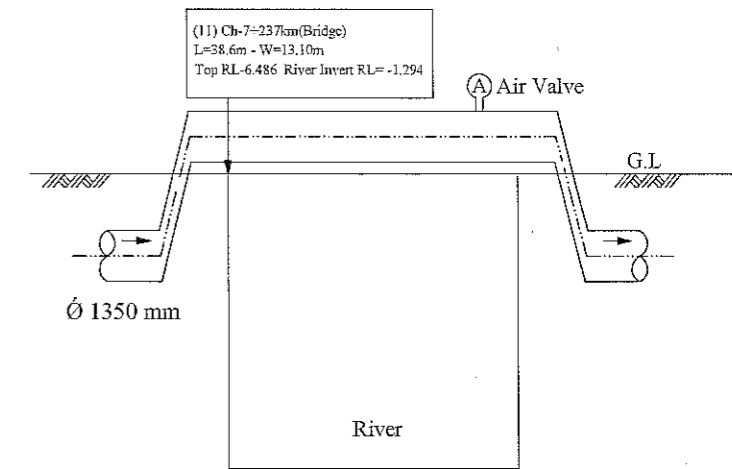
LEGEND:

Area Boundary Line	—
Road	==
Shoulder/Footpath	---
Water Bodes	~
House /Bouilding	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	◇

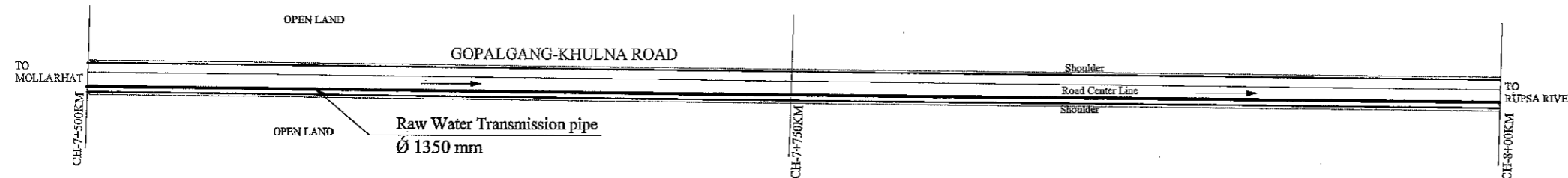
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANT'S CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 5	SCALE DWG No.	H-1:2000 V-1:200 17



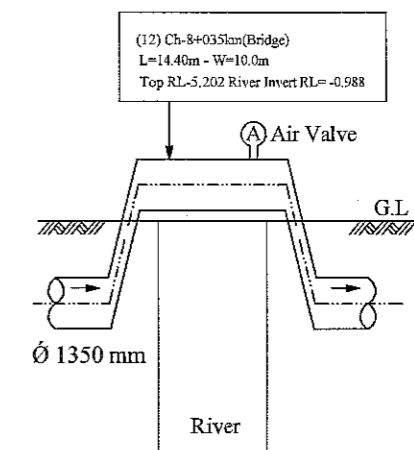
PLAN CH-7+00KM TO CH-7+500 KM
SCALE 1:2000



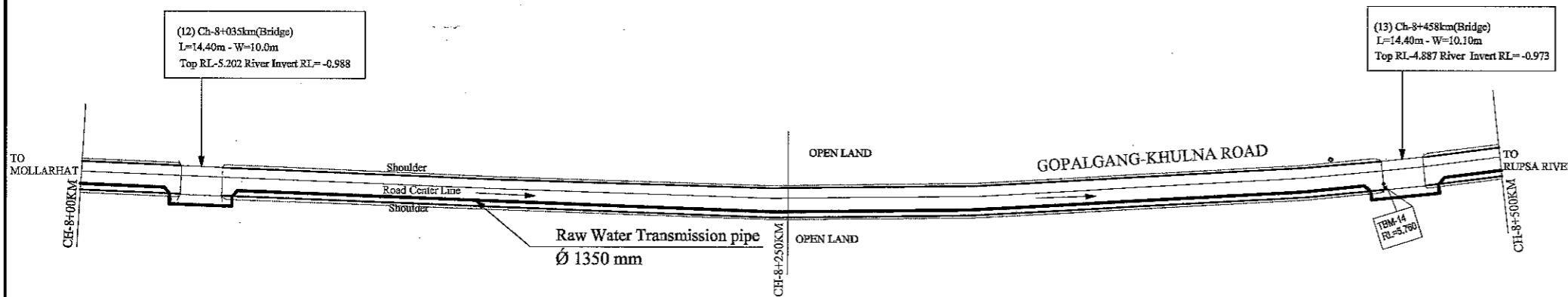
PROFILE (11) CH-7+237KM(BRIDGE)
SCALE 1:200



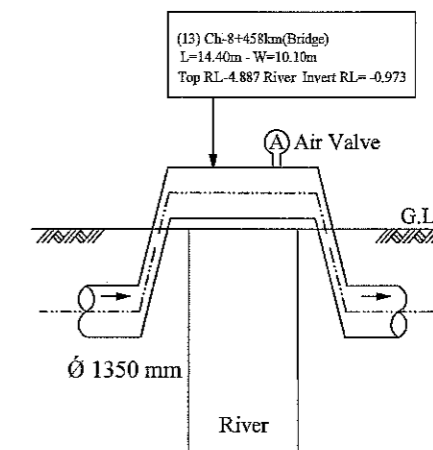
PLAN CH-7+500KM TO CH-8+00 KM
SCALE 1:2000



PROFILE (12) CH-8+035KM(BRIDGE)
SCALE 1:200



PLAN CH-8+00KM TO CH-8+500 KM
SCALE 1:2000

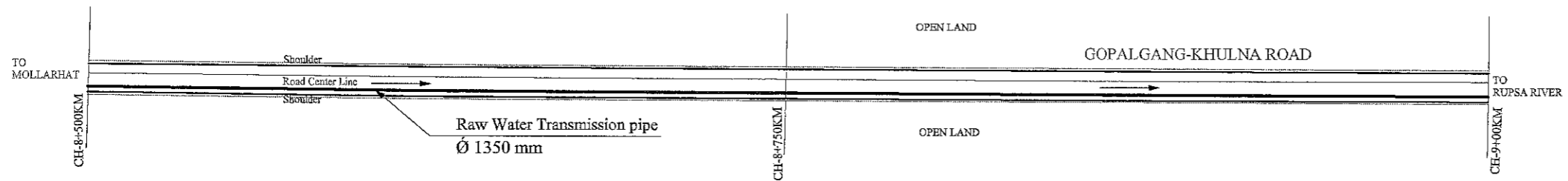


PROFILE (13) CH-8+458KM(BRIDGE)
SCALE 1:200

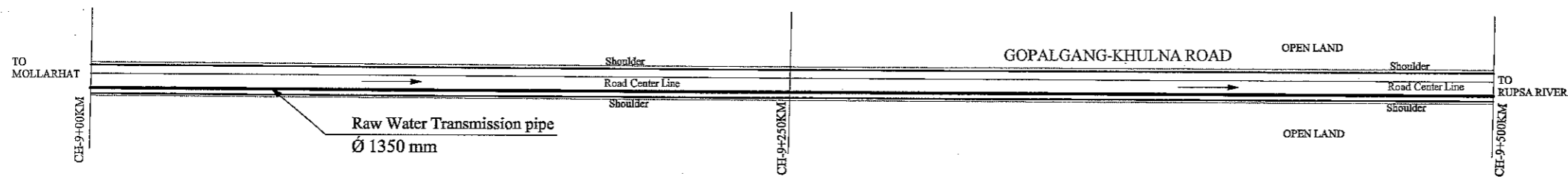
LEGEND:

Area Boundary Line	———
Road	=====
Shoulder	=====
Water Bodies	~~~~~
House / Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	◊

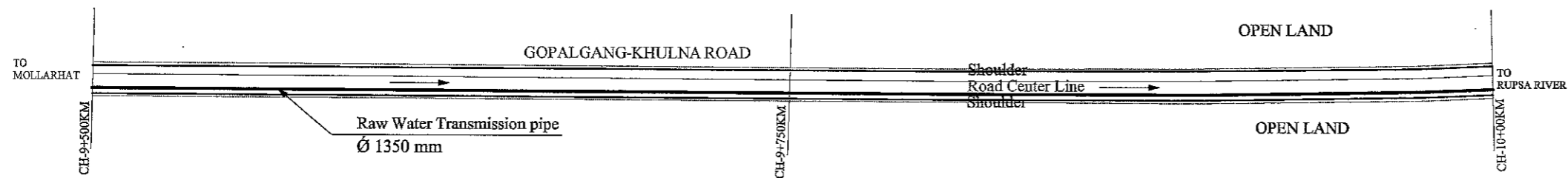
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 6	SCALE DWG No.	H-1:2000 V-1:200 18 RWT-PP-006



PLAN CH-8+500KM TO CH-9+00 KM
SCALE 1:2000



PLAN CH-9+00KM TO CH-9+500 KM
SCALE 1:2000

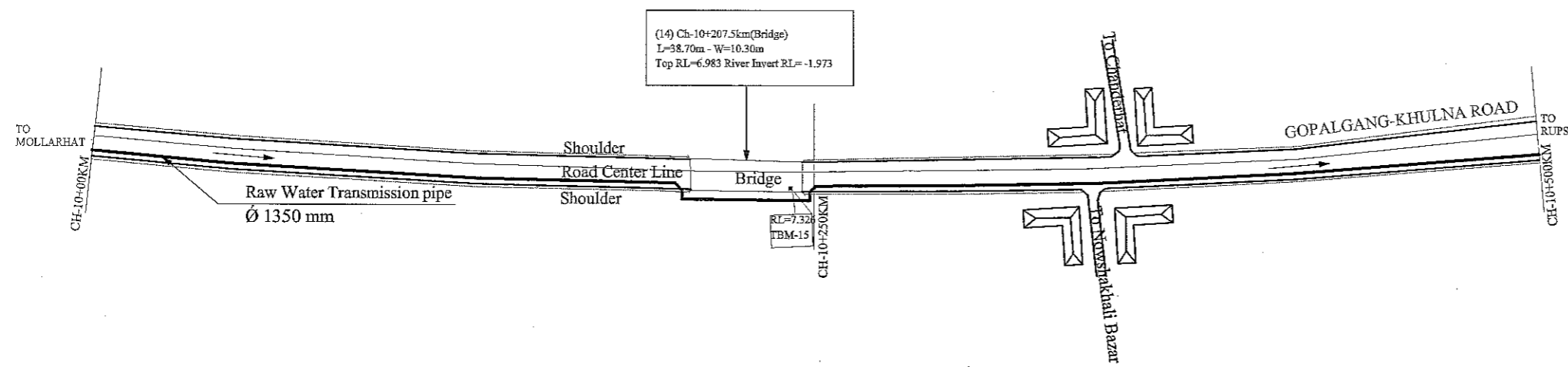


PLAN CH-9+500KM TO CH-10+00 KM
SCALE 1:2000

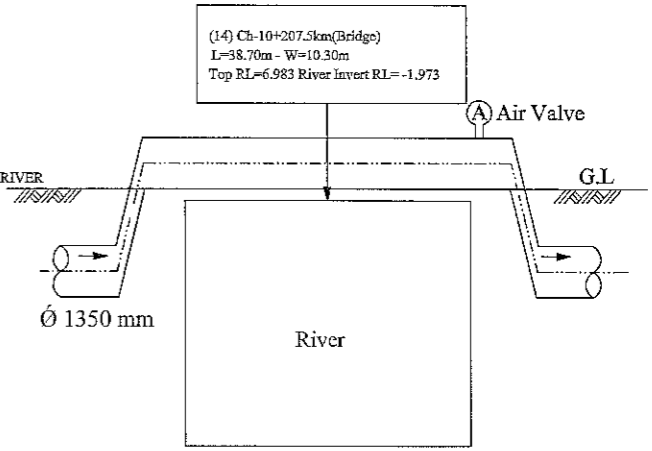
LEGEND:

Area Boundary Line	———
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▣▣▣
Bridge / Culvert	⌈ ⌋
TBM	■
Electric Pole	○
R&H Pillar	⋄

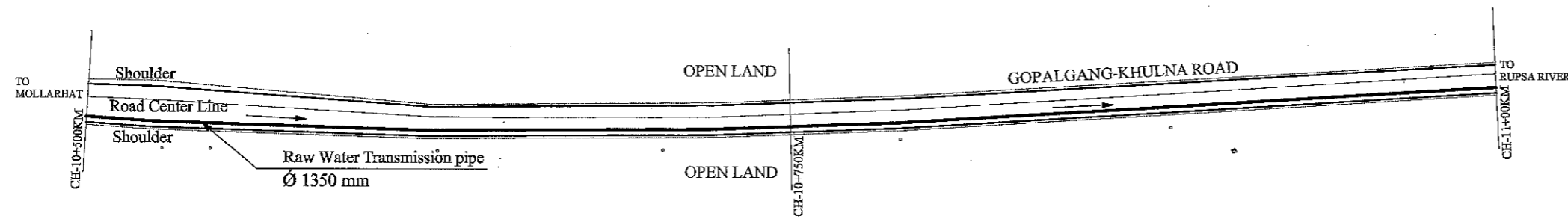
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 7	SCALE DWG No.	H-1:2000 V-1:200 19



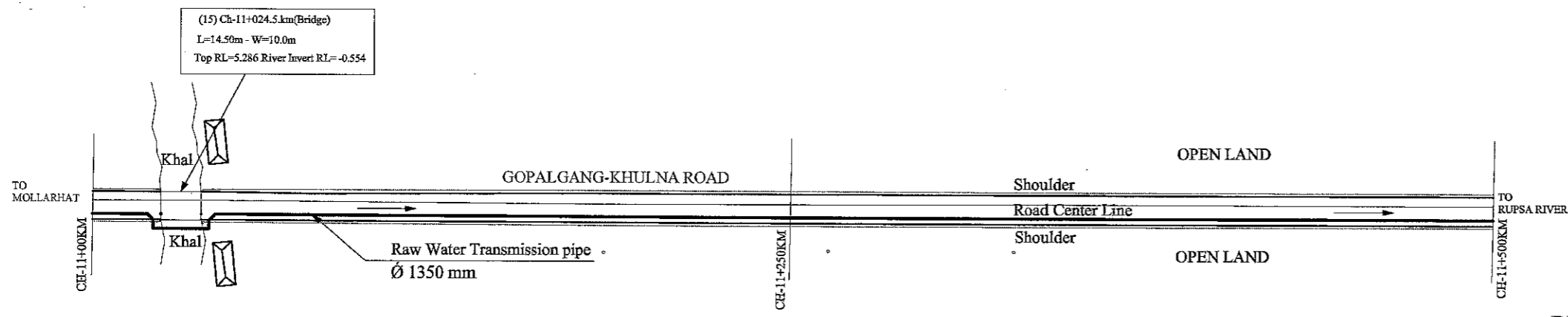
PLAN CH-10+00KM TO CH-10+500 KM
SCALE 1:2000



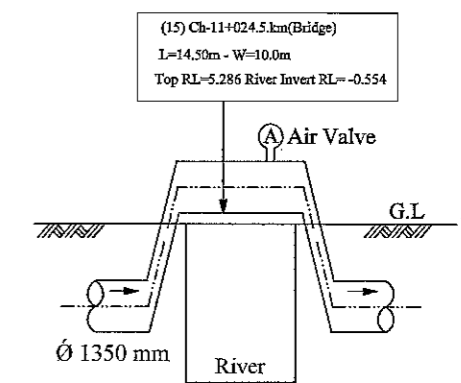
PROFILE (14) CH-10+207.5KM(BRIDGE)
SCALE 1:200



PLAN CH-10+500KM TO CH-11+00 KM
SCALE 1:2000



PLAN CH-11+00KM TO CH-11+500 KM
SCALE 1:2000

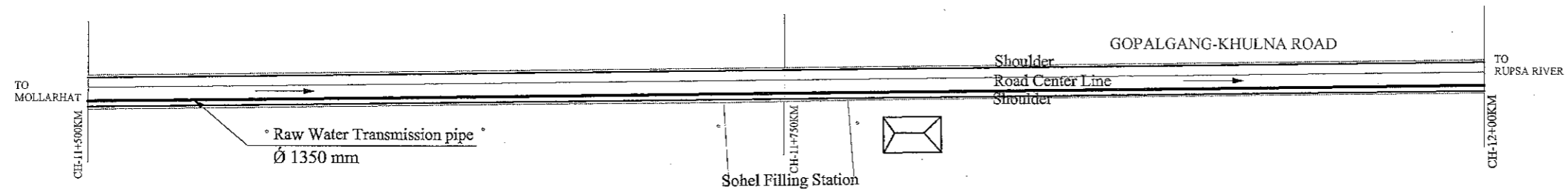


PROFILE (15) CH-11+024.5.KM(BRIDGE)
SCALE 1:200

LEGEND:

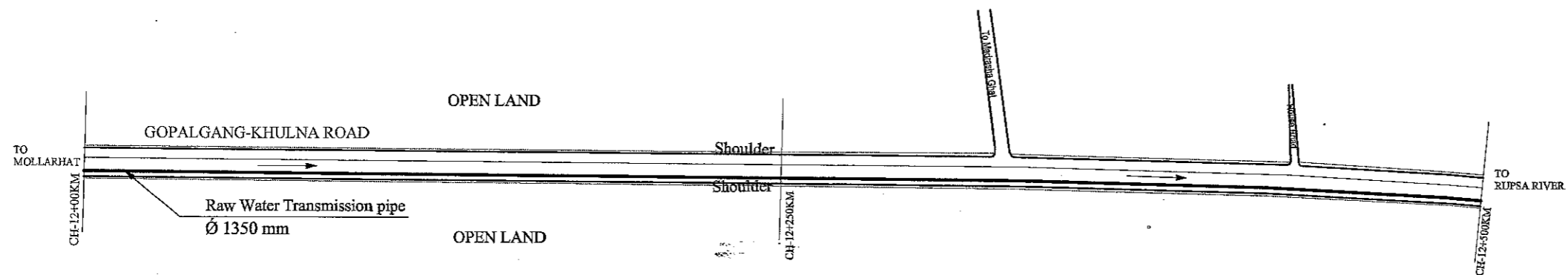
Area Boundary Line	———
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▣
Bridge / Culvert	⌈ ⌋
TBM	■
Electric Pole	○
R&H Pillar	◇

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 8	SCALE DWG No.	H-1:2000 V-1:200 20 RWI-PP-008



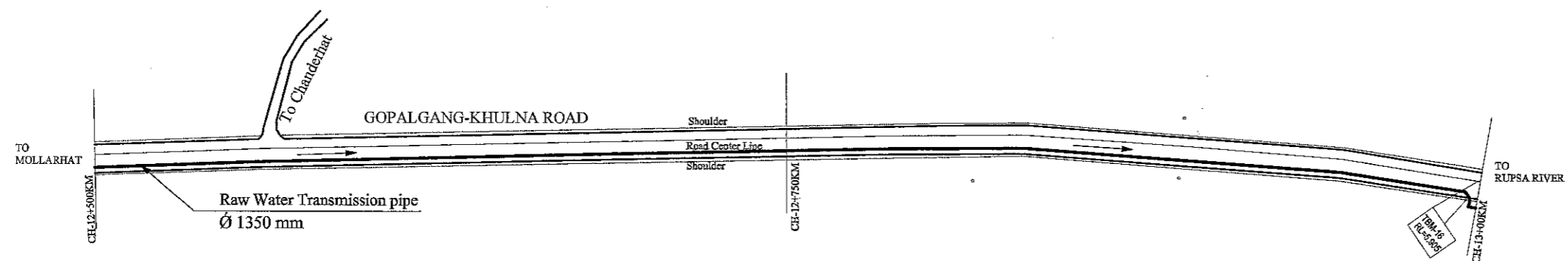
PLAN CH-11+500KM TO CH-12+00 KM

SCALE 1:2000



PLAN CH-12+00KM TO CH-12+500 KM

SCALE 1:2000



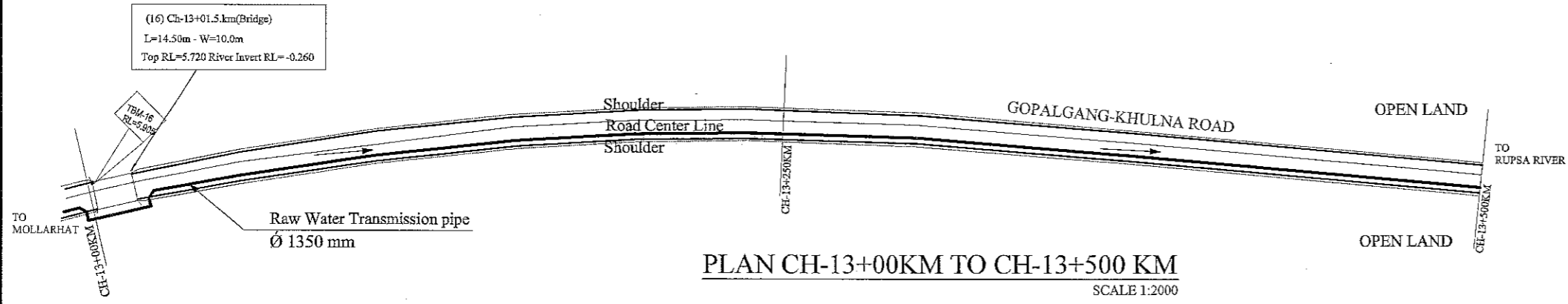
PLAN CH-12+500KM TO CH-13+00 KM

SCALE 1:2000

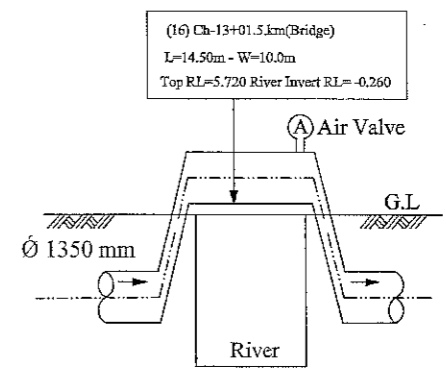
LEGEND:

Area Boundary Line	—
Road	====
Shoulder	=====
Water Bodies	~~~~
House /Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	●

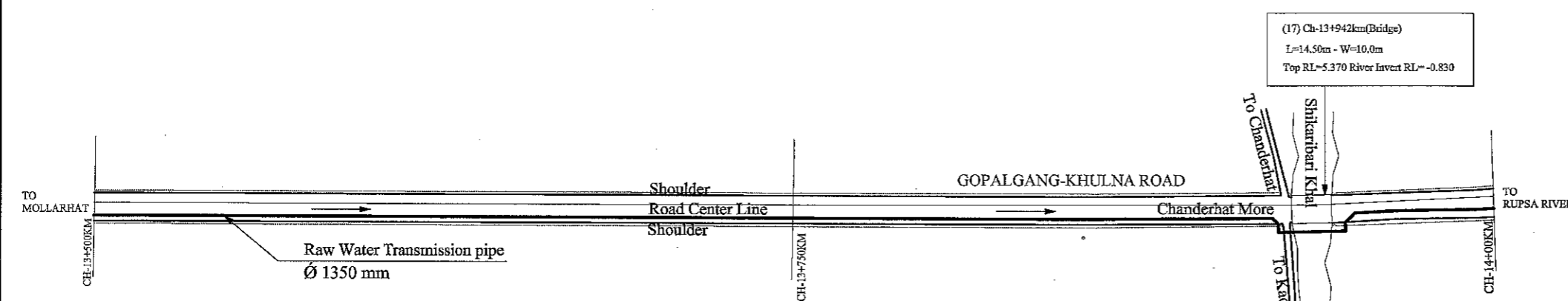
JICA JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
NJS CONSULTANTS CO., LTD.	PLAN AND PROFILE - 9	DWG No.	21 RWT-PP-009



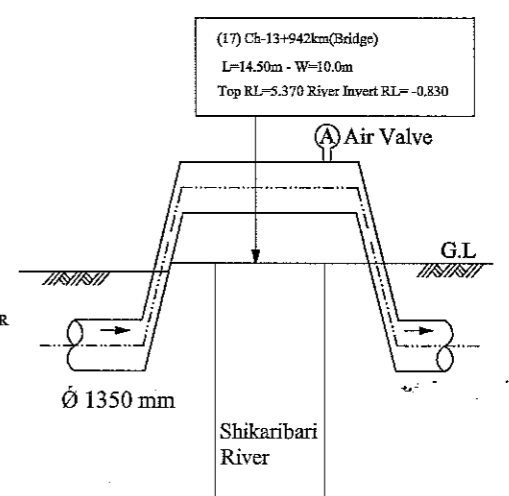
PLAN CH-13+00KM TO CH-13+500 KM
SCALE 1:2000



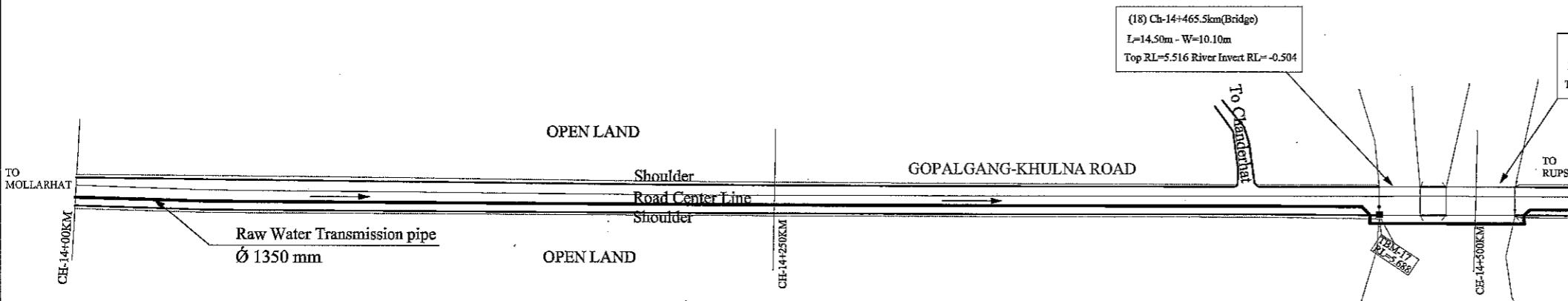
PROFILE (16) CH-13+01.5.KM(BRIDGE)
SCALE 1:200



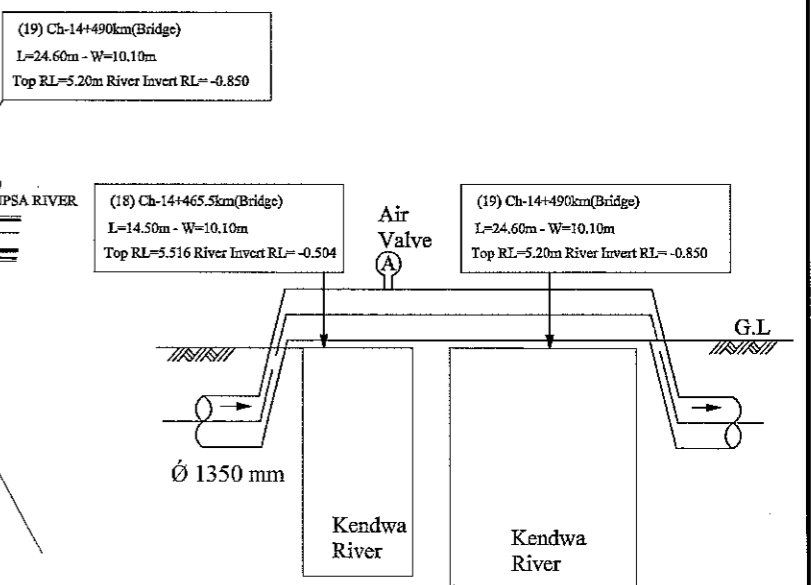
PLAN CH-13+500KM TO CH-14+00 KM
SCALE 1:2000



PROFILE (17) CH-13+942KM(BRIDGE)
SCALE 1:200



PLAN CH-14+00KM TO CH-14+500 KM
SCALE 1:2000

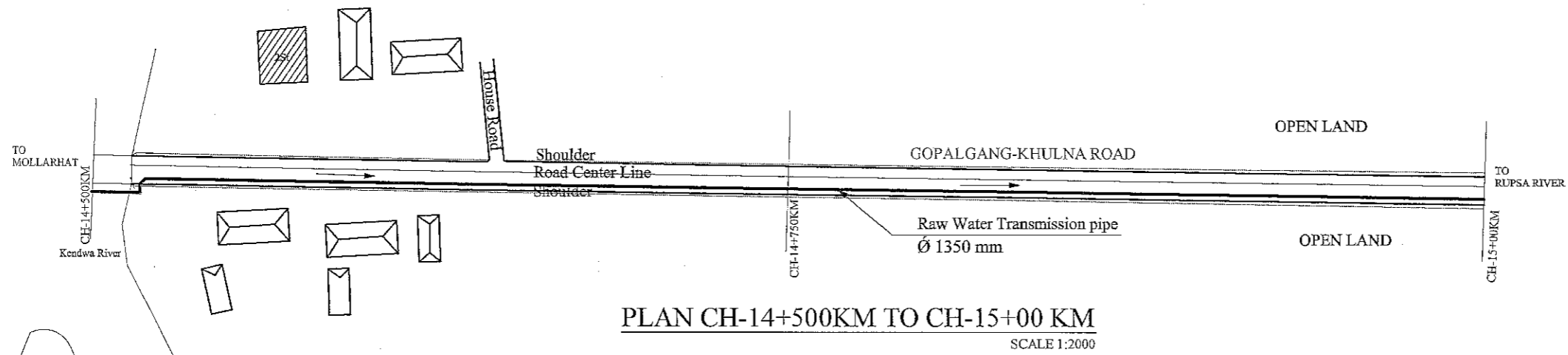


PROFILE (18) CH-14+465.5KM(BRIDGE) PROFILE (19) CH-14+490KM(BRIDGE)
SCALE 1:200 SCALE 1:200

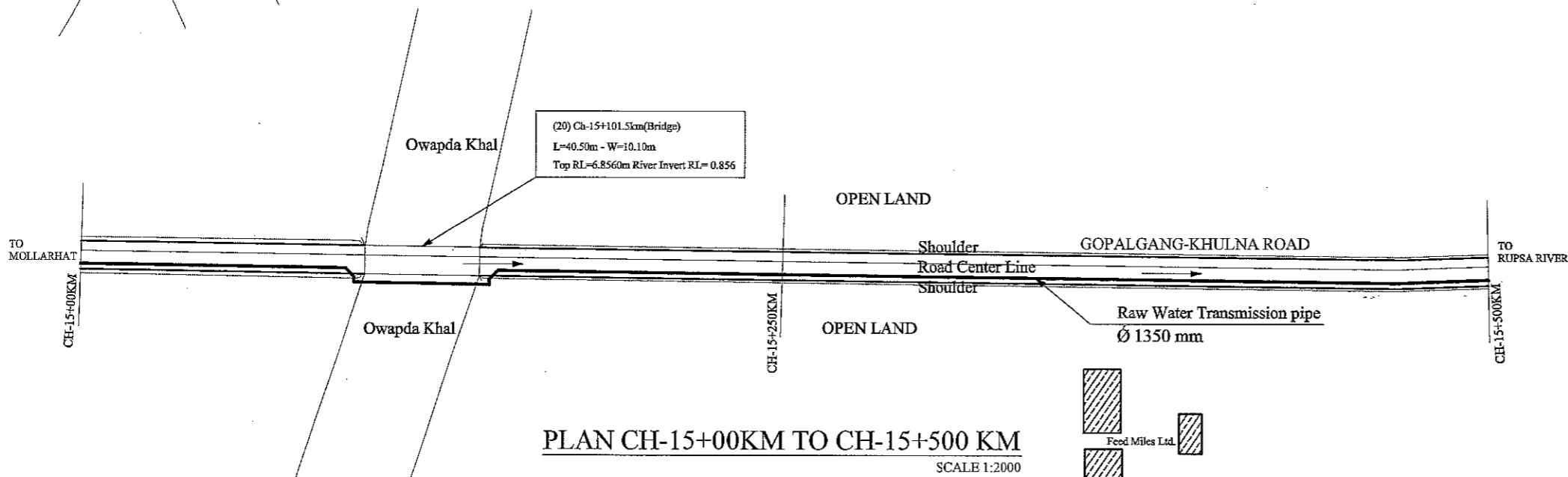
LEGEND:

Area Boundary Line	---
Road	====
Shoulder	=====
Water Bodies	~~~~
House / Building	▨
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	●

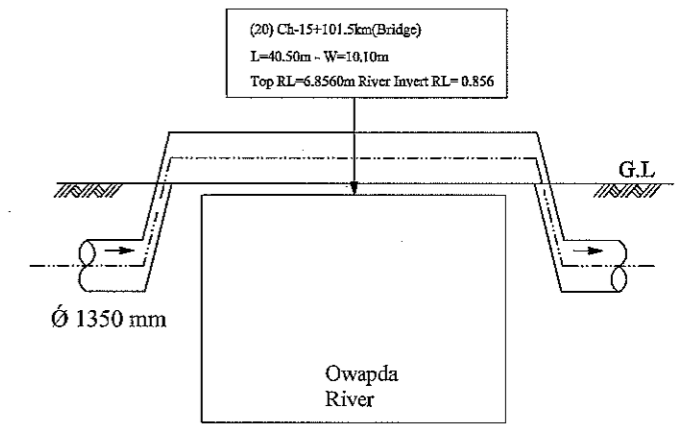
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 10	SCALE DWG.No.	H-1:2000 V-1:200 22



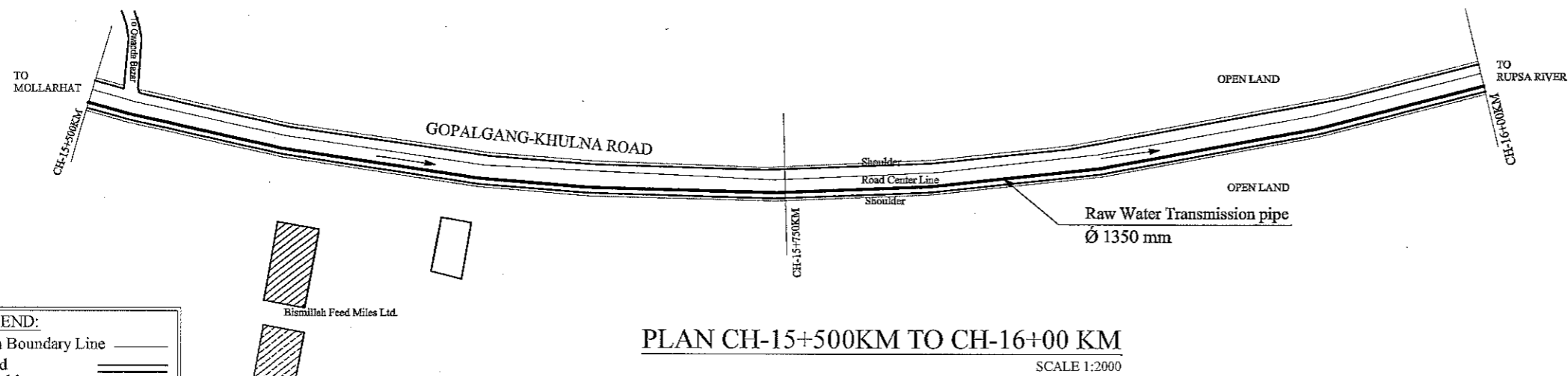
PLAN CH-14+500KM TO CH-15+00 KM
SCALE 1:2000



PLAN CH-15+00KM TO CH-15+500 KM
SCALE 1:2000



PROFILE (20) CH-15+101.5KM(BRIDGE)
SCALE 1:200

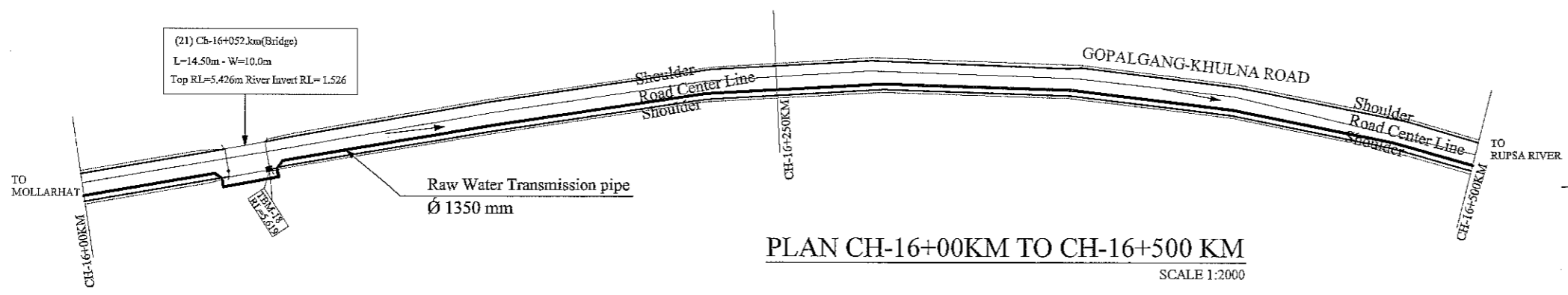


PLAN CH-15+500KM TO CH-16+00 KM
SCALE 1:2000

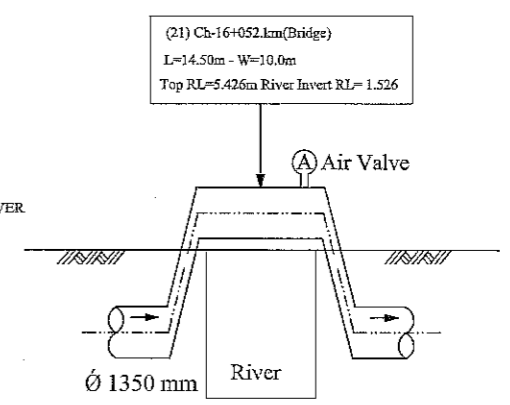
LEGEND:

Area Boundary Line	—
Road	====
Shoulder	=====
Water Bodies	~~~~~
House / Building	▭
Bridge / Culvert	— —
TBM	■
Electric Pole	○
R&H Pillar	○

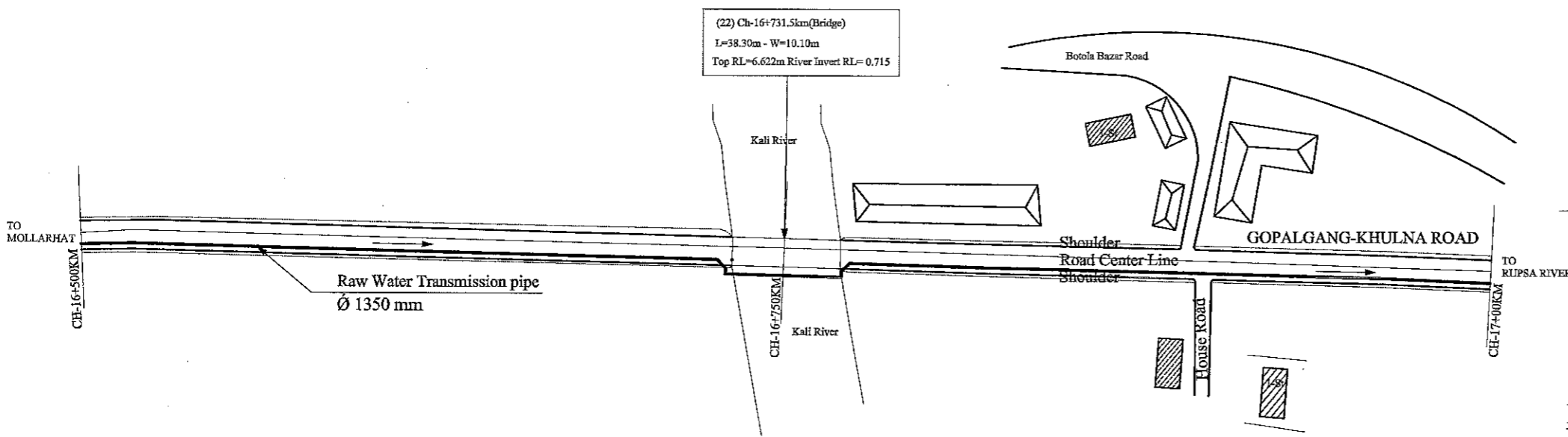
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 11	SCALE DWG No.	H-1:2000 V-1:200 23



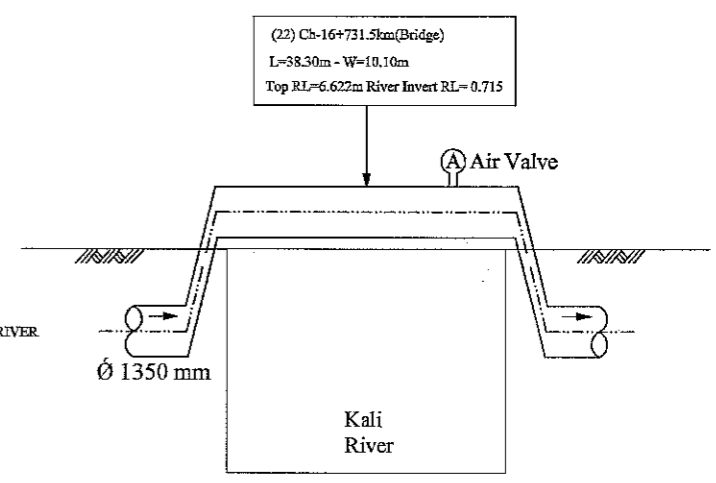
PLAN CH-16+00KM TO CH-16+500 KM
SCALE 1:2000



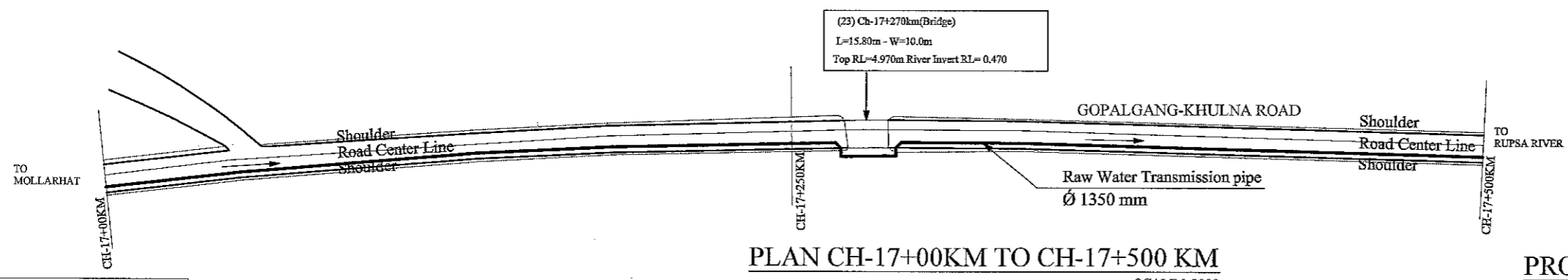
PROFILE (21) CH-16+052.KM(BRIDGE)
SCALE 1:200



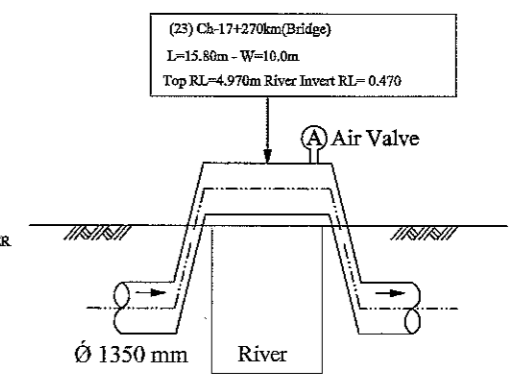
PLAN CH-16+500KM TO CH-17+00 KM
SCALE 1:2000



PROFILE (22) CH-16+731.5KM(BRIDGE)
SCALE 1:200



PLAN CH-17+00KM TO CH-17+500 KM
SCALE 1:2000

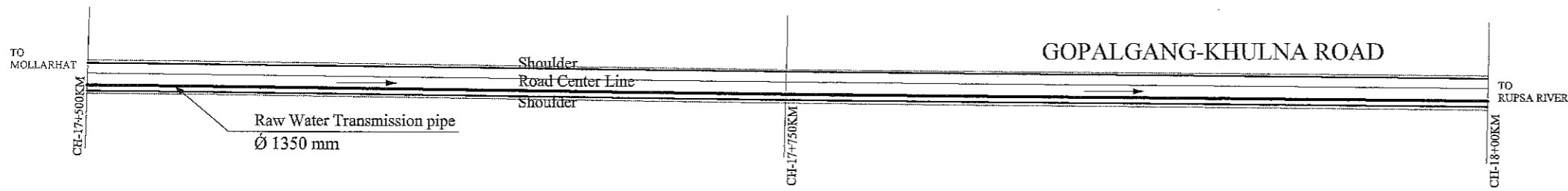


PROFILE (23) CH-17+270KM(BRIDGE)
SCALE 1:200

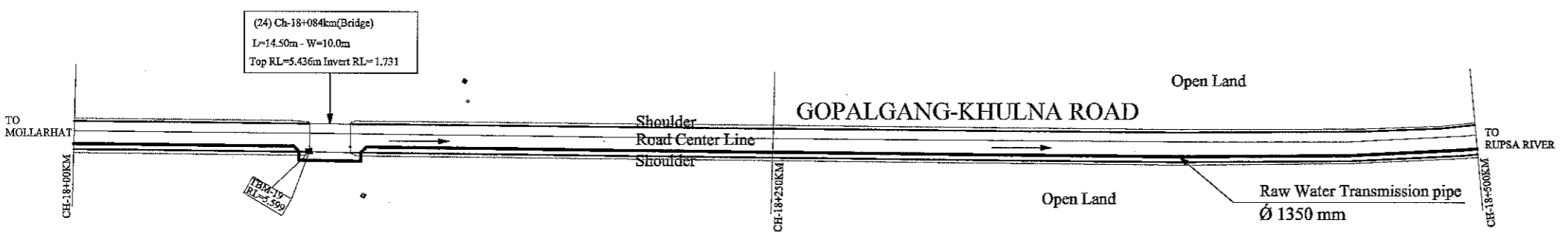
LEGEND:

Area Boundary Line	---
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	●

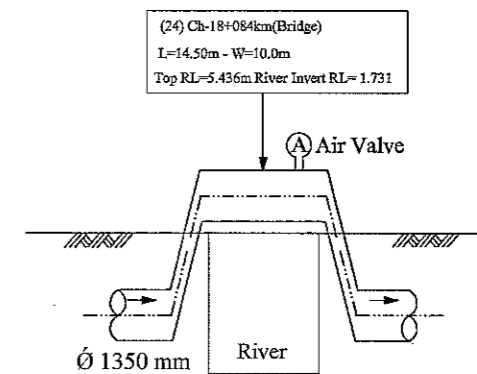
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 12	SCALE DWG No. 24	H-1:2000 V-1:200 RWT-PP-012



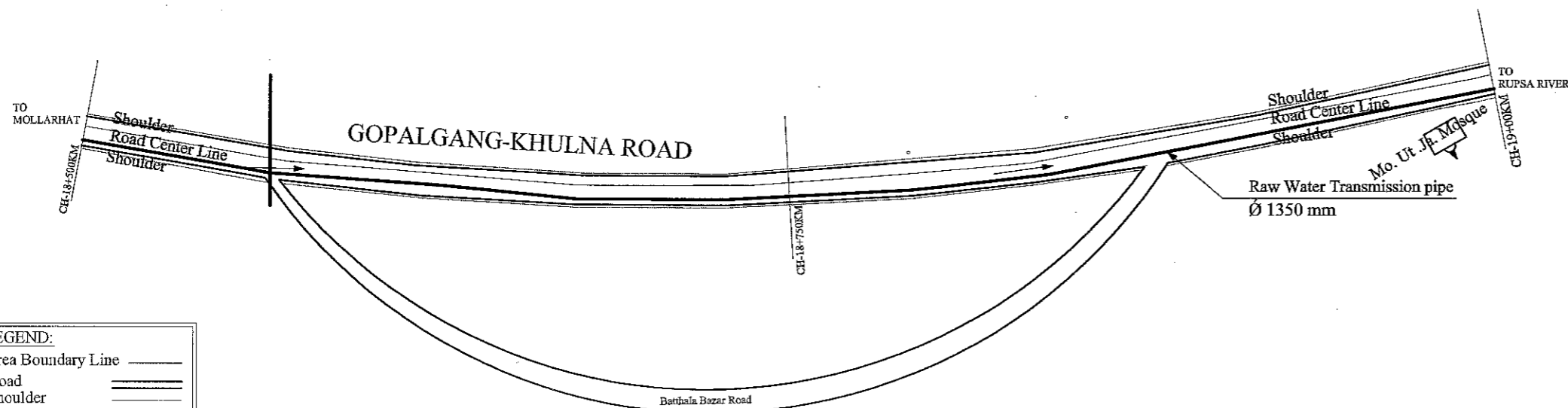
PLAN CH-17+500KM TO CH-18+00 KM
SCALE 1:2000



PLAN CH-18+00KM TO CH-18+500 KM
SCALE 1:2000



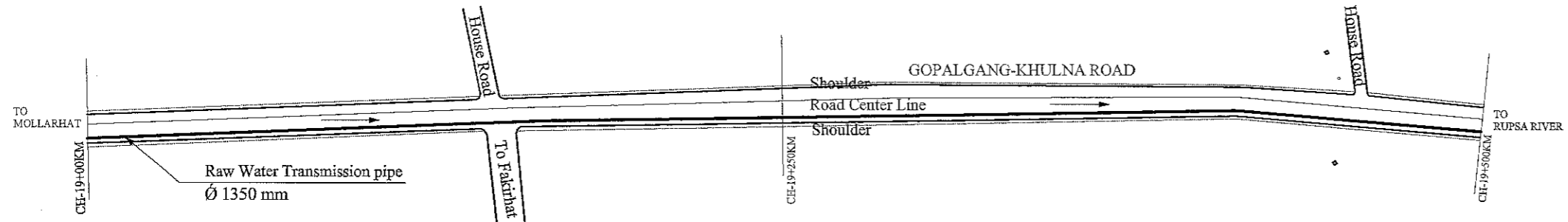
PROFILE (24) CH-18+084KM(BRIDGE)
SCALE 1:200



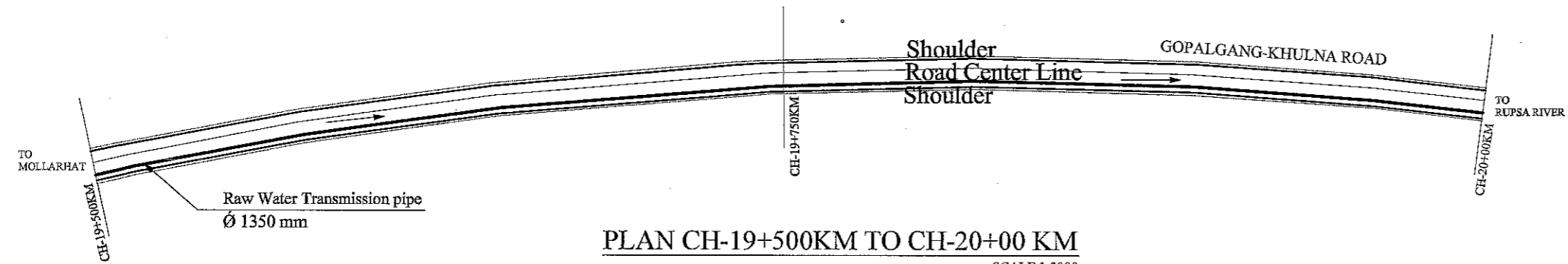
PLAN CH-18+500KM TO CH-19+00 KM
SCALE 1:2000

LEGEND:	
Area Boundary Line	-----
Road	=====
Shoulder	=====
Water Bodies	~~~~~
House / Building	▒▒▒
Bridge / Culvert	▭
TBM	●
Electric Pole	○
R&H Pillar	◇

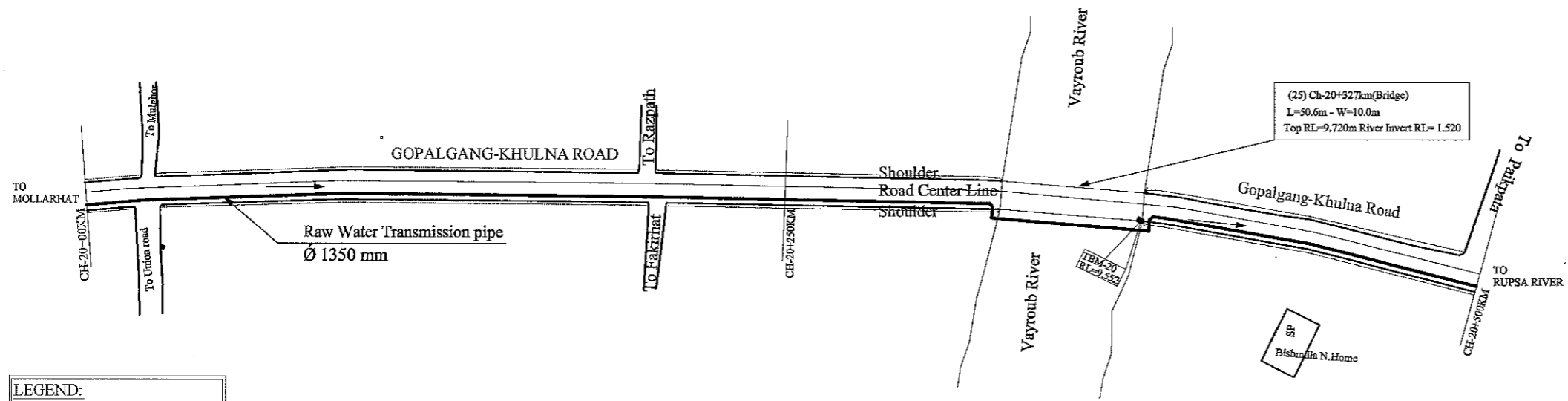
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 13	SCALE DWG No. 25	H-1:2000 V-1:200 RWT-PP-013



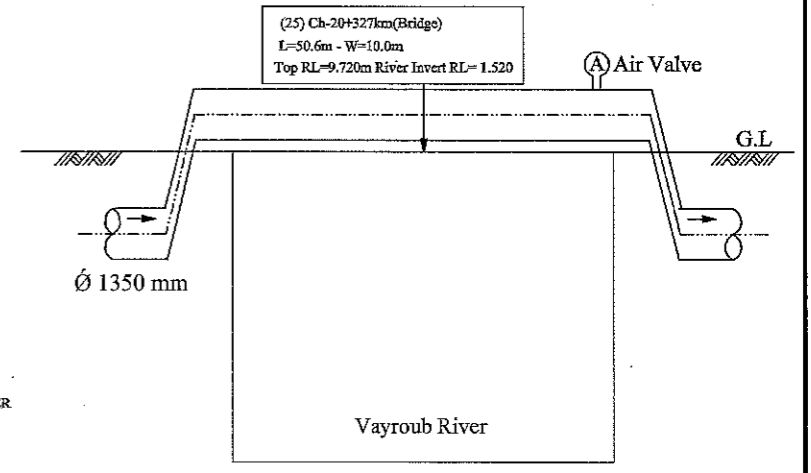
PLAN CH-19+00KM TO CH-19+500 KM
SCALE 1:2000



PLAN CH-19+500KM TO CH-20+00 KM
SCALE 1:2000



PLAN CH-20+00KM TO CH-20+500 KM
SCALE 1:2000

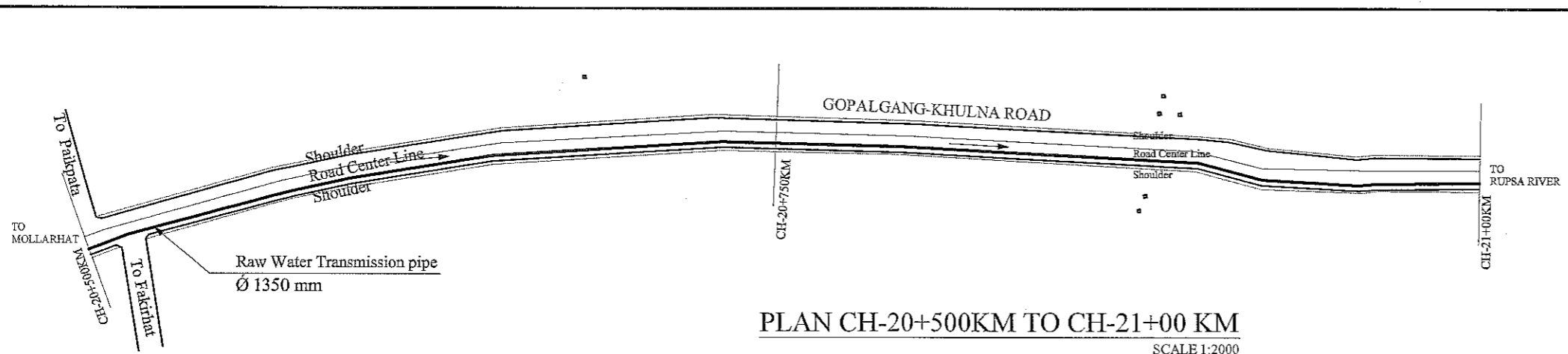


PROFILE (25) CH-20+327KM(BRIDGE)
SCALE 1:200

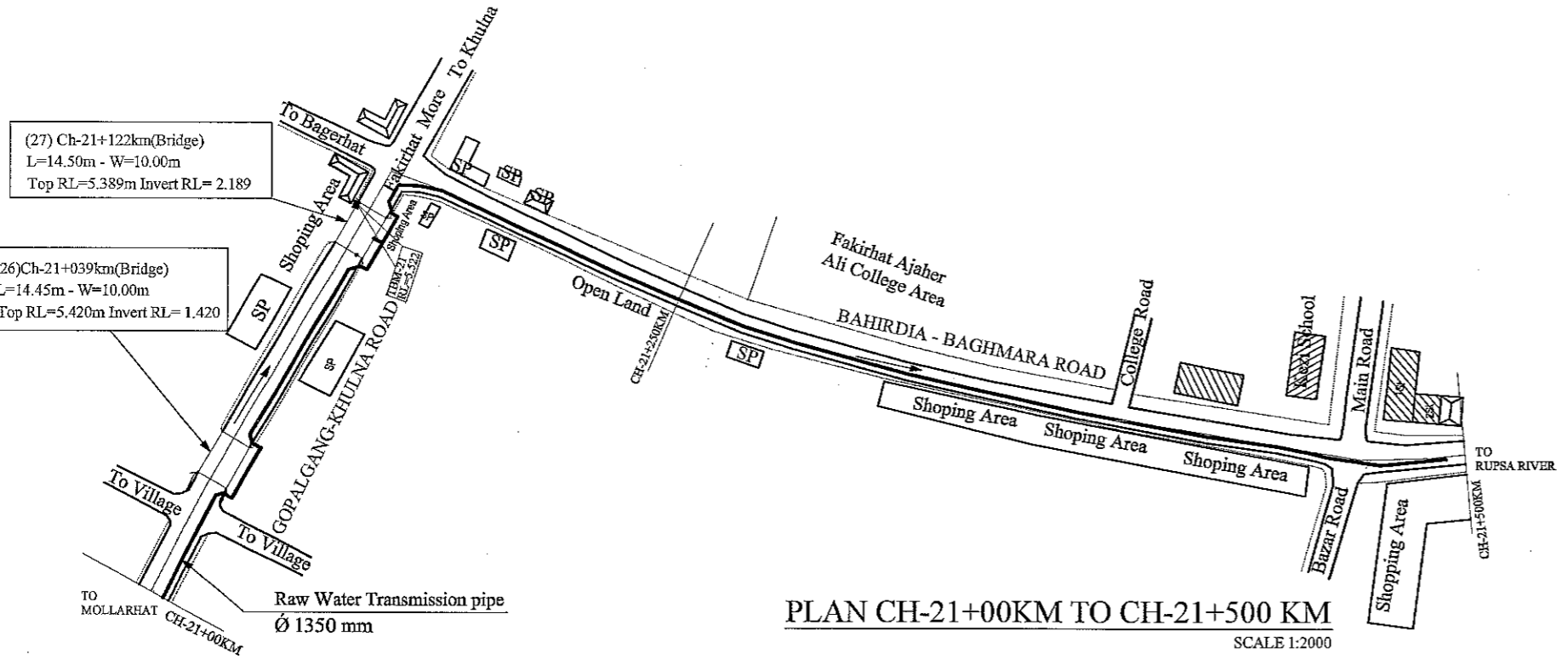
LEGEND:

Area Boundary Line	———
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	◊

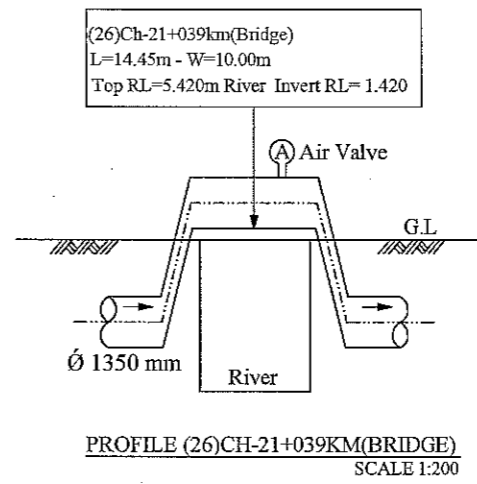
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE -14	SCALE DWG No.	H-1:2000 V-1:200 26



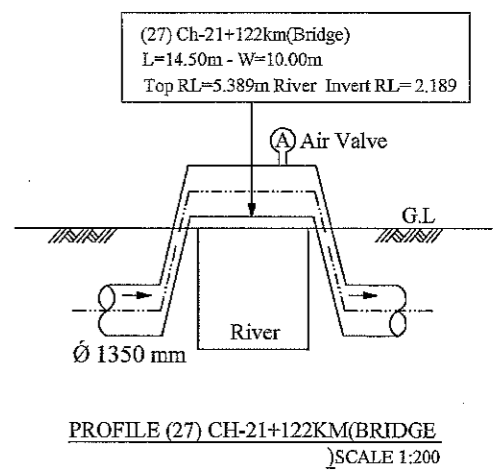
PLAN CH-20+500KM TO CH-21+00 KM
SCALE 1:2000



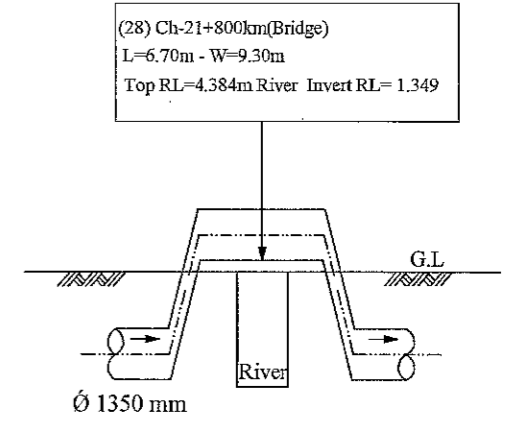
PLAN CH-21+00KM TO CH-21+500 KM
SCALE 1:2000



PROFILE (26) CH-21+039KM(BRIDGE)
SCALE 1:200



PROFILE (27) CH-21+122KM(BRIDGE)
SCALE 1:200



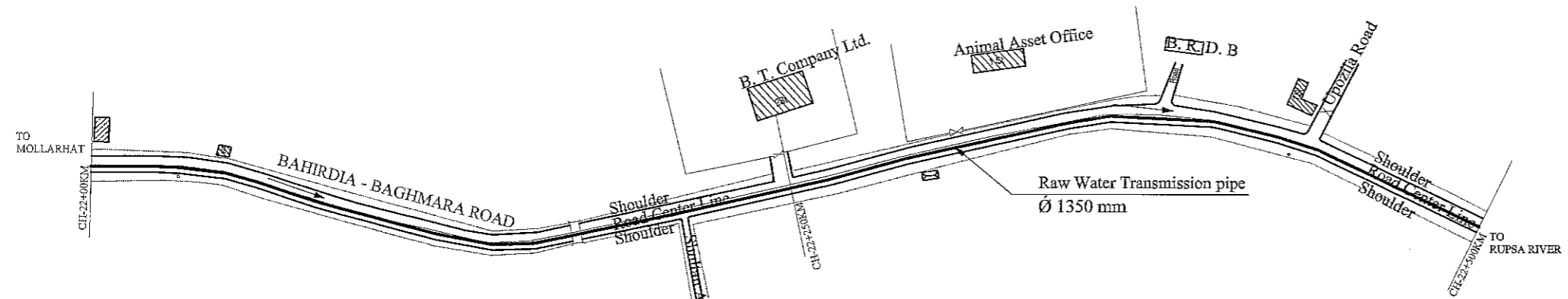
PROFILE (28) CH-21+800KM(BRIDGE)
SCALE 1:200

LEGEND:

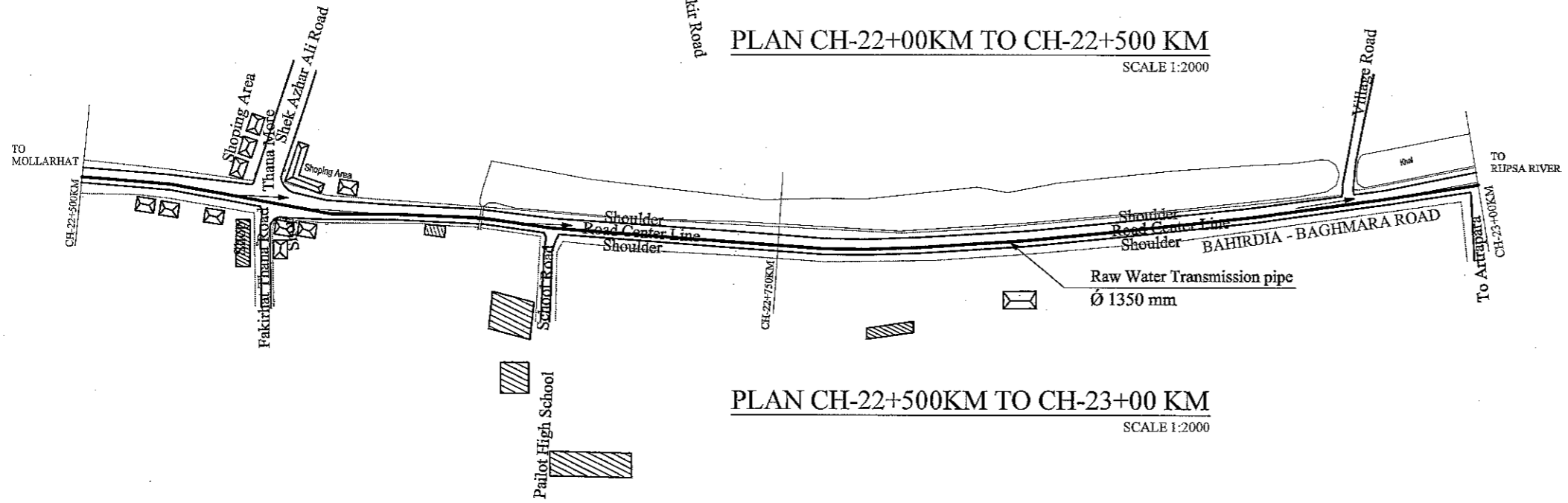
- Area Boundary Line ———
- Road ———
- Shoulder ———
- Water Bodies ———
- House / Building [hatched box]
- Bridge / Culvert [trapezoid]
- TBM [square]
- Electric Pole [circle]
- R&H Pillar [diamond]

PLAN CH-21+500KM TO CH-22+00 KM
SCALE 1:2000

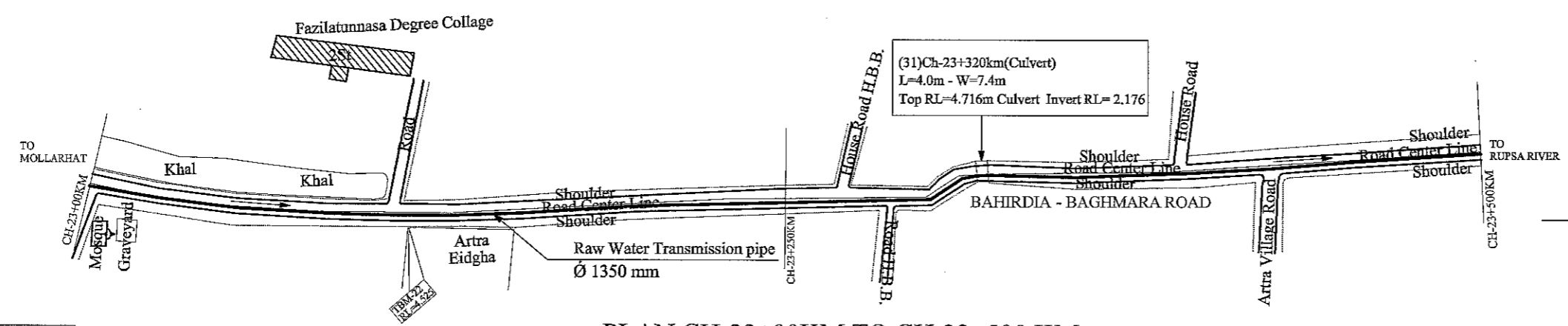
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
	PLAN AND PROFILE - 15	DWG No.	27 RWT-PP-015



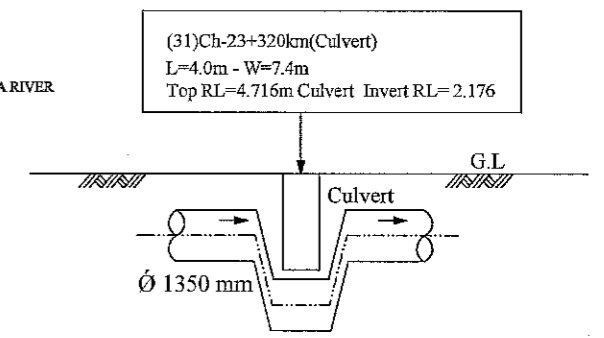
PLAN CH-22+00KM TO CH-22+500 KM
SCALE 1:2000



PLAN CH-22+500KM TO CH-23+00 KM
SCALE 1:2000



PLAN CH-23+00KM TO CH-23+500 KM
SCALE 1:2000

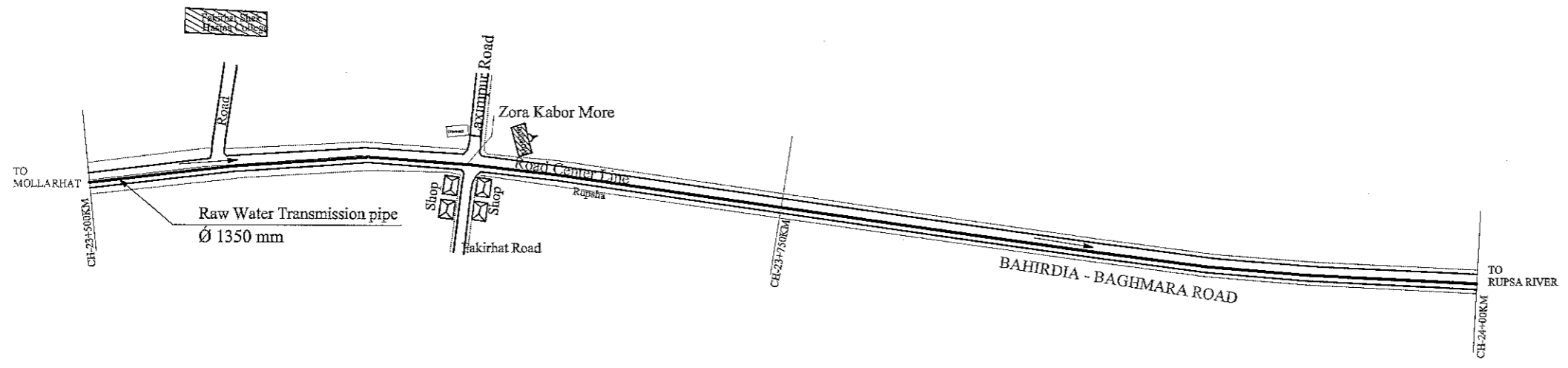


PROFILE (31)CH-23+320KM(CULVERT)
SCALE 1:200

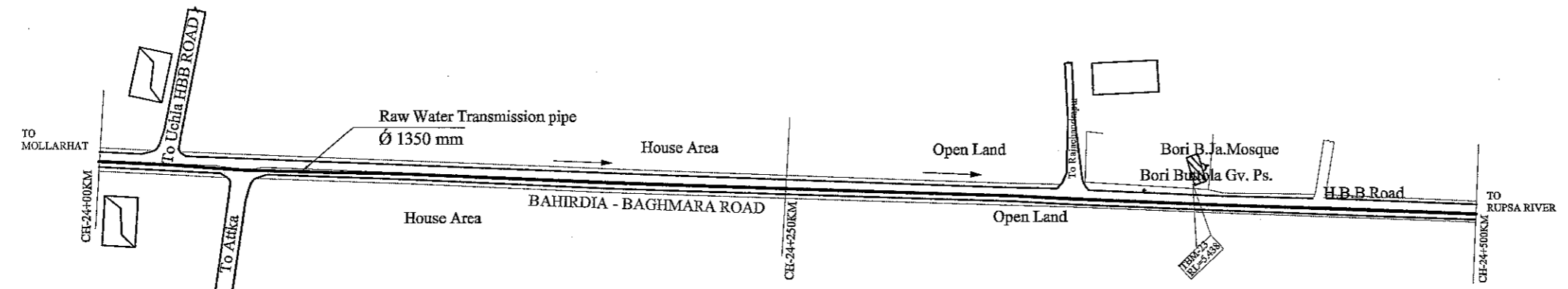
LEGEND:

Area Boundary Line	———
Road	====
Shoulder	=====
Water Bodies	~~~~~
House / Building	▨
Bridge / Culvert	— —
TBM	■
Electric Pole	○
R&H Pillar	●

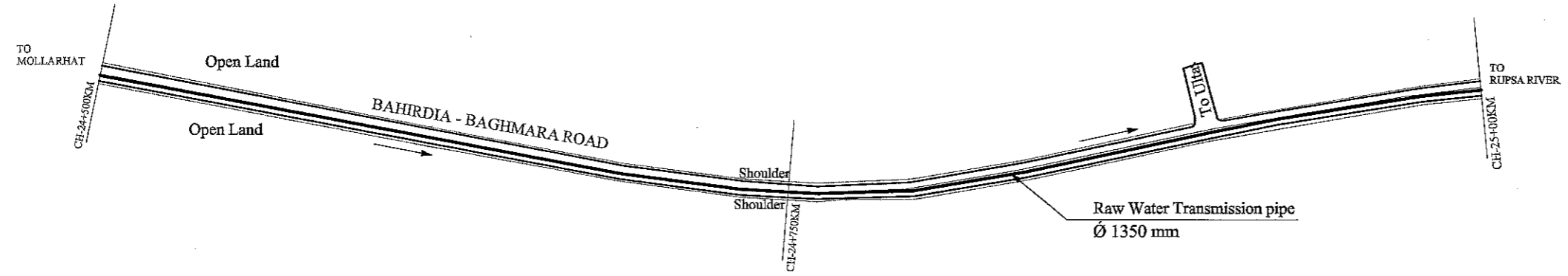
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 16	SCALE DWG No. 28	H-1:2000 V-1:200 RWT-PP-016



PLAN CH-23+500KM TO CH-24+00 KM
SCALE 1:2000



PLAN CH-24+00KM TO CH-24+500 KM
SCALE 1:2000

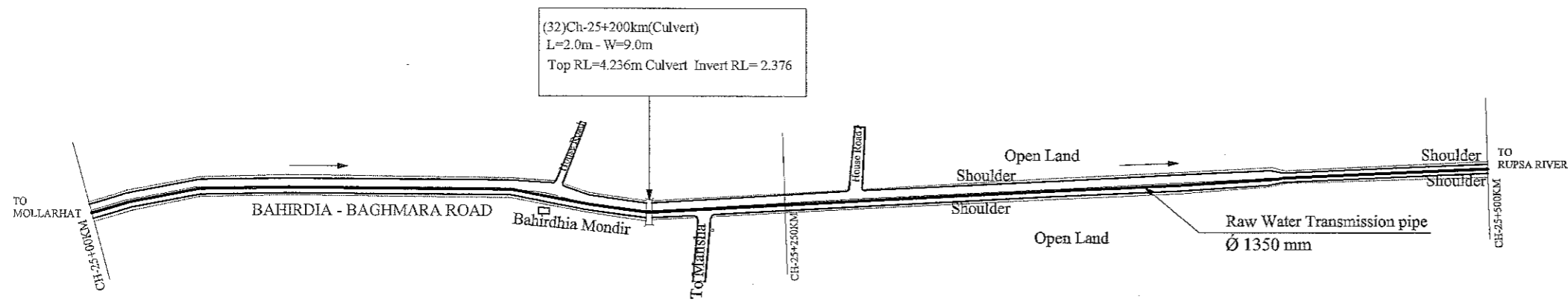


PLAN CH-24+500KM TO CH-25+00 KM
SCALE 1:2000

LEGEND:

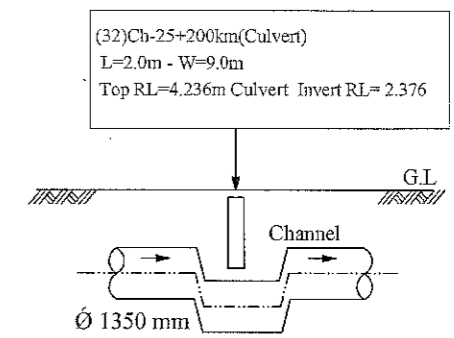
Area Boundary Line	——
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▭
Bridge / Culvert	⌈ ⌋
TBM	■
Electric Pole	○
R&H Pillar	⊙

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 17	SCALE DWG No.	H-1:2000 V-1:200 29



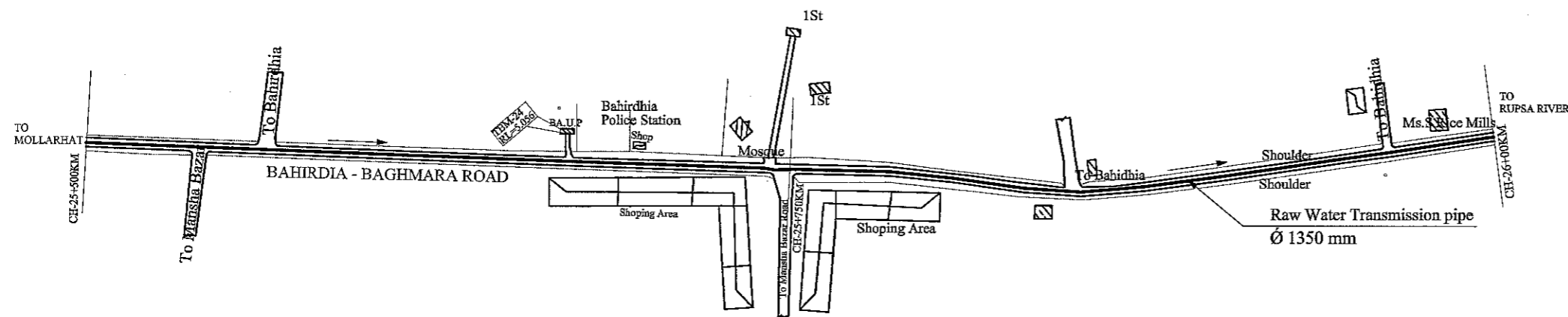
PLAN CH-25+00KM TO CH-25+500 KM

SCALE 1:2000



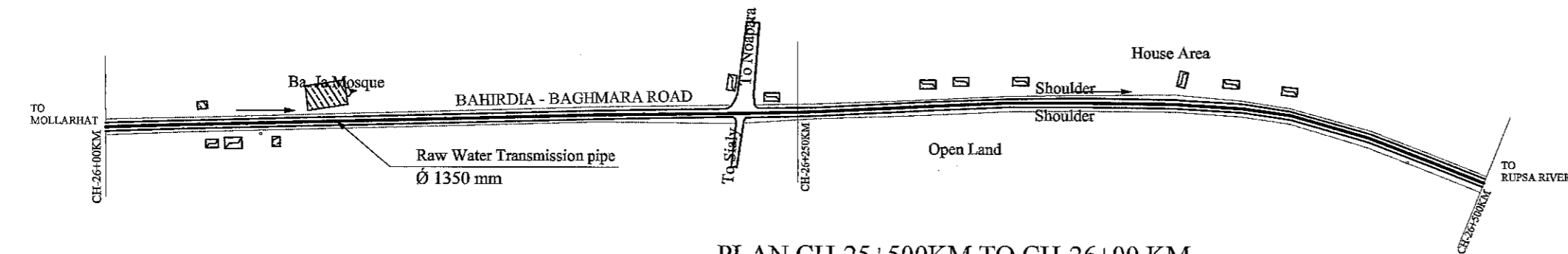
PROFILE (32)CH-25+200KM(CULVERT)

SCALE 1:200



PLAN CH-25+500KM TO CH-26+00 KM

SCALE 1:2000



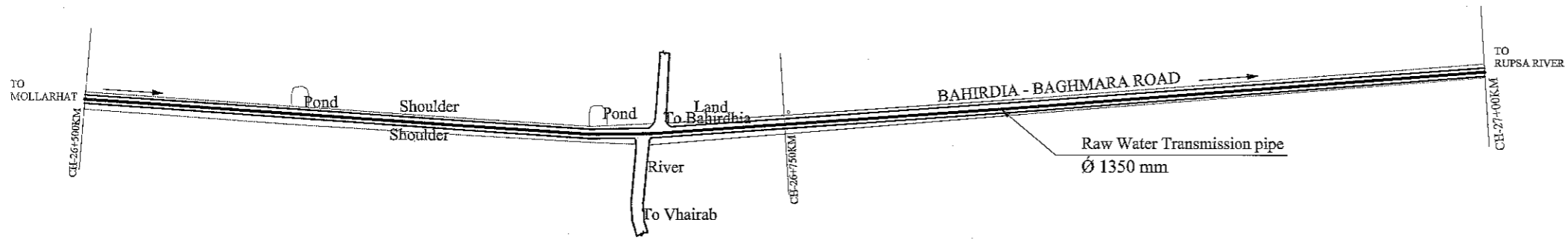
PLAN CH-25+500KM TO CH-26+00 KM

SCALE 1:2000

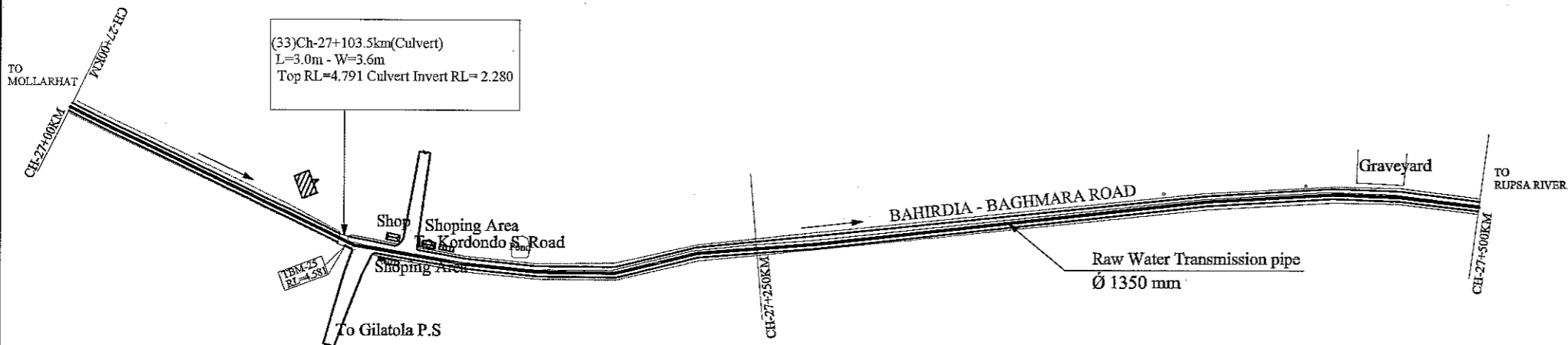
LEGEND:

Area Boundary Line	———
Road	====
Shoulder	=====
Water Bodies	~~~~~
House /Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	◇

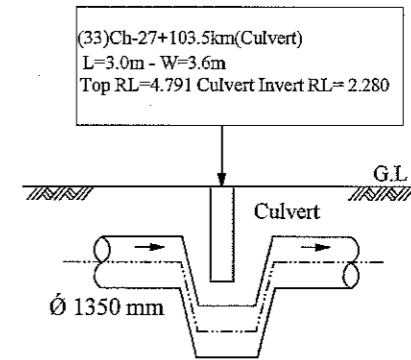
JAPAN INTERNATIONAL COOPERATION AGENCY NIS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 18	SCALE DWG No.	H-1:2000 V-1:200 30



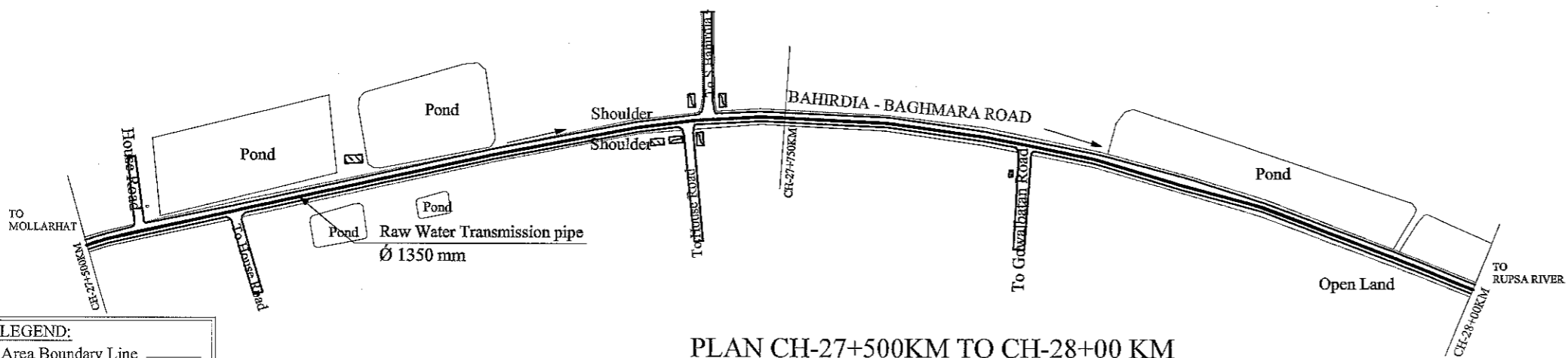
PLAN CH-26+500KM TO CH-27+00 KM
SCALE 1:2000



PLAN CH-27+00KM TO CH-27+500 KM
SCALE 1:2000



PROFILE (33)CH-27+103.5KM(CULVERT)
SCALE 1:200

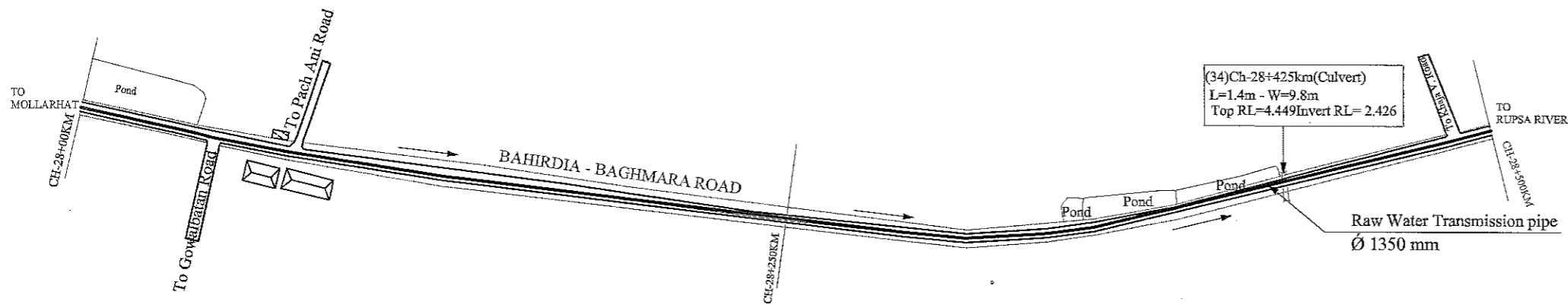


PLAN CH-27+500KM TO CH-28+00 KM
SCALE 1:2000

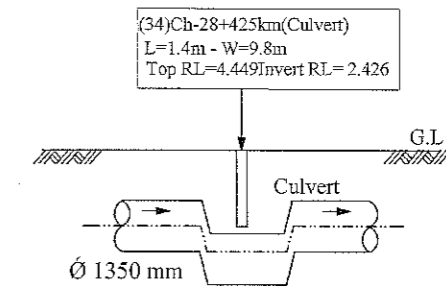
LEGEND:

Area Boundary Line	—
Road	====
Shoulder	=====
Water Bodies	~~~~
House / Building	▨
Bridge / Culvert	— —
TBM	■
Electric Pole	○
R&H Pillar	△

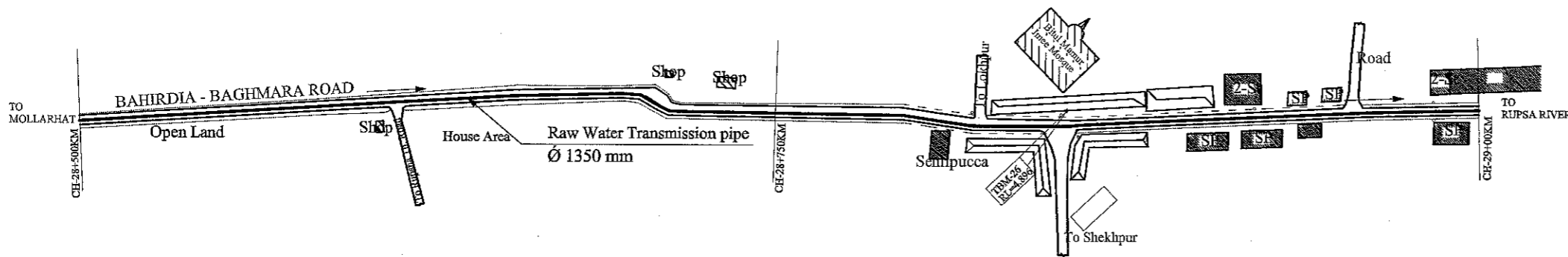
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 19	SCALE DWG No.	H-1:2000 V-1:200 31



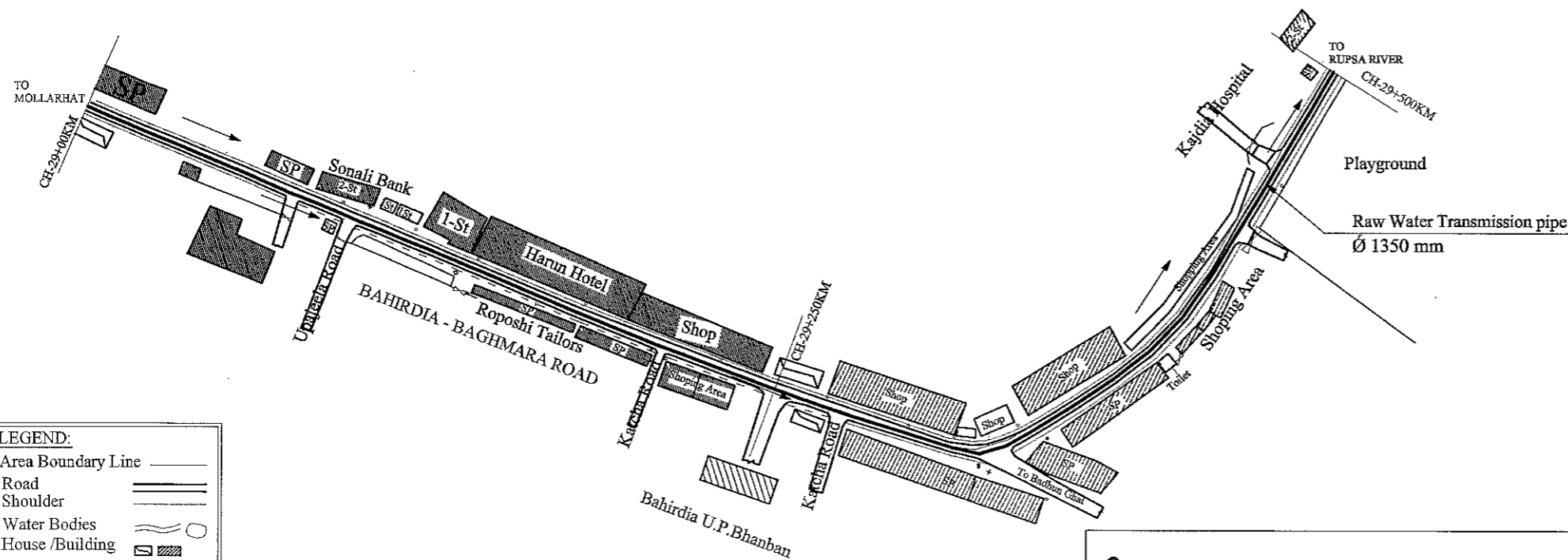
PLAN CH-28+00KM TO CH-28+500 KM
SCALE 1:2000



PROFILE (34)CH-28+425KM(CULVERT)
SCALE 1:200



PLAN CH-28+500KM TO CH-29+00 KM
SCALE 1:2000



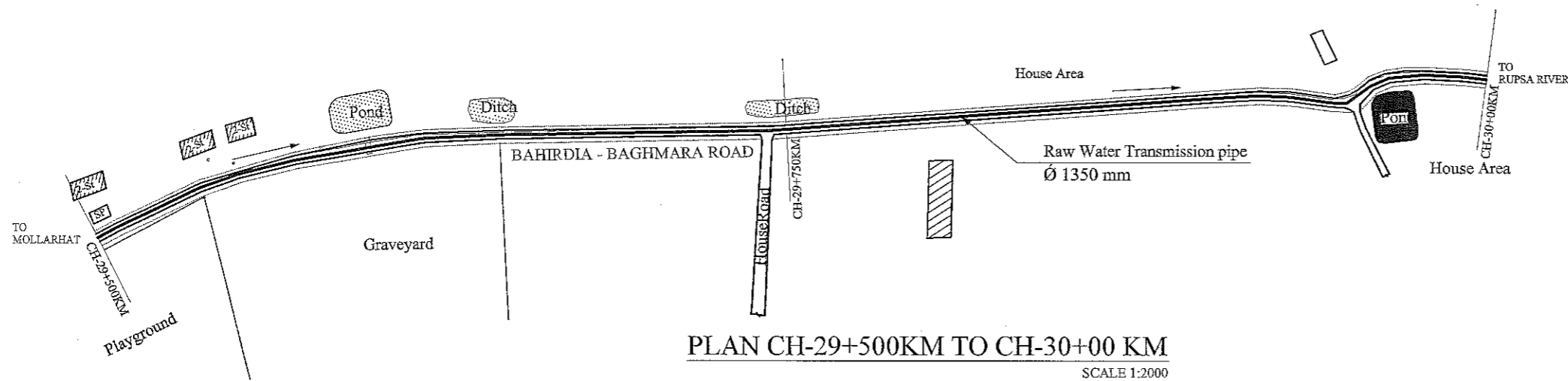
PLAN CH-29+00KM TO CH-29+500 KM
SCALE 1:2000

LEGEND:

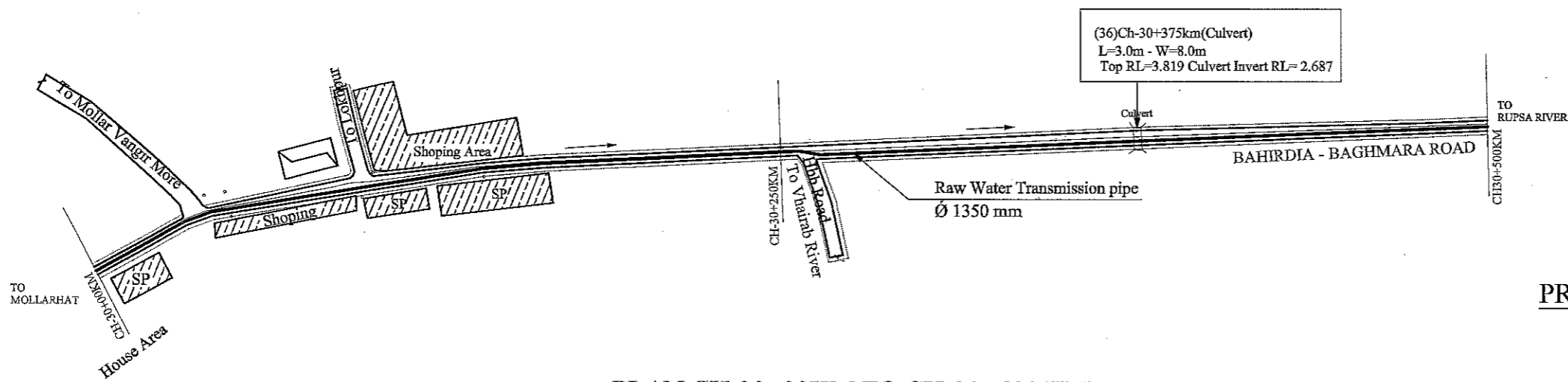
Area Boundary Line	---
Road	====
Shoulder	=====
Water Bodies	~~~~
House /Building	▒
Bridge / Culvert	⌈ ⌋
TBM	■
Electric Pole	○
R&H Pillar	◇

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NJS CONSULTANTS CO., LTD.

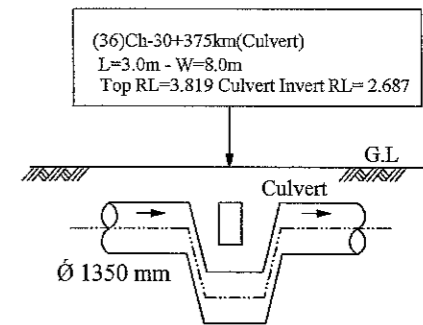
FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
RAW WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200	
PLAN AND PROFILE - 20	DWG No.	32	RWT-PP-020



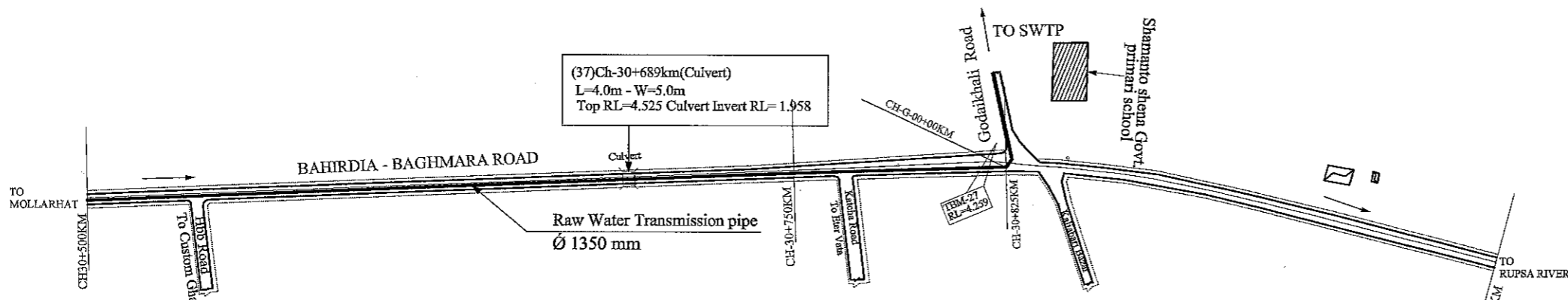
PLAN CH-29+500KM TO CH-30+00 KM
SCALE 1:2000



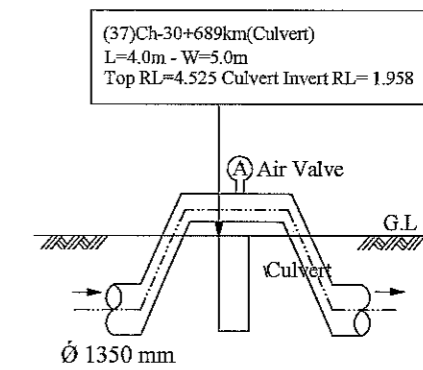
PLAN CH-30+00KM TO CH-30+500 KM
SCALE 1:2000



PROFILE (36)CH-30+375KM(CULVERT)
SCALE 1:200



PLAN CH-30+500KM TO CH-31+00 KM
SCALE 1:2000

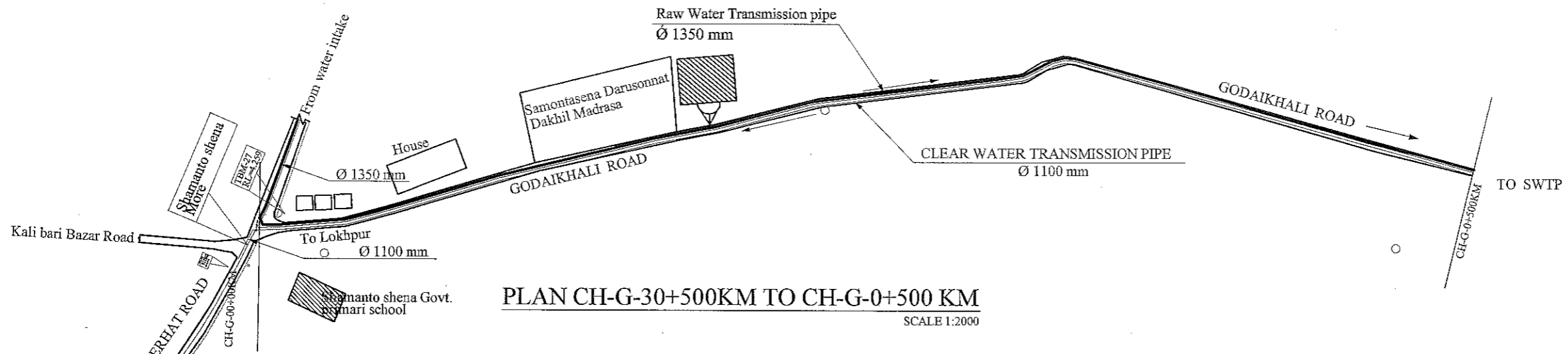


PROFILE (37)CH-30+689KM(CULVERT)
SCALE 1:200

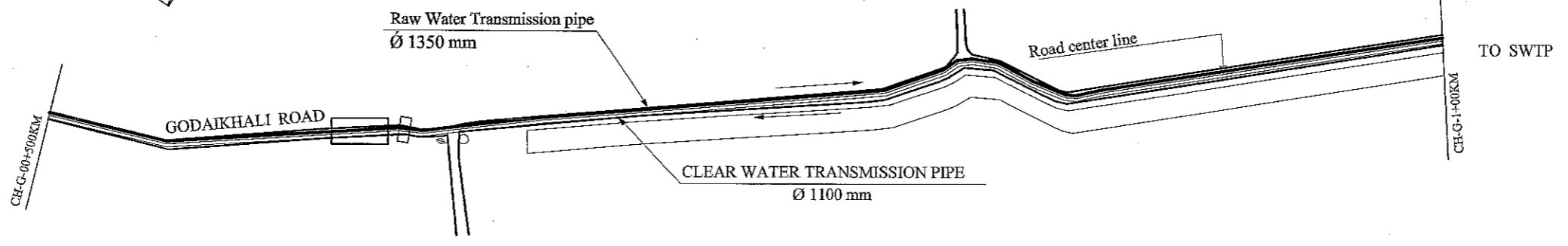
LEGEND:

Area Boundary Line	---
Road	====
Shoulder	=====
Water Bodies	~~~~
House /Building	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	◇

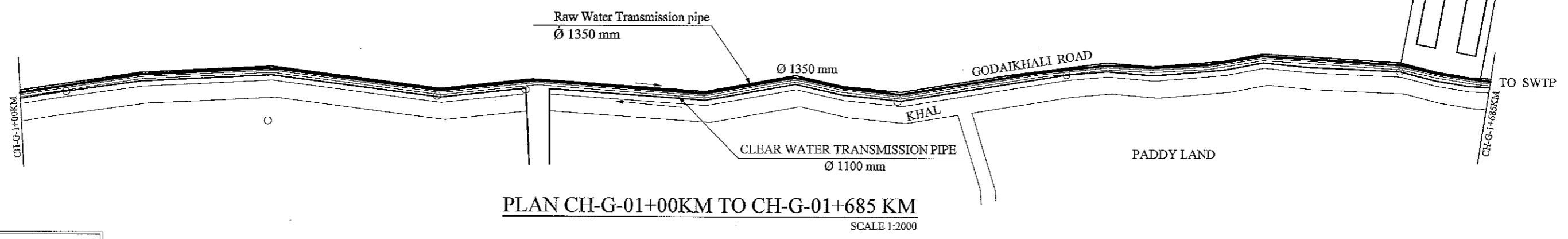
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN & PROFILE - 21	SCALE DWG No.	H-1:2000 V-1:200 33



PLAN CH-G-30+500KM TO CH-G-0+500 KM
SCALE 1:2000



PLAN CH-G-00+500KM TO CH-G-01+00 KM
SCALE 1:2000



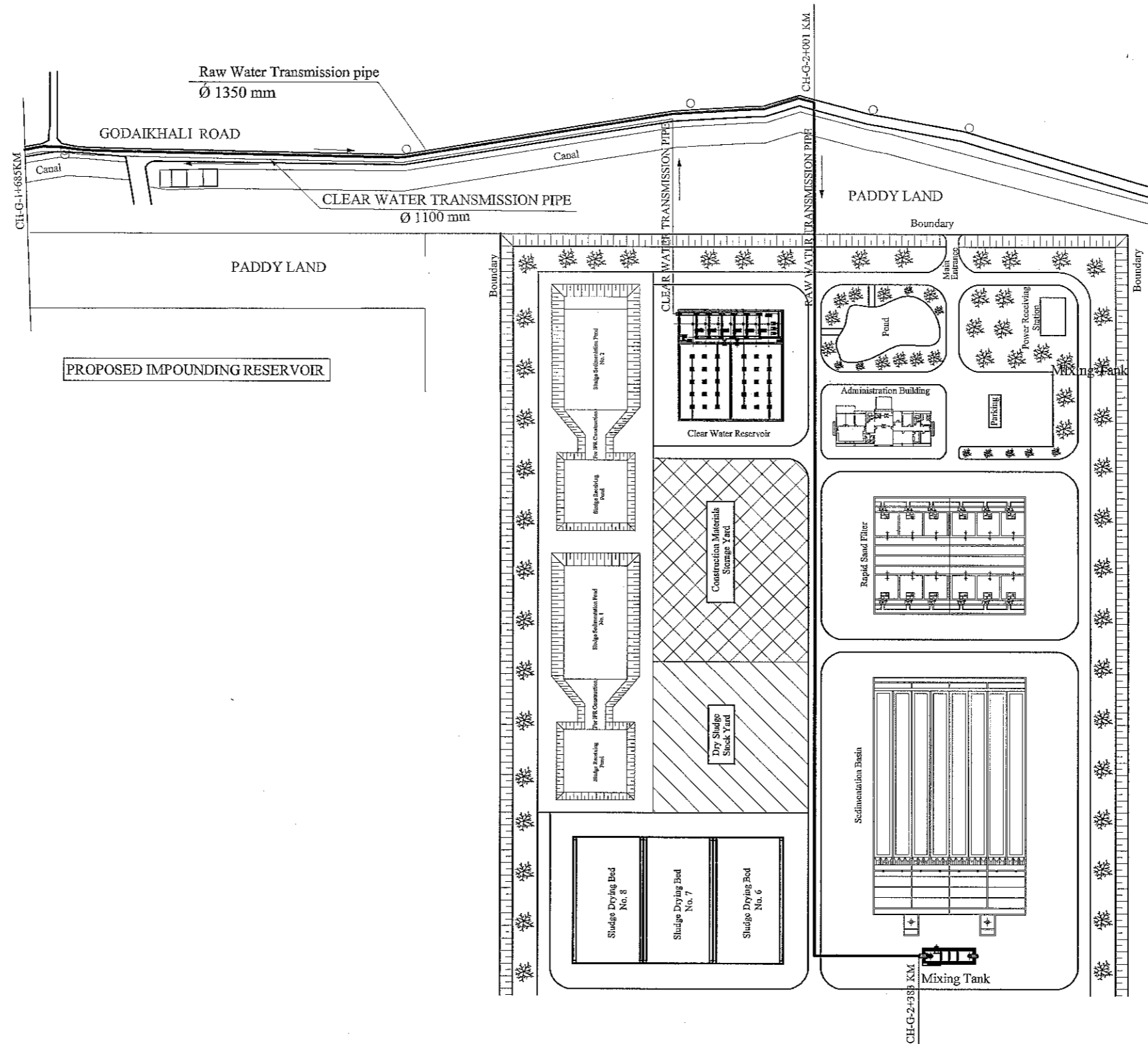
PLAN CH-G-01+00KM TO CH-G-01+685 KM
SCALE 1:2000

LEGEND:

Area Boundary Line	—
Road	====
Shoulder	=====
Water Bodies	~~~~
House / Building	▒
Bridge / Culvert	— —
TBM	■
Electric Pole	○
R&H Pillar	△

PATHORGHATA ABDUL HAMID
MEMORIAL HIGH SCHOOL

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE PLAN AND PROFILE - 22	SCALE DWG No.	H-1:2000 V-1:200 34

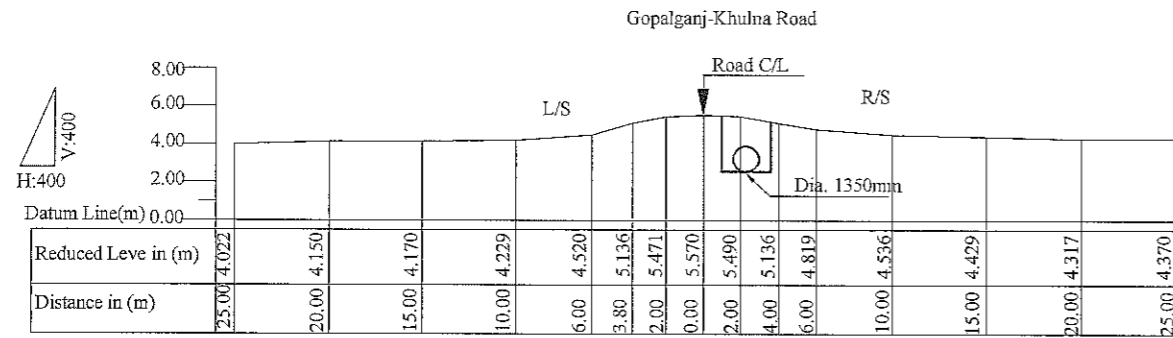


PLAN CH-G-01+685KM TO CH-G-02+383 KM

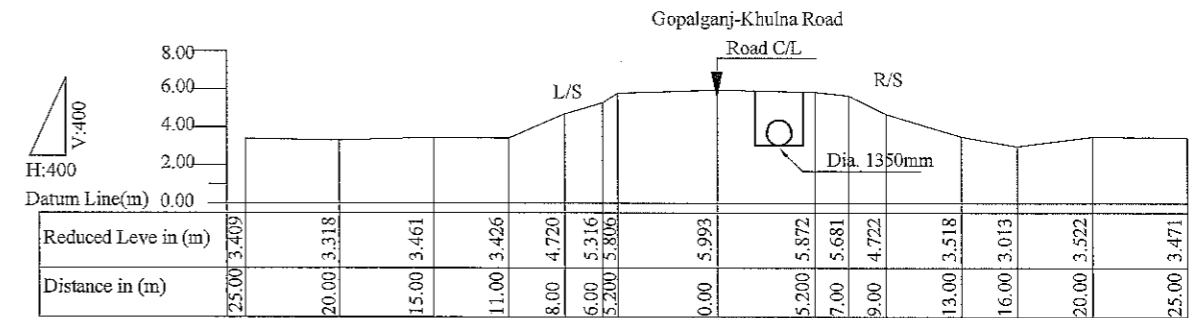
SCALE 1:2000

LEGEND:	
Area Boundary Line	———
Road	====
Shoulder	=====
Water Bodies	~~~~~
House / Building	▒▒▒
Bridge / Culvert	⌒
TBM	■
Electric Pole	○
R&H Pillar	◊

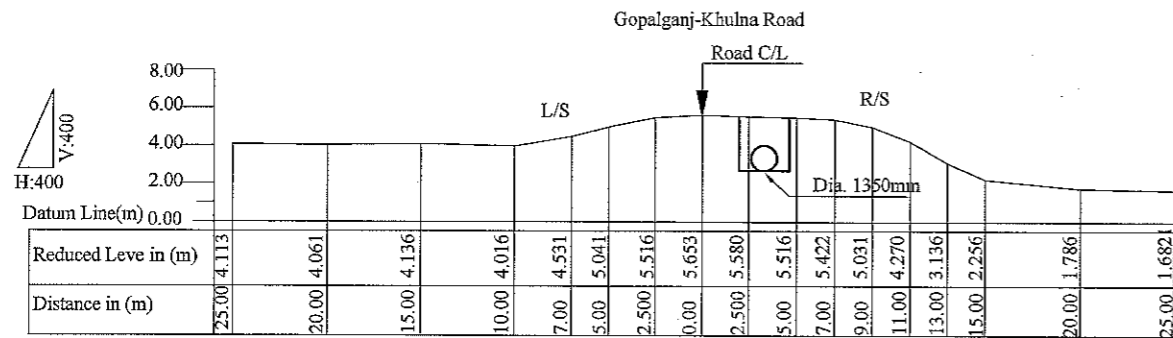
JAPAN INTERNATIONAL COOPERATION AGENCY NIS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
PLAN AND PROFILE - 23	DWG No.	35	RWT-PP-023



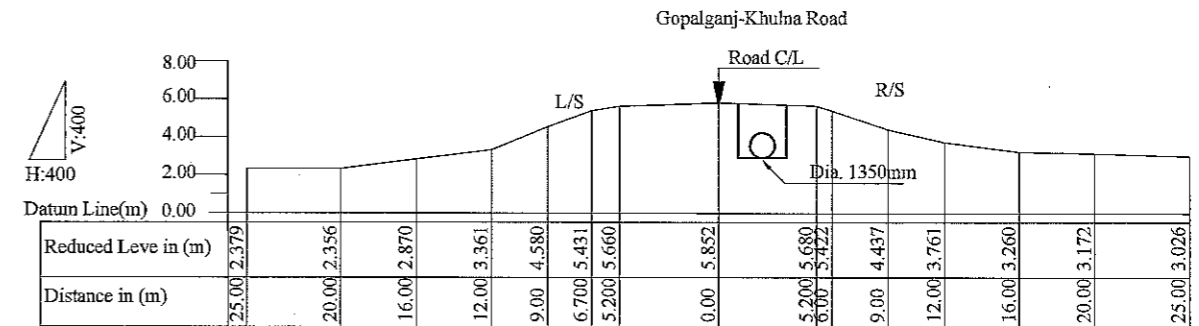
CS-01 CH-0+00 km
SCALE 1:400



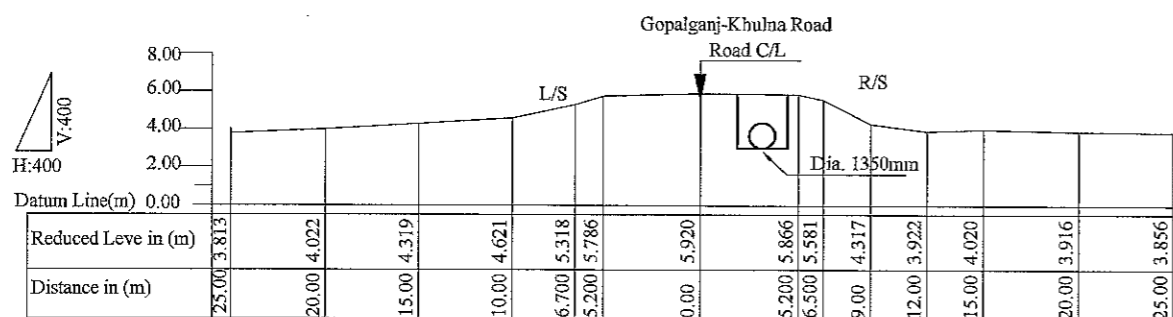
CS-04 CH-3+00 km
SCALE 1:400



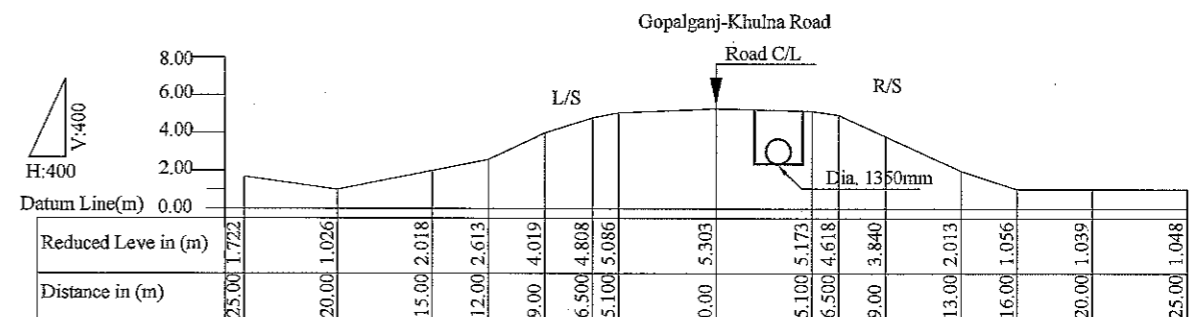
CS-02 CH-1+00 Km
SCALE 1:400



CS-05 CH-4+00 km
SCALE 1:400



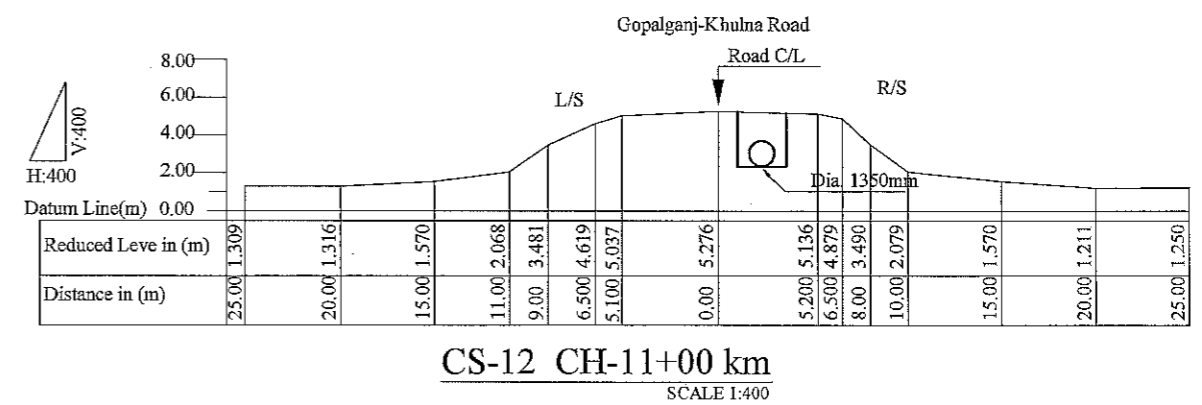
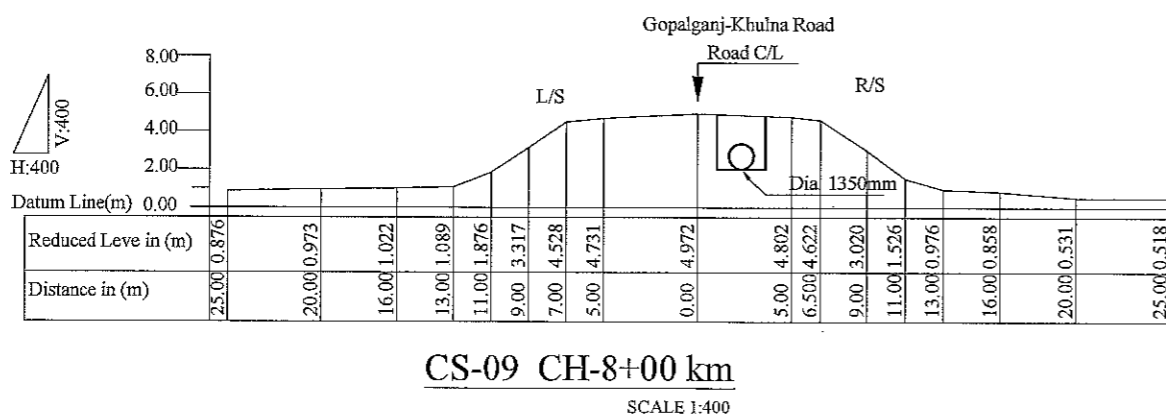
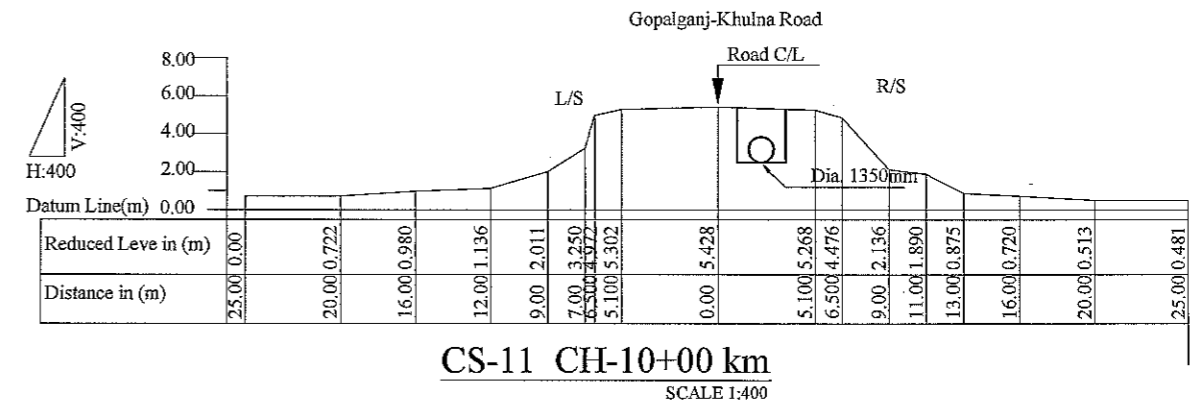
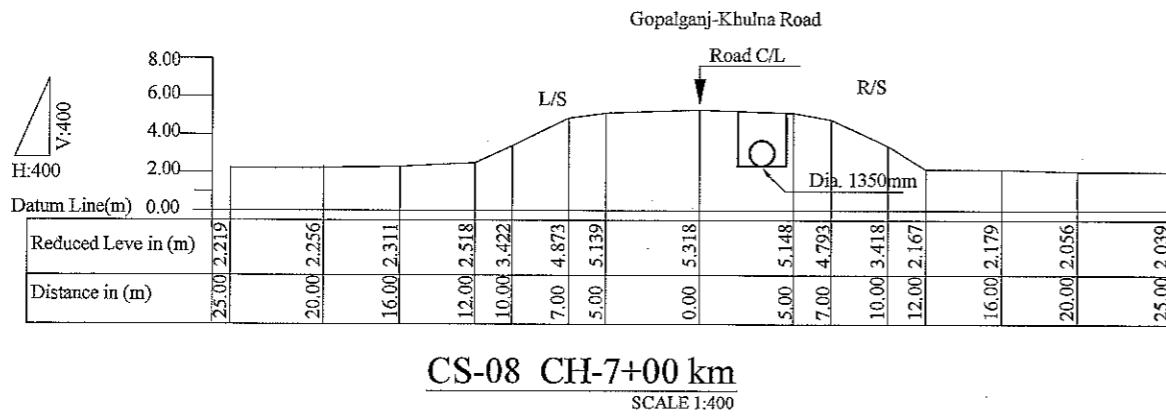
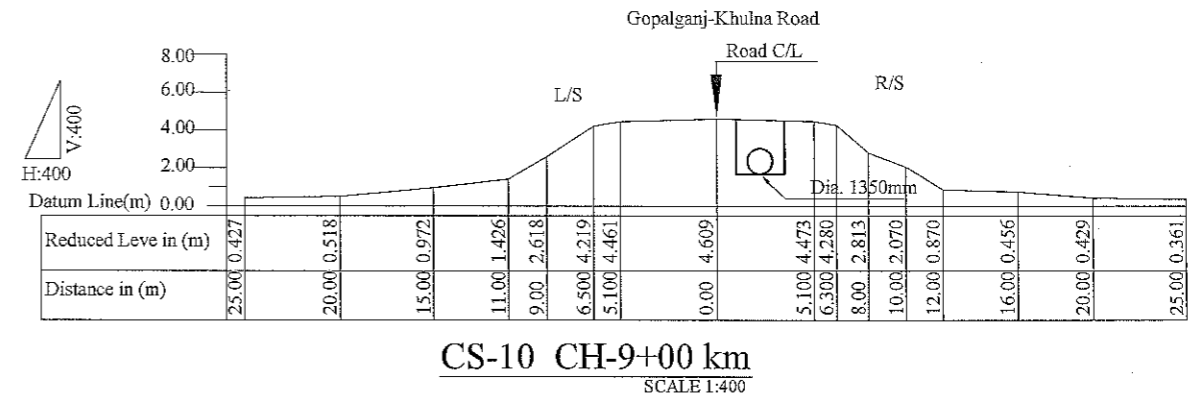
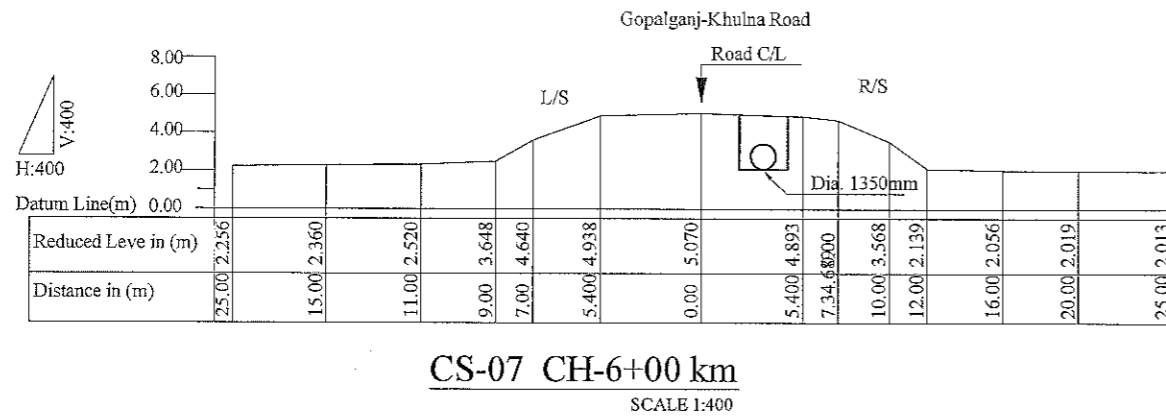
CS-03 CH-2+00 km
SCALE 1:400



CS-06 CH-5+00 km
SCALE 1:400

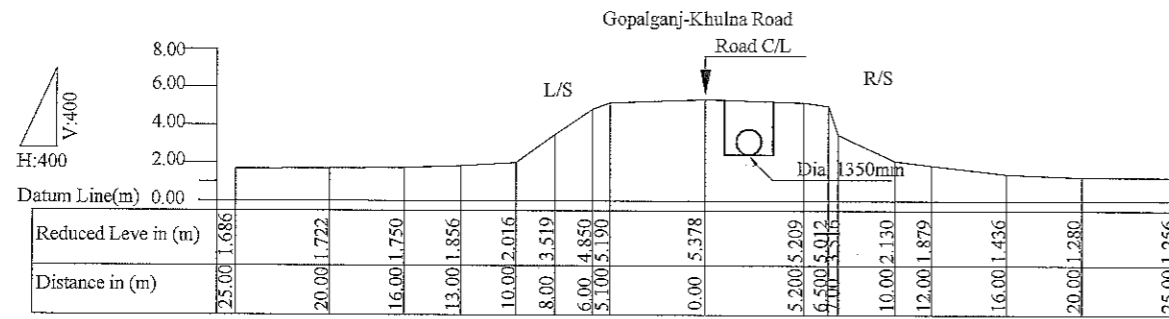
L/S = Left Side
R/S = Right Side
C/L = Center Line

JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE	SCALE	1:400
NJS CONSULTANTS CO., LTD.	CROSS SECTION-01	DWG No.	36 RWT-CS-001

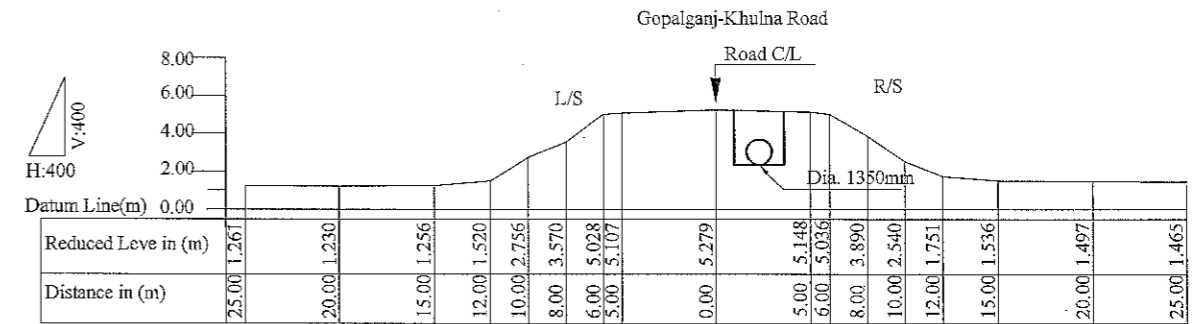


L/S = Left Side
R/S = Right Side
C/L = Center Line

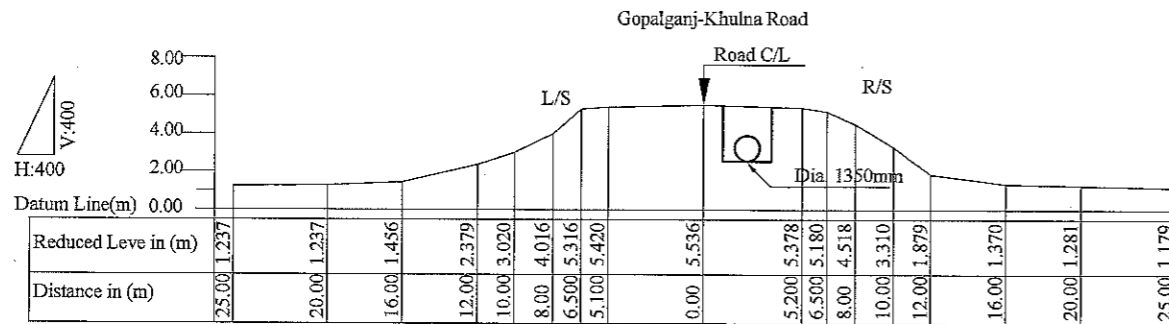
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE	SCALE	1:400
	CROSS SECTION-02	DWG No.	37 RWT-CS-002



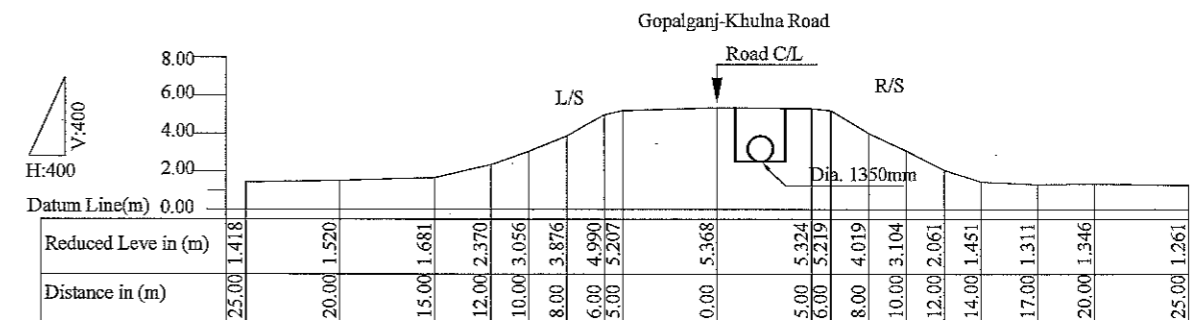
CS-13 CH-12+00 km
SCALE 1:400



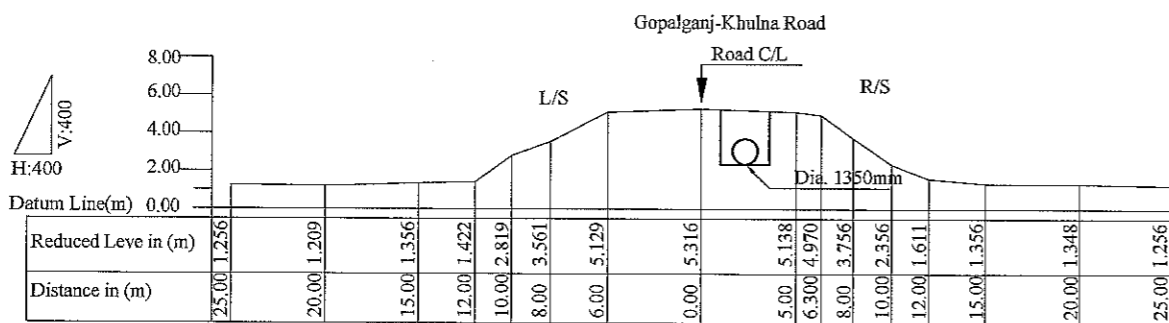
CS-16 CH-15+00 km
SCALE 1:400



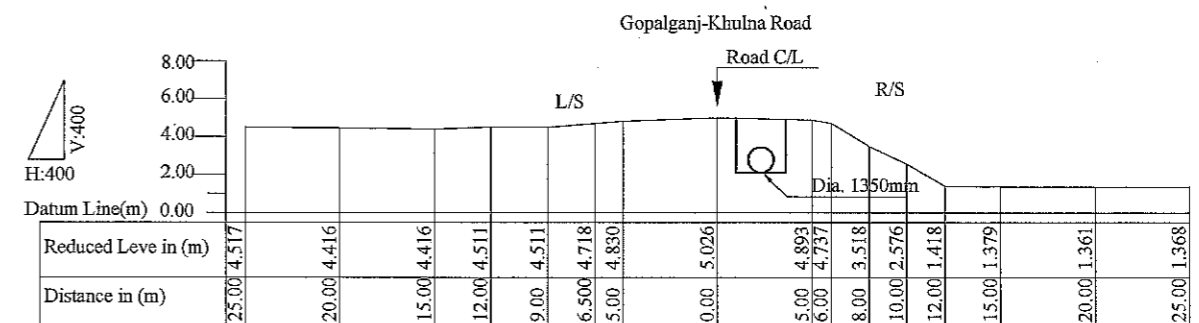
CS-14 CH-13+00 km
SCALE 1:400



CS-17 CH-16+00 km
SCALE 1:400



CS-15 CH-14+00 km
SCALE 1:400



CS-18 CH-17+00 km
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line

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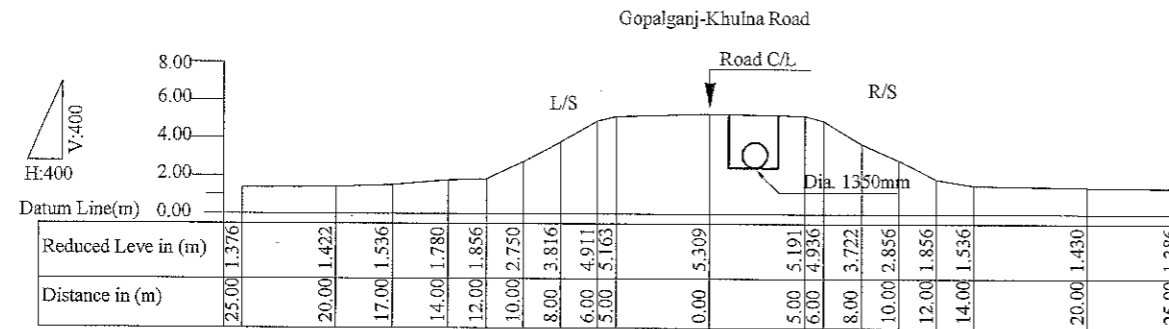
FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

RAW WATER TRANSMISSION PIPE

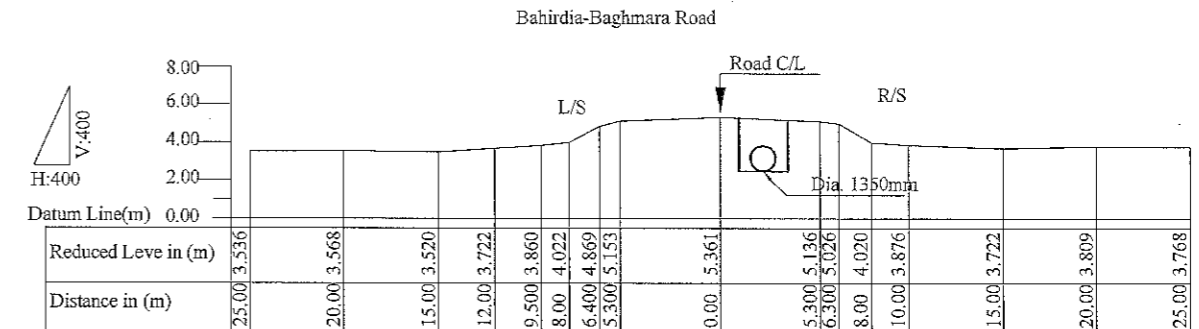
SCALE 1:400

CROSS SECTION 03

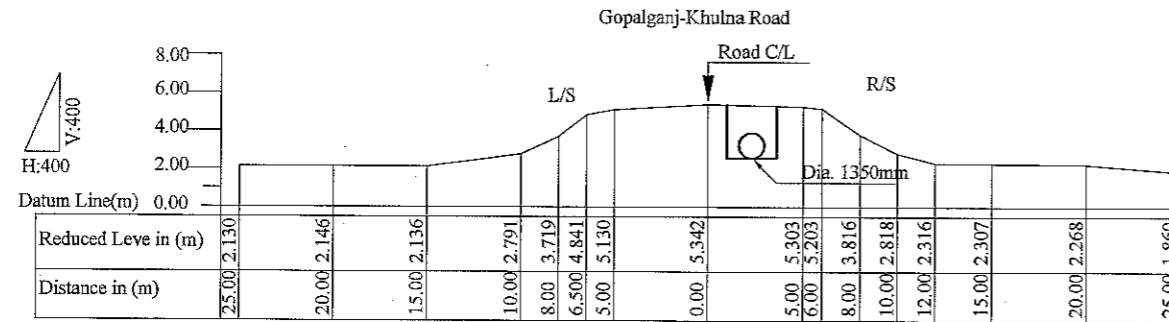
DWG No. 38 RWT-CS-003



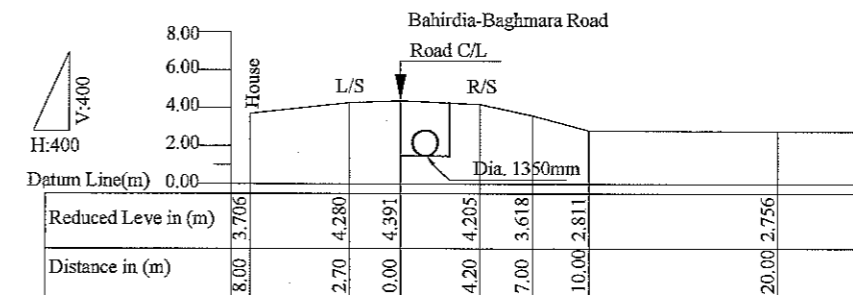
CS-19 CH-18+00 km
SCALE 1:400



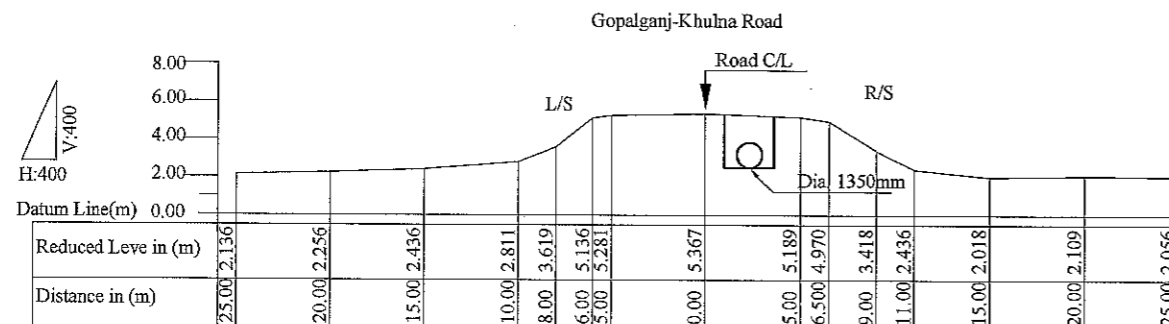
CS-22 CH-21+00 km
SCALE 1:400



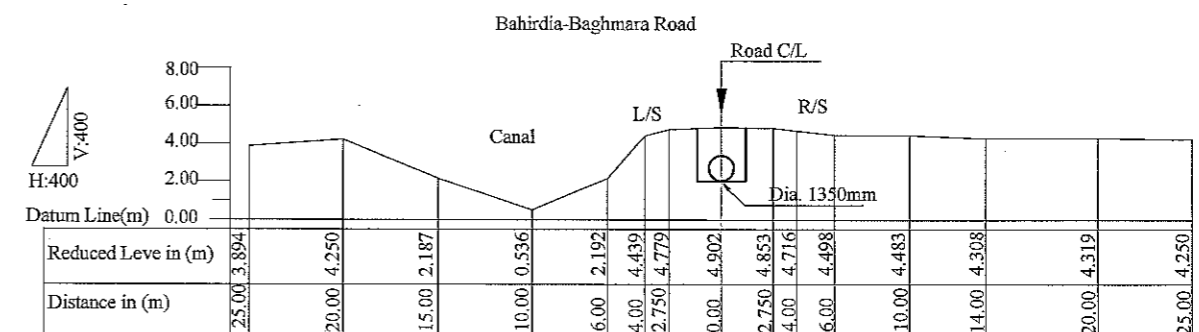
CS-20 CH-19+00 km
SCALE 1:400



CS-23 CH-22+00 km
SCALE 1:400



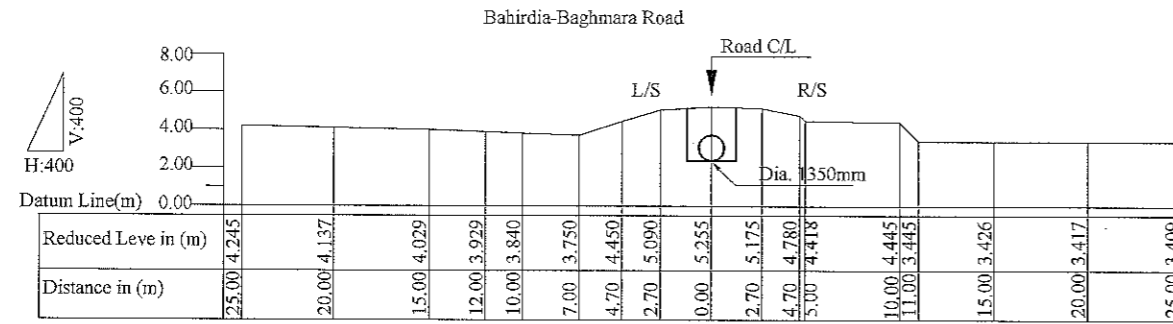
CS-21 CH-20+00 km
SCALE 1:400



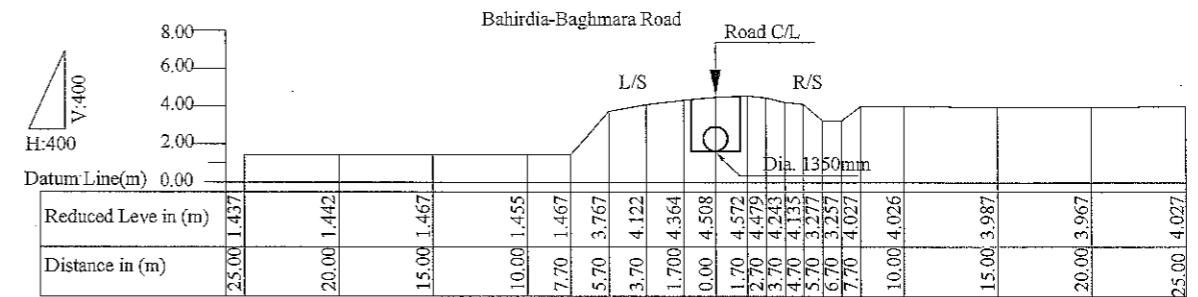
CS-24 CH-23+00 Km
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line

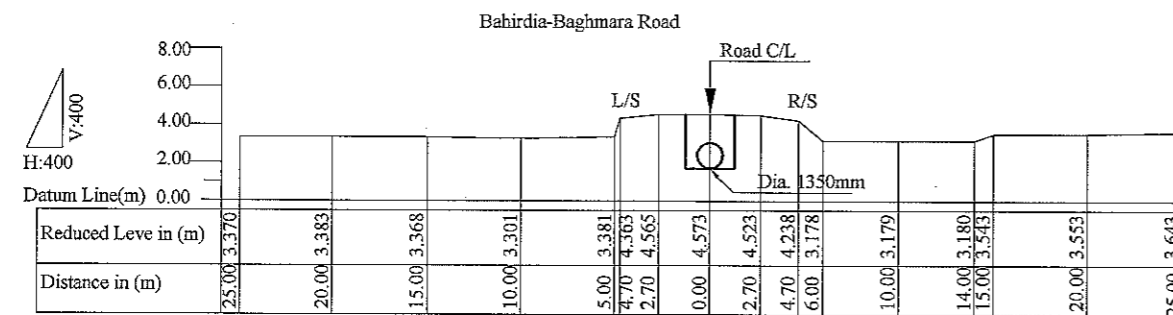
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE CROSS SECTION 04	SCALE DWG No.	1:400 39



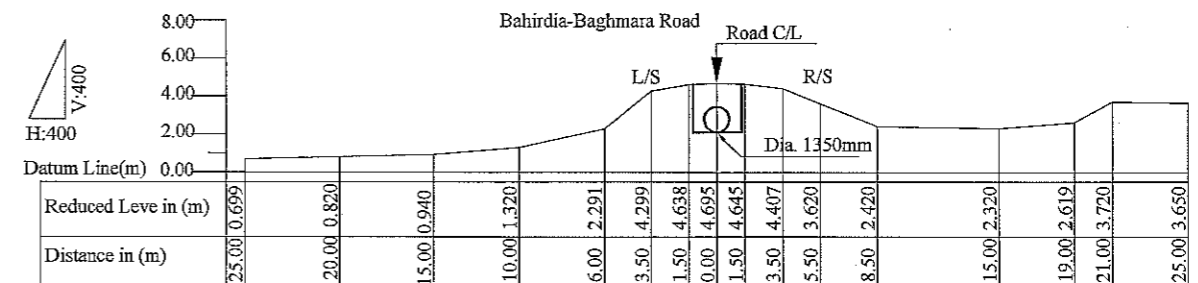
CS-25 CH-24+00 km
SCALE 1:400



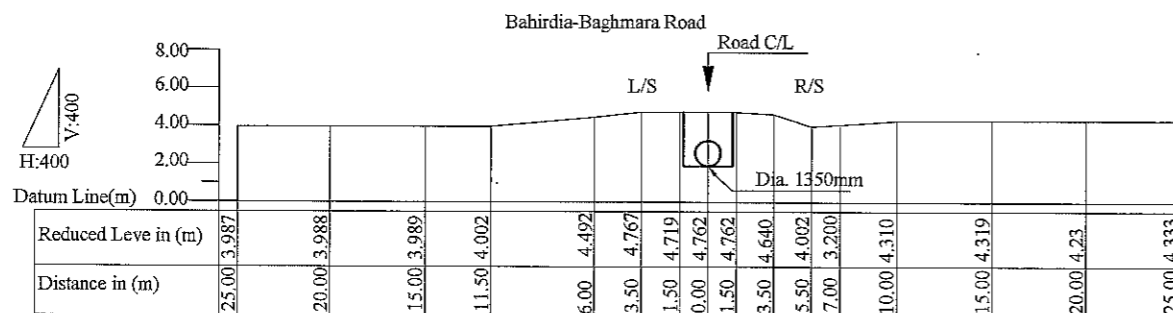
CS-28 CH-27+00 Km
SCALE 1:400



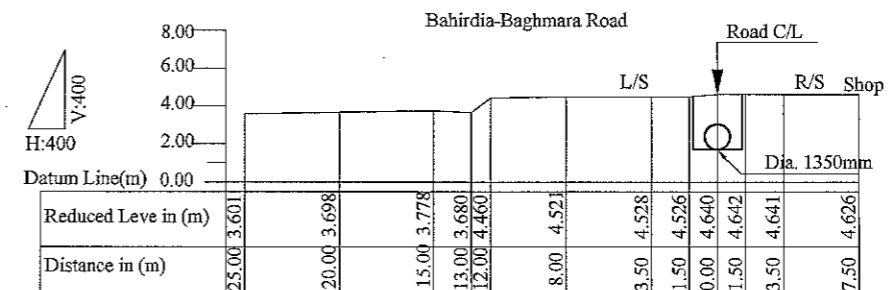
CS-26 CH-25+00 Km
SCALE 1:400



CS-29 CH-28+00 km
SCALE 1:400



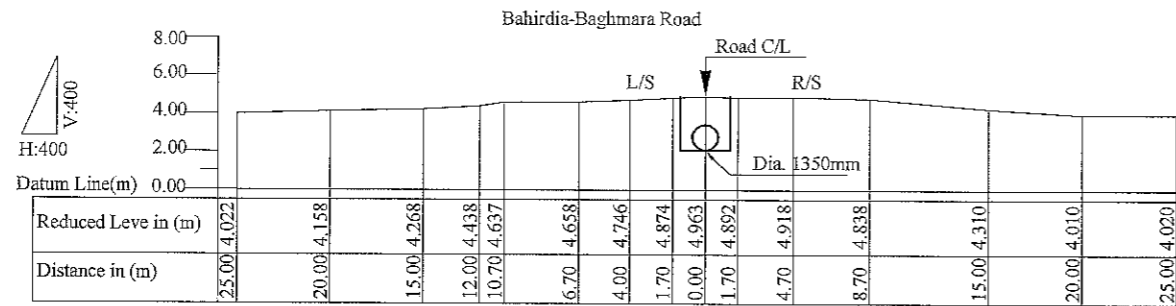
CS-27 CH-26+00 km
SCALE 1:400



CS-30 CH-29+00 Km
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	RAW WATER TRANSMISSION PIPE	SCALE	1:400
	CROSS SECTION 05	DWG No.	40 RWT-CS-005



CS-31 CH-30+00 km
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line

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NJS NJS CONSULTANTS CO., LTD.

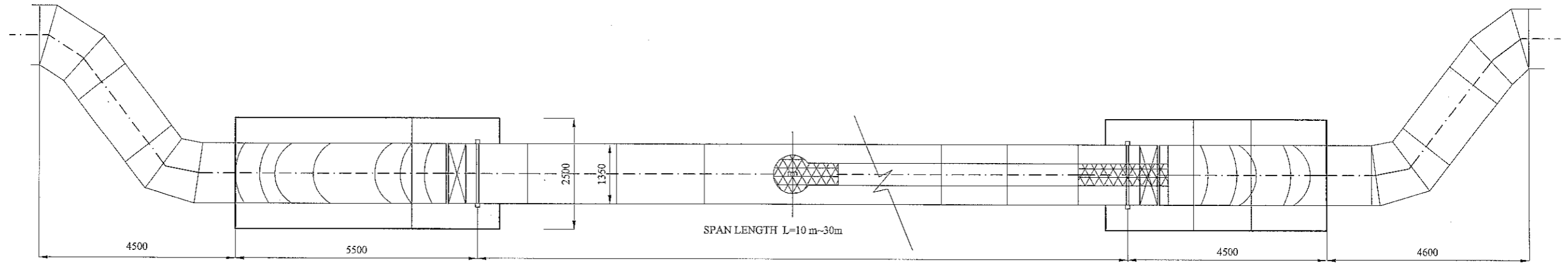
FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

RAW WATER TRANSMISSION PIPE

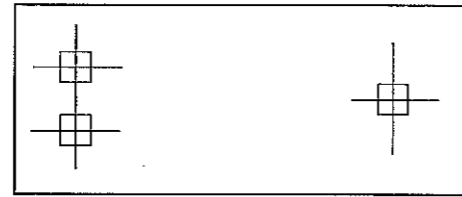
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CROSS SECTION 06

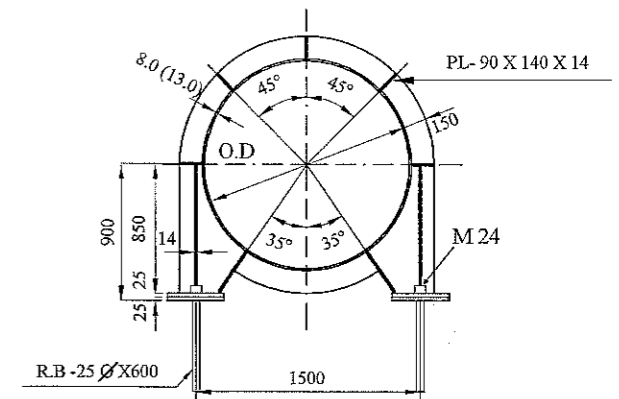
DWG No. 41 RWT-CS-006



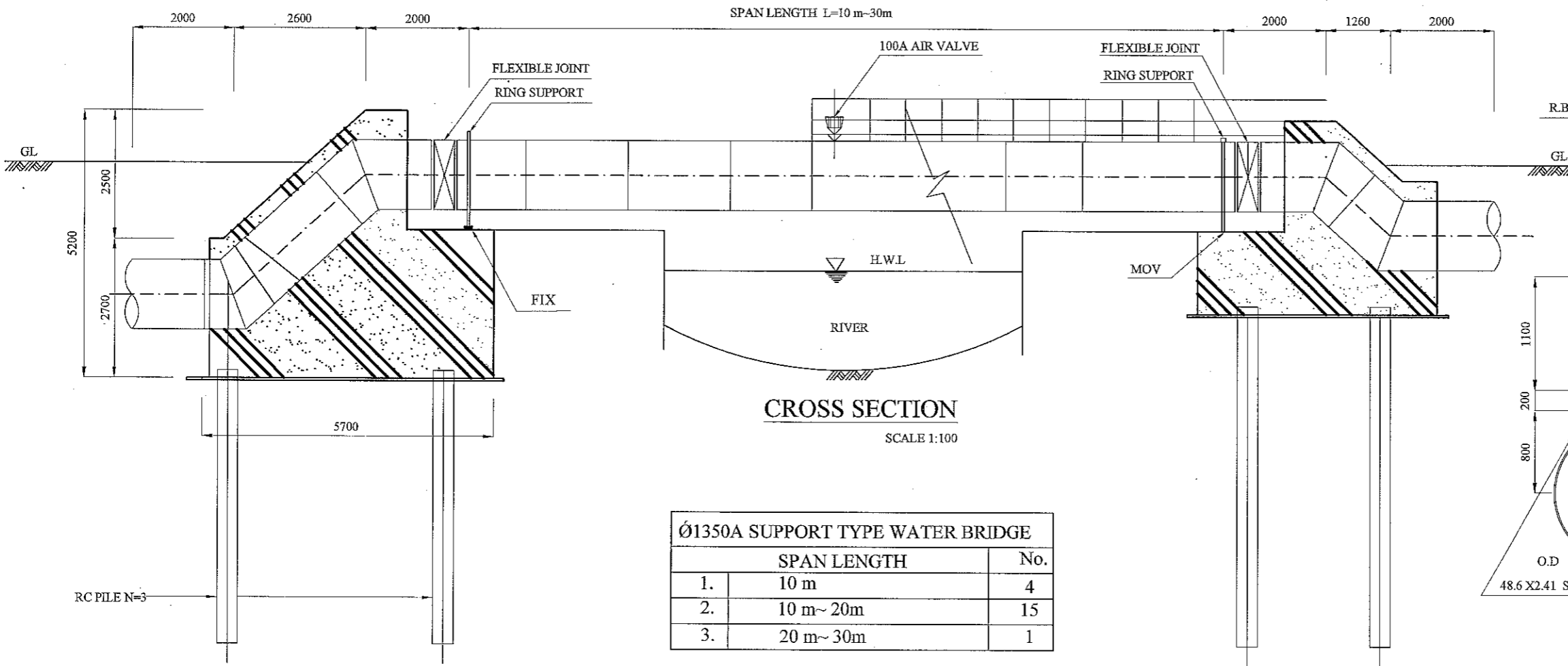
PLAN
SCALE 1:100



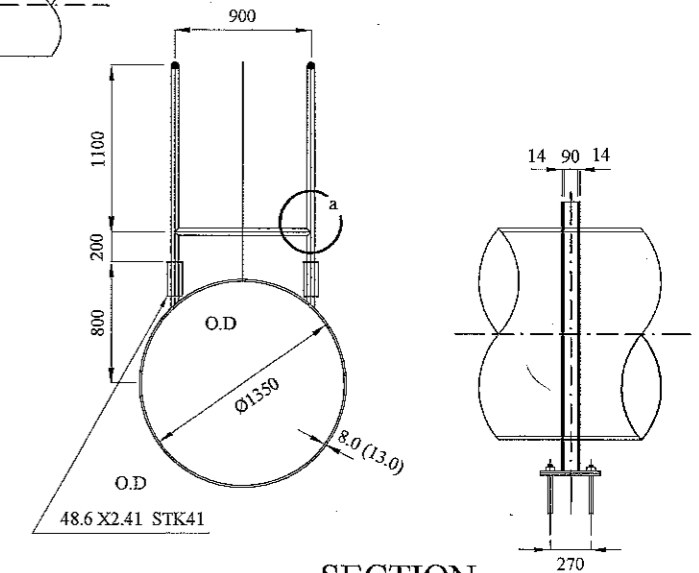
PILE PLAN



SUPPORT DETAIL
SCALE 1:50



CROSS SECTION
SCALE 1:100



SECTION
SCALE 1:50

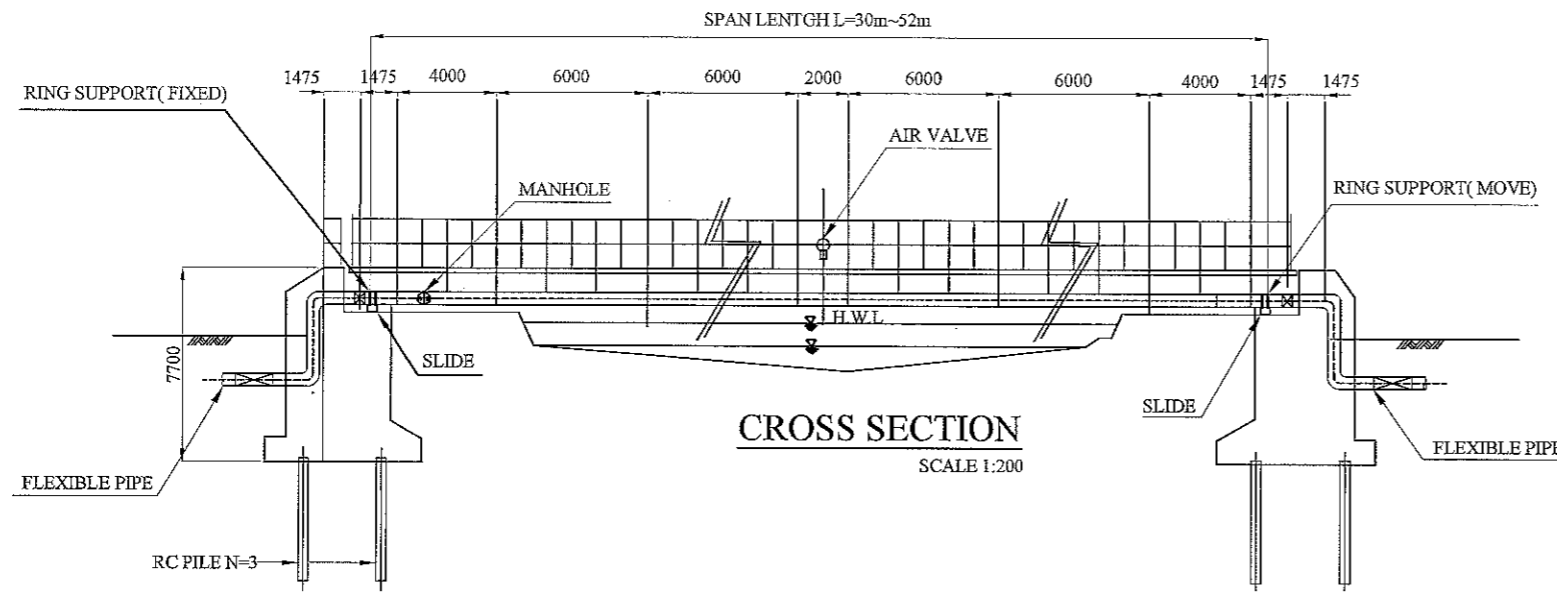
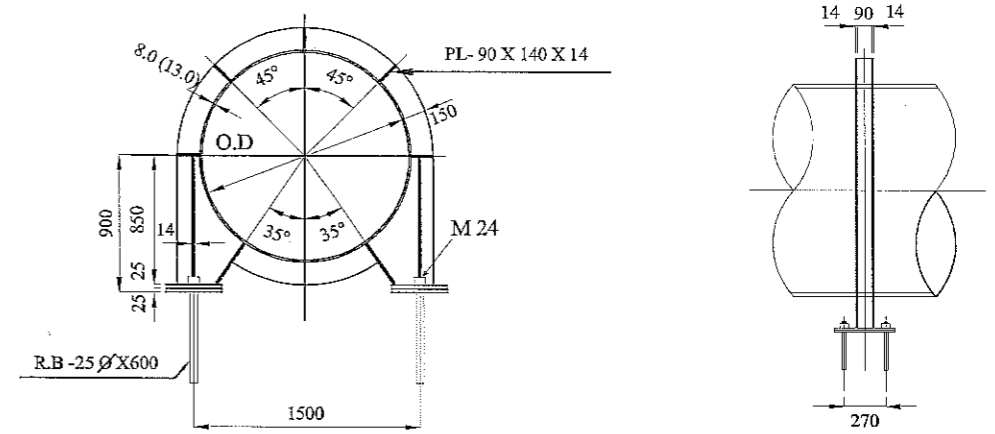
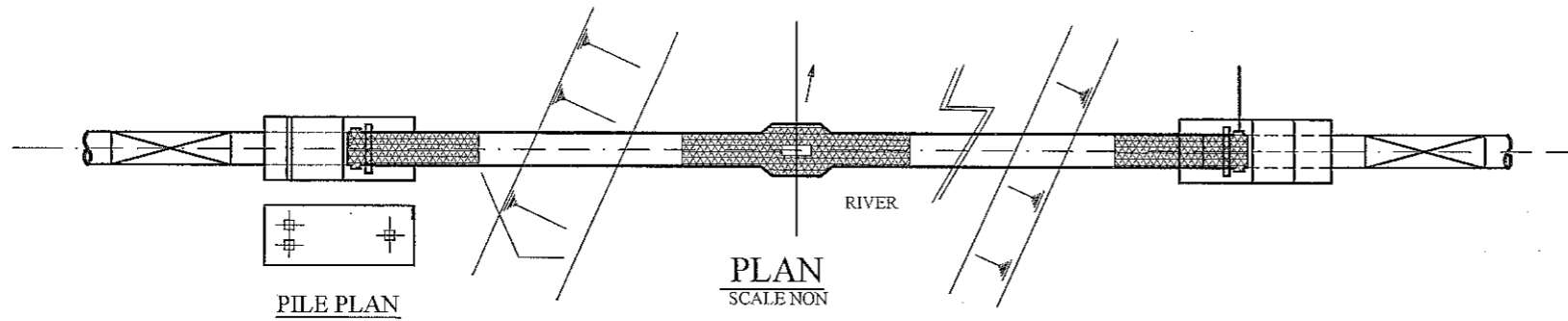
Ø1350A SUPPORT TYPE WATER BRIDGE		
	SPAN LENGTH	No.
1.	10 m	4
2.	10 m~ 20m	15
3.	20 m~ 30m	1

jica JAPAN INTERNATIONAL COOPERATION AGENCY

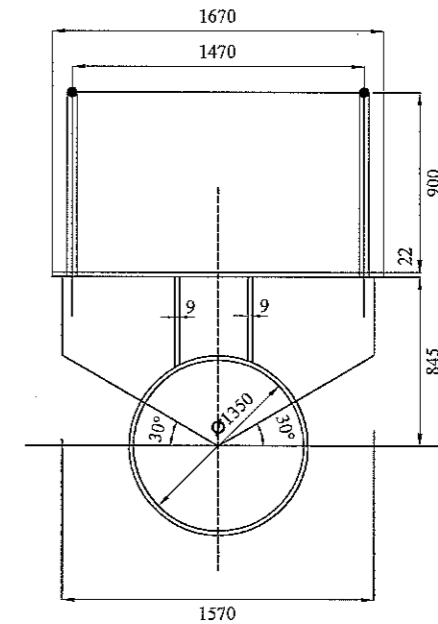
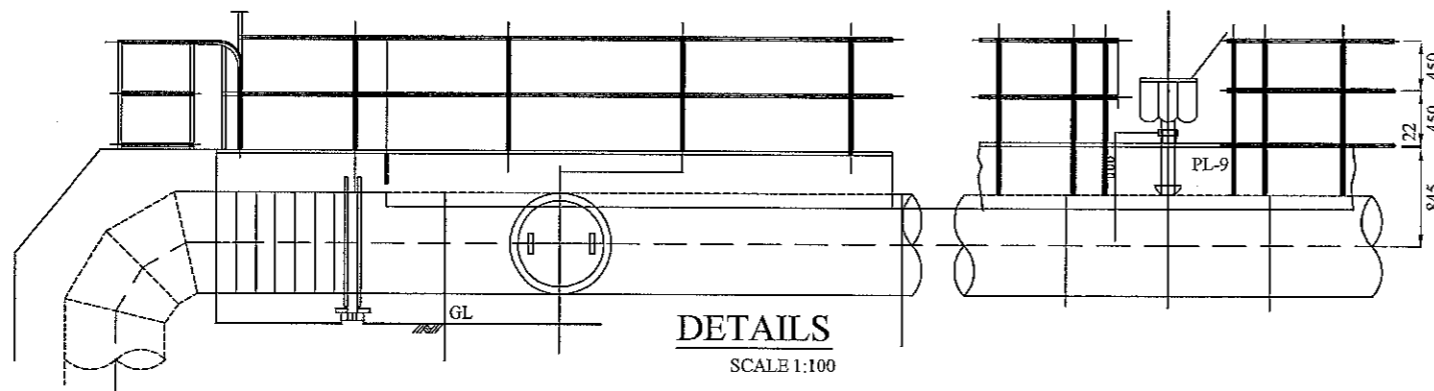
NCS NCS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

RAW WATER TRANSMISSION PIPE	SCALE	1:100 & 1:50
STANDARD DRAWINGS OF WATER BRIDGE-1 (SPAN LENGTH 10m ~ 30m)	DWG No.	42 RWT-PB-001



SUPPORT DETAIL
SCALE 1:50



SECTION
SCALE 1:50

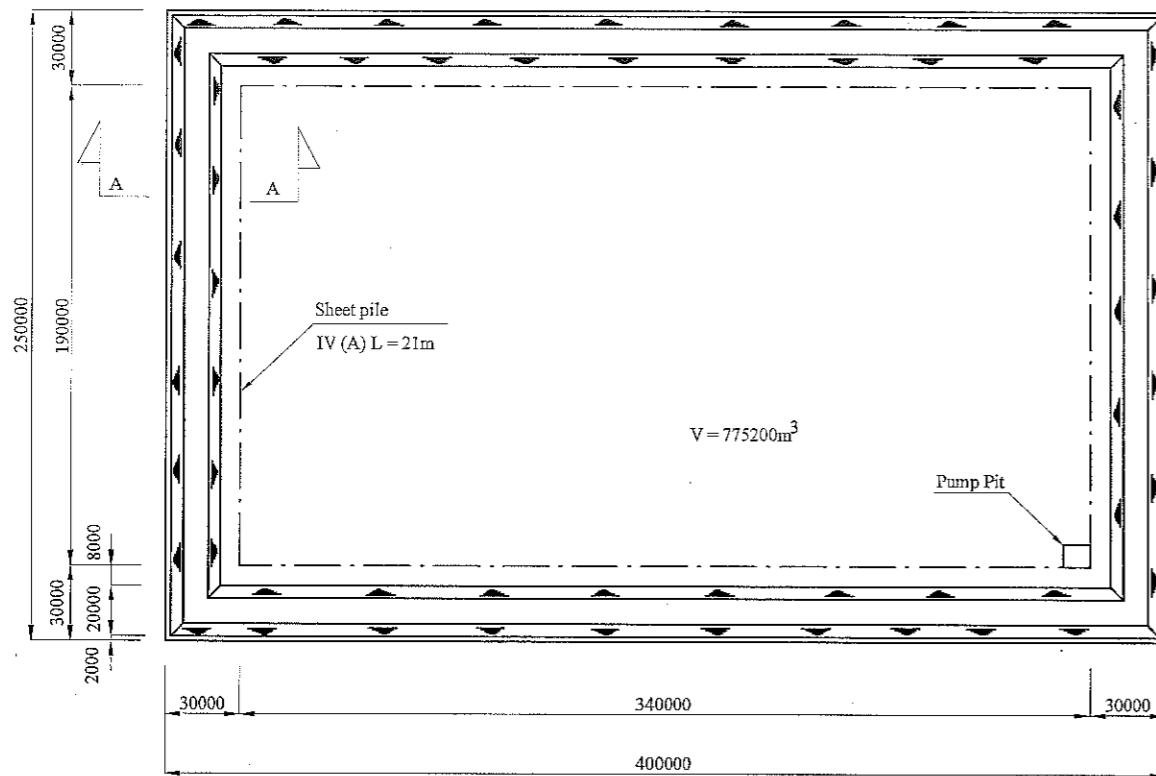
Ø1350A SUPPORT TYPE WATER BRIDGE		
	Span length	No.
1.	30 m~ 40m	3
2.	40 m~ 50m	2
3.	50 m~ 52m	1

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

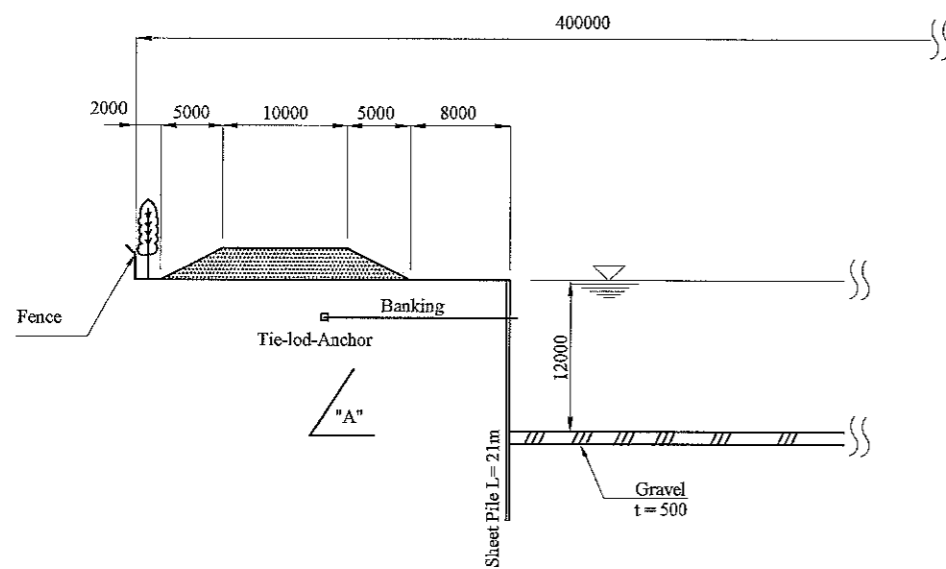
NJS NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

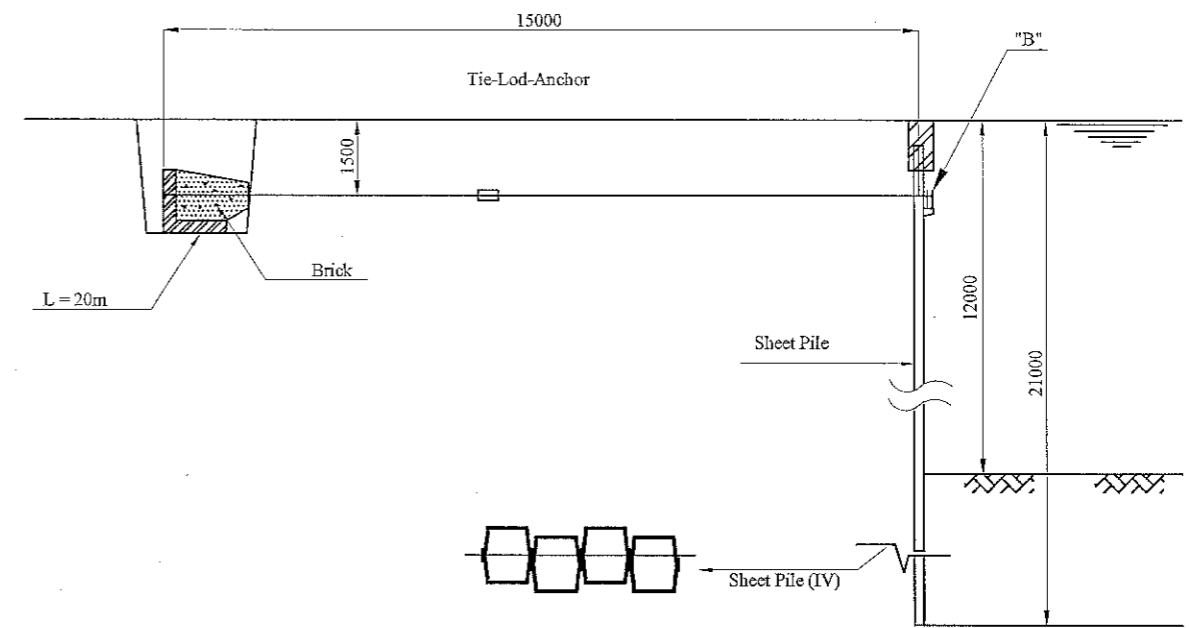
RAW WATER TRANSMISSION PIPE	SCALE	1:200, 1:100 & 1:50
STANDARD DRAWINGS FOR WATER BRIDGE-2 (SPAN LENGTH 30m~52m)	DWG No.	43 RWT-PB-002



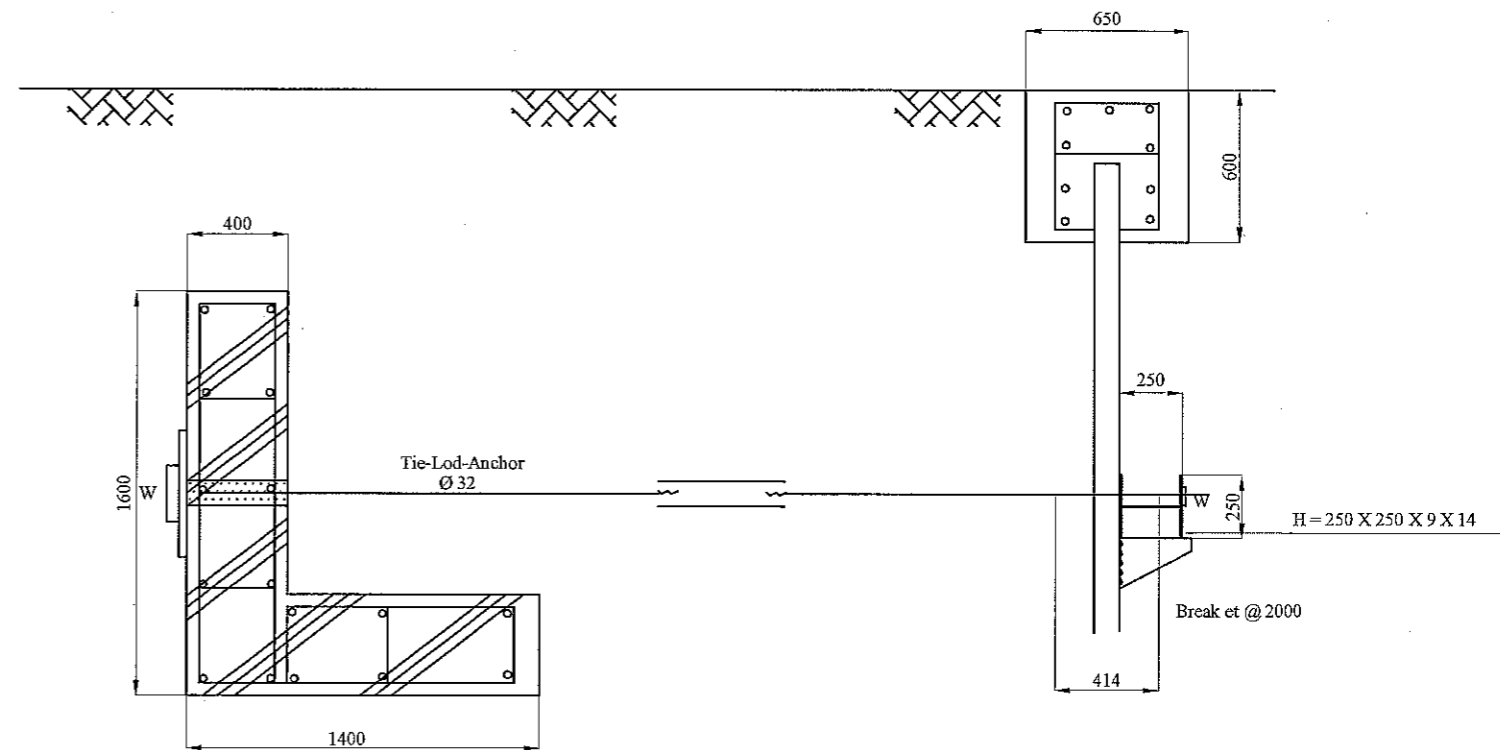
PLAN
SCALE 1:3000



SECTION "A-A"
SCALE 1:600



"A"
SCALE 1:150



"B"
SCALE 1:30

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FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

NJS NJS CONSULTANTS CO., LTD.

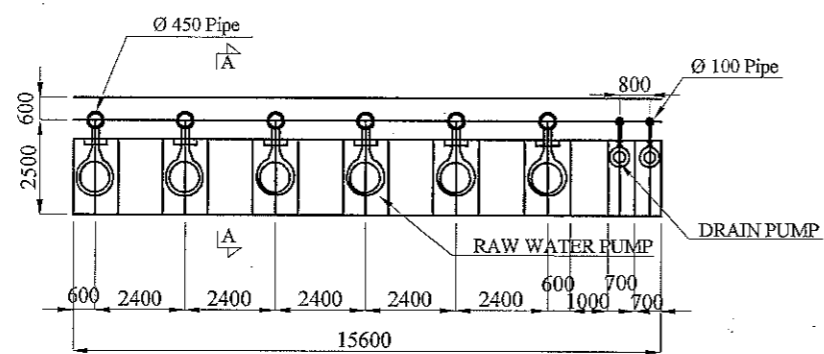
IMPOUNDING RESERVOIR

SCALE 1:3000

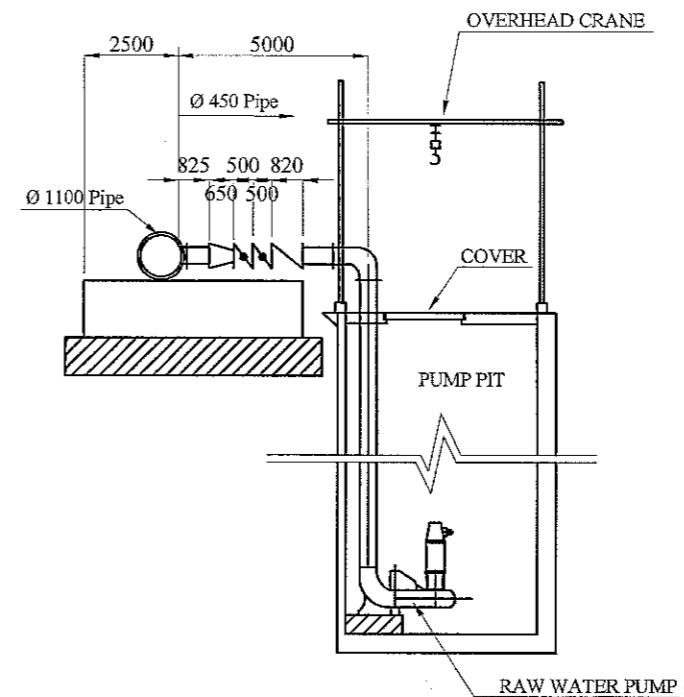
PLAN & SECTION

DWG No.

44 IP-PS-001

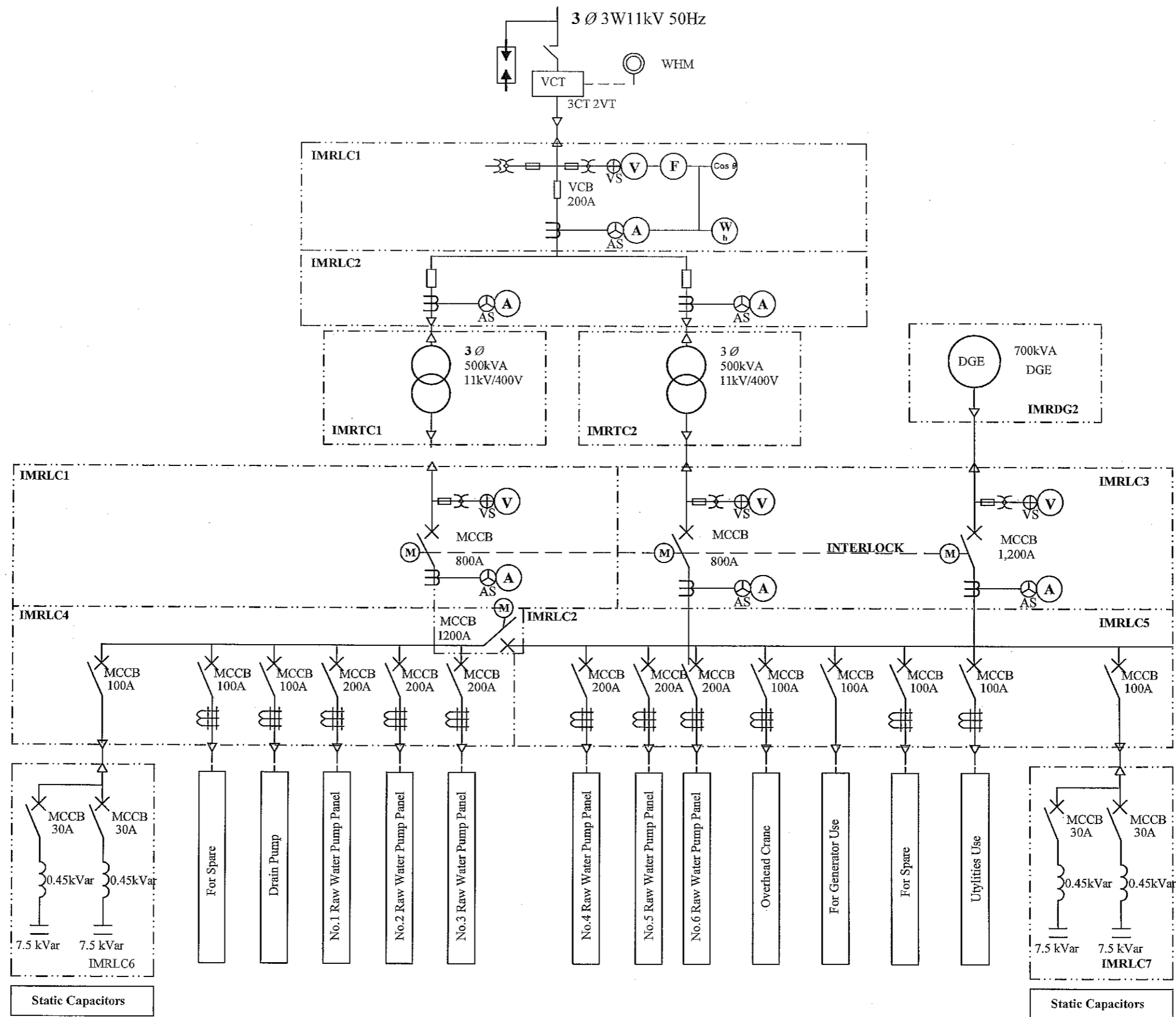


PLAN
 SCALE 1:200

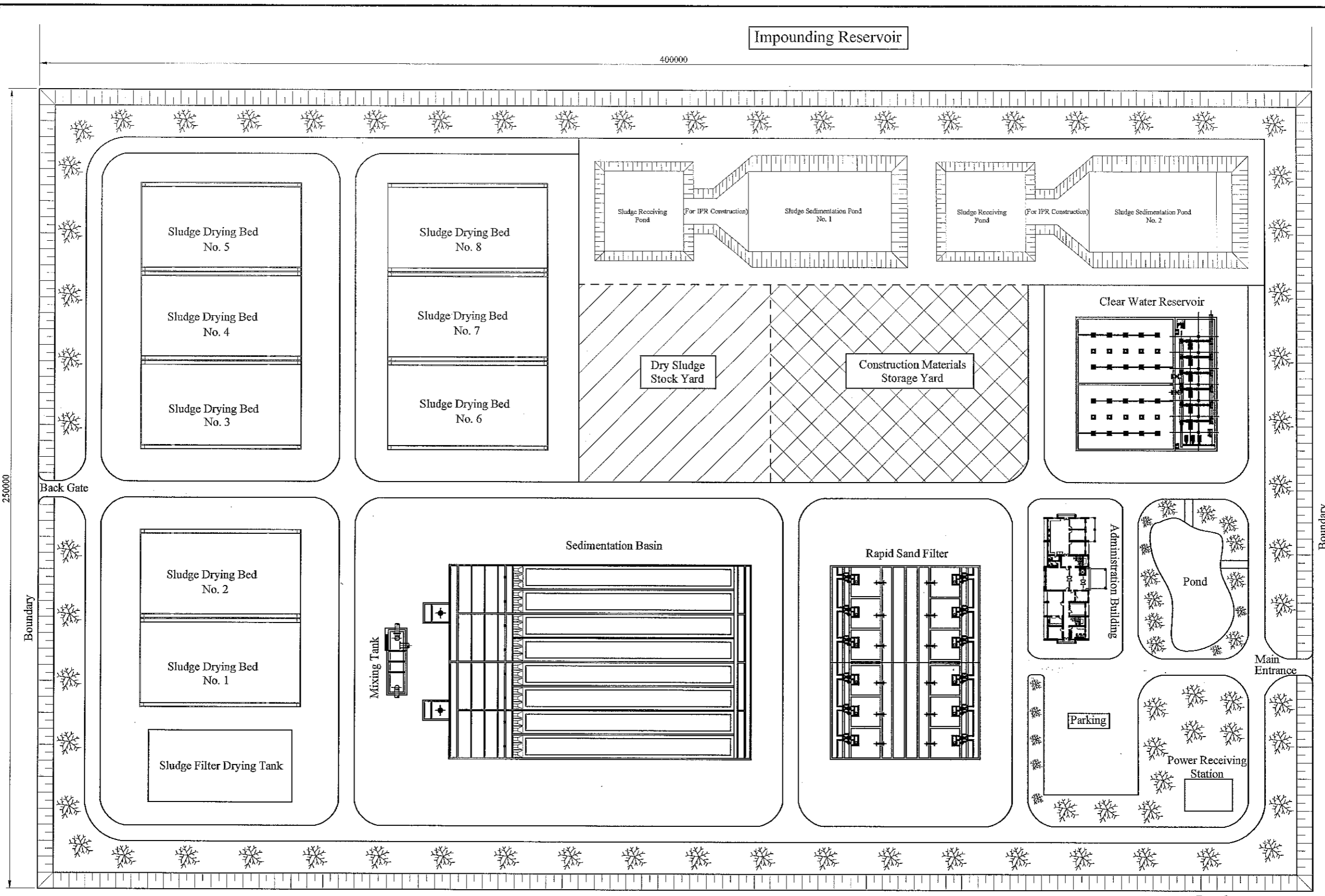


SECTION
 SCALE 1:200

JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	IMPOUNDING RESERVOIR PUMP PIT PLAN & SECTION	SCALE DWG No.	SCALE 1:200 45 IP-PS-002

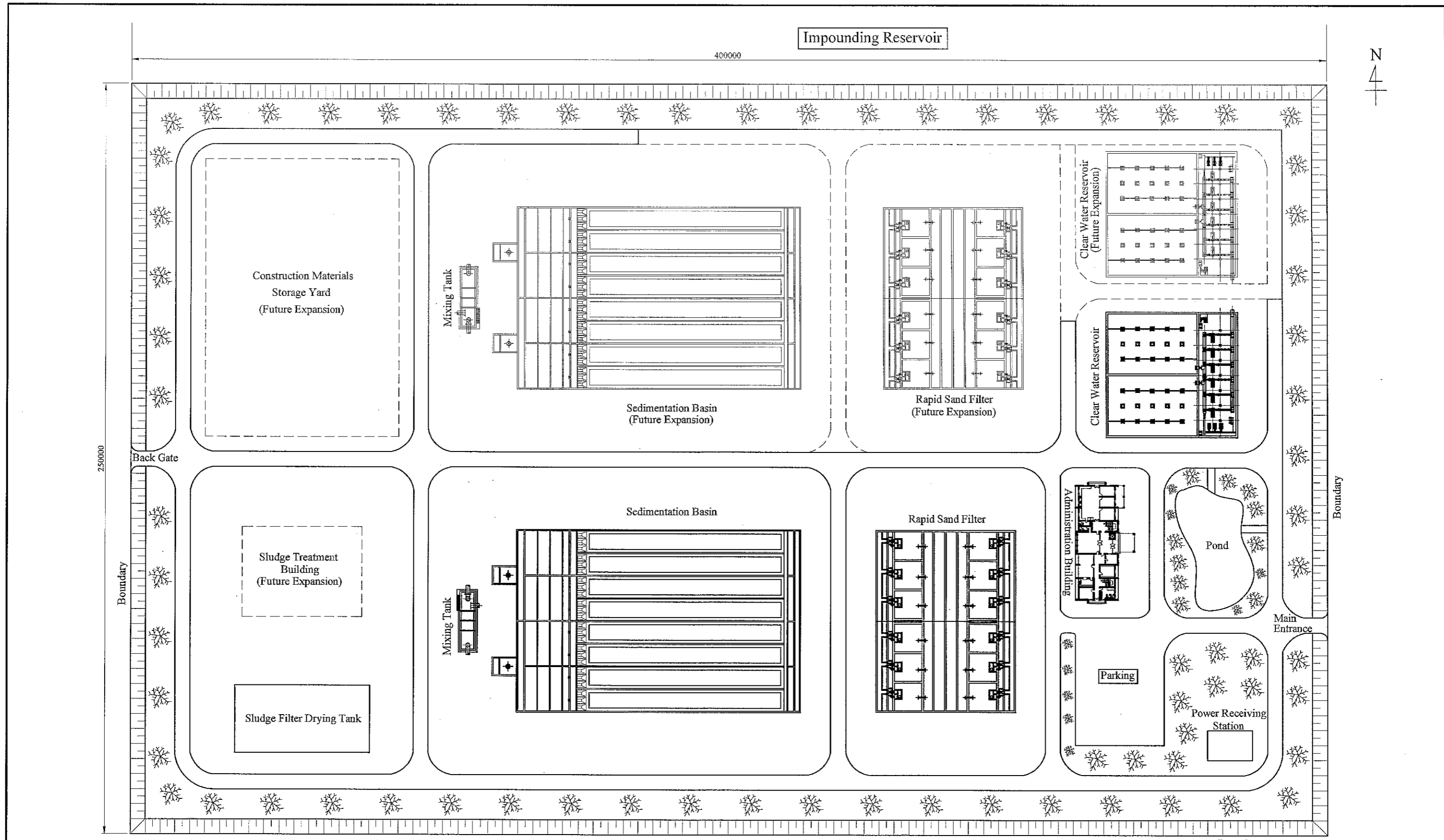


JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	IMPOUNDING RESERVOIR SINGLE LINE DIAGRAM	SCALE DWG No.	NON 46 IP-SLD-001



LAYOUT PLAN OF SWTP
SCALE 1:1250

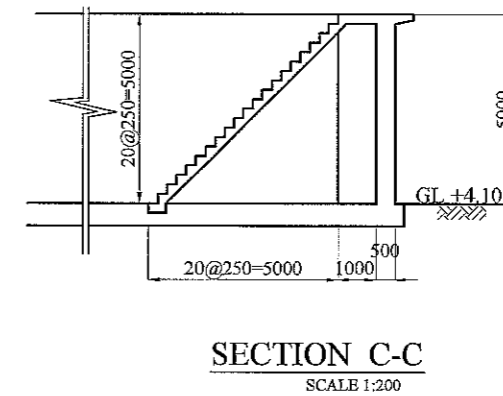
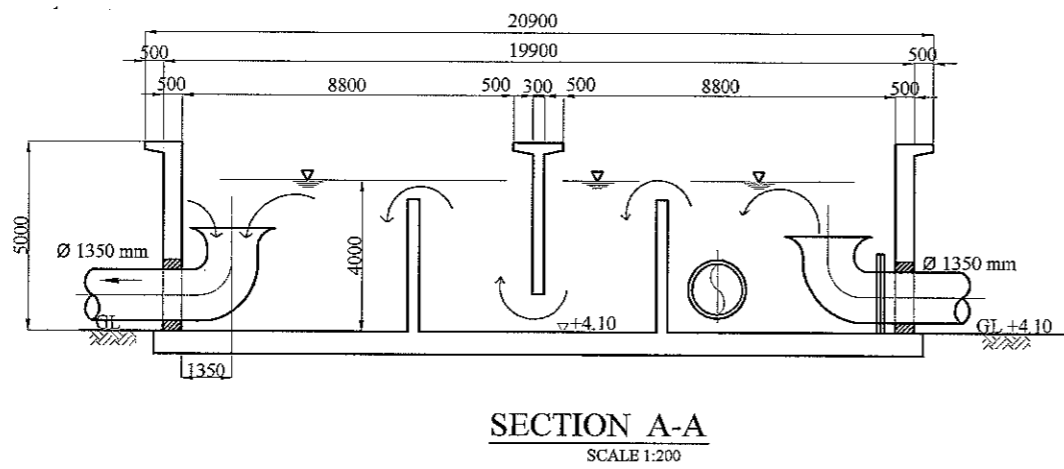
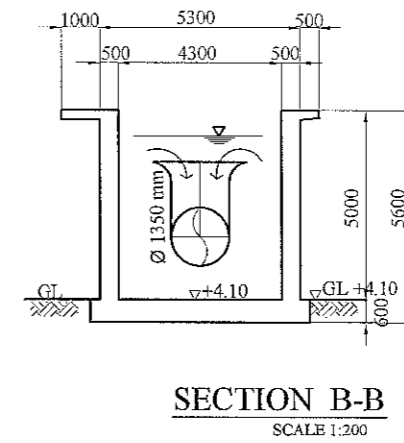
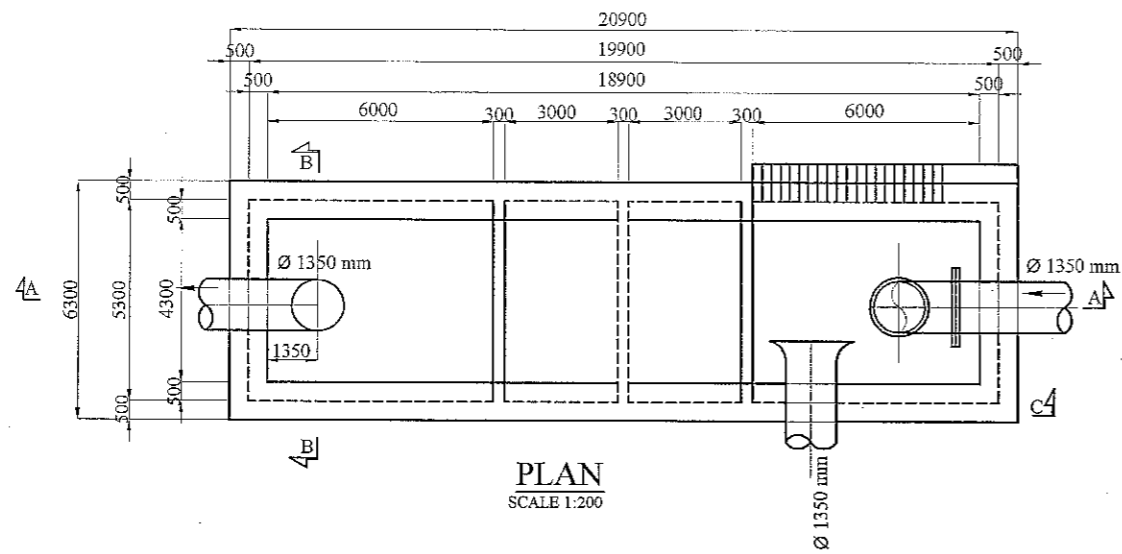
JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	SURFACE WATER TREATMENT PLANT	SCALE	1:1250
NJS CONSULTANTS CO., LTD.	LAYOUT PLAN (UP TO YEAR 2025)	DWG No.	47 SWTP-G-001



LAYOUT PLAN OF SWTP

SCALE 1:1250

JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	SURFACE WATER TREATMENT PLANT	SCALE	1:1250
NJS CONSULTANTS CO., LTD.	LAYOUT PLAN (AFTER YEAR 2025)	DWG No.	48 SWTP-G-002

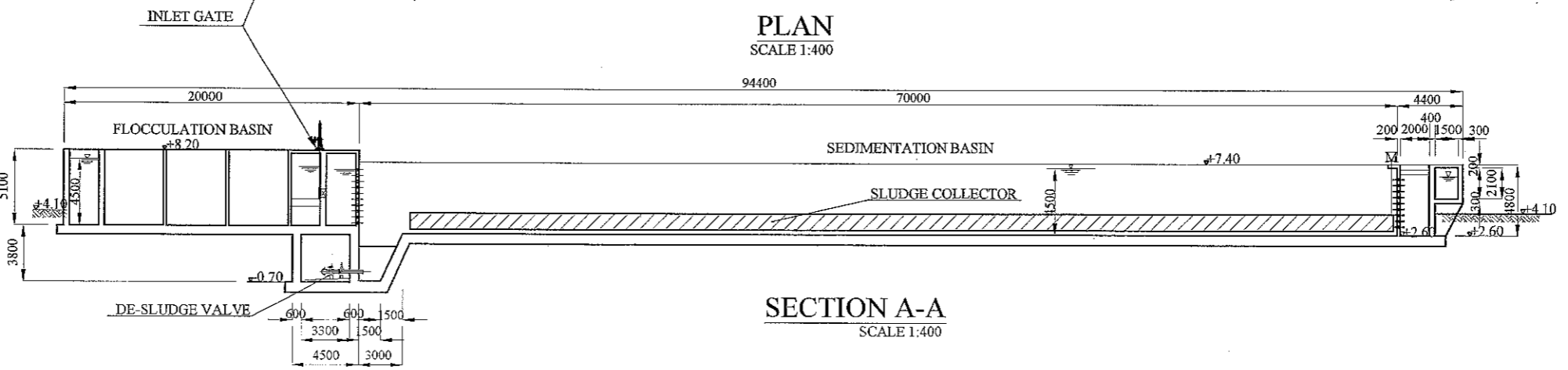
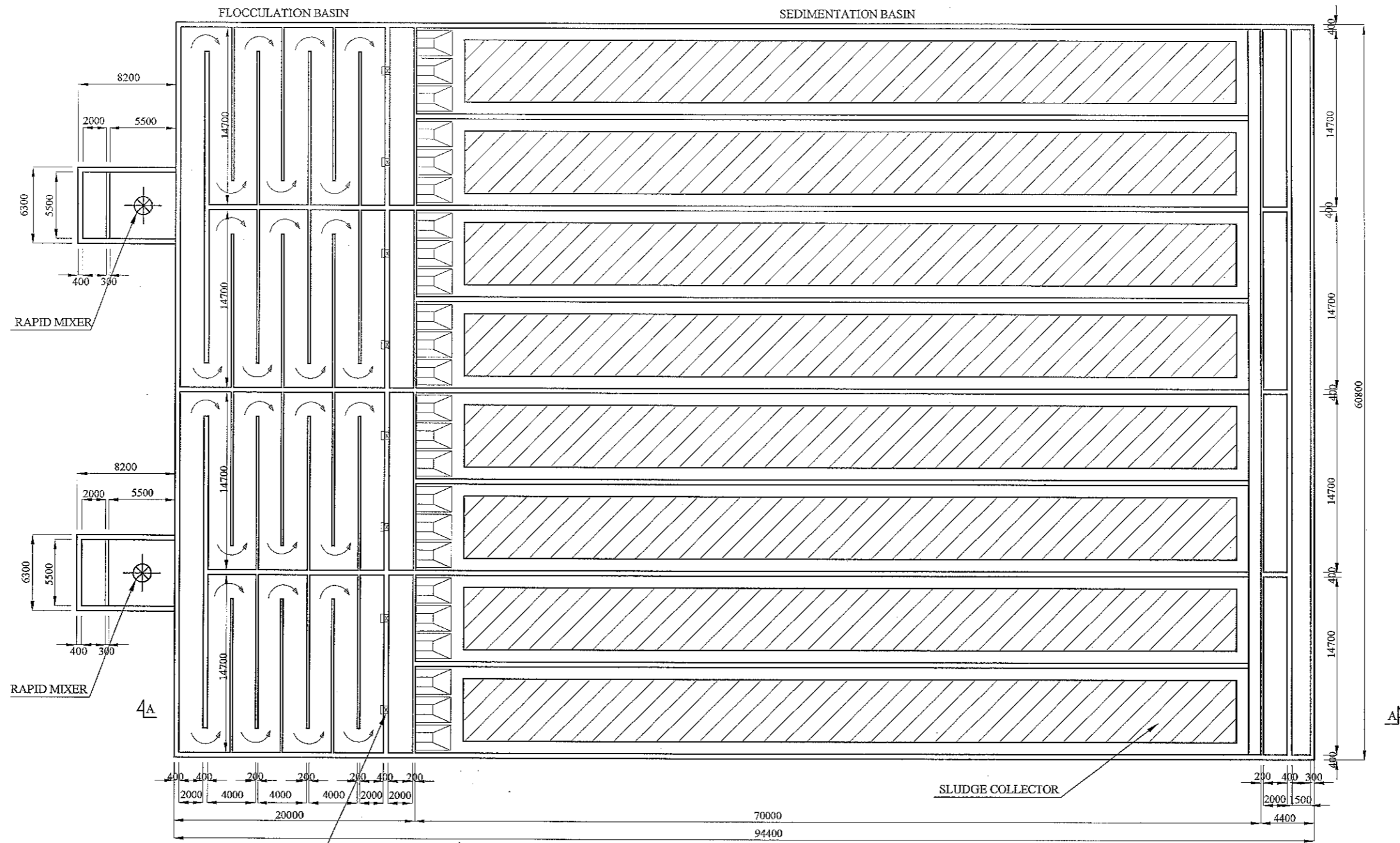


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NJS NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

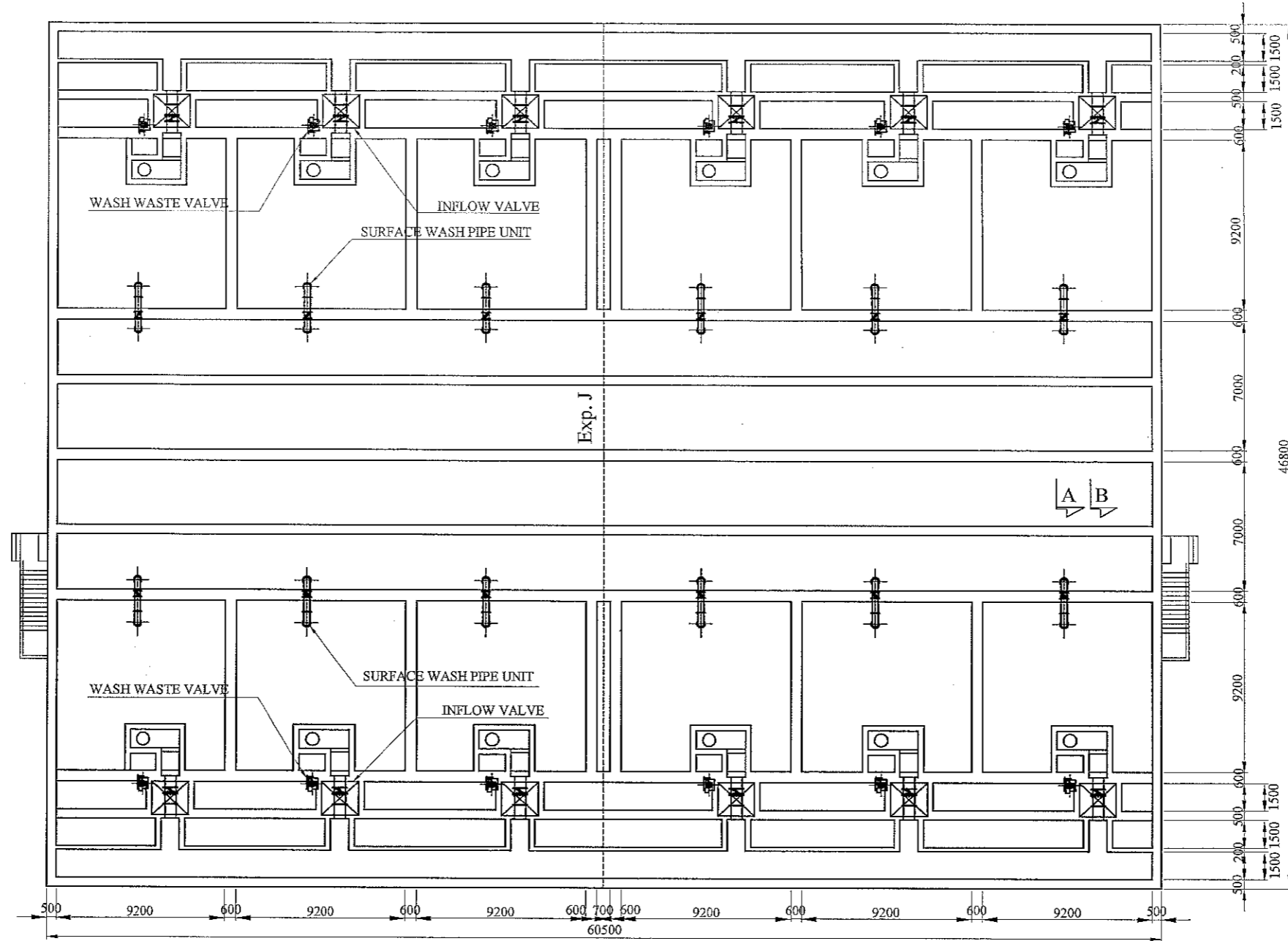
SURFACE WATER TREATMENT PLANT		SCALE	1:200
MIXING TANK PLAN & SECTION		DWG No.	49 SWTP-MT-001



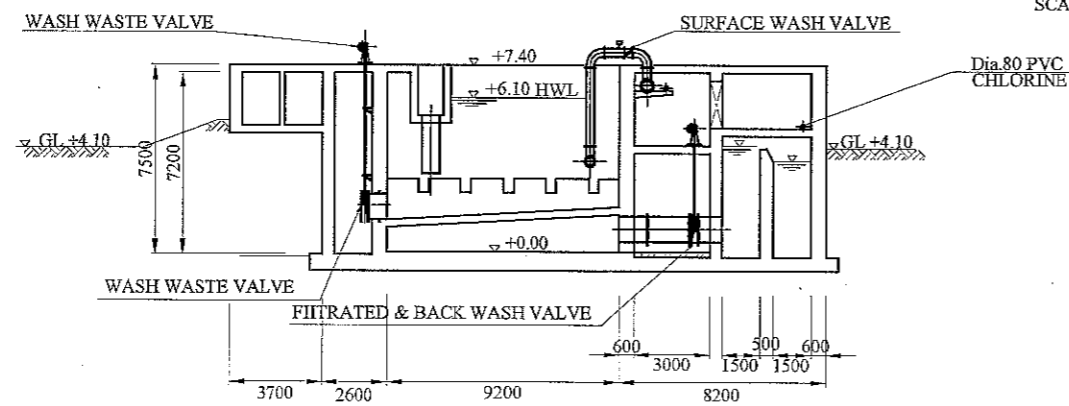
PLAN
SCALE 1:400

SECTION A-A
SCALE 1:400

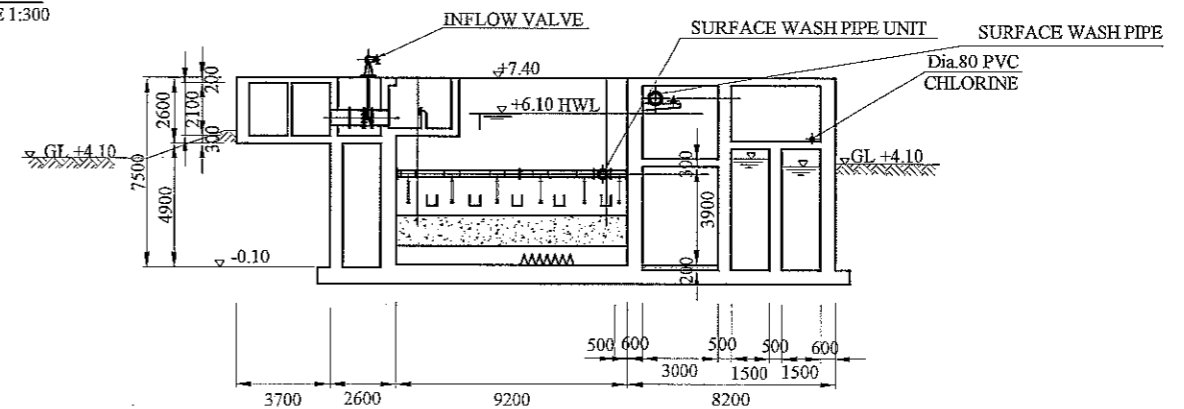
JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	SURFACE WATER TREATMENT PLANT	SCALE	1:400
NJS CONSULTANTS CO., LTD.	SEDIMENTATION BASIN PLAN & SECTION	DWG No.	50 SWTP-SB-001



TOP PLAN
SCALE 1:300



SECTION A-A
SCALE 1:300



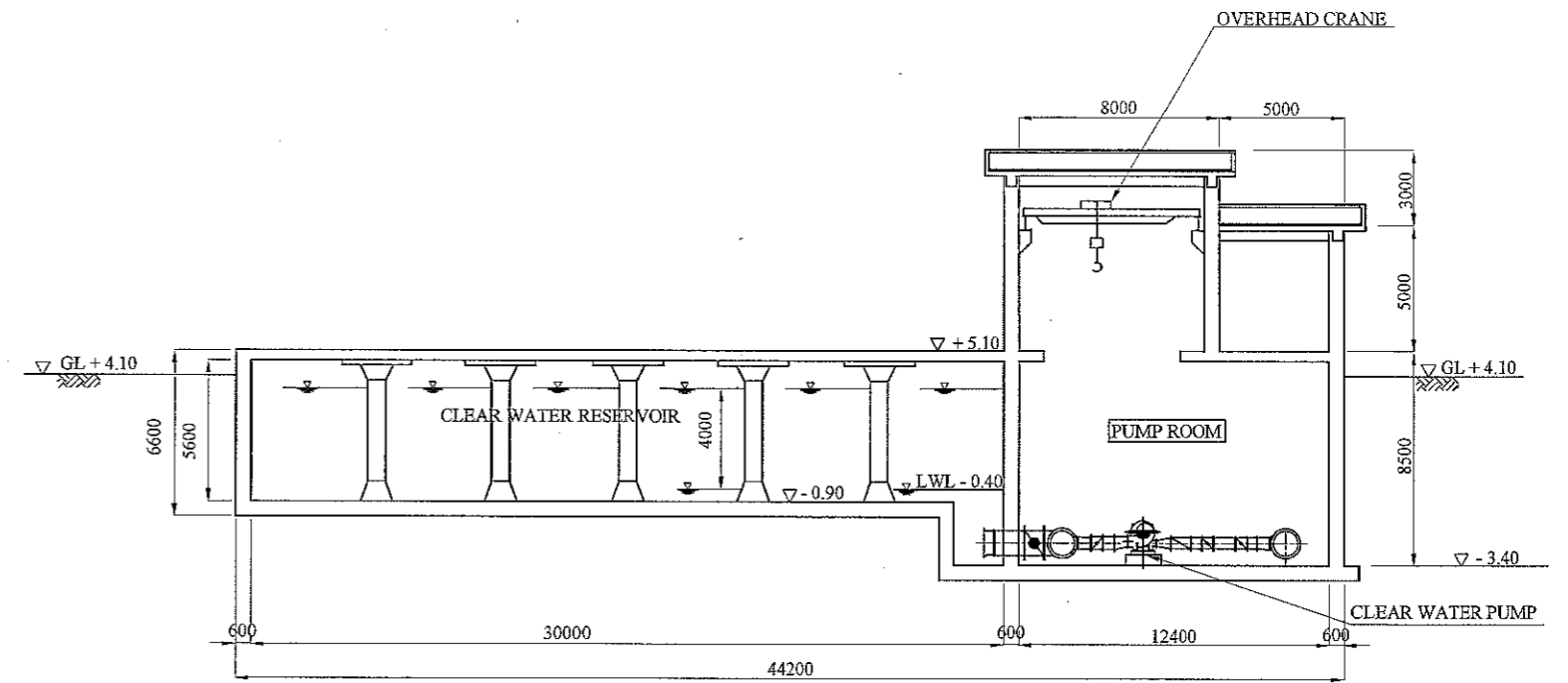
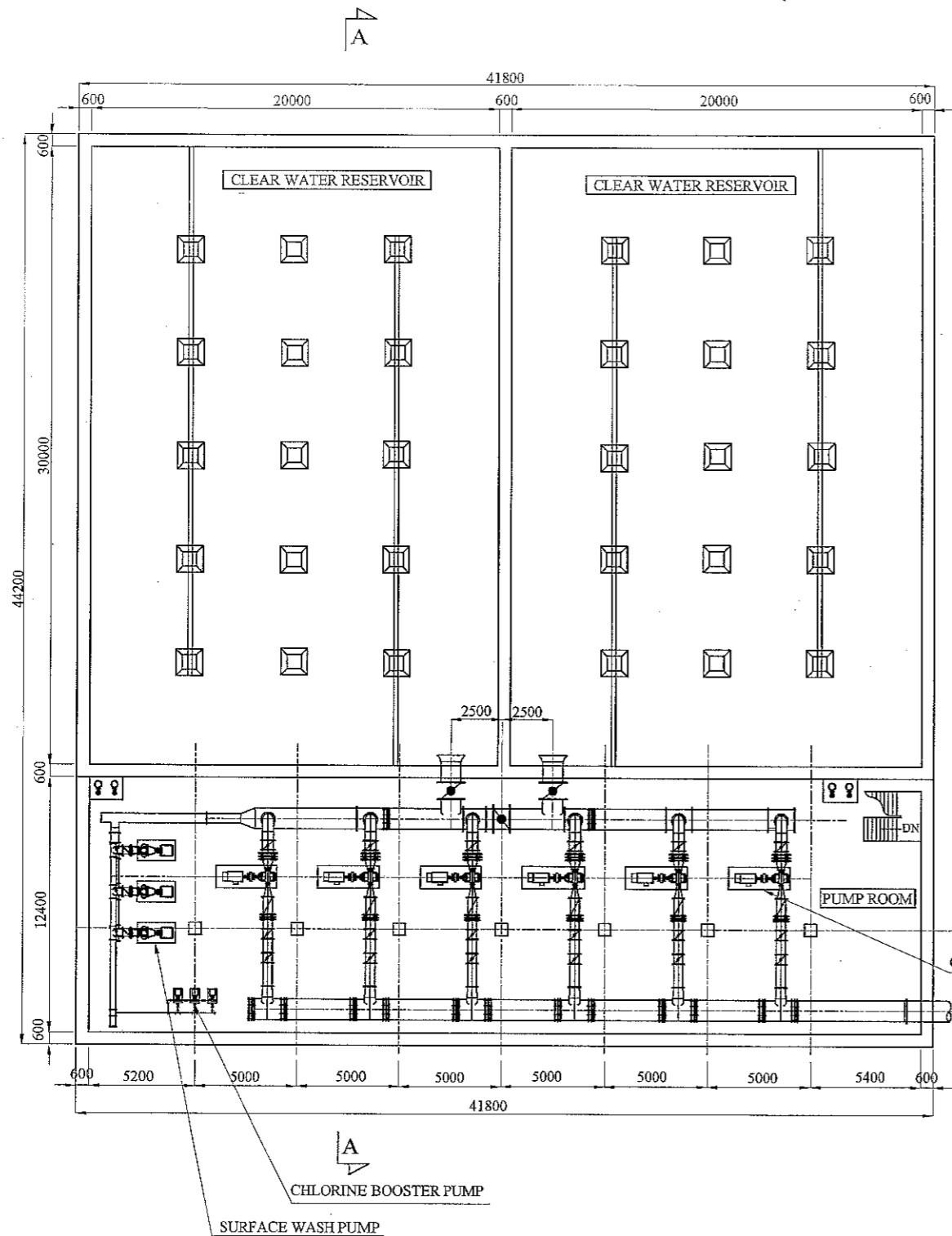
SECTION B-B
SCALE 1:300

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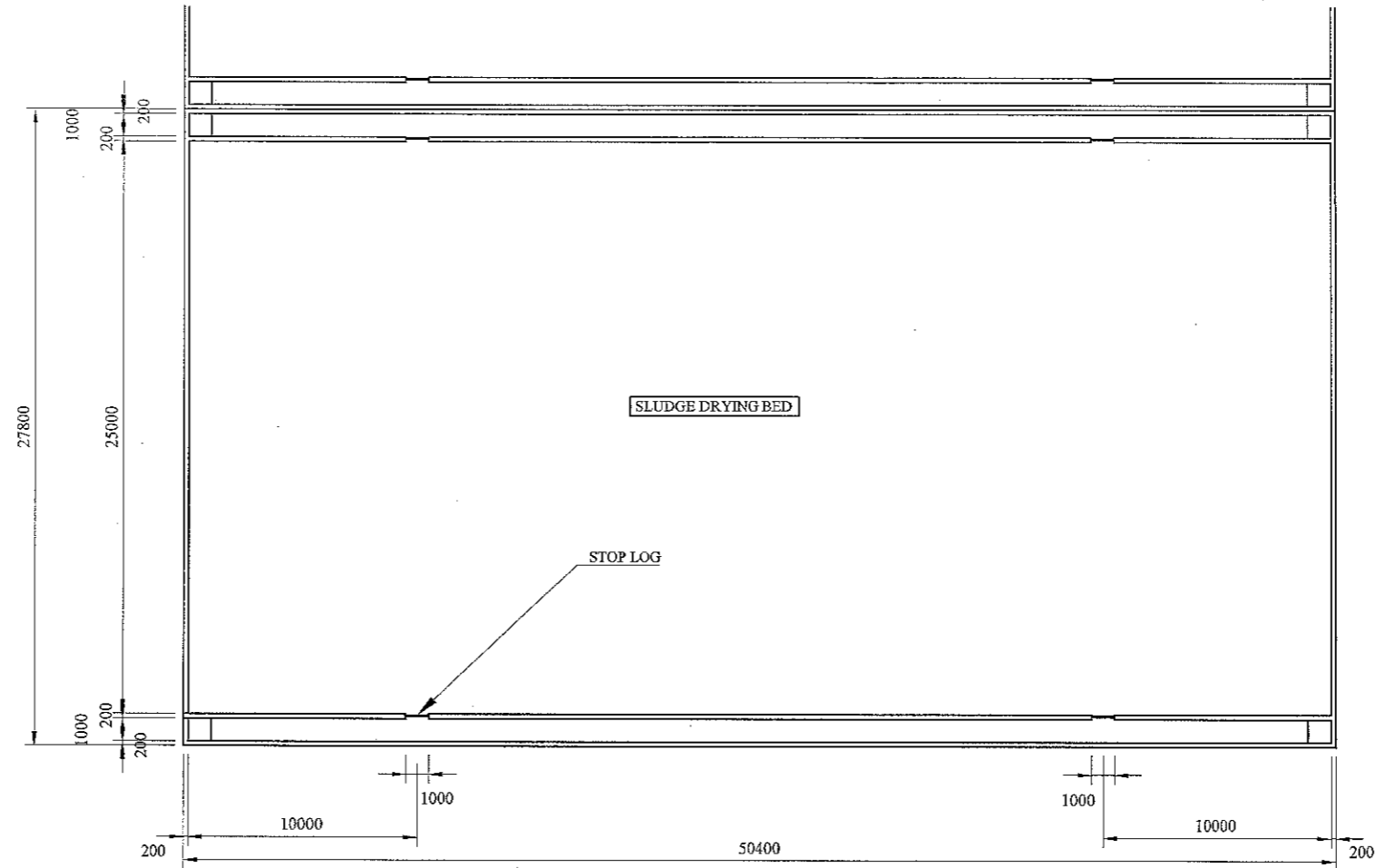
NJS NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

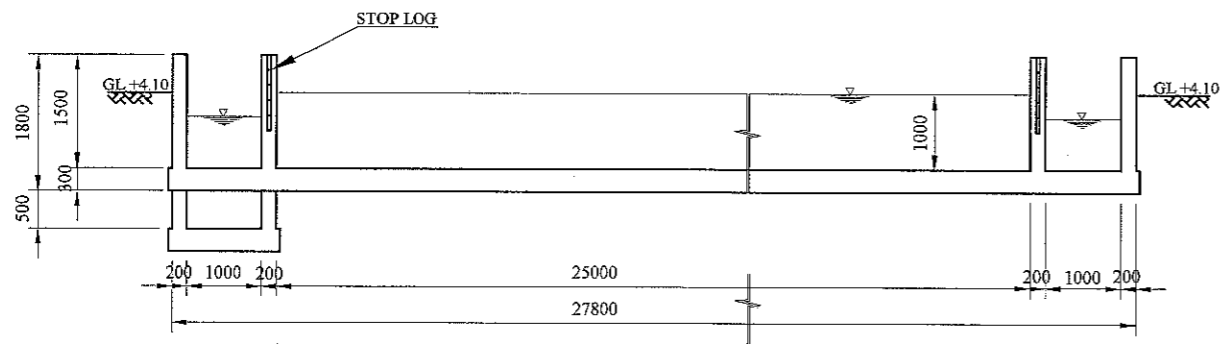
SURFACE WATER TREATMENT PLANT	SCALE	1:300
RAPID SAND FILTER PLAN AND SECTION	DWG No.	51 SWTP-RP-001



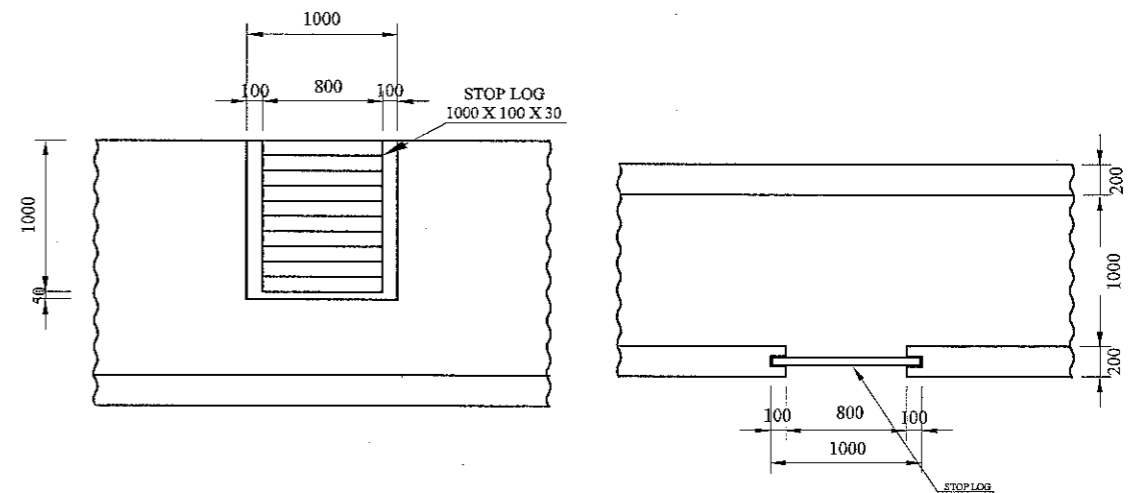
JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	NJS CONSULTANTS CO., LTD.	SURFACE WATER TREATMENT PLANT CLEAR WATER RESERVOIR & CLEAR WATER PUMP STATION PLAN & SECTION	SCALE DWG No. 52




PLAN
SCALE 1:300

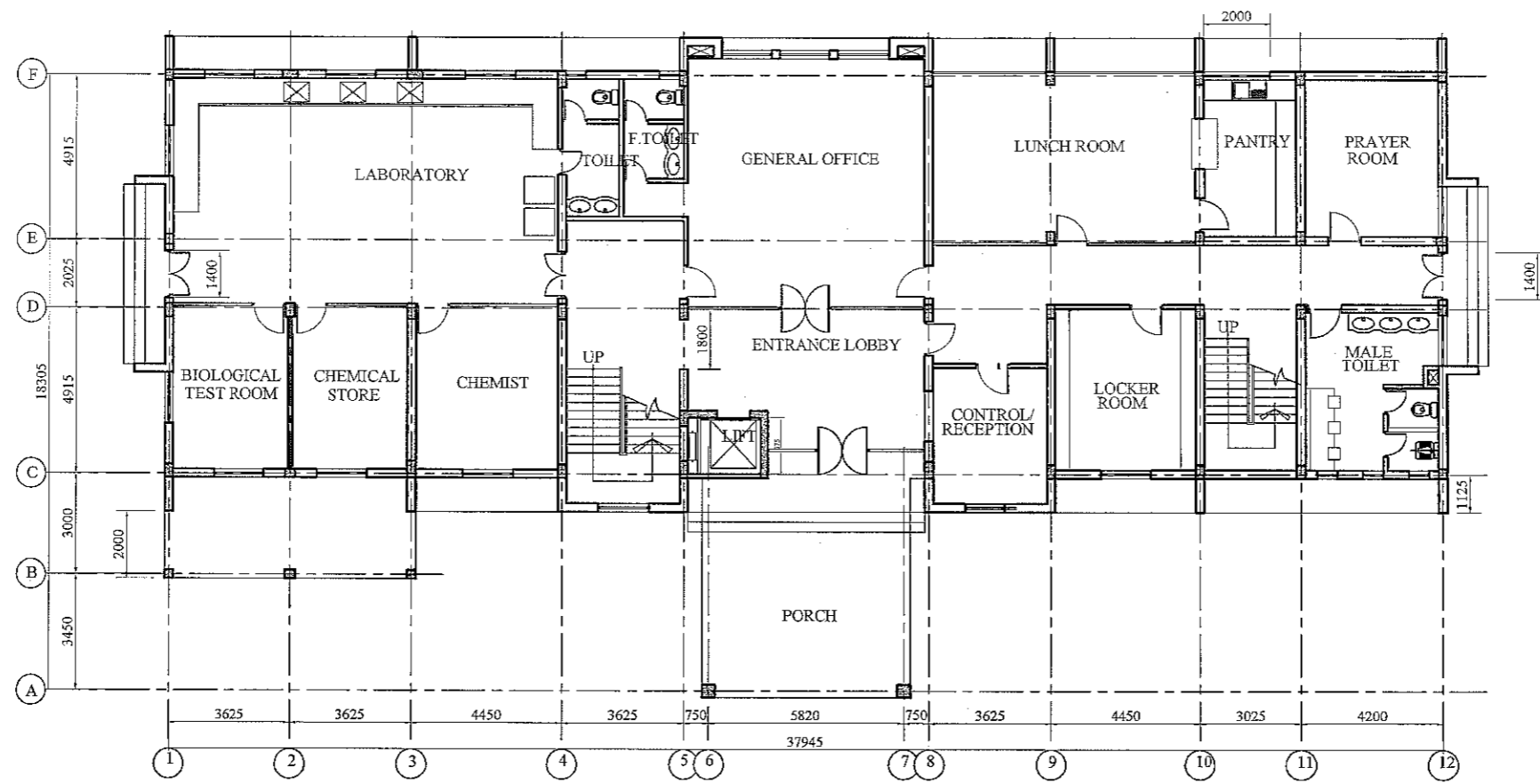


SECTION
SCALE 1:100

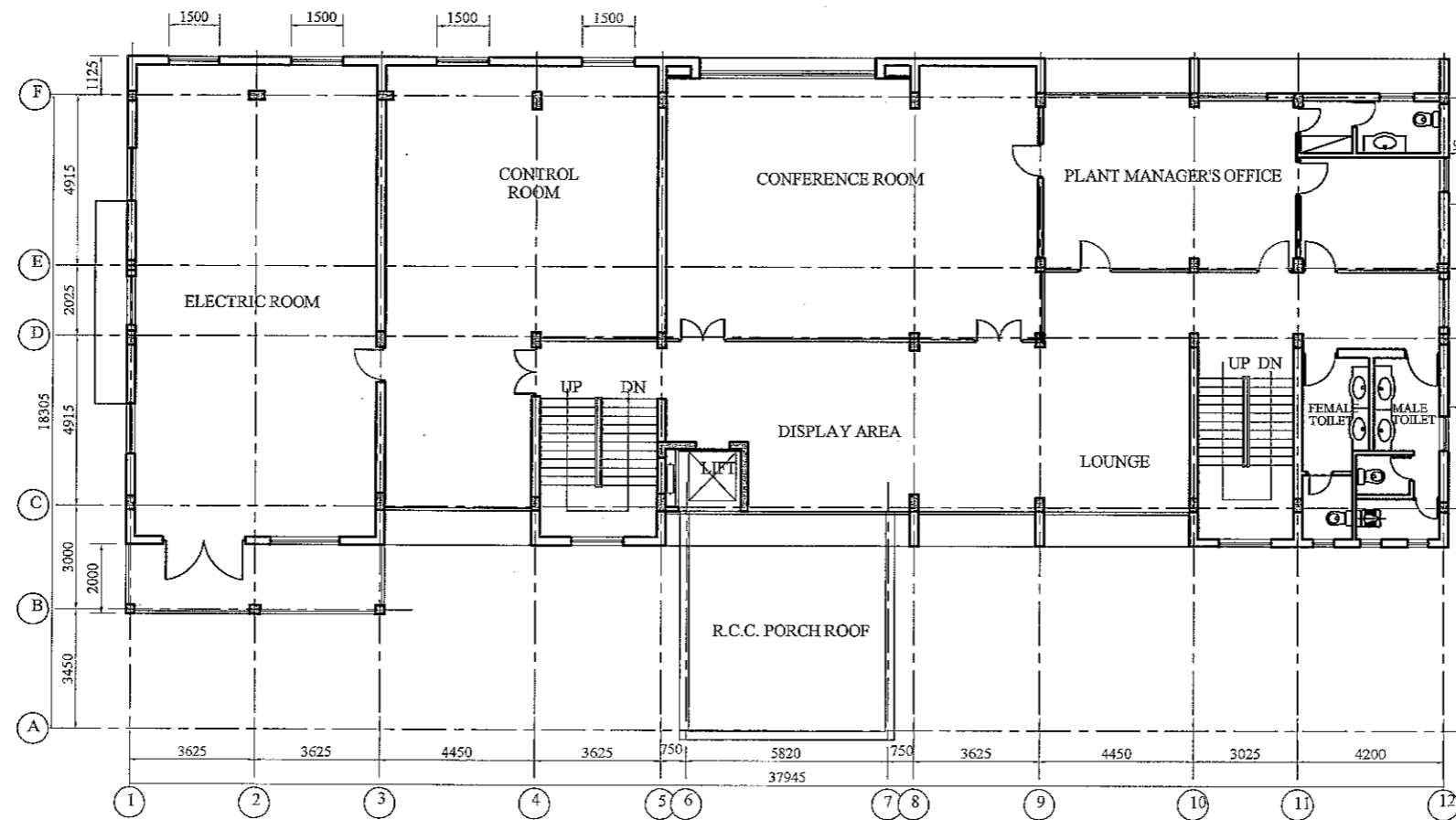


STOP LOG
SCALE 1:50

JAPAN INTERNATIONAL COOPERATION AGENCY		FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
 NJS CONSULTANTS CO., LTD.	SURFACE WATER TREATMENT PLANT		SCALE	1: 300, 100, 50
	SLUDGE DRYING BED PLAN & SECTION		DWG No.	53 SWTP-SDB-001



GROUND FLOOR PLAN
SCALE - 1:100



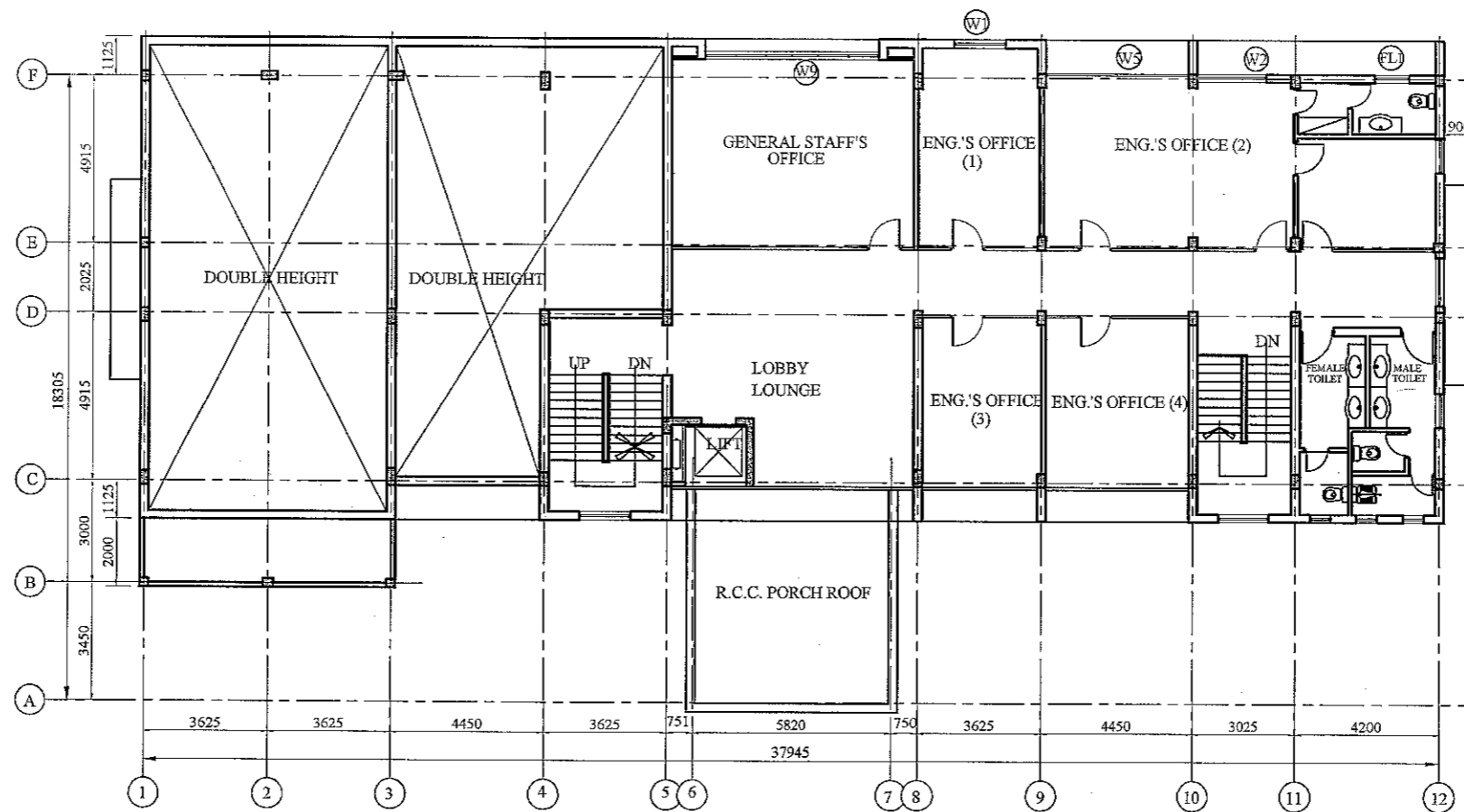
FIRST FLOOR PLAN
SCALE - 1:100

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

SURFACE WATER TREATMENT PLANT	SCALE	1:100
ADMINISTRATION BUILDING PLAN-1	DWG No.	54 SWTP-AB-001



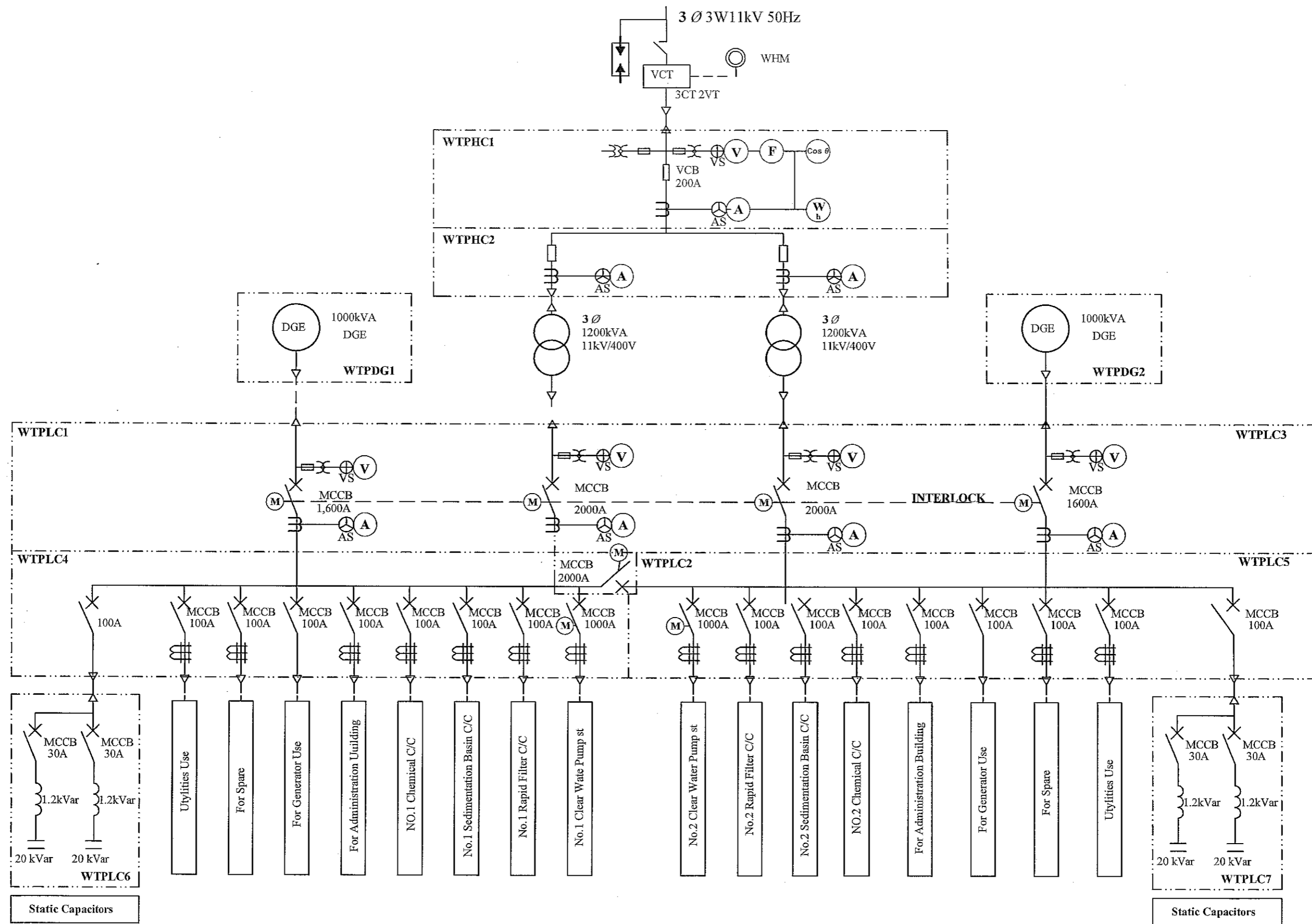
SECOND FLOOR PLAN
SCALE - 1 : 100

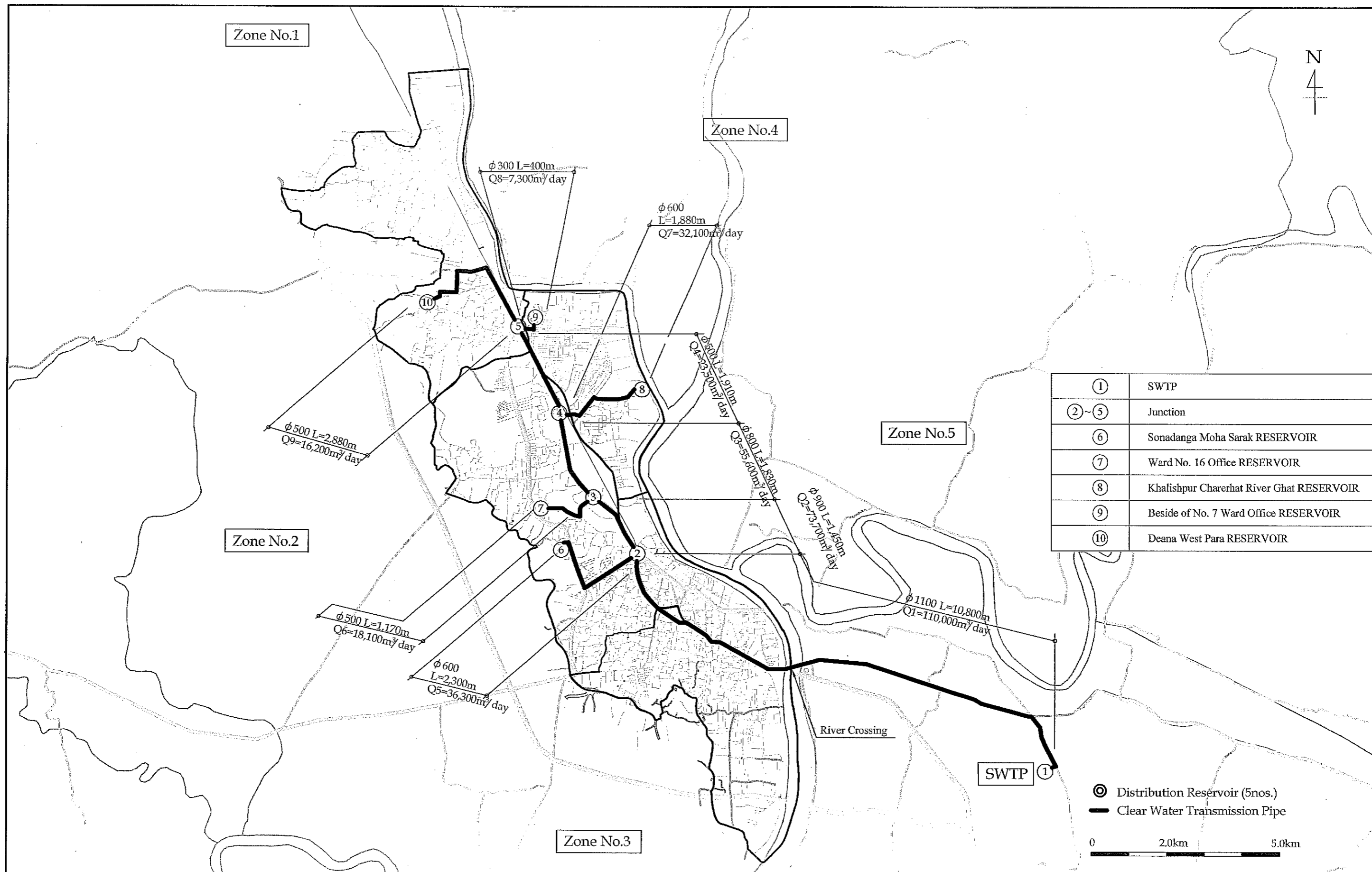
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FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

SURFACE WATER TREATMENT PLANT	SCALE	1:100
ADMINISTRATION BUILDING PLAN-2	DWG No.	55 SWTP-AB-002





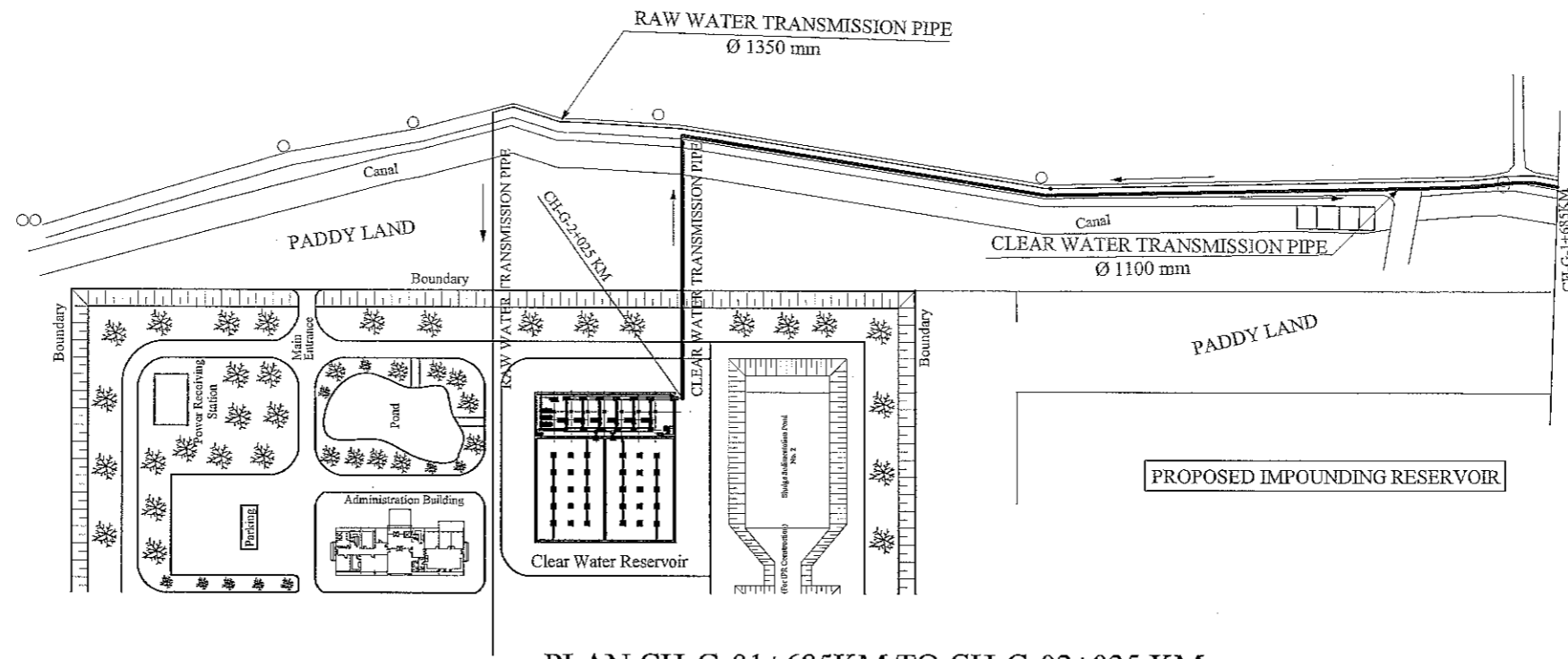
①	SWTP
②~⑤	Junction
⑥	Sonadanga Moha Sarak RESERVOIR
⑦	Ward No. 16 Office RESERVOIR
⑧	Khalishpur Charerhat River Ghat RESERVOIR
⑨	Beside of No. 7 Ward Office RESERVOIR
⑩	Deana West Para RESERVOIR

◎ Distribution Reservoir (5nos.)
 — Clear Water Transmission Pipe
 0 2.0km 5.0km

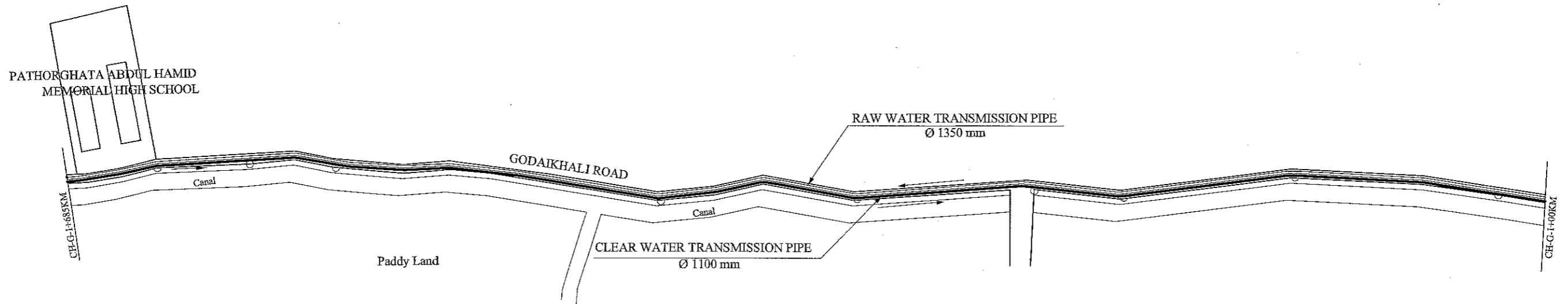
GENERAL MAP OF CLEAR WATER TRANSMISSION PIPE
SCALE NON

JICA JAPAN INTERNATIONAL COOPERATION AGENCY
 NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
CLEAR WATER TRANSMISSION PIPE	SCALE	NON
GENERAL MAP OF CLEAR WATER TRANSMISSION PIPE	DWG No.	57 CWT-G-001



PLAN CH-G-01+685KM TO CH-G-02+025 KM
SCALE 1:2000

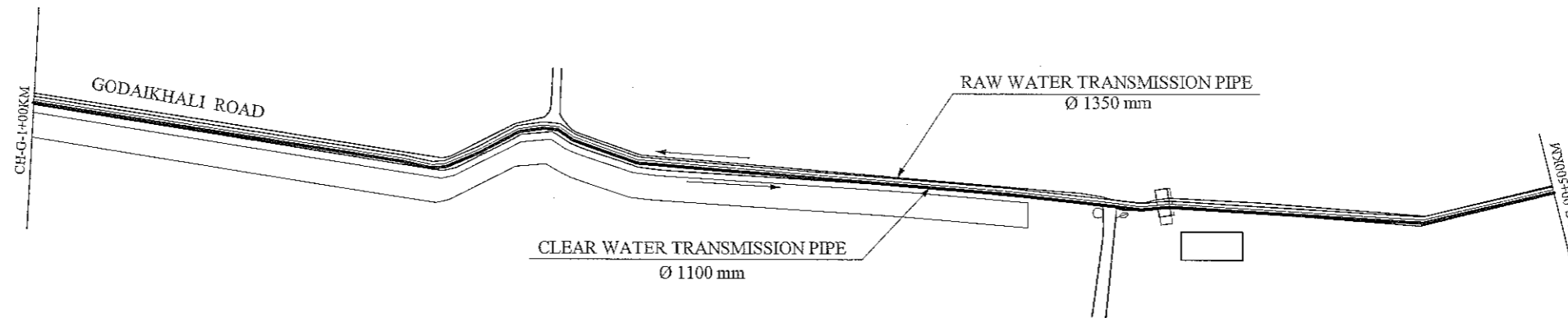


PLAN CH-G-01+00KM TO CH-G-01+685 KM
SCALE 1:2000

LEGEND:

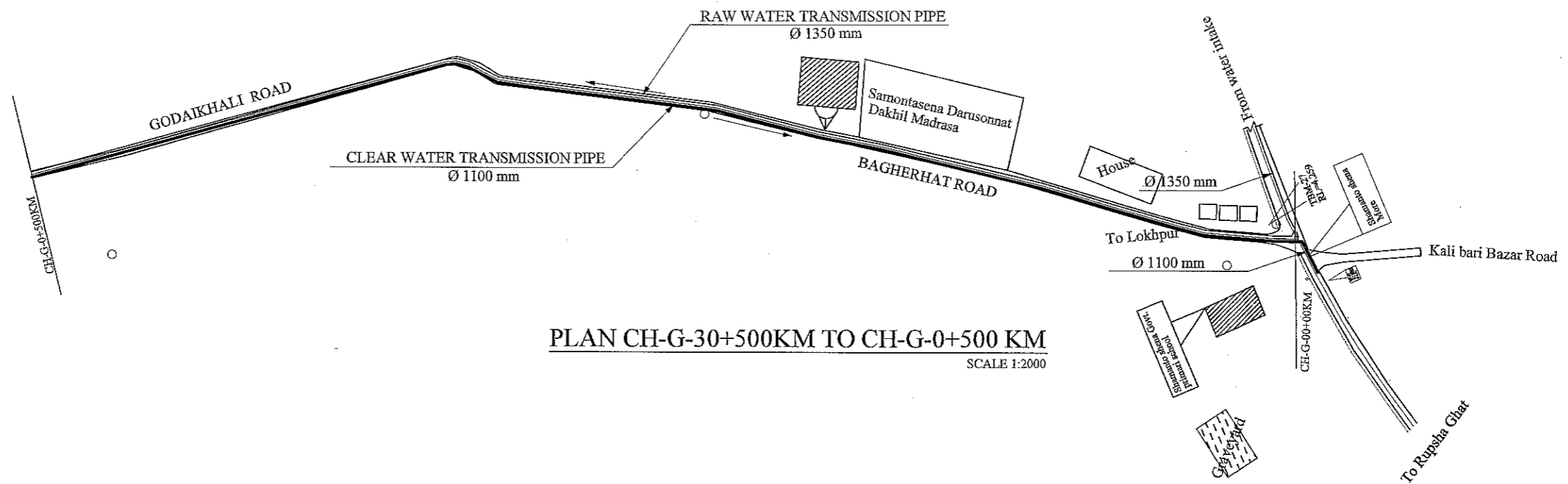
Area Boundary Line	—
Road	—
Shoulder/Footpath	—
Water Bodes	—
House /Boulding	▨
Bridge / Culvert	—
TBM	■
Electric Pole	○
R&H Pillar	○
SP=Brick Made House with Tin Shed Roof	○

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 01	SCALE DWG No.	H-1:2000 V-1:200 58



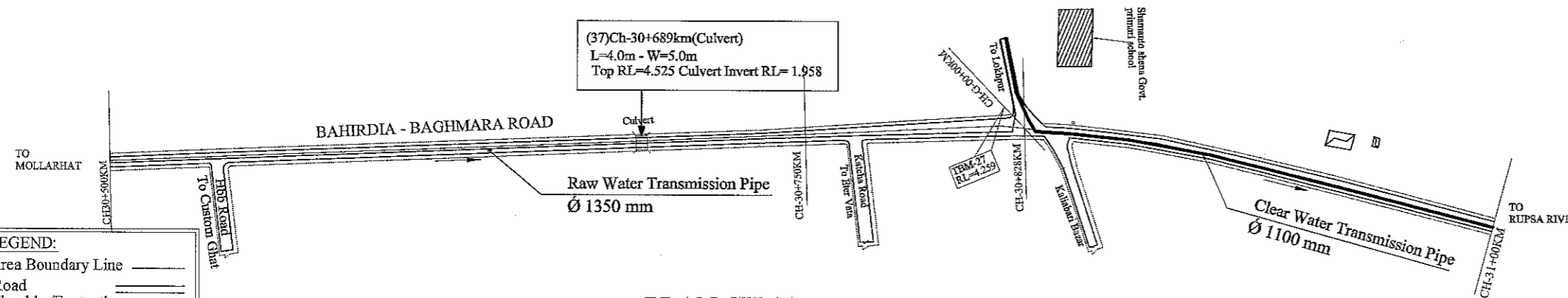
PLAN CH-G-00+500KM TO CH-G-01+00 KM

SCALE 1:2000



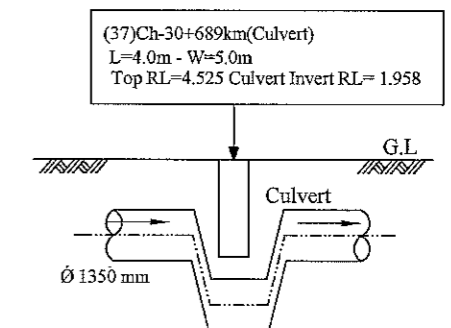
PLAN CH-G-30+500KM TO CH-G-0+500 KM

SCALE 1:2000



PLAN CH-30+500KM TO CH-31+00 KM

SCALE 1:2000



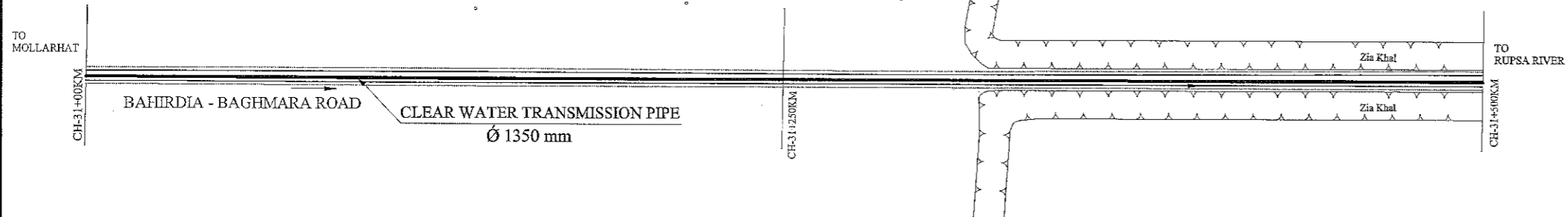
PROFILE (37)CH-30+689KM(CULVERT)

SCALE 1:200

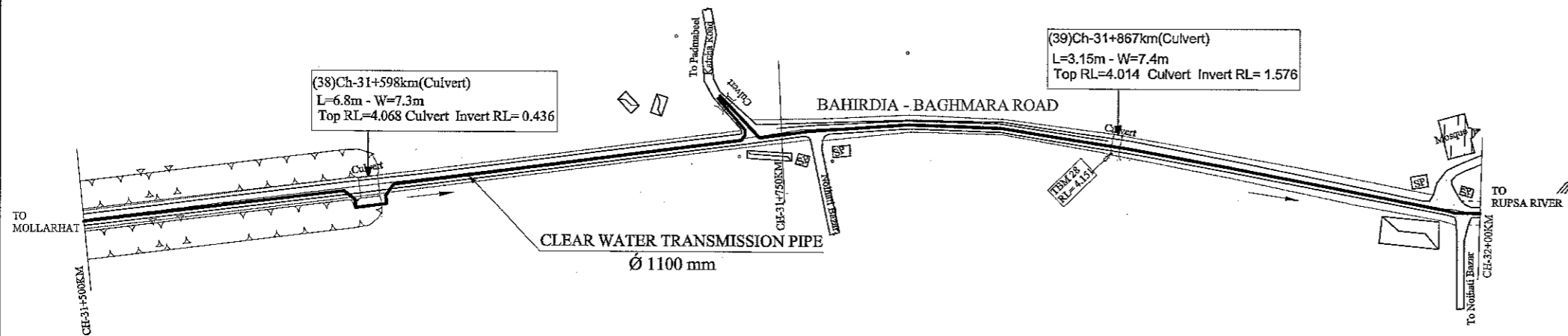
LEGEND:

Area Boundary Line	—
Road	==
Shoulder/Footpath	---
Water Bodes	~
House /Bouilding	▨
Bridge / Culvert	□
TBM	■
Electric Pole	○
R&H Pillar	○
SP=Brick Made House with Tin Shed Roof	▨

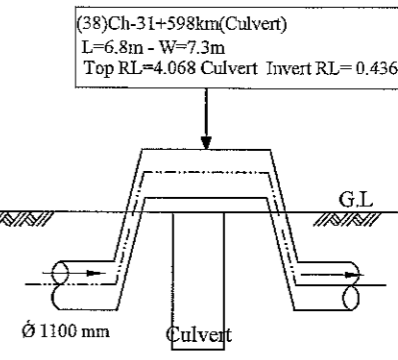
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 02	SCALE DWG No.	H-1:2000 V-1:200 59



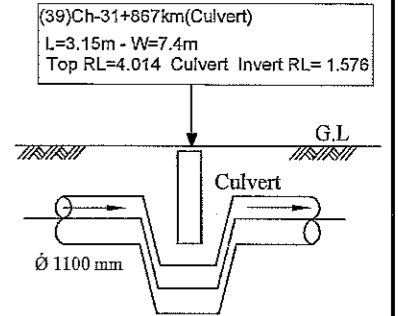
PLAN CH-31+00KM TO CH-31+500 KM
SCALE 1:2000



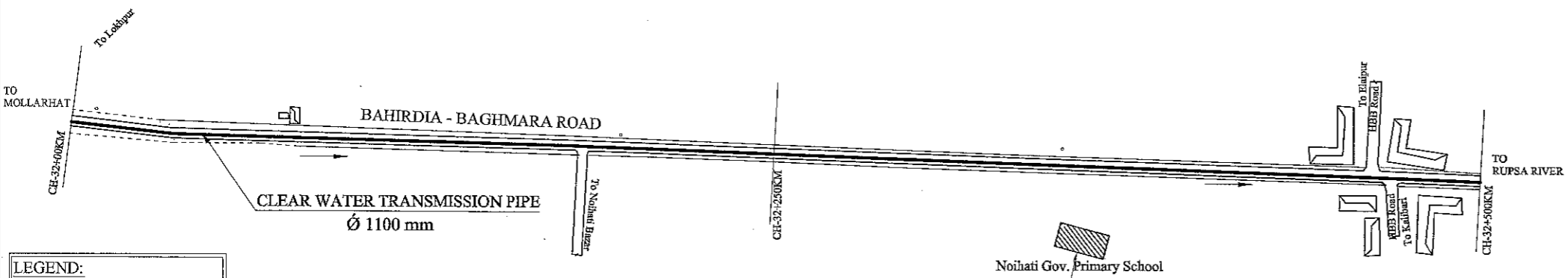
PLAN CH-31+500KM TO CH-32+00 KM
SCALE 1:2000



PROFILE (38)CH-31+598KM (CULVERT)
SCALE 1:200



PROFILE (39)CH-31+867KM (CULVERT)
SCALE 1:200

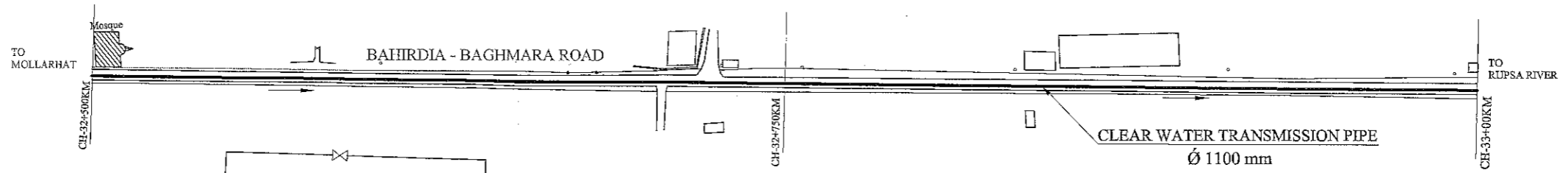


PLAN CH-32+00KM TO CH-32+500 KM
SCALE 1:2000

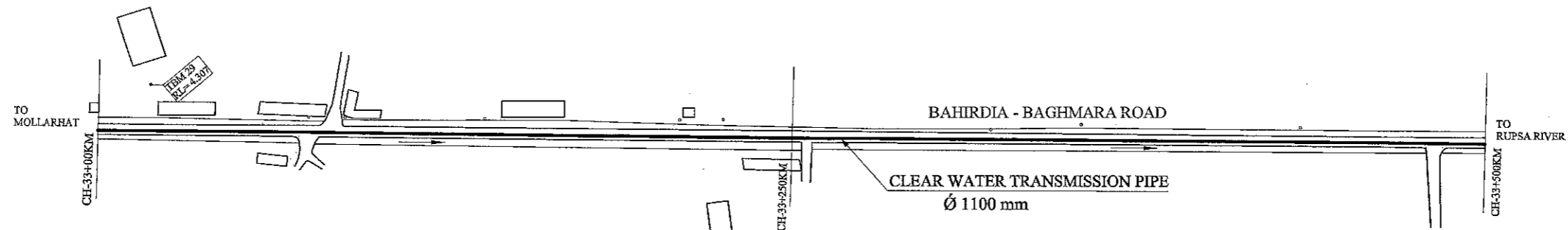
LEGEND:

- Area Boundary Line
- Road
- Shoulder/Footpath
- Water Bodes
- House /Bouilding
- Bridge / Culvert
- TBM
- Electric Pole
- R&H Pillar
- SP=Brick Made House with Tin Shed Roof

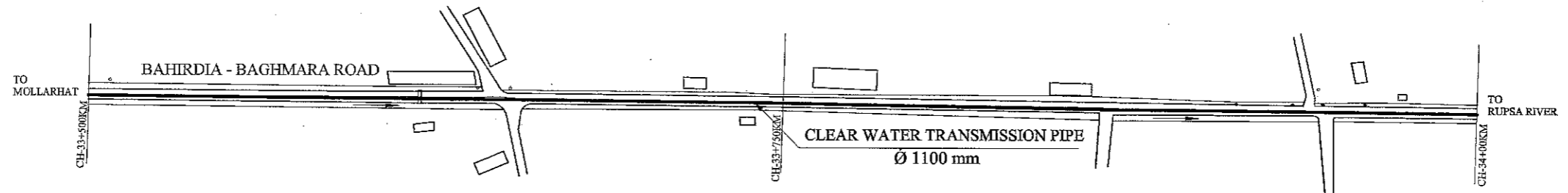
JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
	PLAN & PROFILE 03	DWG No.	60 CWT-PP-003



PLAN CH-32+500KM TO CH-33+00 KM
SCALE 1:2000



PLAN CH-33+00KM TO CH-33+500 KM
SCALE 1:2000

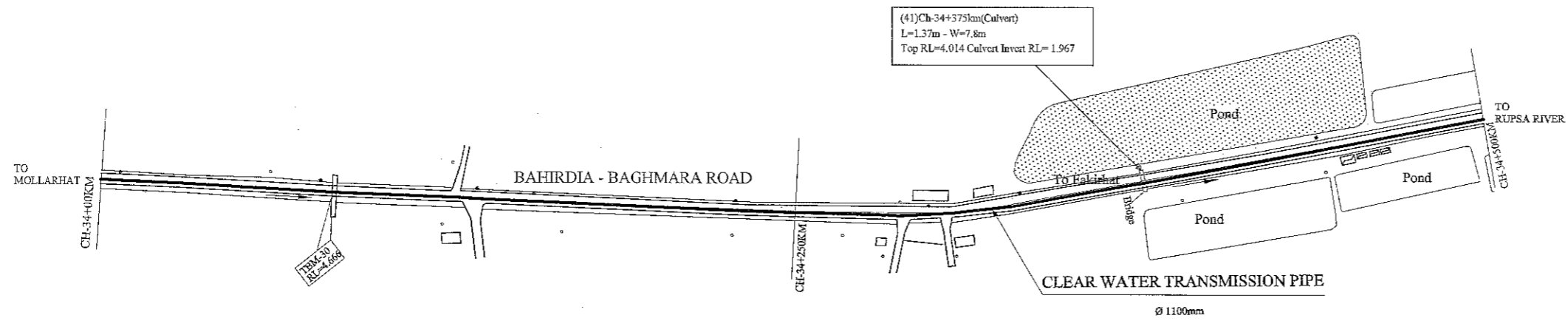


PLAN CH-33+500KM TO CH-34+00 KM
SCALE 1:2000

LEGEND:

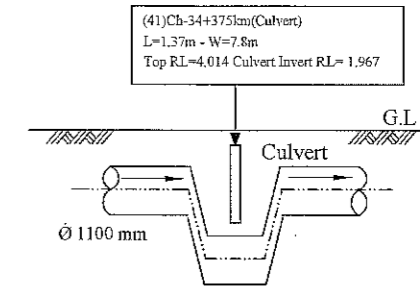
Area Boundary Line	—
Road	==
Shoulder/Footpath	---
Water Bodes	~
House /Boulding	▨
Bridge / Culvert	⌈
TBM	■
Electric Pole	○
R&H Pillar	◦
SP=Brick Made House with Tin Shed Roof	▧

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 04	SCALE DWG No.	H-1:2000 V-1:200 61 CWT-PP-004



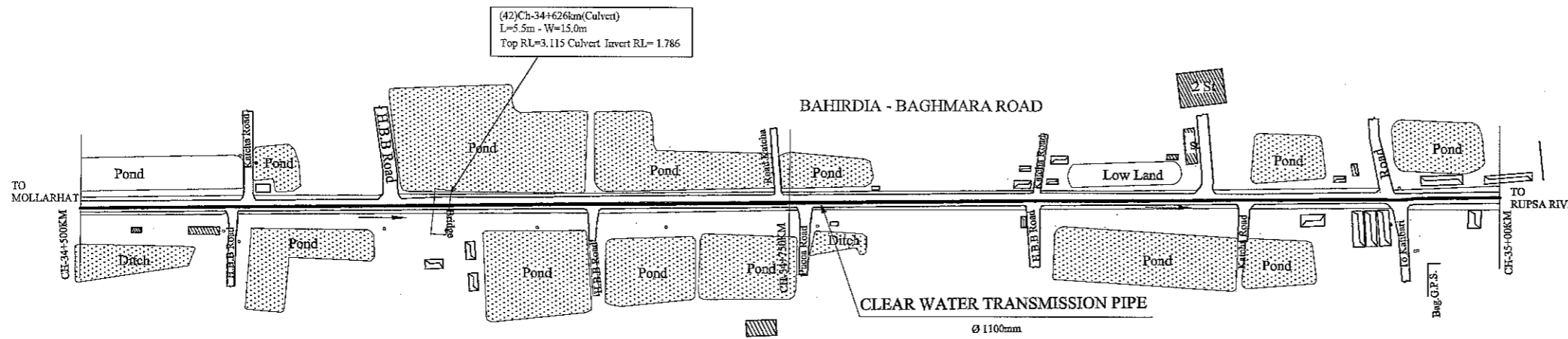
PLAN CH-34+00KM TO CH-34+500 KM

SCALE 1:2000



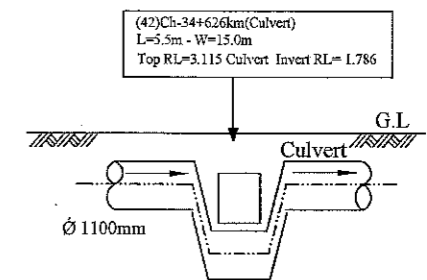
PROFILE (41)CH-34+375KM(CULVERT)

SCALE 1:200



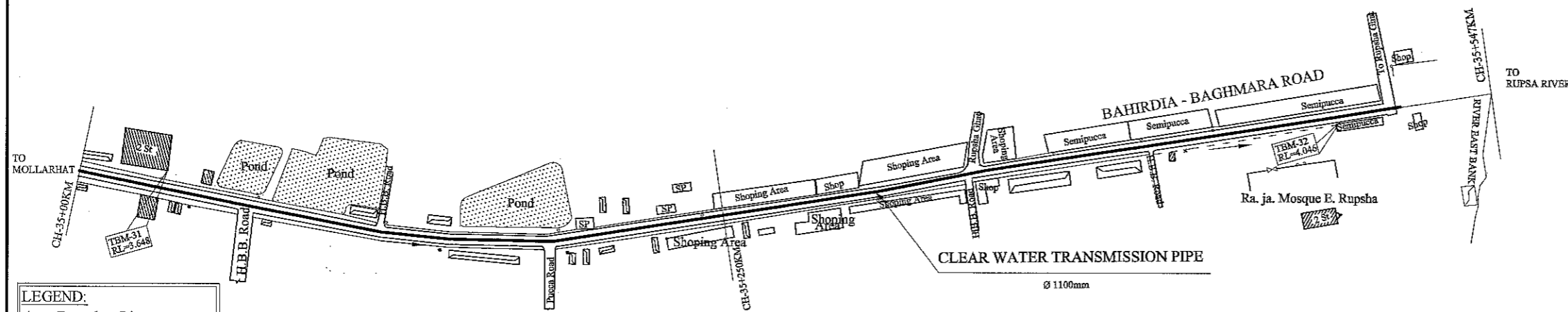
PLAN CH-34+500KM TO CH-35+00 KM

SCALE 1:2000



PROFILE (38)CH-31+598KM (CULVERT)

SCALE 1:200



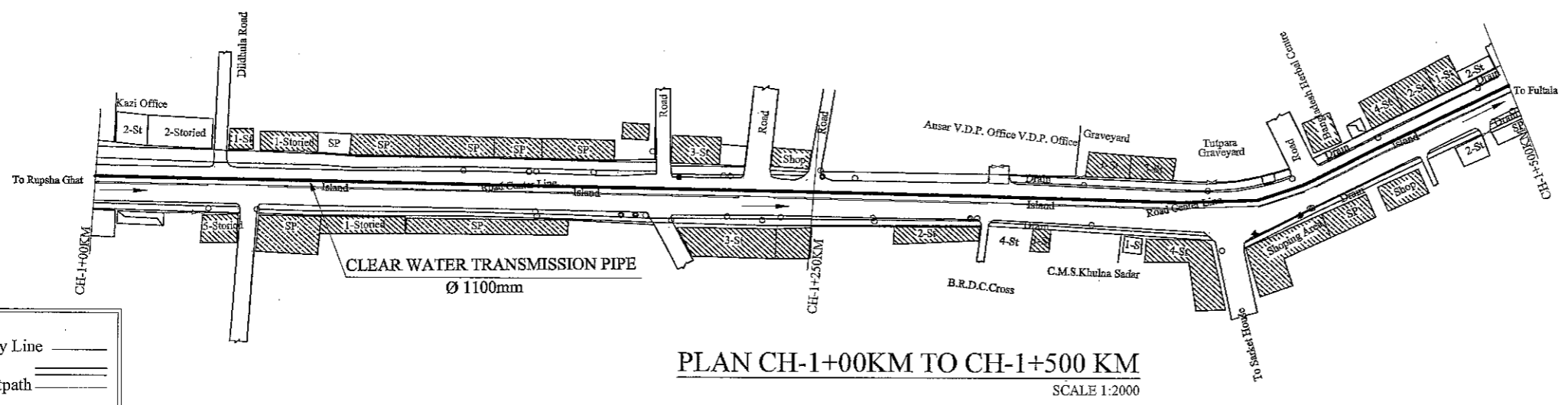
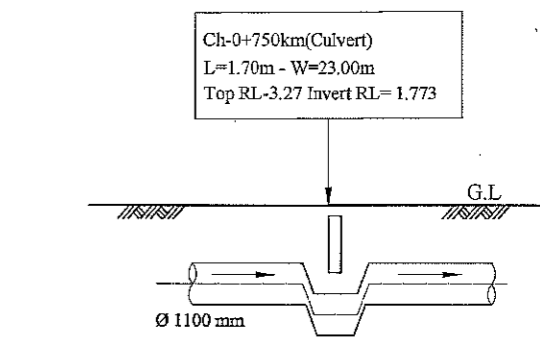
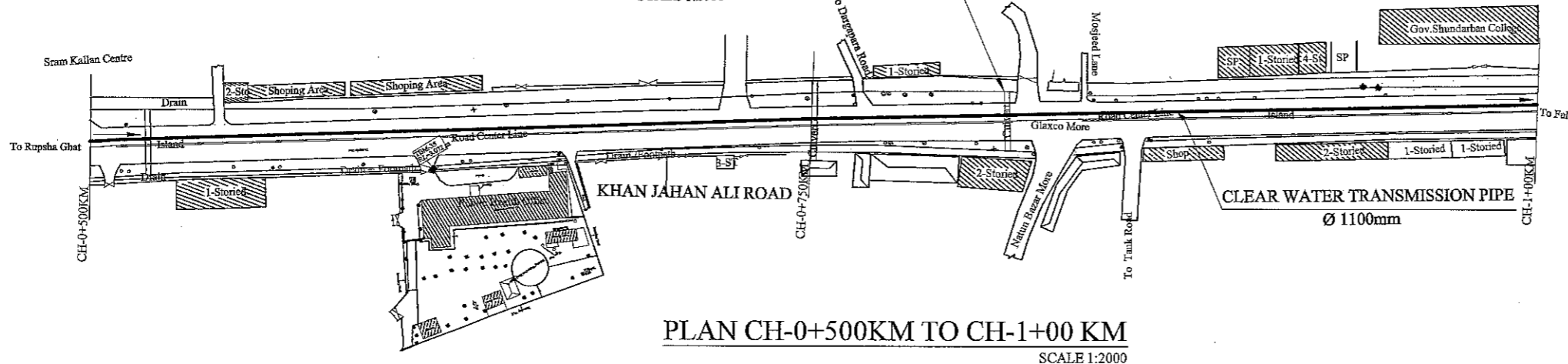
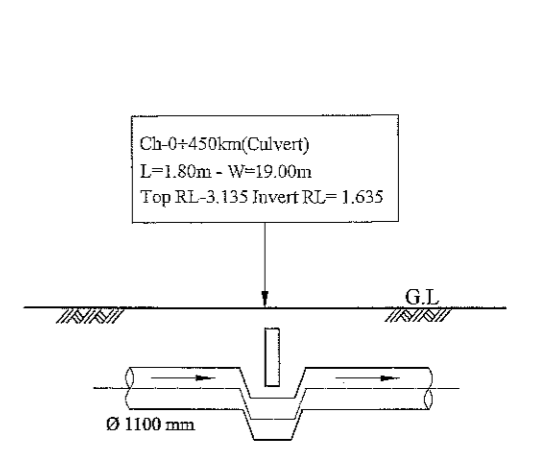
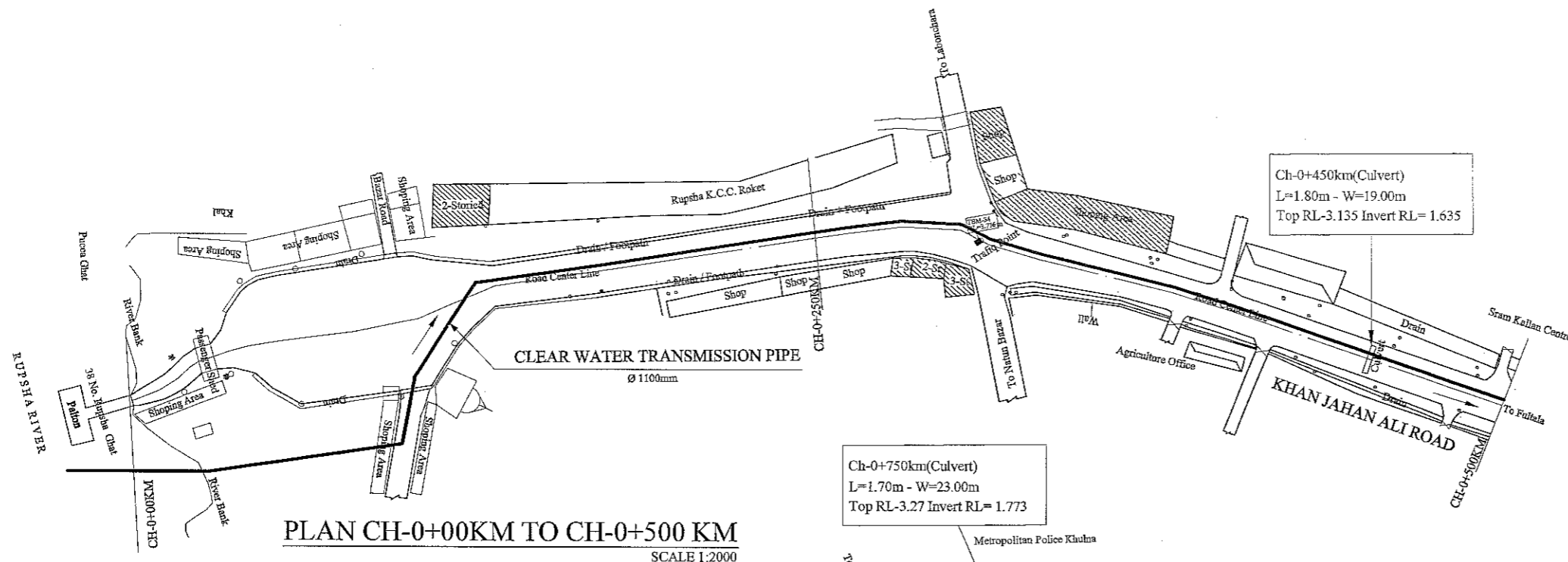
PLAN CH-35+00 KM TO CH-35+547KM

SCALE 1:2000

LEGEND:

Area Boundary Line	———
Road	———
Shoulder/Footpath	———
Water Bodes	———
House /Bouilding	▨
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	○
SP=Brick Made House with Tin Shed Roof	▨

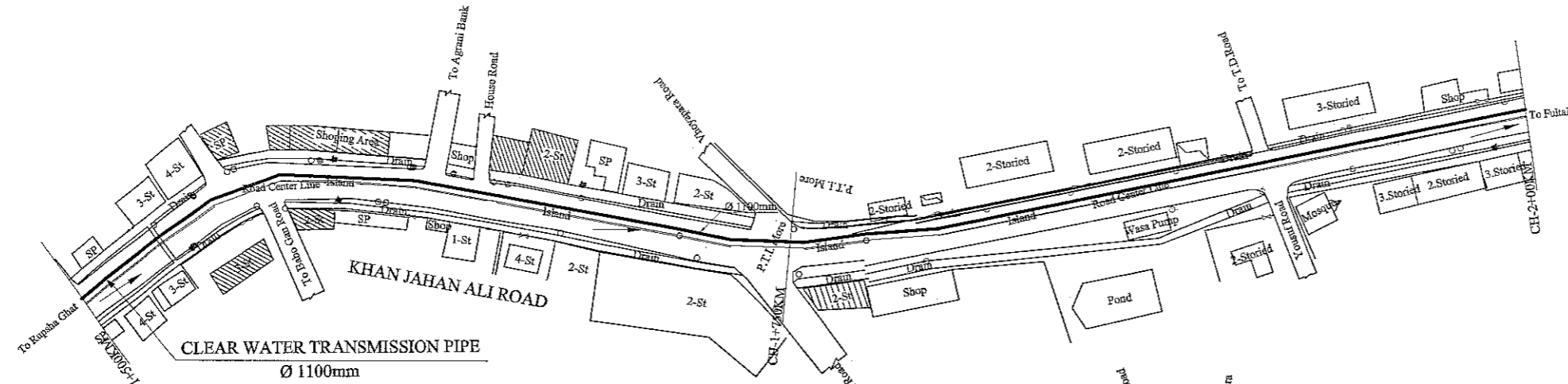
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 05	SCALE DWG No.	H-1:2000 V-1:200 62 CWT-PP-005



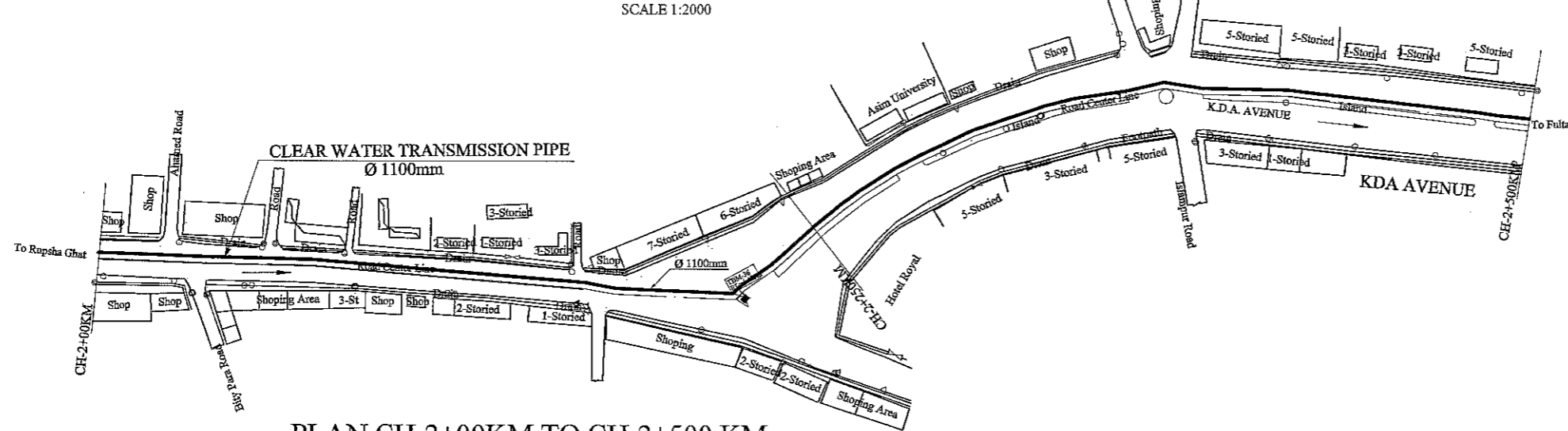
LEGEND:

- Area Boundary Line ———
- Road ———
- Shoulder/Footpath ———
- Water Bodes ———
- House / Bouilding
- Bridge / Culvert
- TBM
- Electric Pole
- R&H Pillar
- SP=Brick Made House with Tin Shed Roof

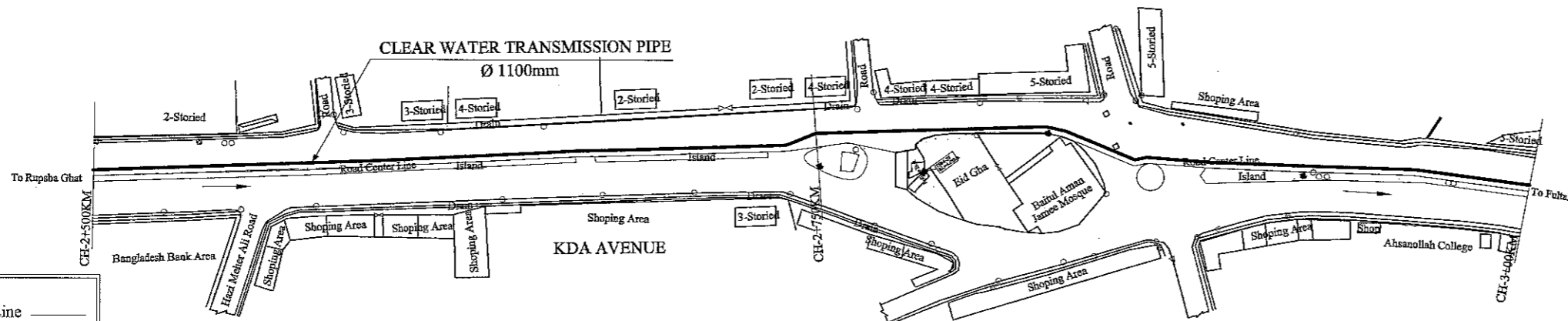
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 06	SCALE DWG No.	H-1:2000 V-1:200 63 CWT-PP-006



PLAN CH-1+500KM TO CH-2+00 KM
SCALE 1:2000



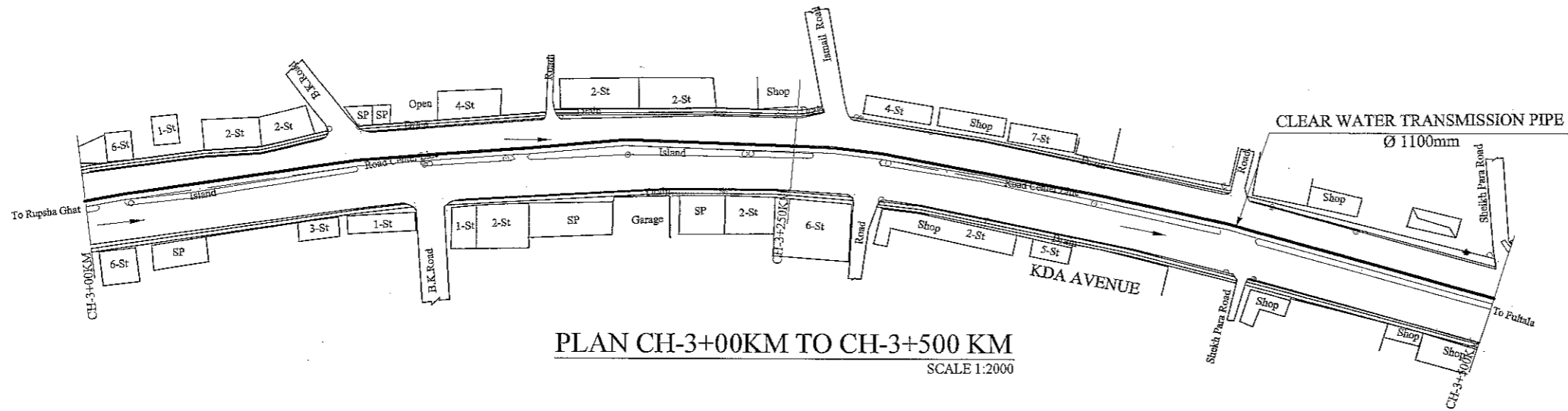
PLAN CH-2+00KM TO CH-2+500 KM
SCALE 1:2000



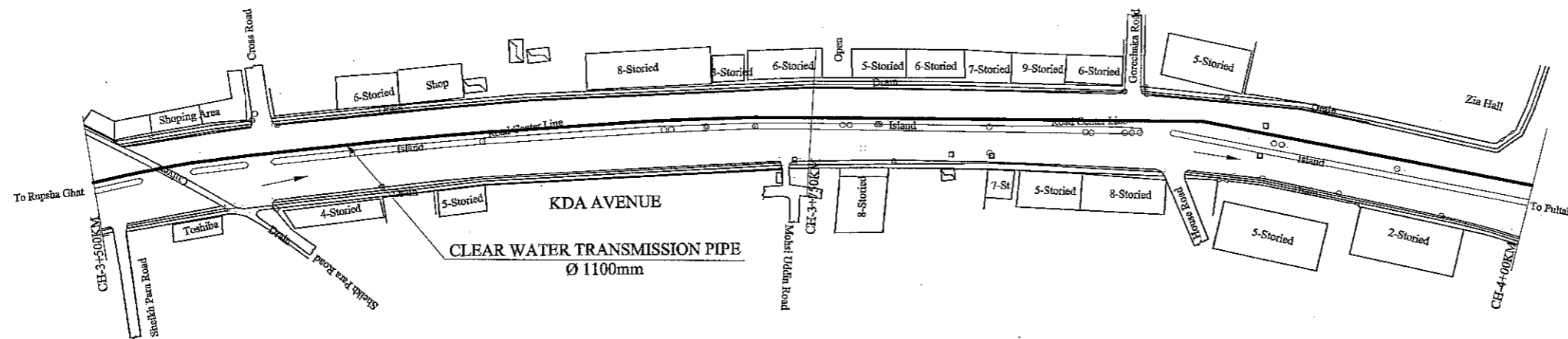
PLAN CH-2+500KM TO CH-3+00 KM
SCALE 1:2000

- LEGEND:**
- Area Boundary Line ———
 - Road ———
 - Shoulder/Footpath ———
 - Water Bodes ———
 - House /Building [hatched box]
 - Bridge / Culvert [arch symbol]
 - TBM [square with dot]
 - Electric Pole [circle with cross]
 - R.&H Pillar [circle]
 - SP=Brick Made House with Tin Shed Roof [hatched box]

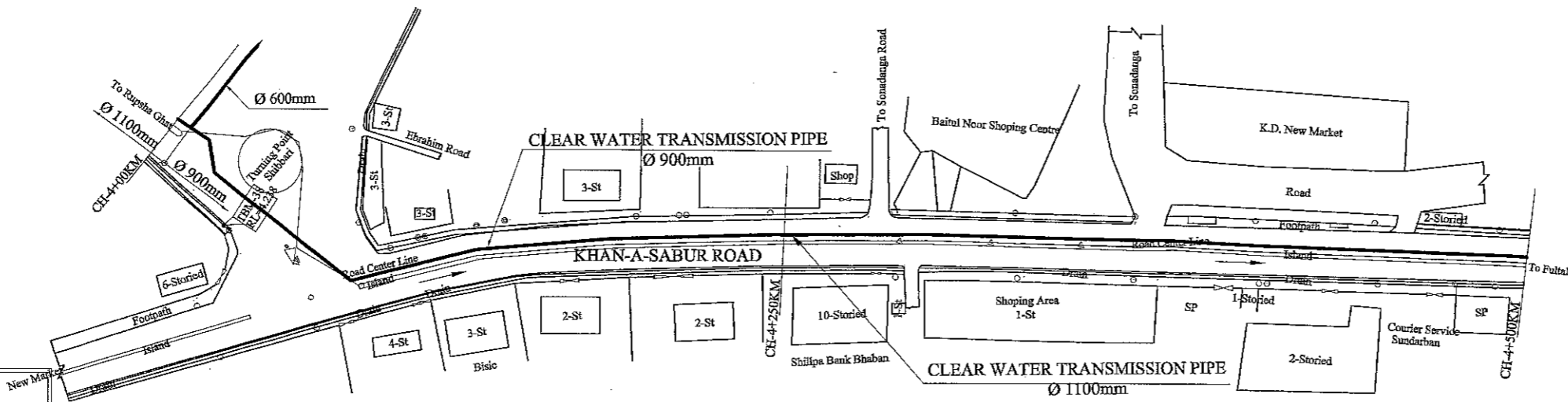
JICA NIS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
	PLAN & PROFILE 07	DWG No.	64 CWT-PP-007



PLAN CH-3+00KM TO CH-3+500 KM
SCALE 1:2000



PLAN CH-3+500KM TO CH-4+00 KM
SCALE 1:2000



PLAN CH-4+00KM TO CH-4+500 KM
SCALE 1:2000

LEGEND:

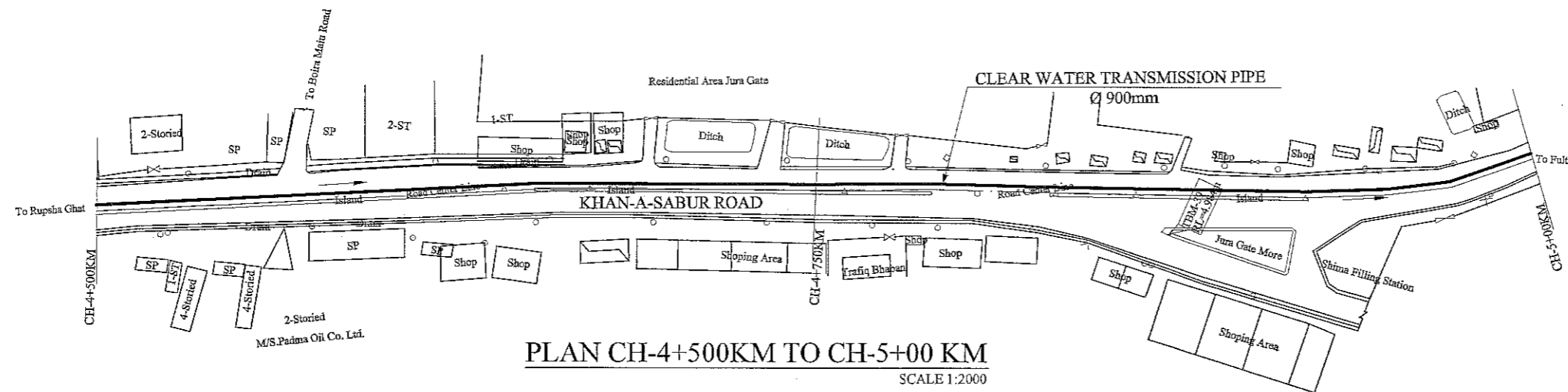
Area Boundary Line	---
Road	====
Shoulder/Footpath	=====
Water Bodes	~~~~~
House /Boulding	▒
Bridge / Culvert	⌒
TBM	■
Electric Pole	○
R&H Pillar	○
SP=Brick Made House with Tin Shed Roof	□

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

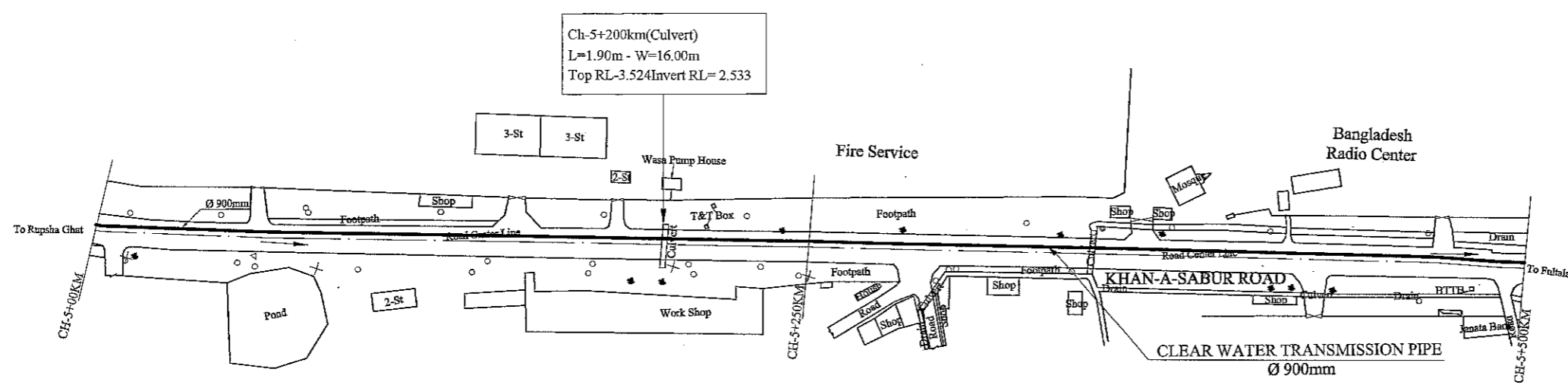
NIS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

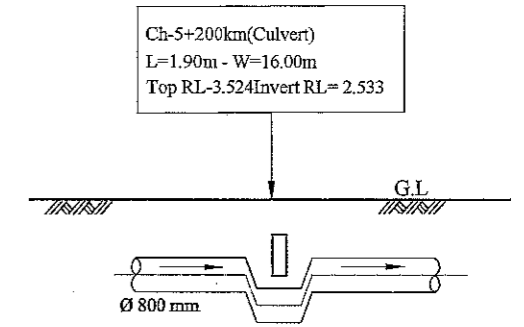
CLEAR WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
PLAN & PROFILE 08	DWG No.	65 CWT-PP-008



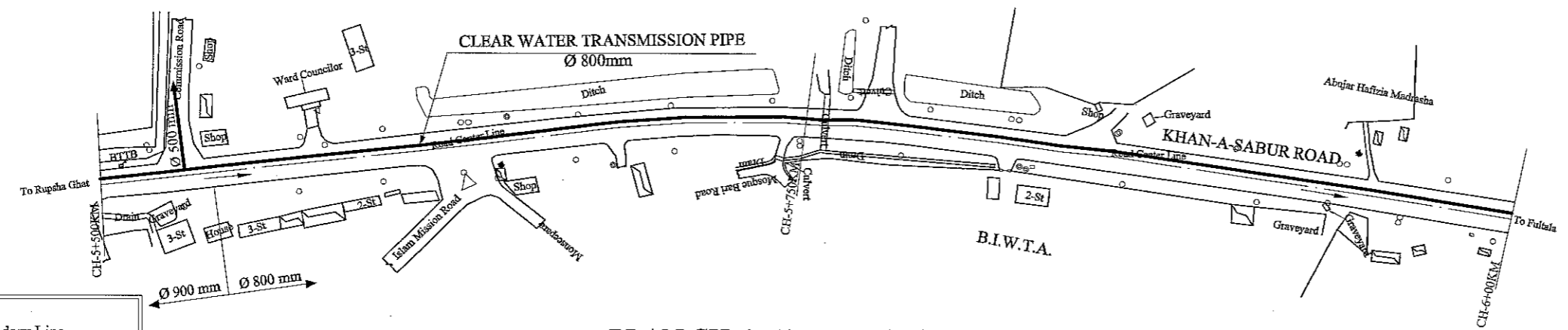
PLAN CH-4+500KM TO CH-5+00 KM
SCALE 1:2000



PLAN CH-5+00KM TO CH-5+500 KM
SCALE 1:2000



PROFILE CH-5+200KM (CULVERT)
SCALE 1:200

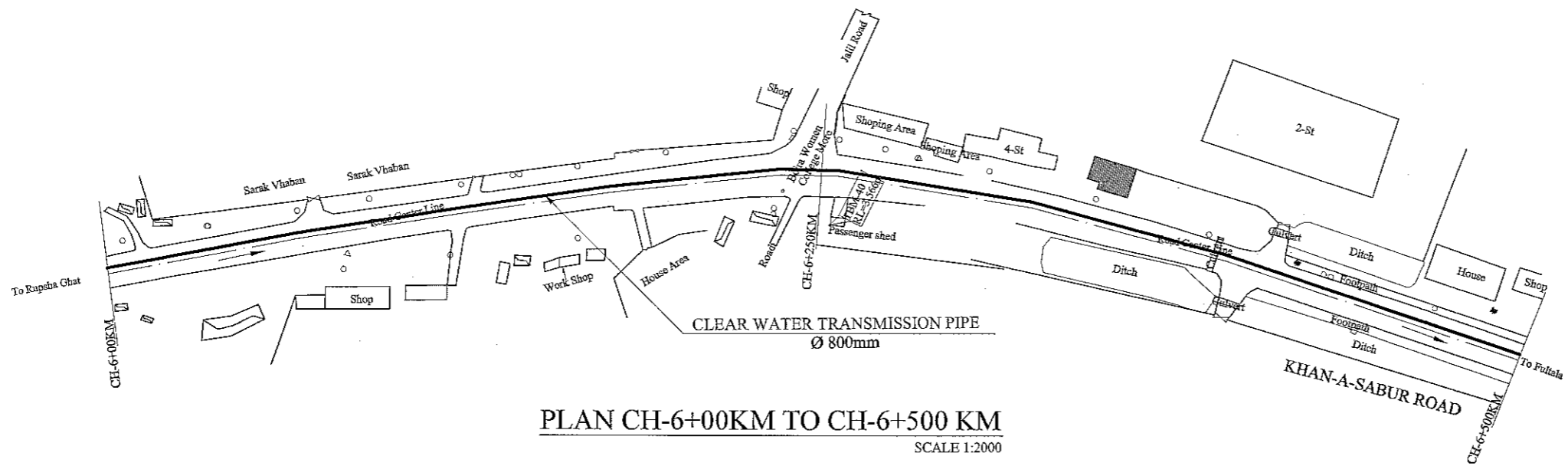


PLAN CH-5+500KM TO CH-6+00 KM
SCALE 1:2000

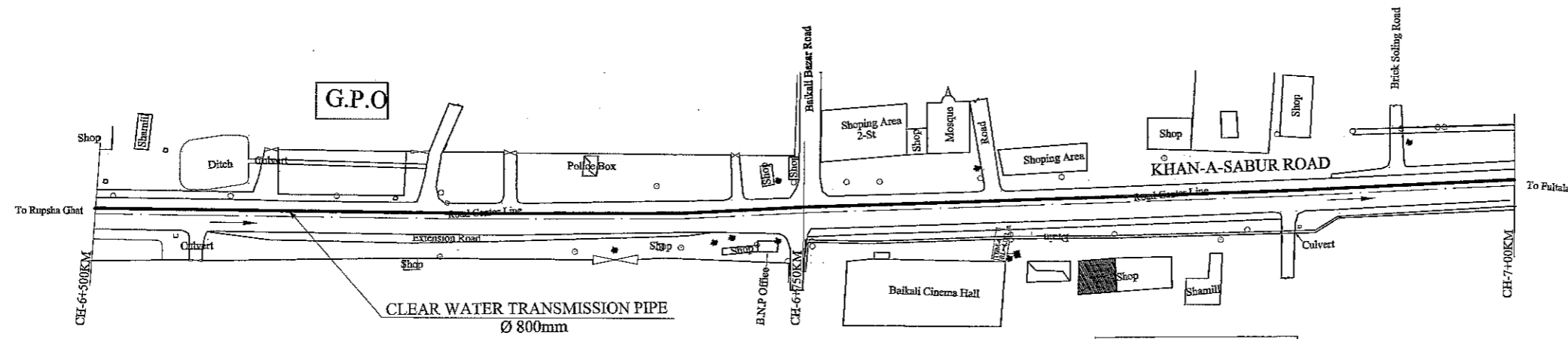
LEGEND:

Area Boundary Line	—
Road	==
Shoulder/Footpath	---
Water Bodes	~
House /Bouilding	▨
Bridge / Culvert	□
TBM	■
Electric Pole	○
R&H Pillar	◊
SP=Brick Made House with Tin Shed Roof	SP

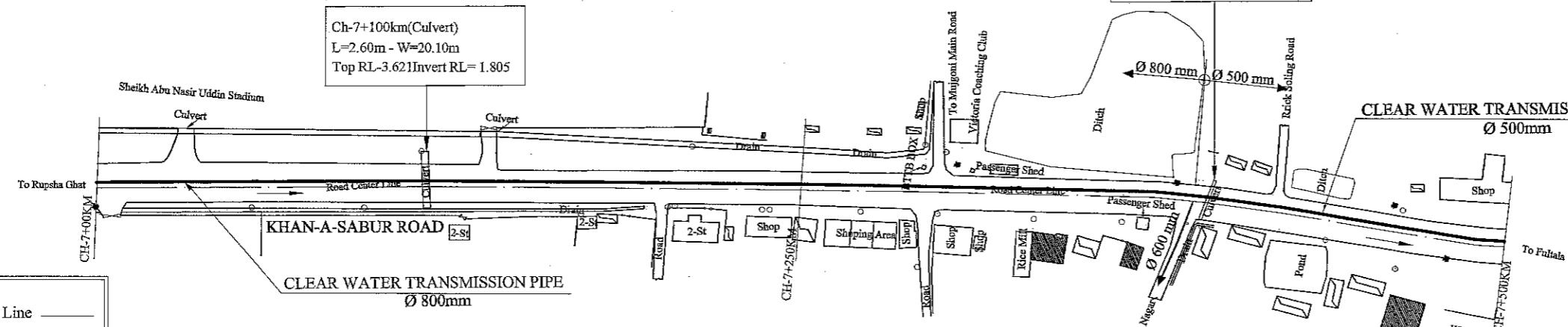
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 09	SCALE DWG No.	H-1:2000 V-1:200 66 CWT-PP-009



PLAN CH-6+00KM TO CH-6+500 KM
SCALE 1:2000



PLAN CH-6+500KM TO CH-7+00 KM
SCALE 1:2000

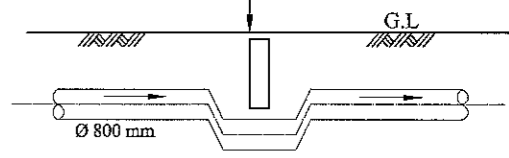


PLAN CH-7+00KM TO CH-7+500 KM
SCALE 1:2000

Ch-7+100km(Culvert)
L=2.60m - W=20.10m
Top RL-3.621|Invert RL= 1.805

Ch-7+100km(Culvert)
L=2.60m - W=20.10m
Top RL-3.621|Invert RL= 1.805

Ch-7+100km(Culvert)
L=2.60m - W=20.10m
Top RL-3.621|Invert RL= 1.805

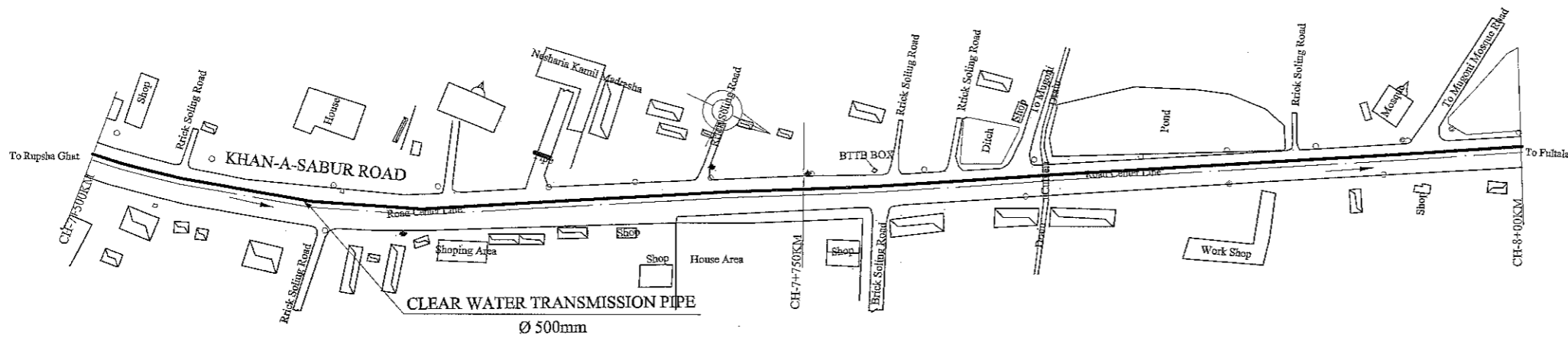


PROFILE CH-7+100KM (CULVERT)
SCALE 1:200

LEGEND:

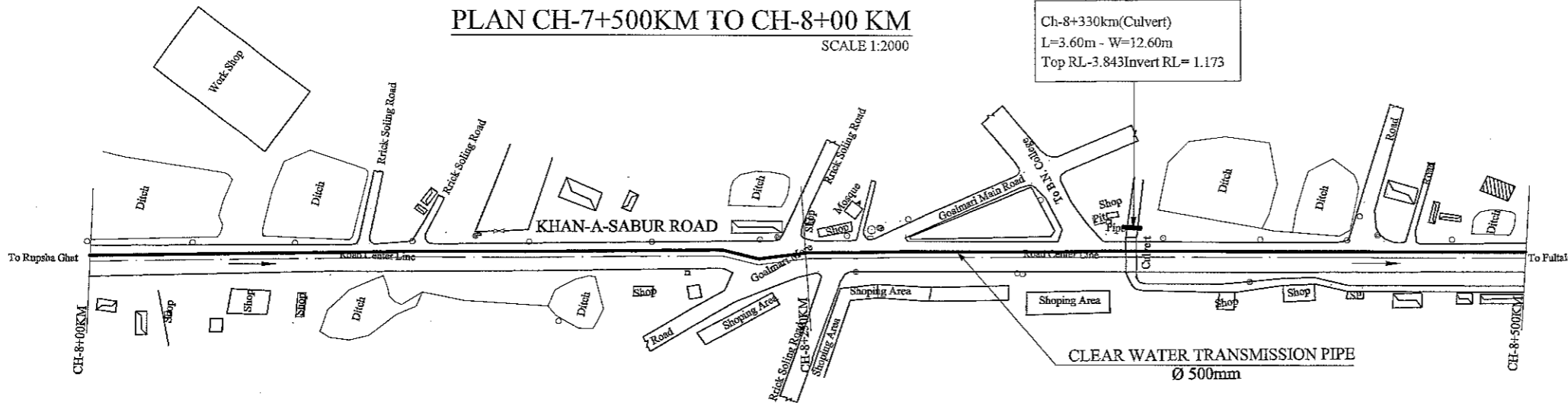
- Area Boundary Line ———
- Road ———
- Shoulder/Footpath ———
- Water Bodes ———
- House /Bouilding [hatched box]
- Bridge / Culvert [rectangle with lines]
- TBM [square with dot]
- Electric Pole [circle with cross]
- R&H Pillar [circle]
- SP=Brick Made House with Tin Shed Roof [rectangle with cross-hatch]

JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 10	SCALE DWG No. 67	H-1:2000 V-1:200 CWT-PP-010



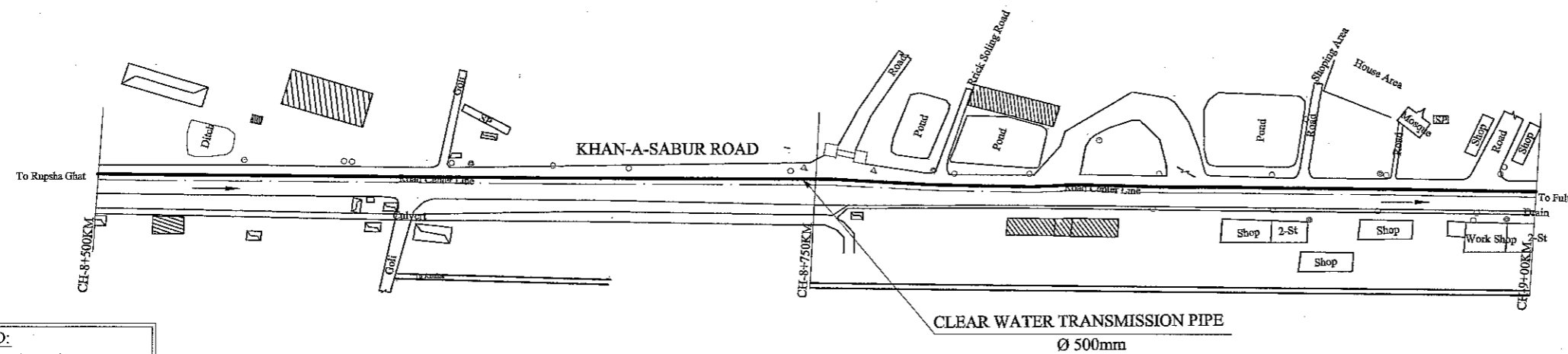
PLAN CH-7+500KM TO CH-8+00 KM

SCALE 1:2000



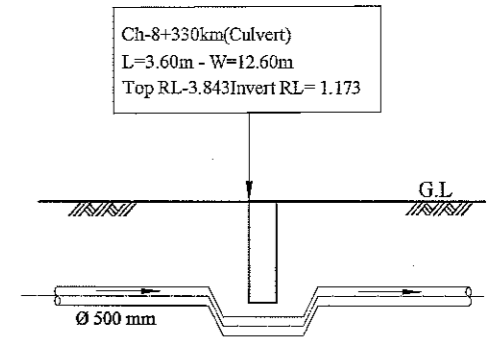
PLAN CH-8+00KM TO CH-8+500 KM

SCALE 1:2000



PLAN CH-8+500KM TO CH-9+00 KM

SCALE 1:2000



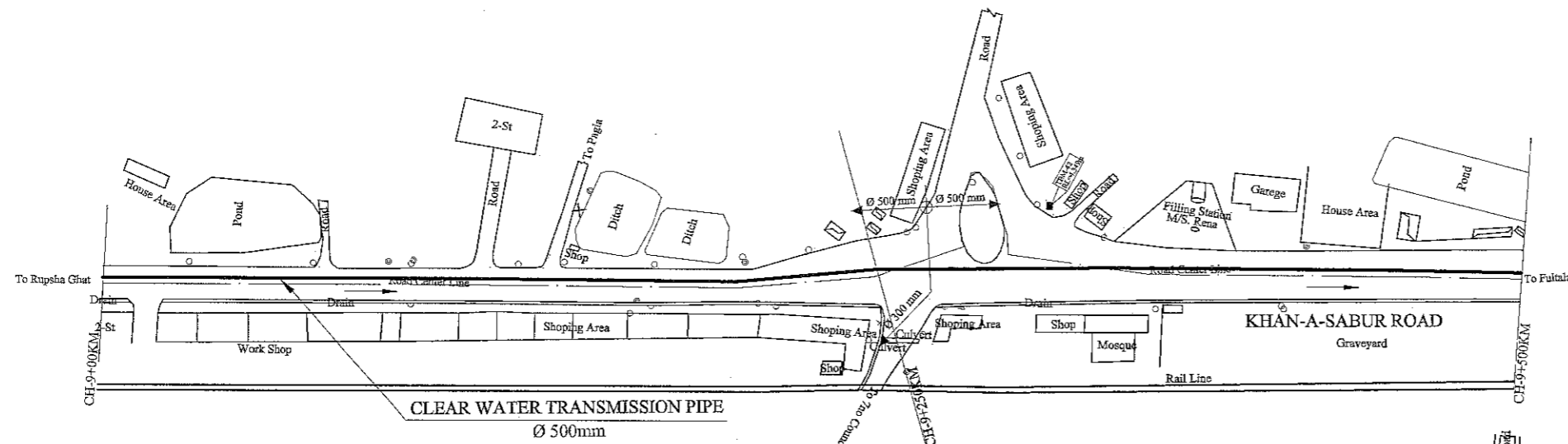
PROFILE CH-8+330KM (CULVERT)

SCALE 1:200

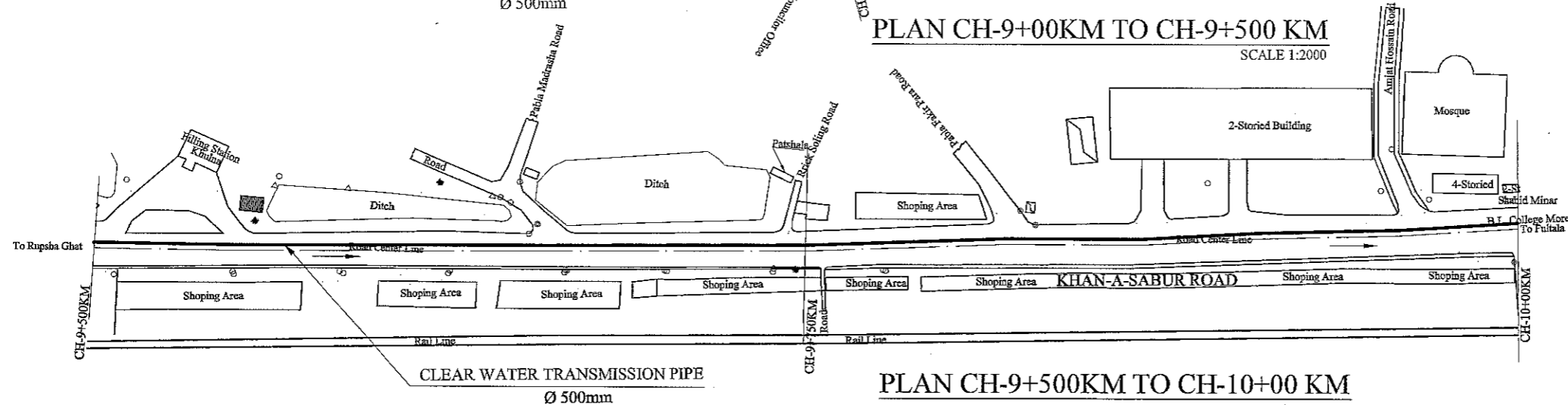
LEGEND:

Area Boundary Line	---
Road	====
Shoulder/Footpath	=====
Water Bodes	~~~~
House /Bouilding	▣
Bridge / Culvert	▭
TBM	■
Electric Pole	○
R&H Pillar	○
SP=Brick Made House with Tin Shed Roof	▣

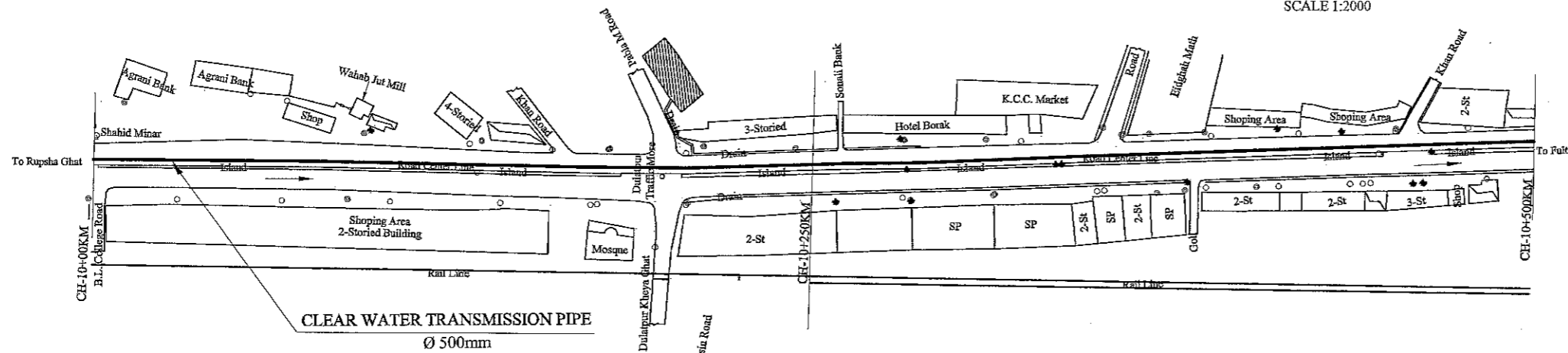
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE	SCALE	H-1:2000 V-1:200
PLAN & PROFILE 11	DWG No.	68	CWT-PP-011



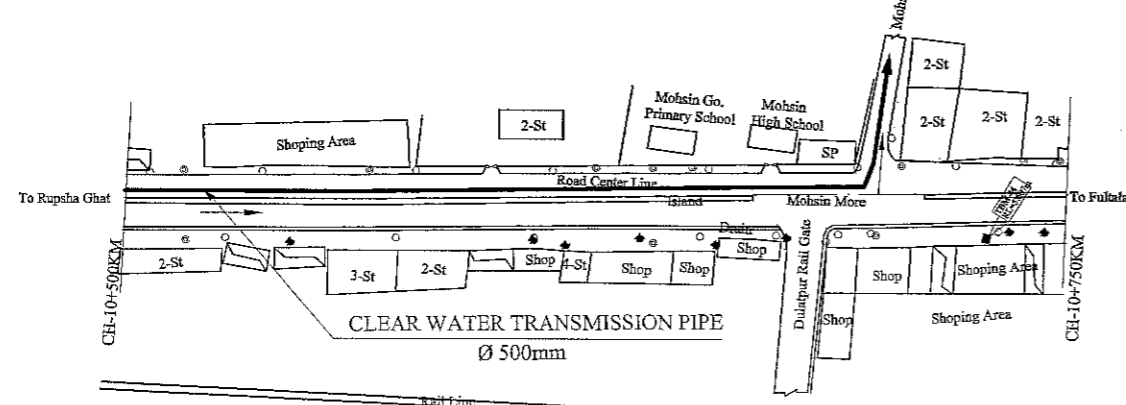
PLAN CH-9+00KM TO CH-9+500 KM
SCALE 1:2000



PLAN CH-9+500KM TO CH-10+00 KM
SCALE 1:2000



PLAN CH-10+00KM TO CH-10+500 KM
SCALE 1:2000

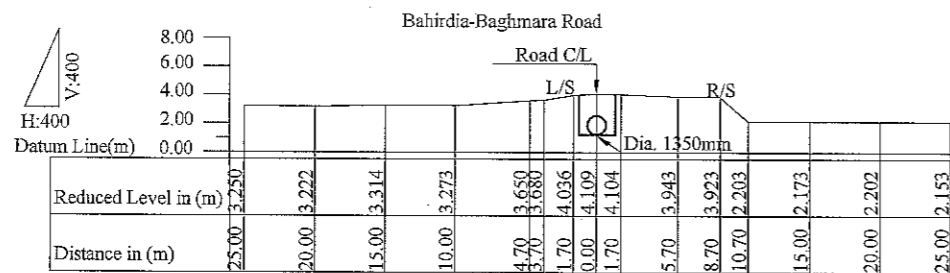


PLAN CH-10+500KM TO CH-10+750 KM
SCALE 1:2000

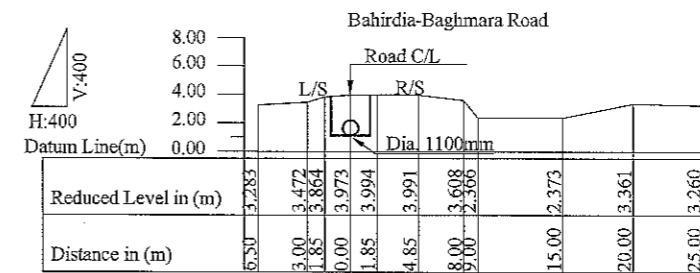
LEGEND:

- Area Boundary Line ———
- Road ———
- Shoulder/Footpath ———
- Water Bodes ———
- House /Bouilding ———
- Bridge / Culvert ———
- TBM ———
- Electric Pole ———
- R&H Pillar ———
- SP=Brick Made House with Tin Shed Roof ———

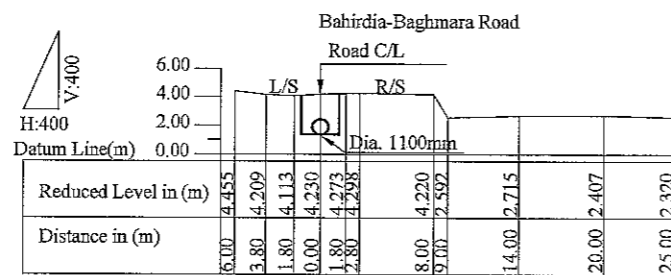
JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE PLAN & PROFILE 12	SCALE DWG No.	H-1:2000 V-1:200 69 CWT-PP-012



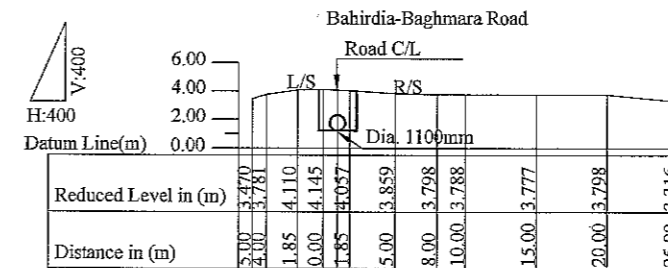
CS-01 CH-32+00 km
SCALE 1:400



CS-03 CH-34+00 km
SCALE 1:400



CS-02 CH-33+00 Km
SCALE 1:400



CS-04 CH-35+00 Km
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line

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NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

CLEAR WATER TRANSMISSION PIPE

SCALE

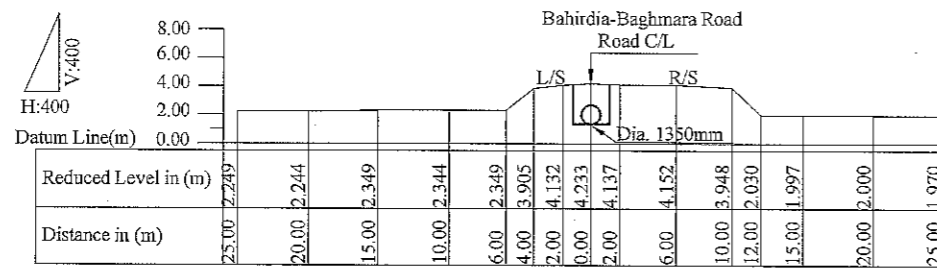
1:400

CROSS SECTION-01

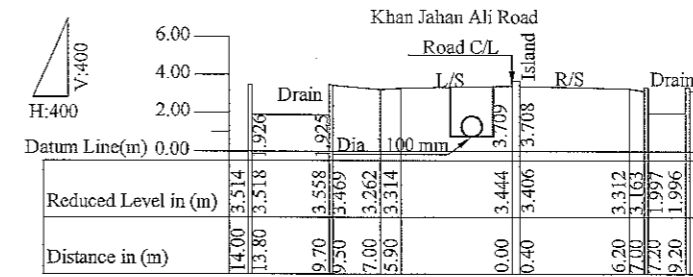
DWG No.

70

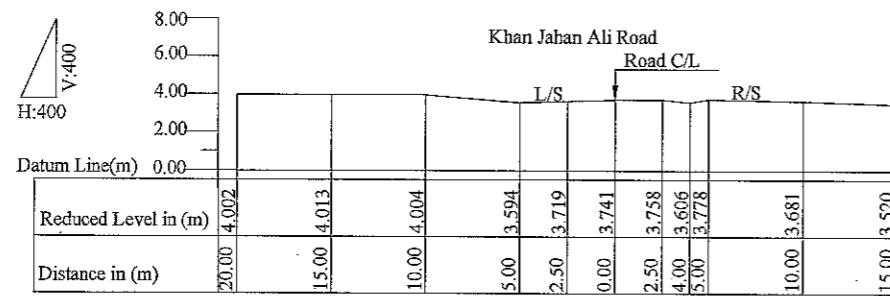
CWT-CS-001



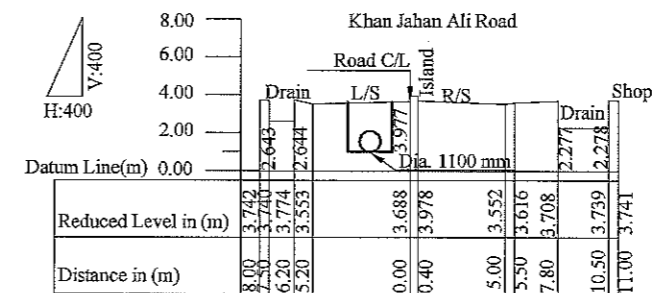
CS-05 CH-31+00 Km
SCALE 1:400



CS-07 CH-1+00Km
SCALE 1:400

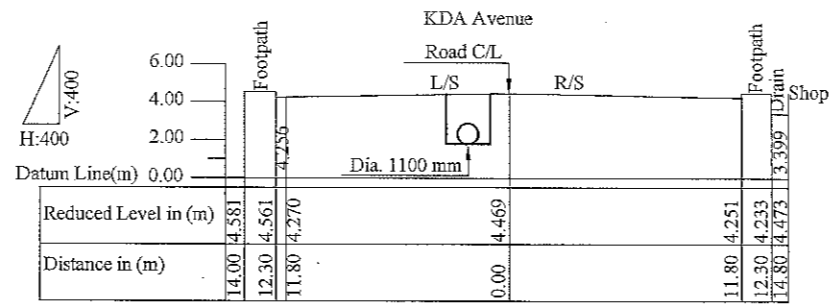


CS-06 CH-0+00 km
SCALE 1:400

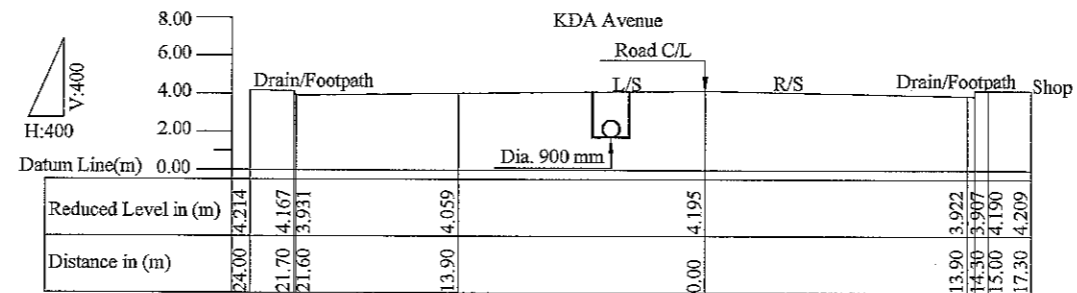


CS-08 CH-2+000 km
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line



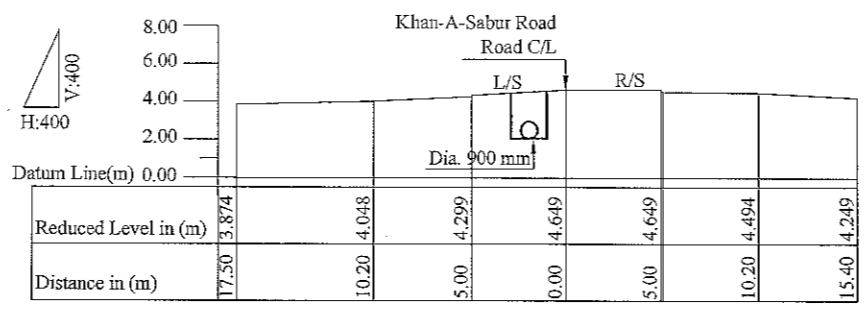
CS-09 CH-3+000 km
SCALE 1:400



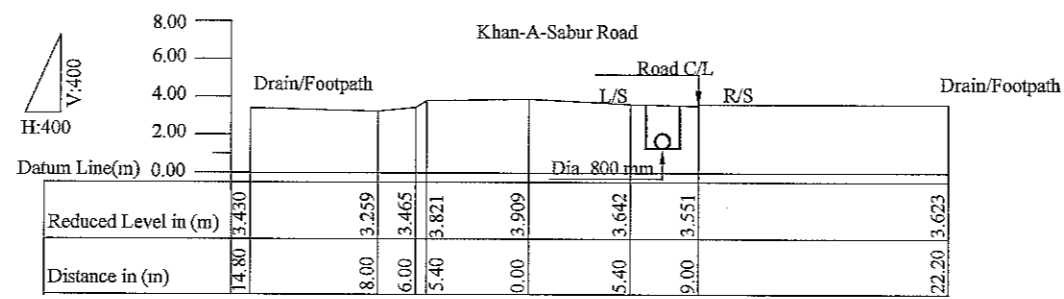
CS-10 CH-4+000 km
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE	SCALE	1:400
	CROSS SECTION-03	DWG No.	72 CWT-CS-003



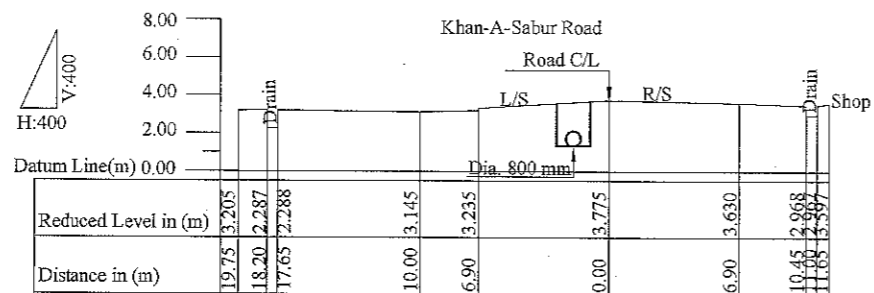
CS-11 CH-5+000 km
SCALE 1:400



CS-12 CH-6+000 km
SCALE 1:400

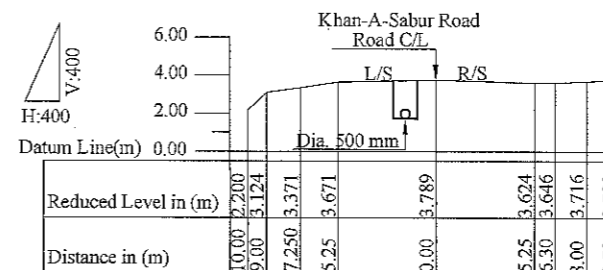
L/S = Left Side
R/S = Right Side
C/L = Center Line

JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
	NJS CONSULTANTS CO., LTD.	CLEAR WATER TRANSMISSION PIPE	SCALE	1:400
	CROSS SECTION-04	DWG No.	73	CWT-CS-004



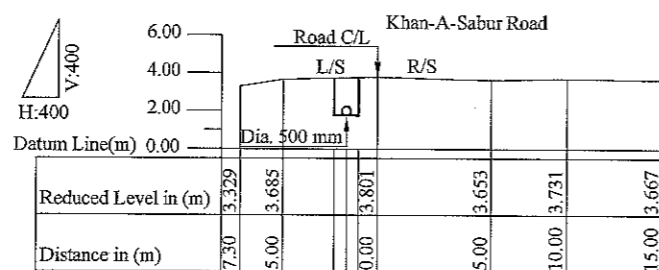
CS-13 CH-7+000 km

SCALE 1:400



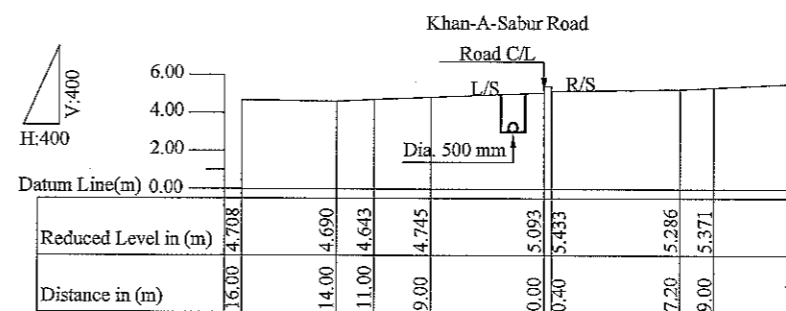
CS-15 CH-9+000 km

SCALE 1:400



CS-14 CH-8+000 km

SCALE 1:400

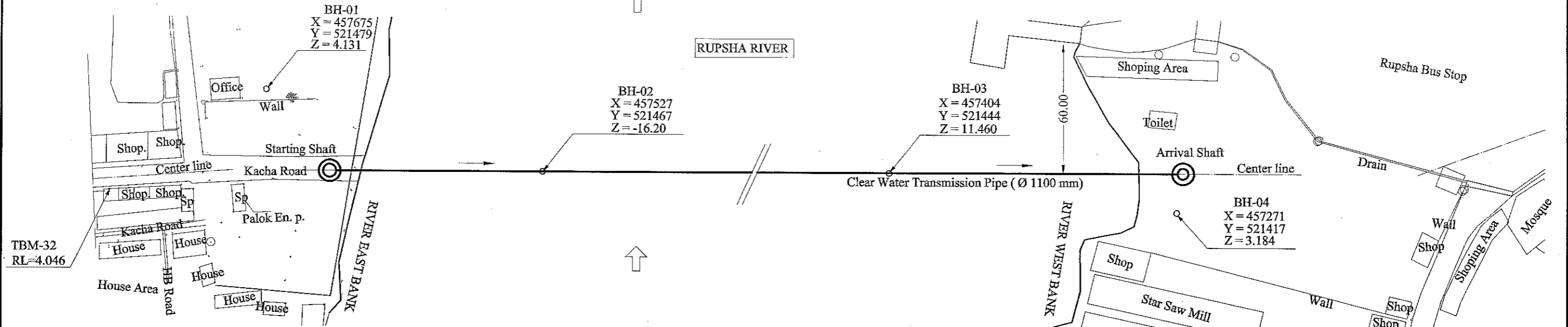
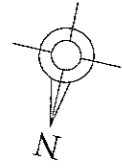


CS-16 CH-10+000 km

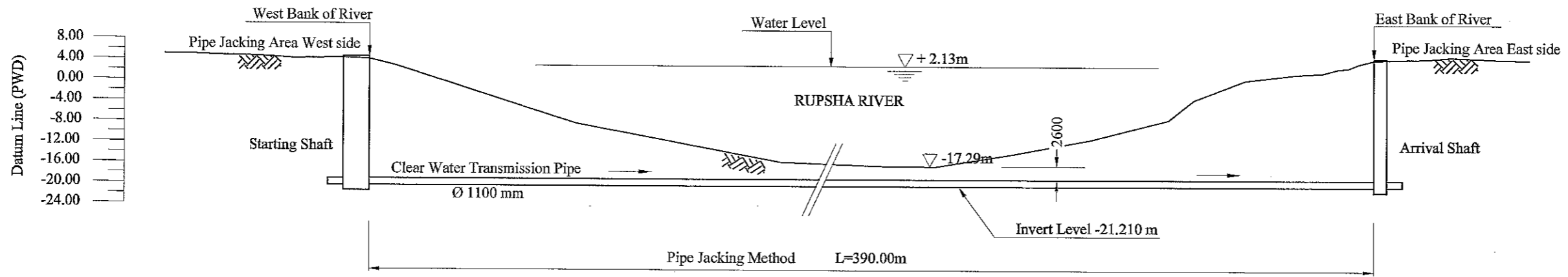
SCALE 1:400

L/S = Left Side
R/S = Right Side
C/L = Center Line

JICA JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE	SCALE	1:400
NJS CONSULTANTS CO., LTD.	CROSS SECTION-05	DWG No.	74
			CWT-CS-005

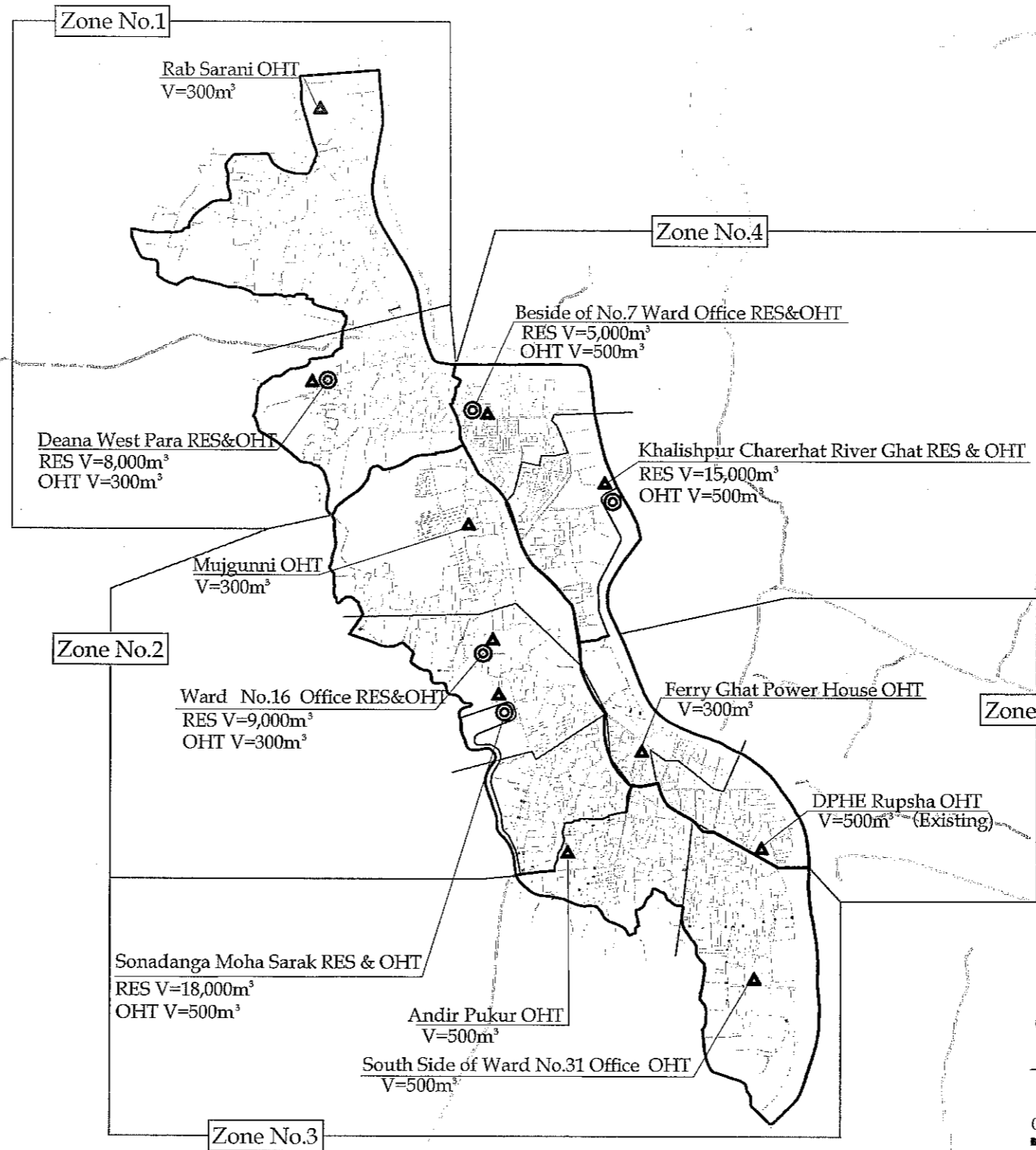
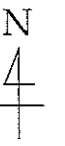


RIVER CROSS PLAN
SCALE 1:1,000



RIVER CROSS SECTION
SCALE 1:1,000

JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	CLEAR WATER TRANSMISSION PIPE	SCALE	1:1,000
	RIVER CROSSING PLAN & SECTION	DWG No.	75 CWT-RC-001

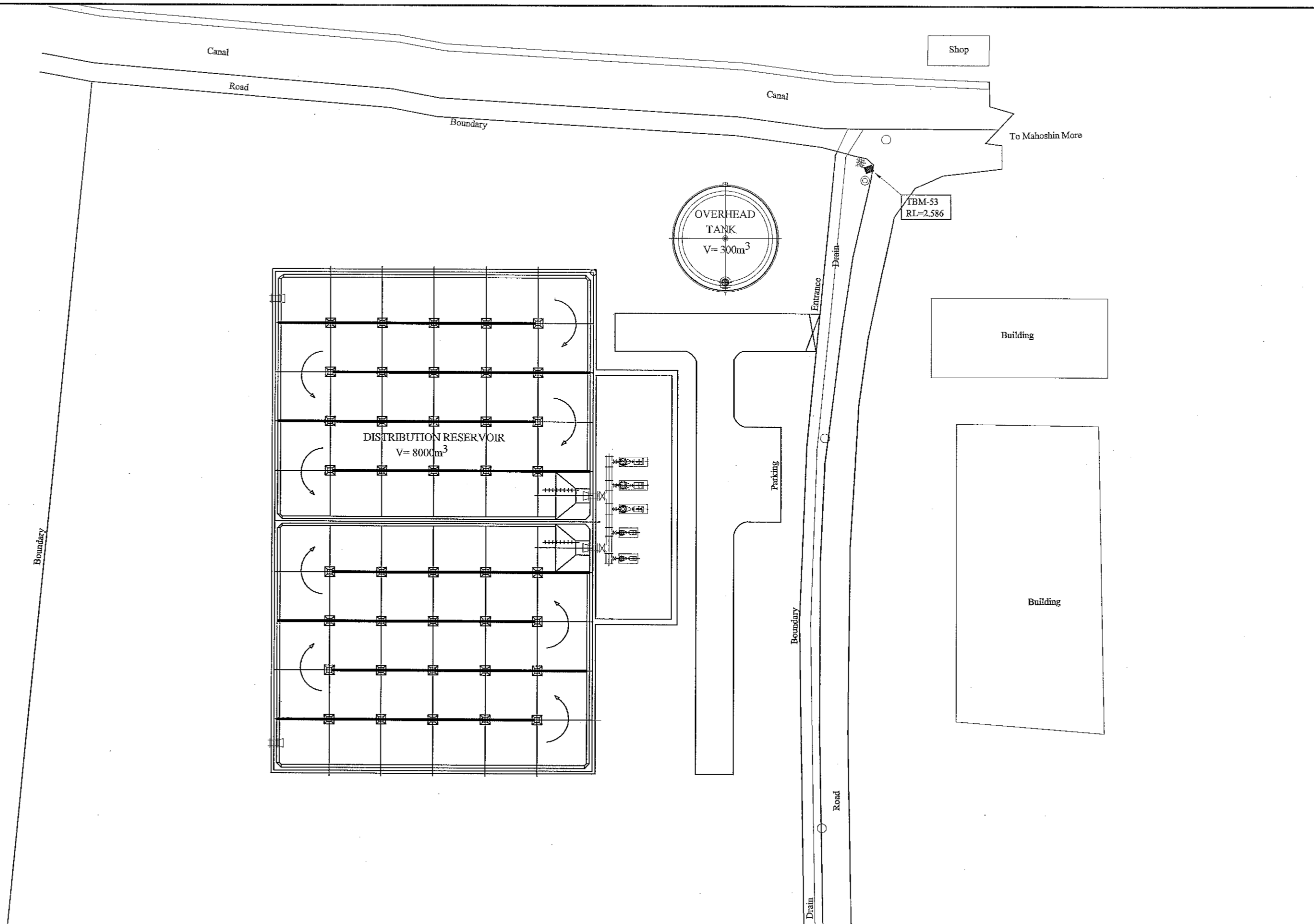




- ⊙ Distribution Reservoir (RES, 5nos.)
- ▲ Overhead Tank (OHT, 11nos.)
- Network Area



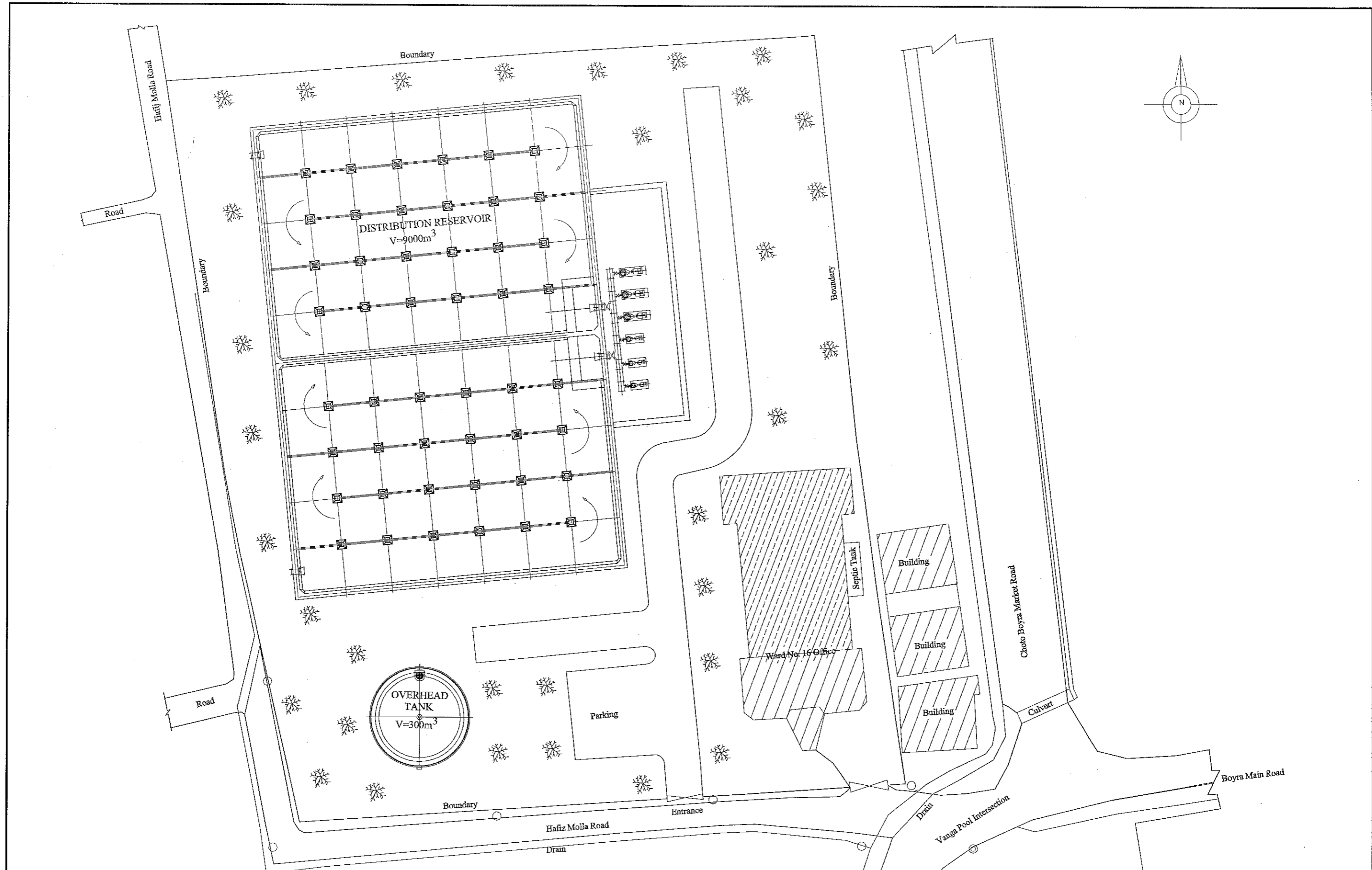
LOCATION MAP OF DISTRIBUTION RESERVOIR & OVERHEAD TANK
SCALE 1:85,000

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION RESERVOIR LOCATION MAP OF DISTRIBUTION RESERVOIR & OVERHEAD TANK	SCALE DWG No.	1:85,000 76



 JAPAN INTERNATIONAL COOPERATION AGENCY
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FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
DISTRIBUTION RESERVOIR	SCALE	1:400
LAYOUT PLAN OF DEANA WEST PARA RESERVOIR & OVERHEAD TANK	DWG No.	77 DR-G-001

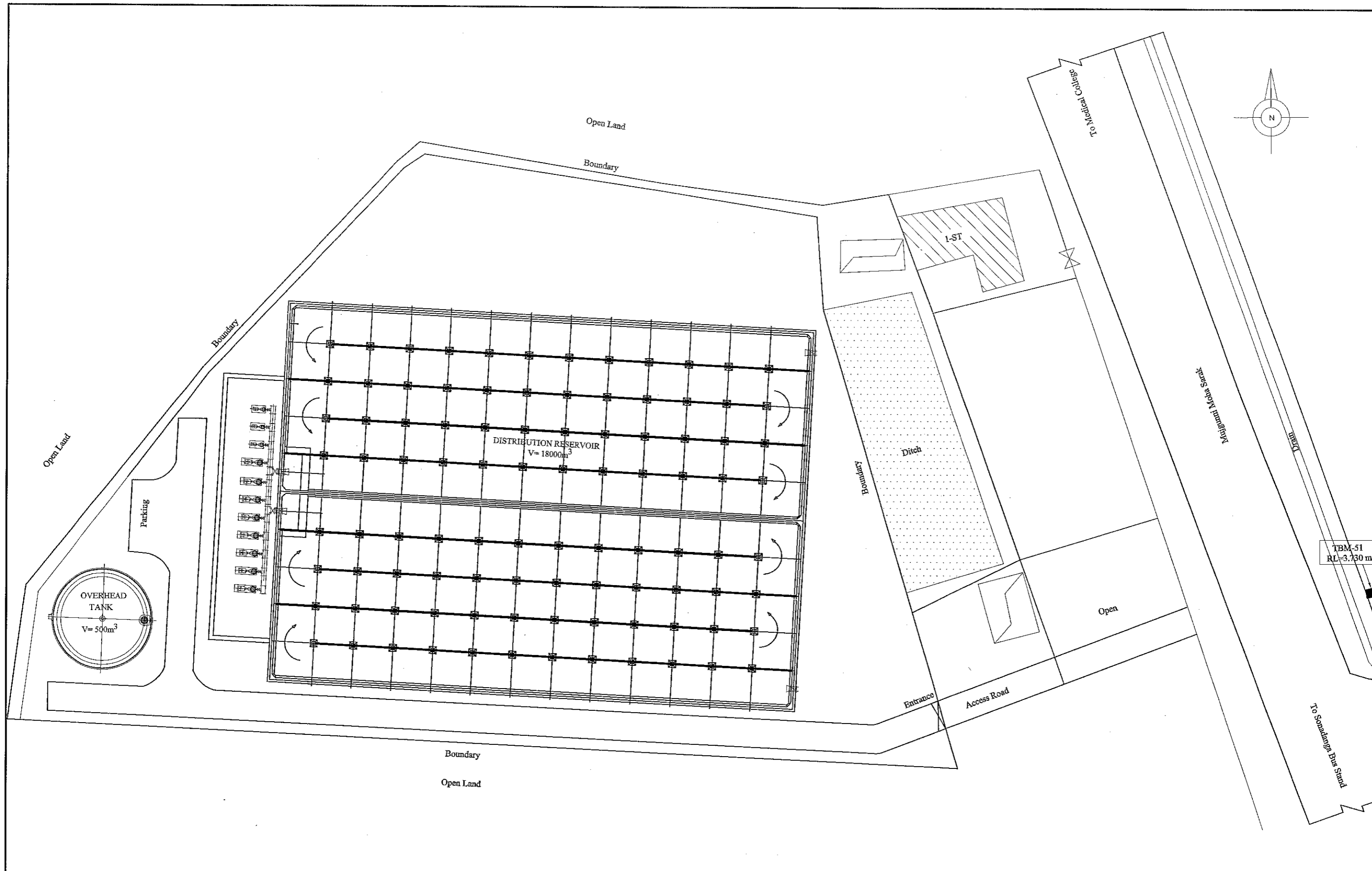




JICA JAPAN INTERNATIONAL COOPERATION AGENCY

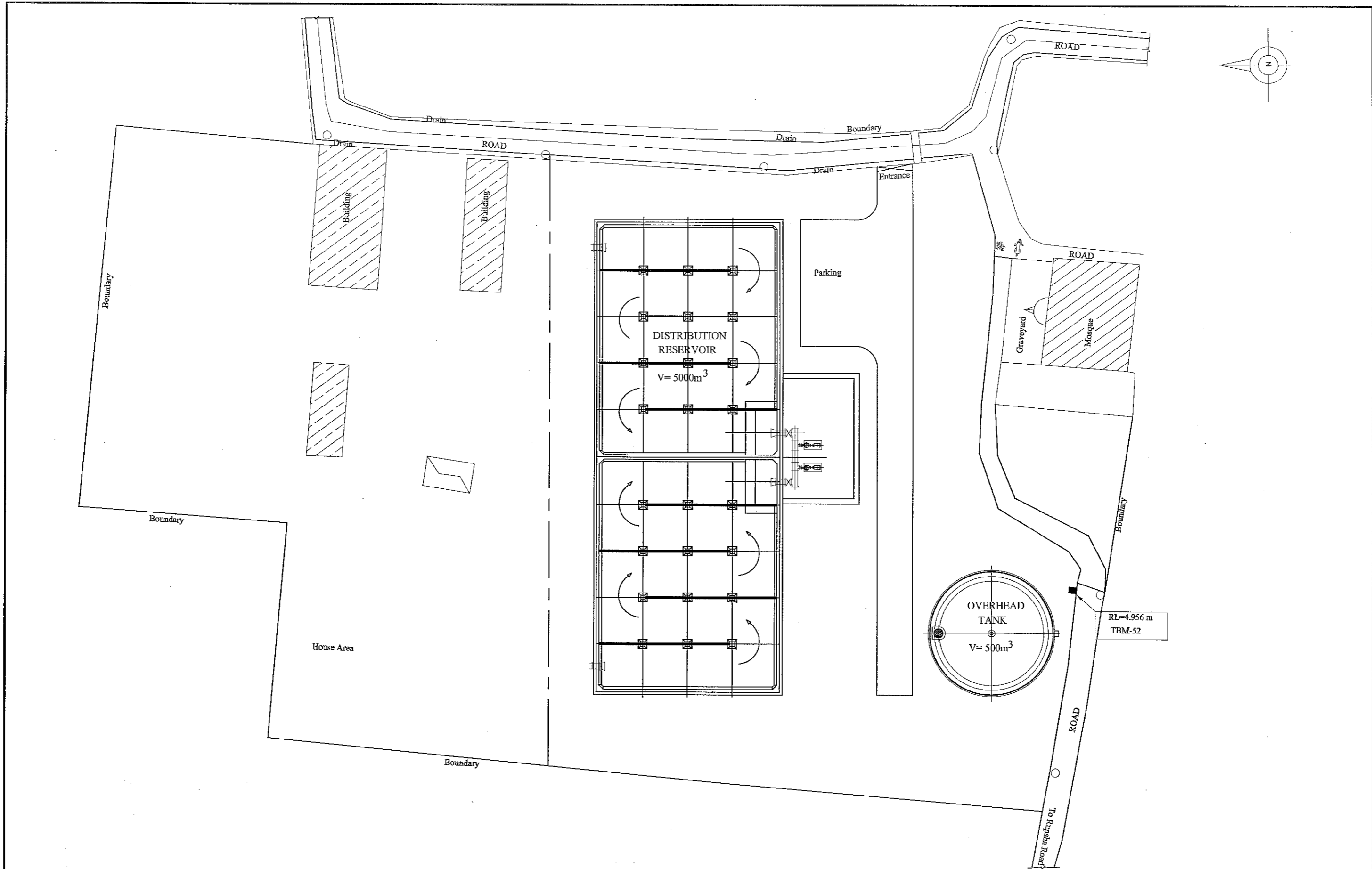
NJS NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

DISTRIBUTION RESERVOIR	SCALE	1:400
LAYOUT PLAN OF WARD NO. 16 OFFICE RESERVOIR & OVERHEAD TANK	DWG No.	78 DR-G-002

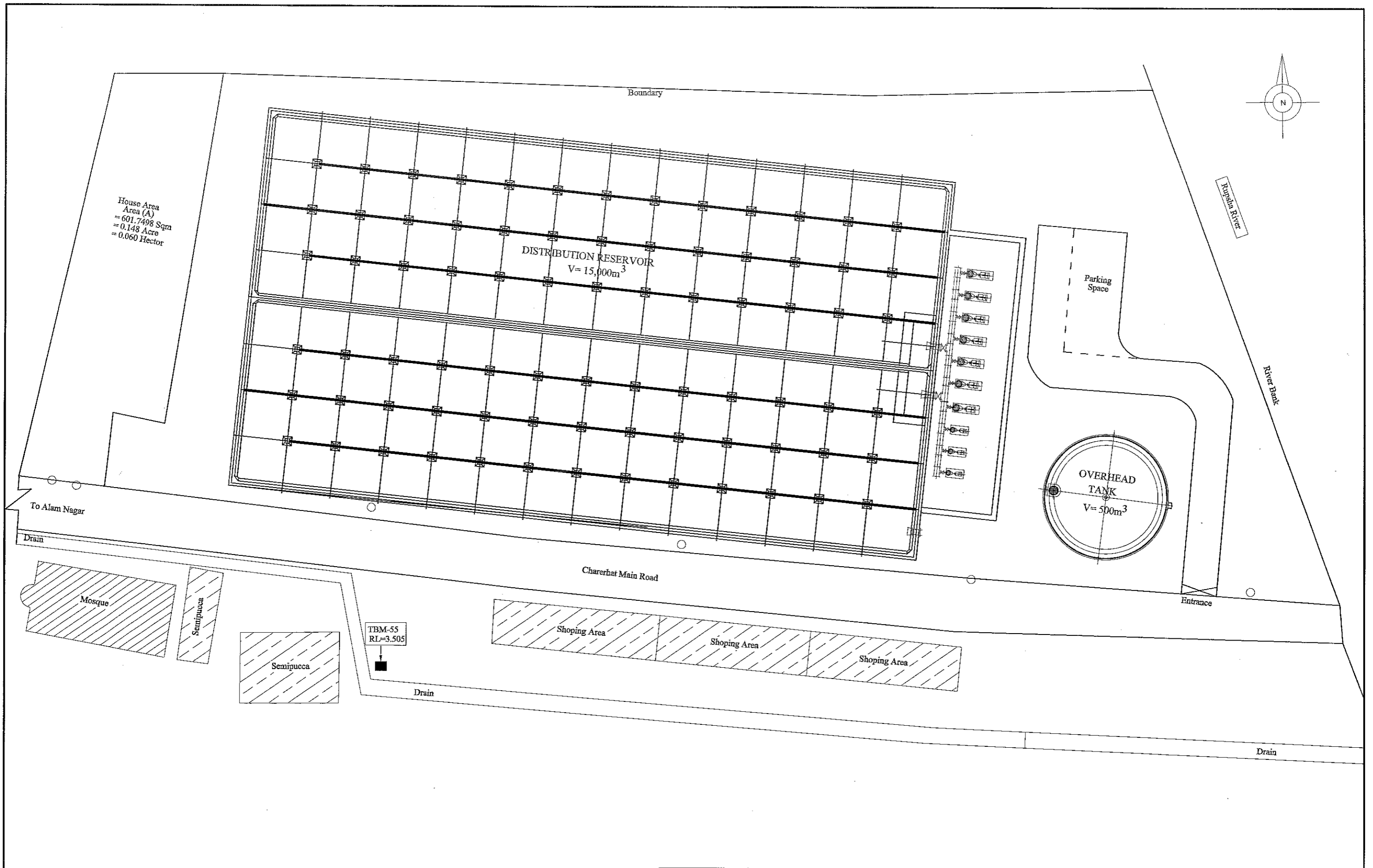


 JICA JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION RESERVOIR LAYOUT PLAN OF BESIDE OF SONADANGA MOHA SARAK RESERVOIR & OVERHEAD TANK	SCALE DWG No.	1:500 79
 NJS CONSULTANTS CO., LTD.			

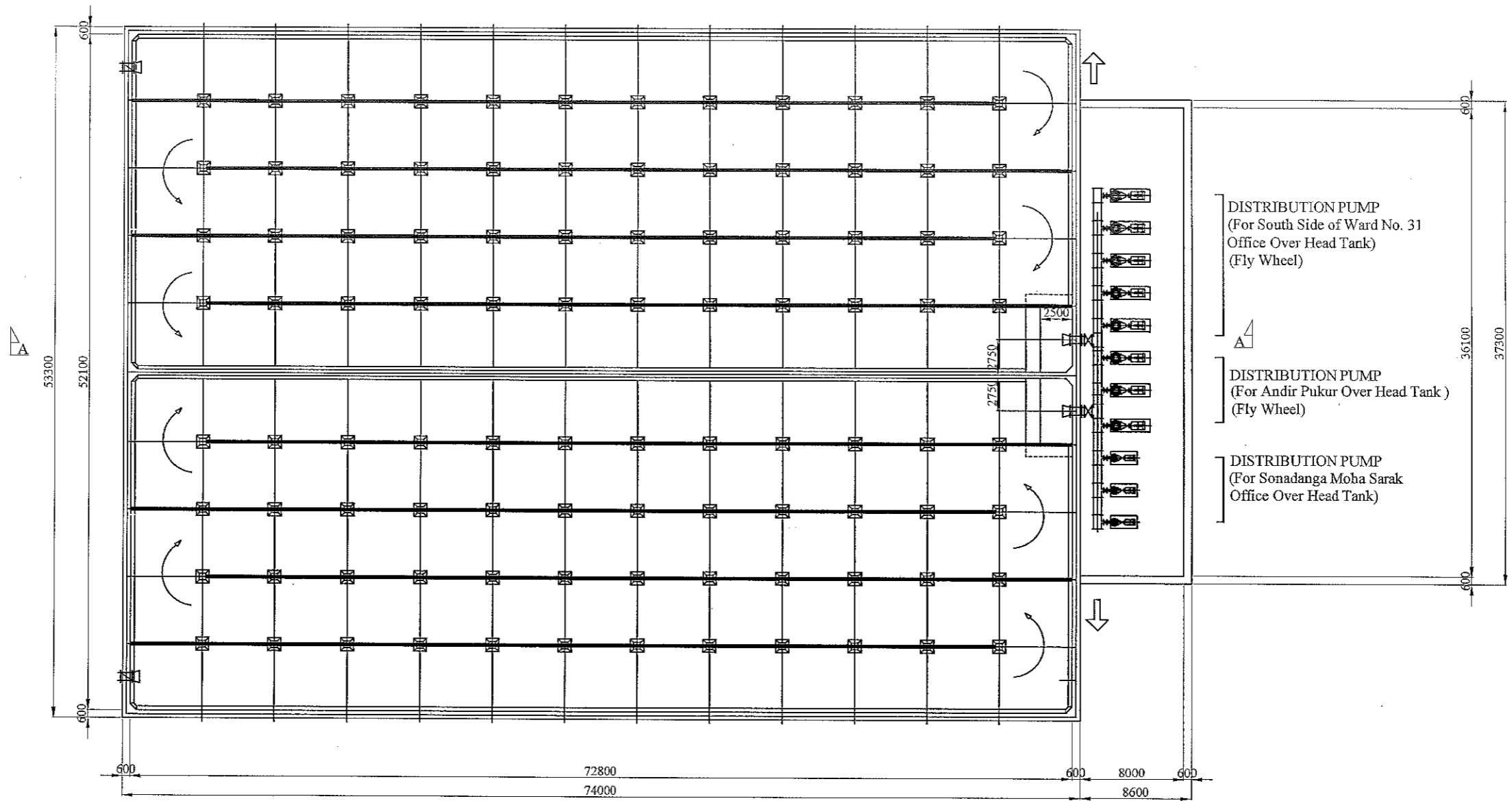


JICA JAPAN INTERNATIONAL COOPERATION AGENCY
NJS NJS CONSULTANTS CO., LTD.

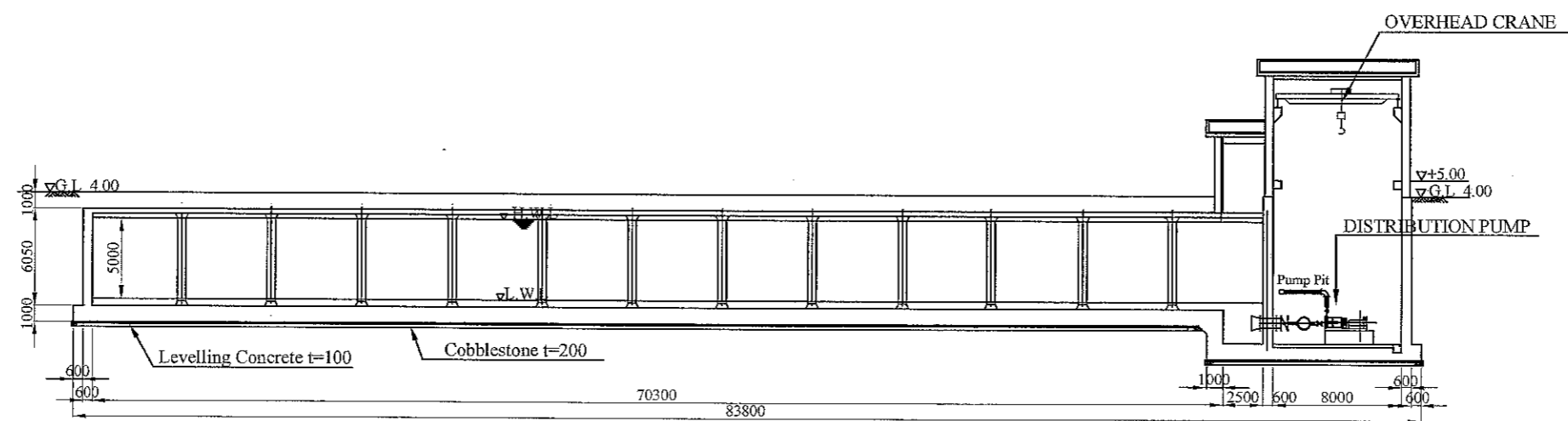
FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
DISTRIBUTION RESERVOIR	SCALE	1:400
LAYOUT PLAN OF BESIDE OF NO. 7 WARD OFFICE RESERVOIR & OVERHEAD TANK	DWG No.	80 DR-G-004



JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION RESERVOIR LAYOUT PLAN OF KHALISHPUR CHARERHAT RESERVOIR & OVERHEAD TANK	SCALE DWG No.	1:400 81

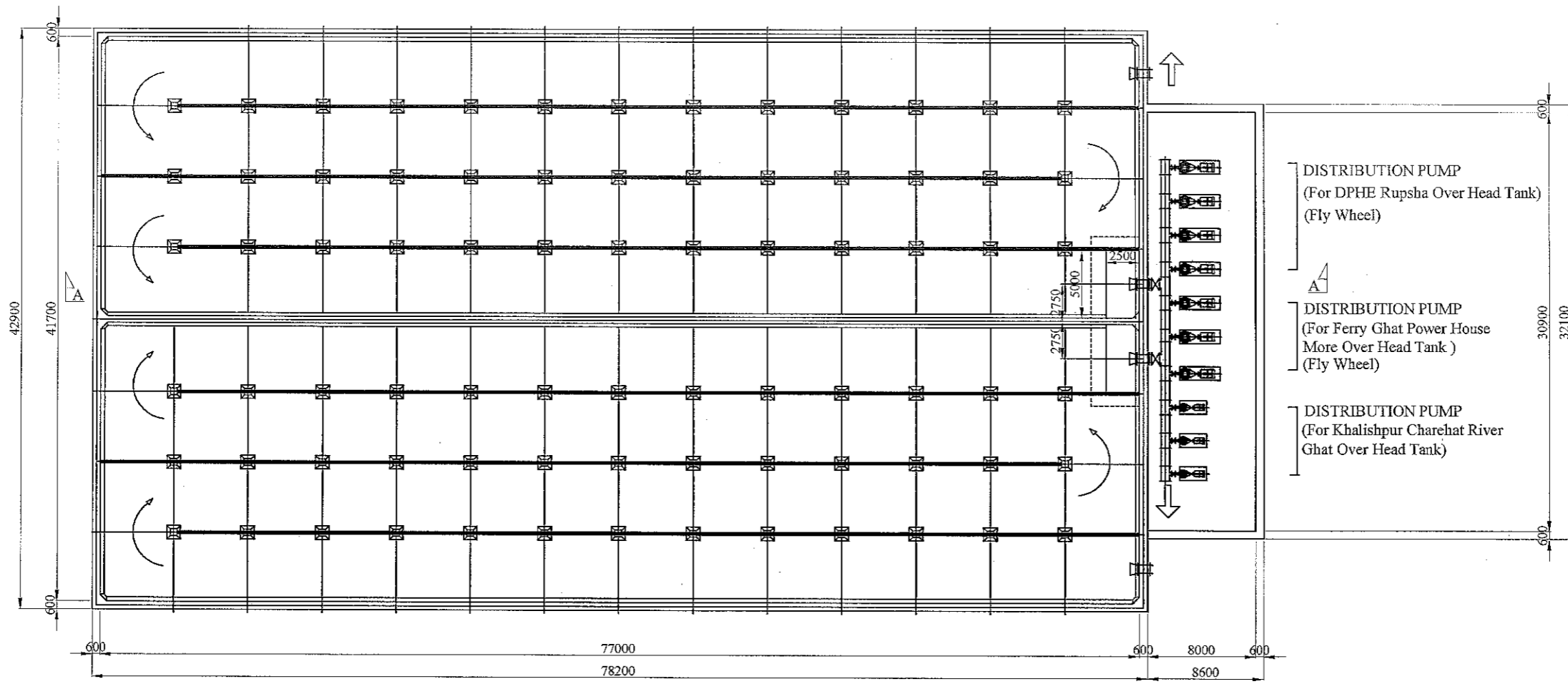


BOTTOM PLAN
Scale 1: 400

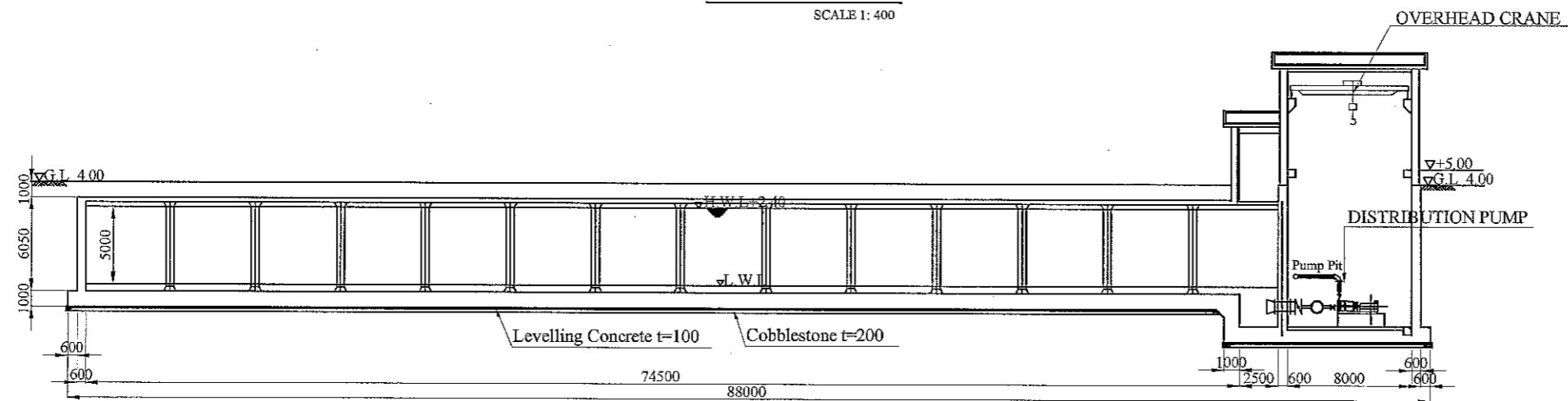


SECTION A-A
SCALE 1: 400

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION RESERVOIR PLAN AND SECTION (V=18,000m ³)	SCALE DWG No.	1:400 82 DR-PS-001

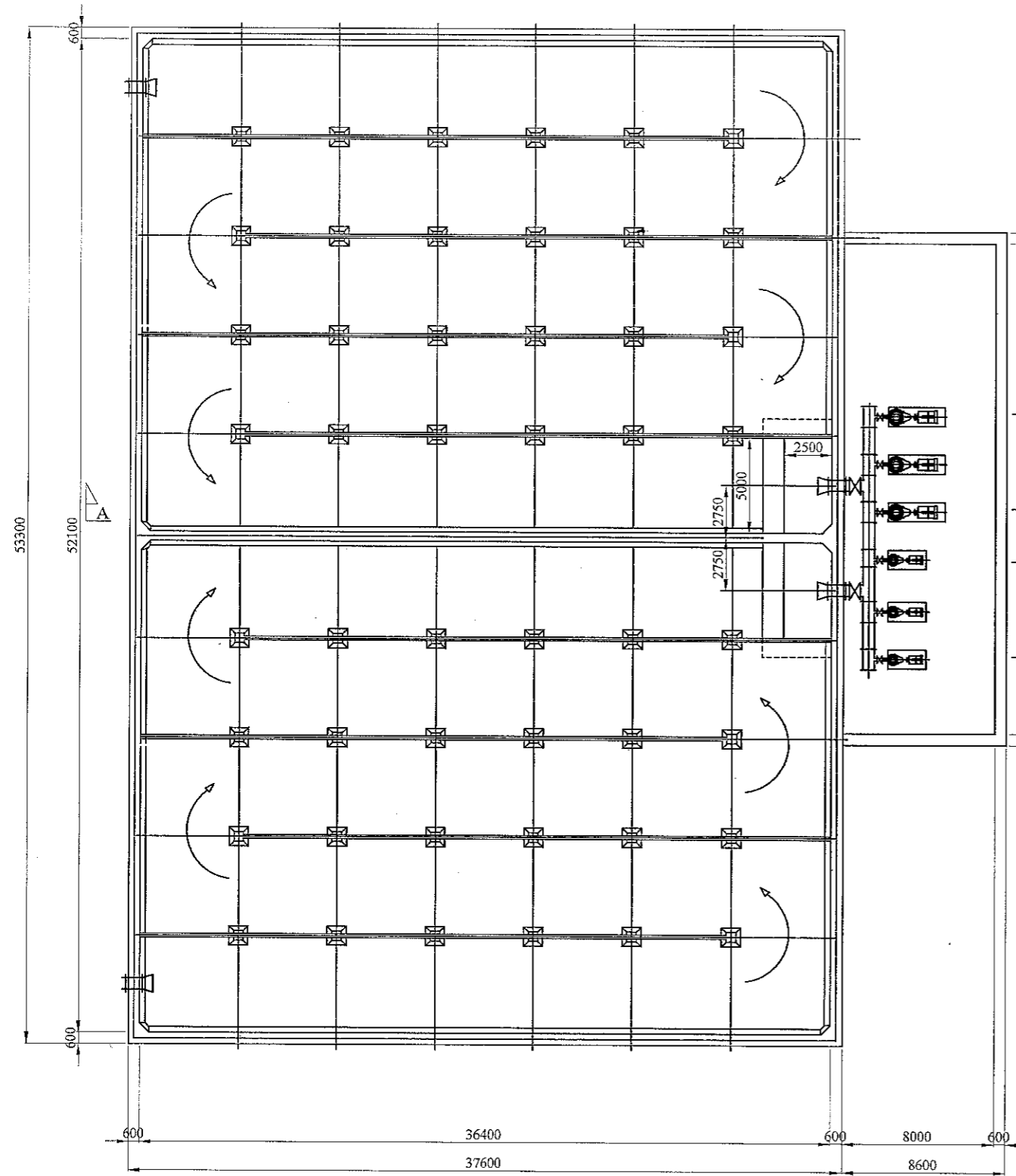


BOTTOM PLAN
SCALE 1: 400

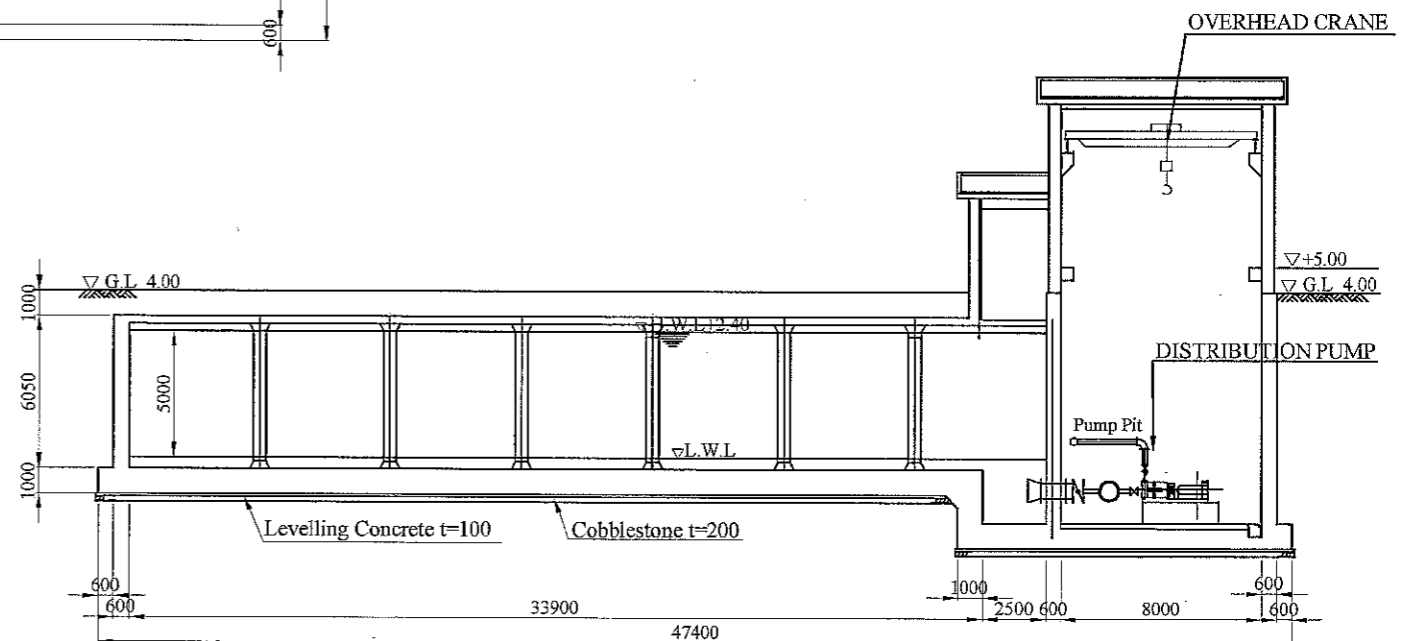
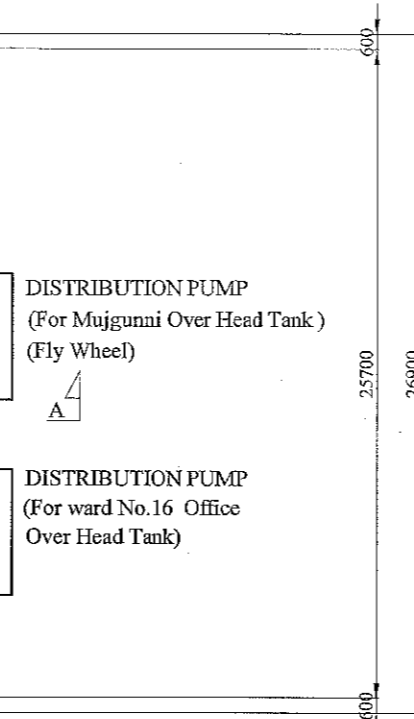


SECTION A-A
SCALE 1: 400

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION RESERVOIR PLAN AND SECTION (V=15,000m ³)	SCALE DWG No.	1:400 83 DR-PS-002

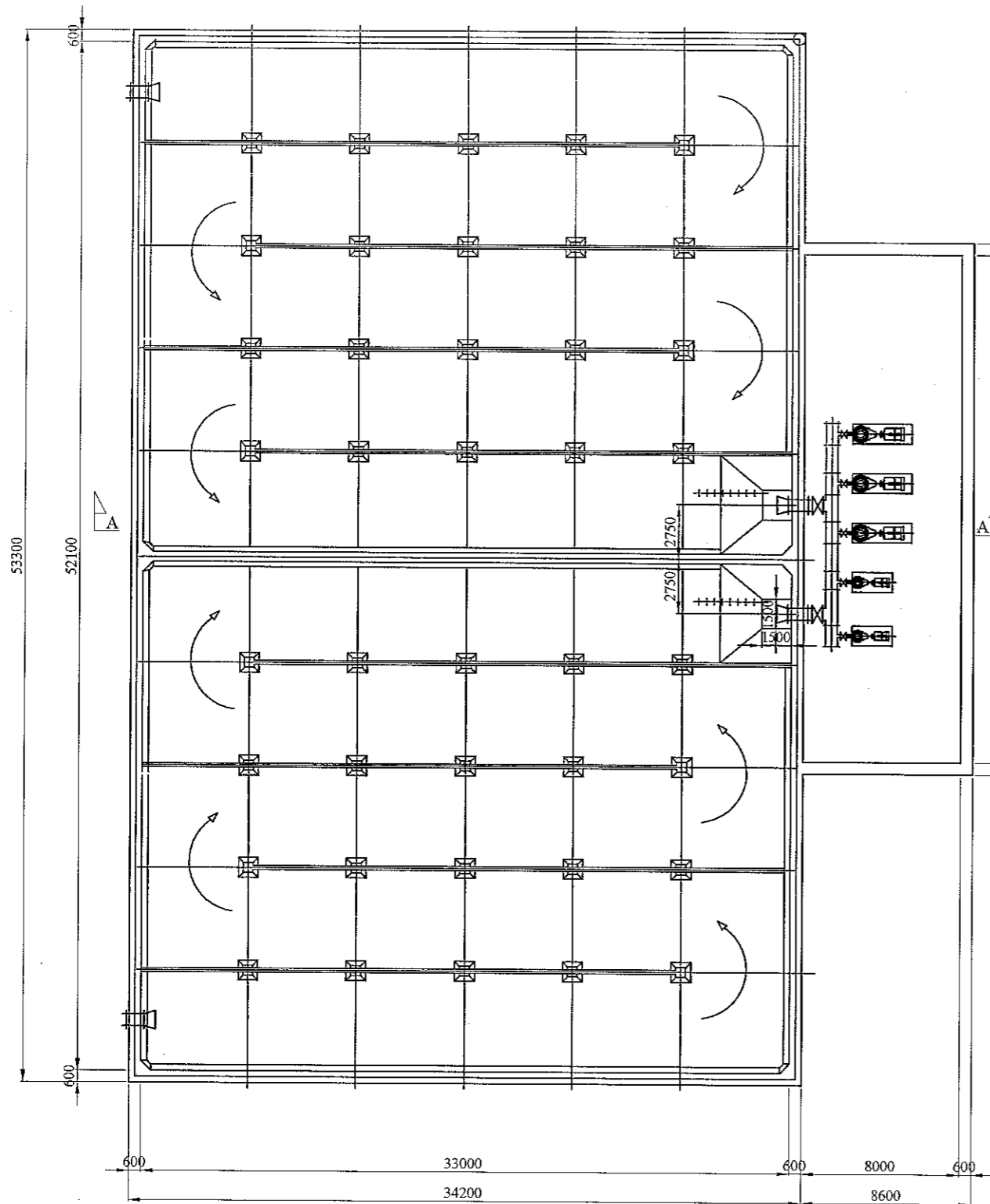


BOTTOM PLAN
SCALE 1: 300

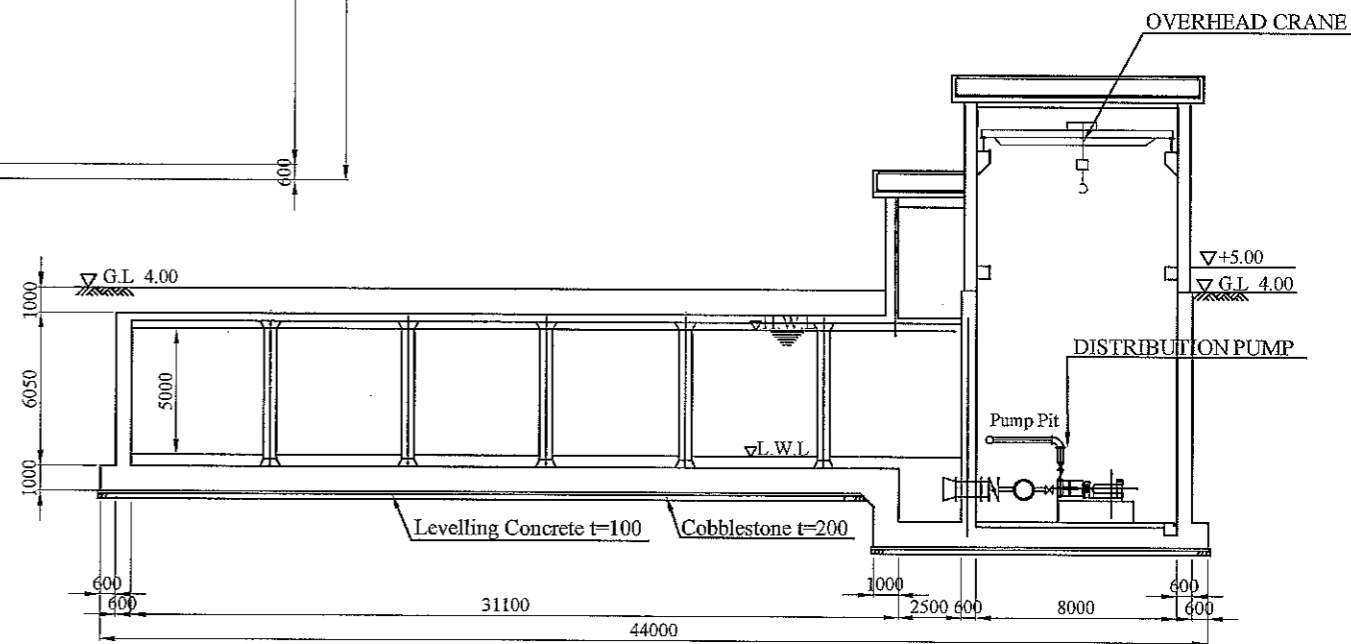
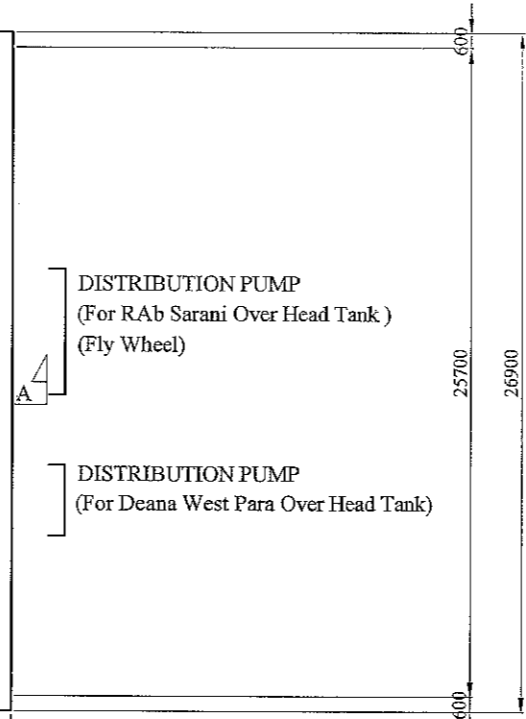


SECTION A-A
SCALE 1: 300

JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION RESERVOIR PLAN AND SECTION (V= 9,000m ³)	SCALE DWG No.	1:300 84



BOTTOM PLAN
Scale 1: 300



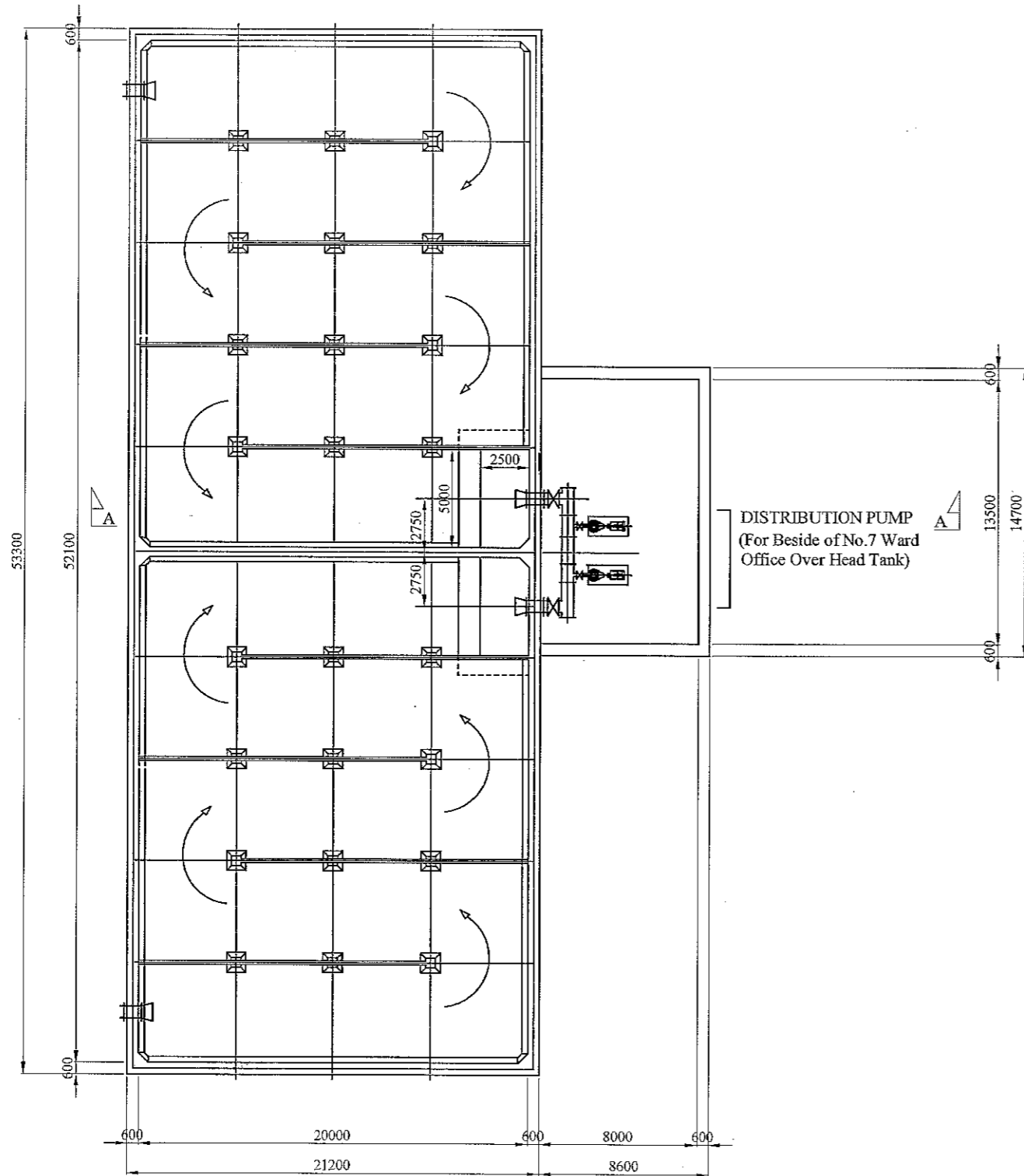
SECTION A-A
Scale 1: 300

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

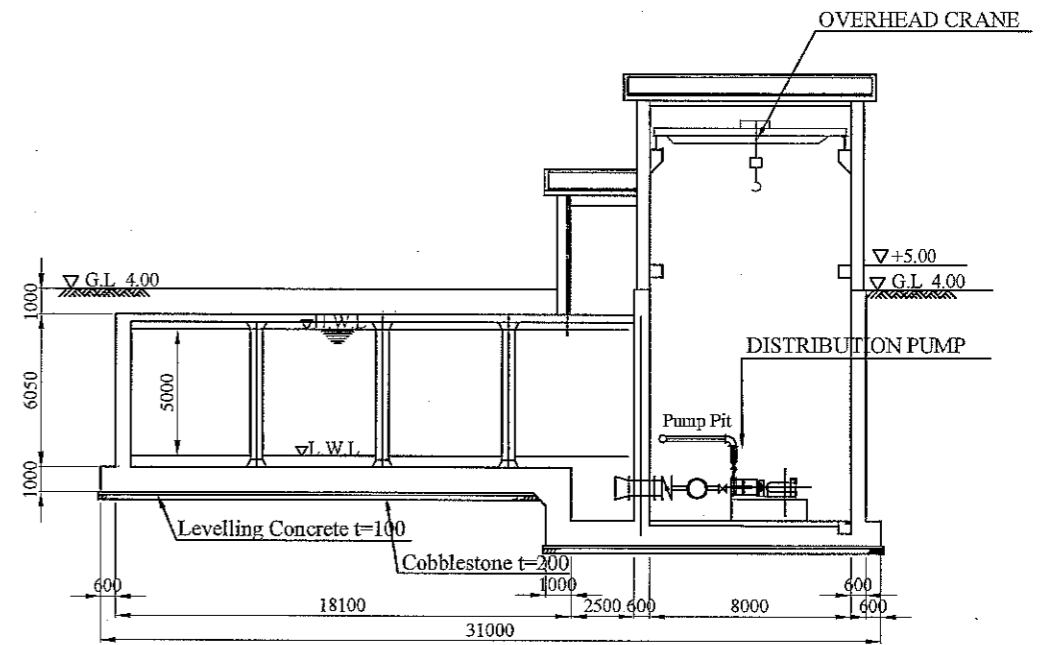
NJS NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

DISTRIBUTION RESERVOIR	SCALE	1:300
PLAN AND SECTION (V= 8,000m ³)	DWG No.	85 DR-PS-004



BOTTOM PLAN
SCALE 1: 300



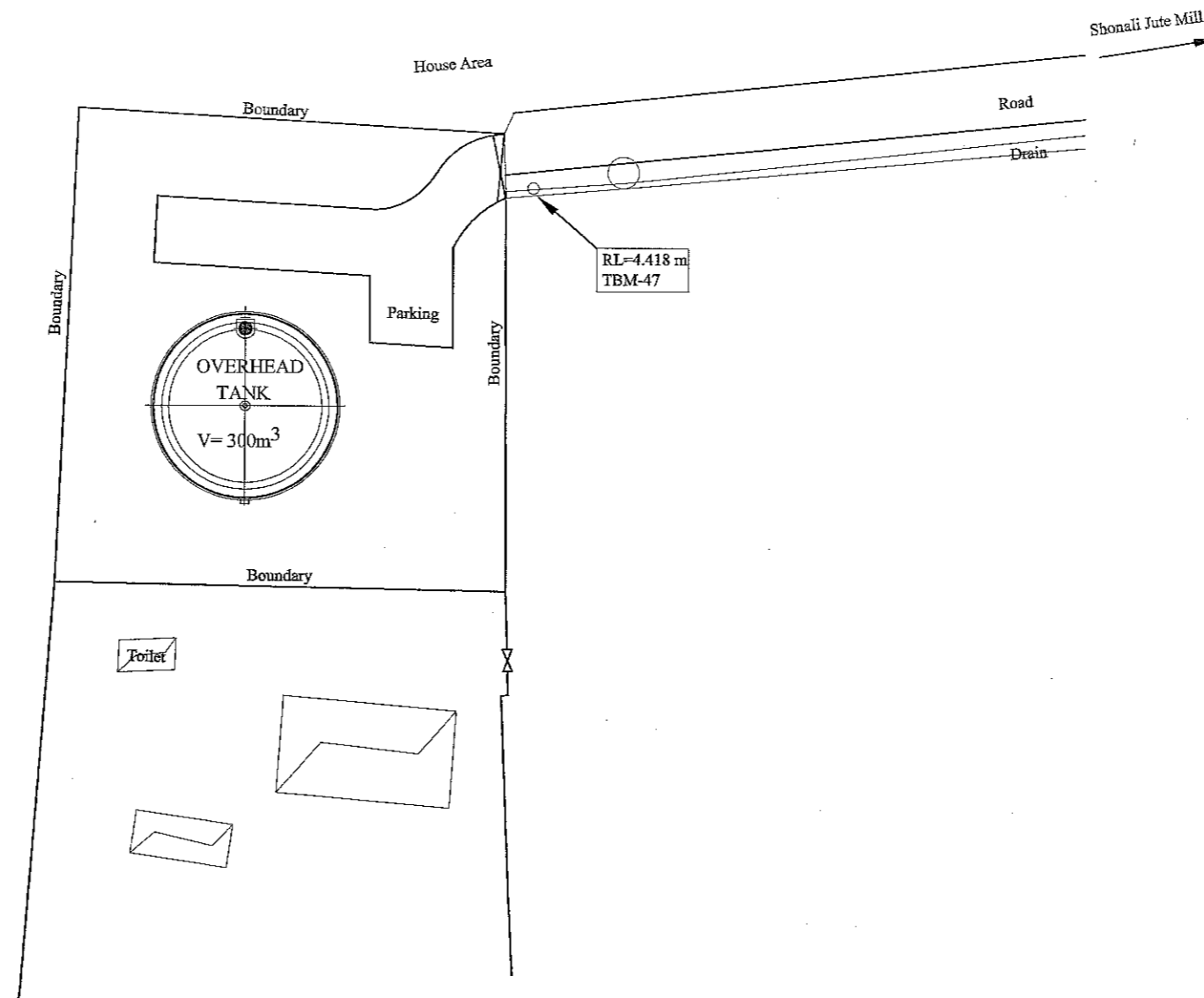
SECTION A-A
SCALE 1: 300



JICA JAPAN INTERNATIONAL COOPERATION AGENCY

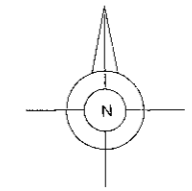
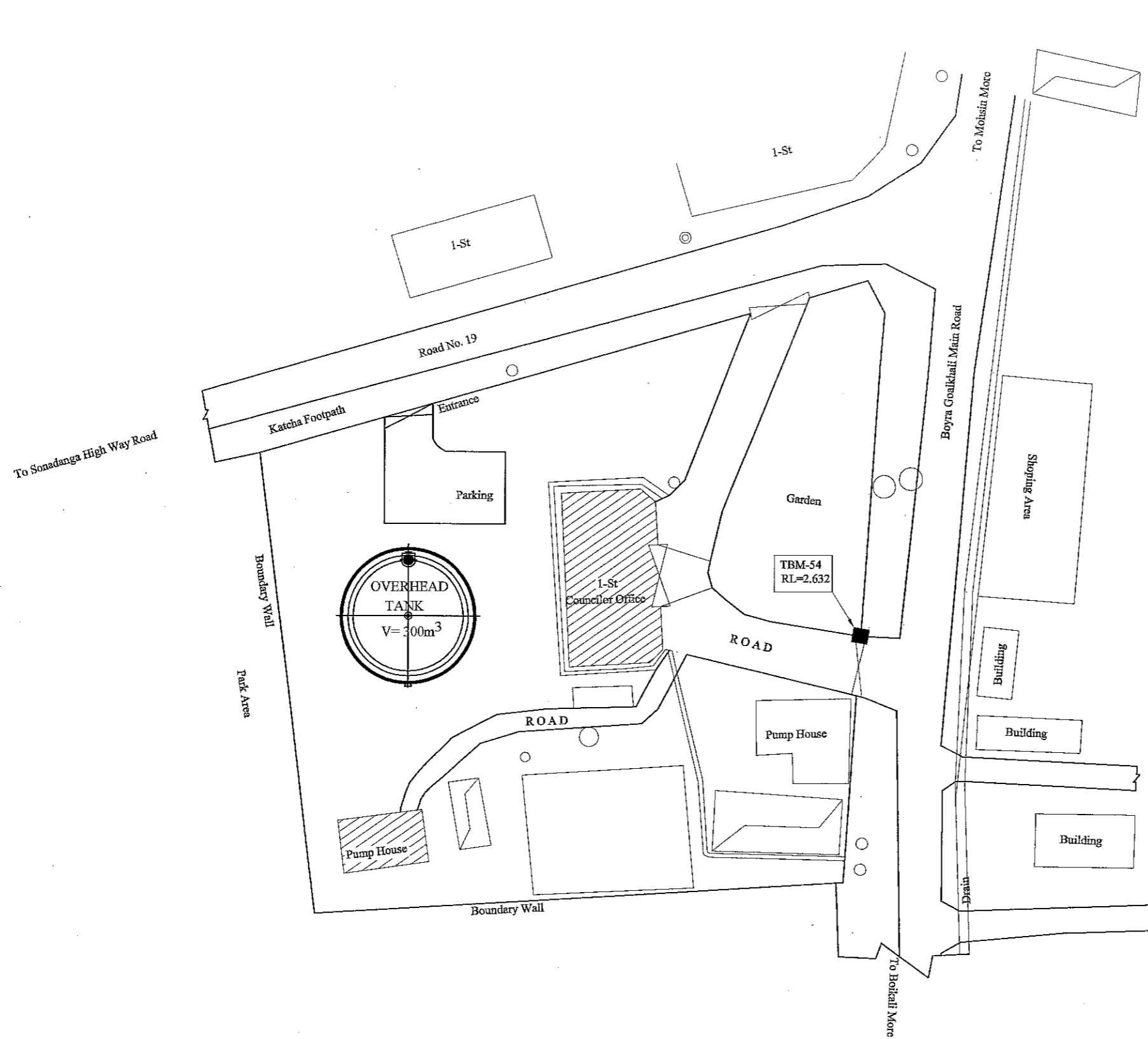
NJS CONSULTANTS CO., LTD.



FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

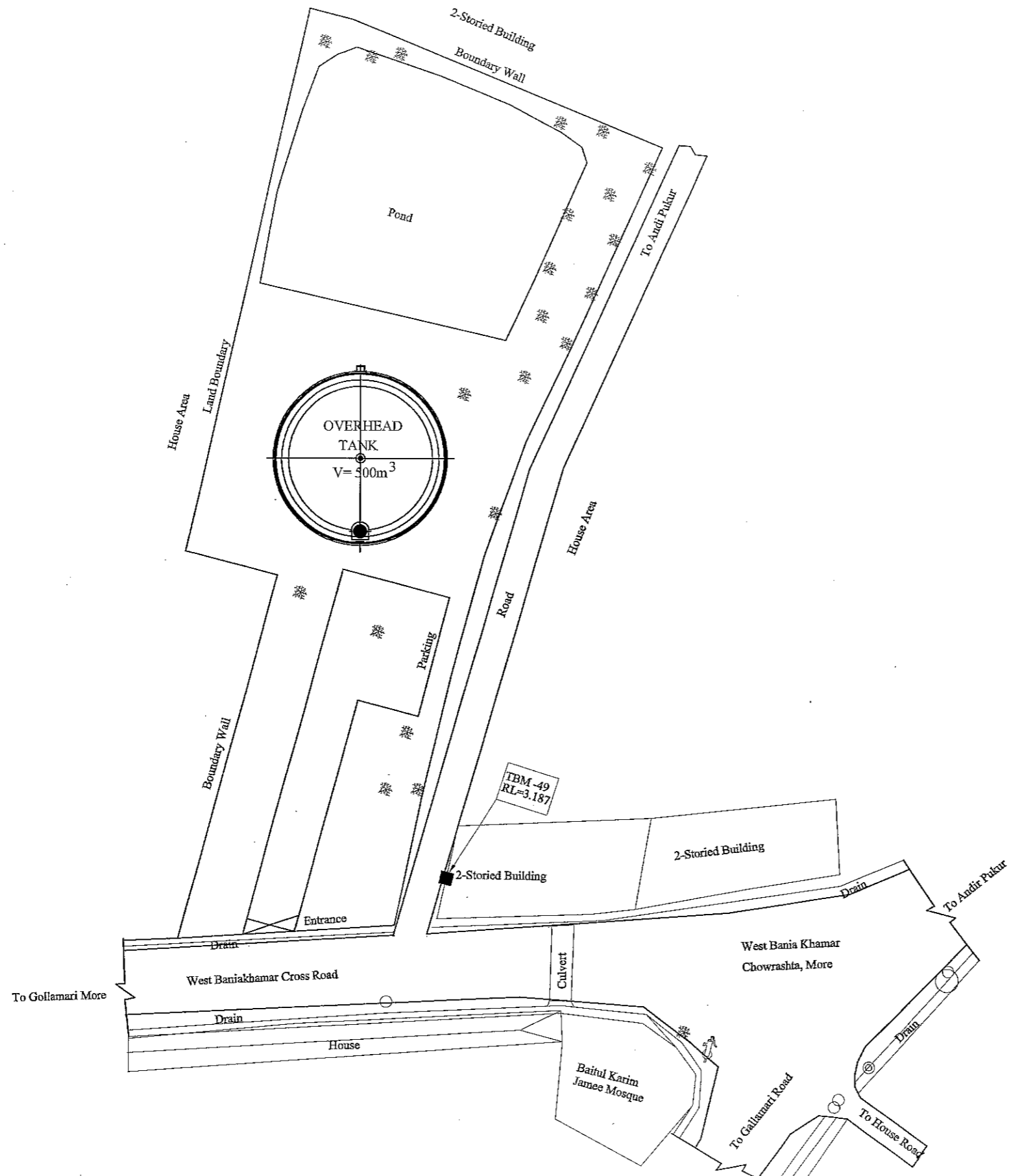
DISTRIBUTION RESERVOIR	SCALE	1:300
PLAN AND SECTION (V= 5,000m ³)	DWG No.	86 DR-PS-005



 JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	 NJS CONSULTANTS CO., LTD.	OVERHEAD TANK	SCALE
	LAYOUT PLAN OF RAB SARANI OVERHEAD TANK	DWG No.	87 OHT-G-001

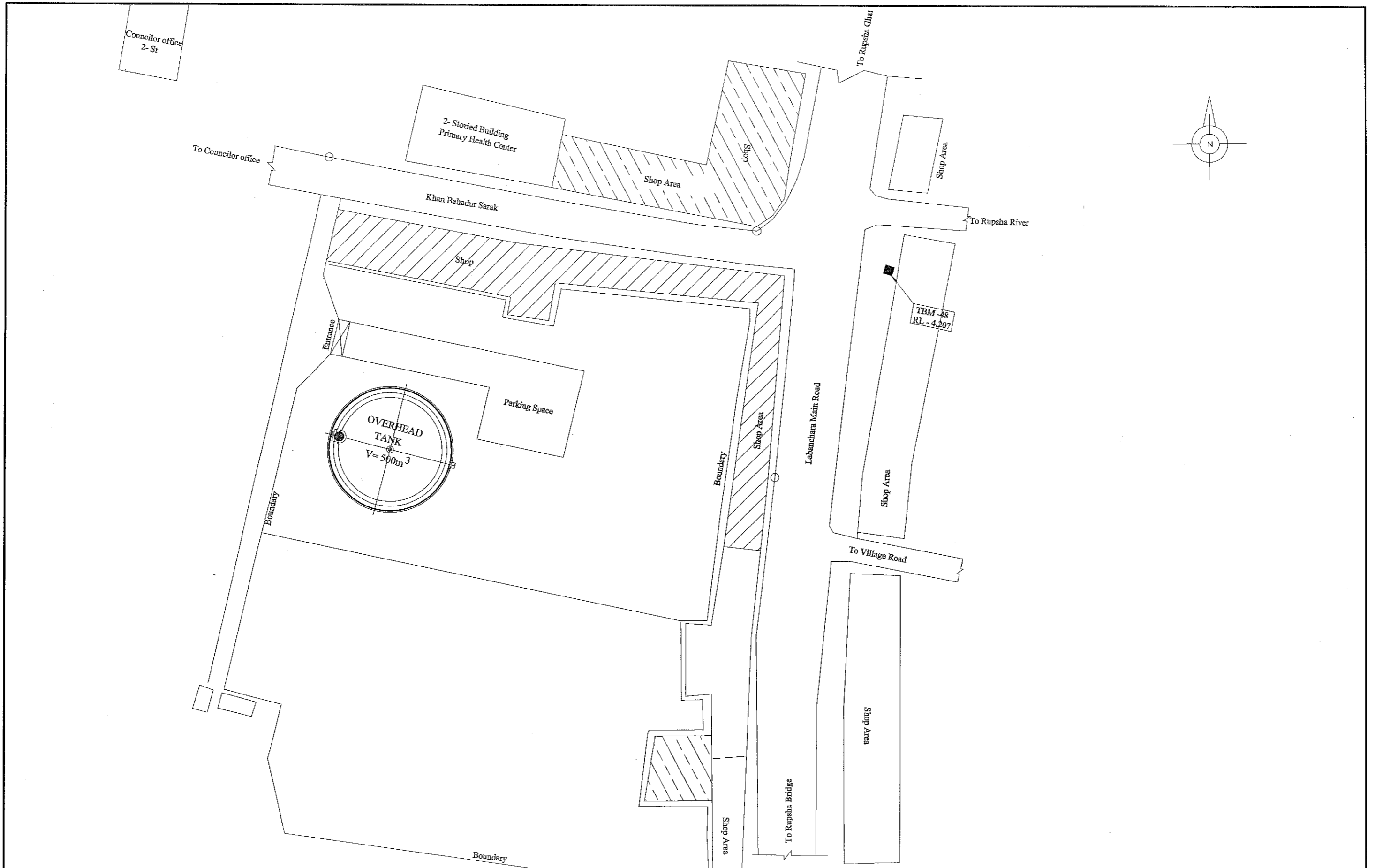




 JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
	 NJS CONSULTANTS CO., LTD.	OVERHEAD TANK	SCALE	1:400
		LAYOUT PLAN OF MUIGUNNI OVERHEAD TANK	DWG No.	88 OHT-G-002



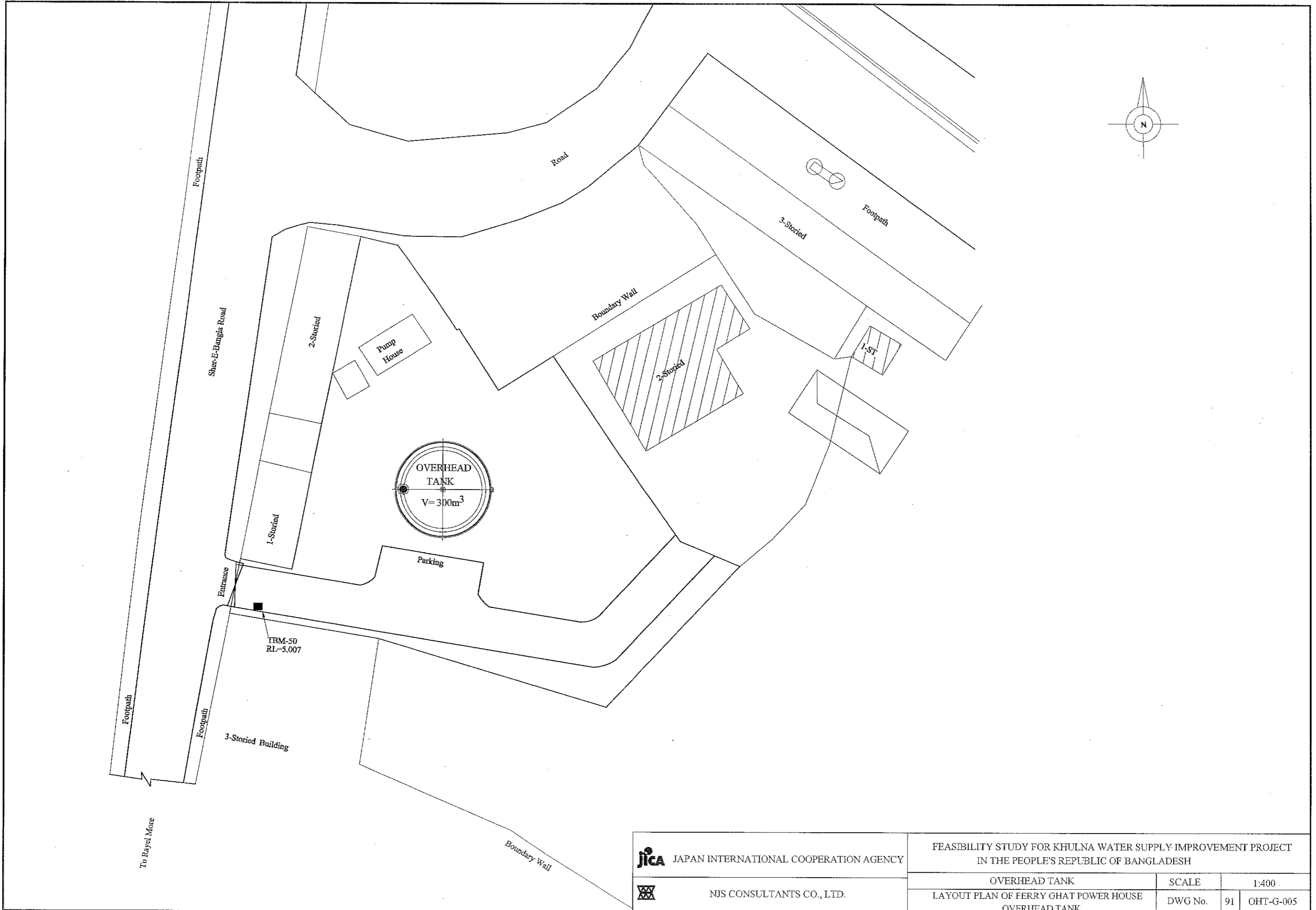
 JAPAN INTERNATIONAL COOPERATION AGENCY
 NIS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
OVERHEAD TANK	SCALE	1:400	
LAYOUT PLAN OF ANDIR PUKUR OVERHEAD TANK	DWG No.	89	OHT-G-003

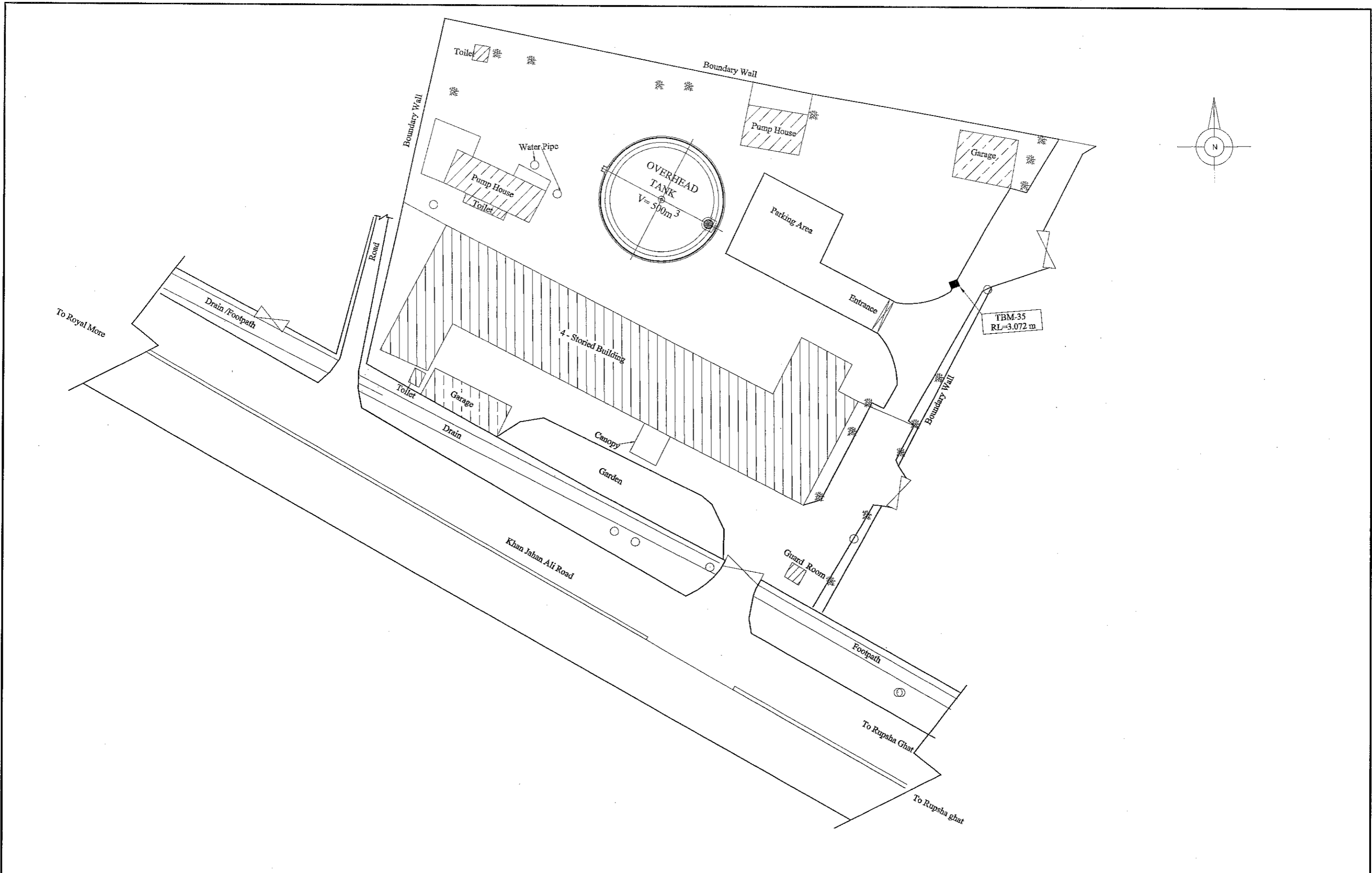


 JAPAN INTERNATIONAL COOPERATION AGENCY
 NJS CONSULTANTS CO., LTD.

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
OVERHEAD TANK	SCALE	1:400	
LAYOUT PLAN OF SOUTH SIDE OF WARD NO. 31 OFFICE OVERHEAD TANK	DWG No.	90	OHT-G-004



JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	OVERHEAD TANK	SCALE	1:400
NJS CONSULTANTS CO., LTD.	LAYOUT PLAN OF FERRY GHAT POWER HOUSE OVERHEAD TANK	DWG No.	91 OHT-G-005

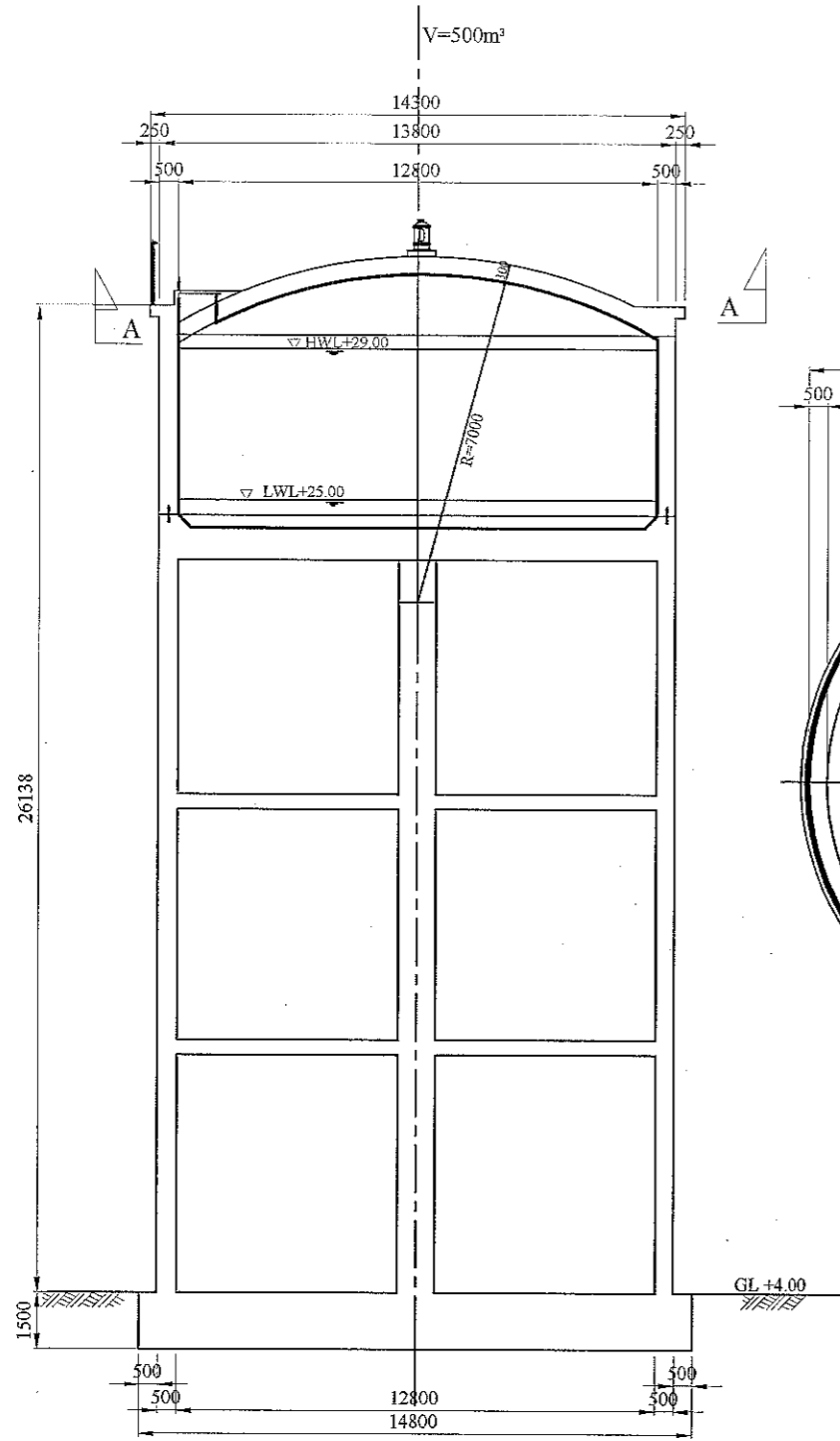


JICA JAPAN INTERNATIONAL COOPERATION AGENCY

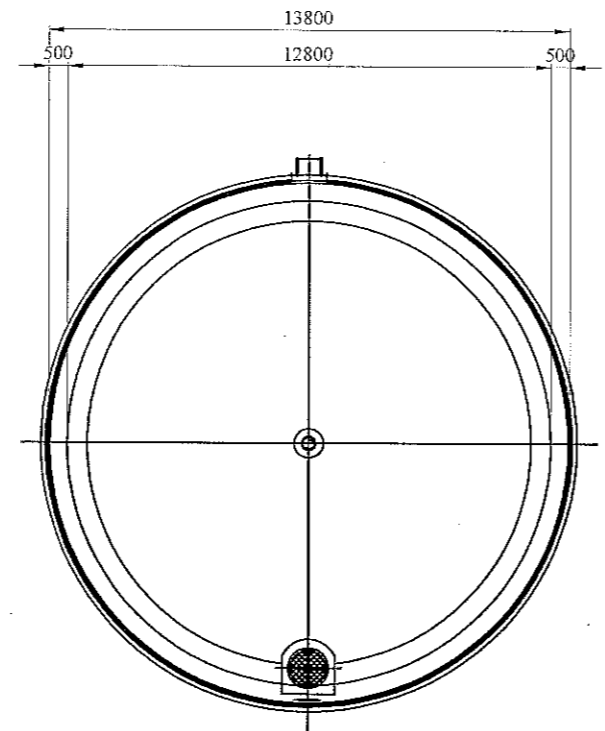
FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH

NJS NJS CONSULTANTS CO., LTD.

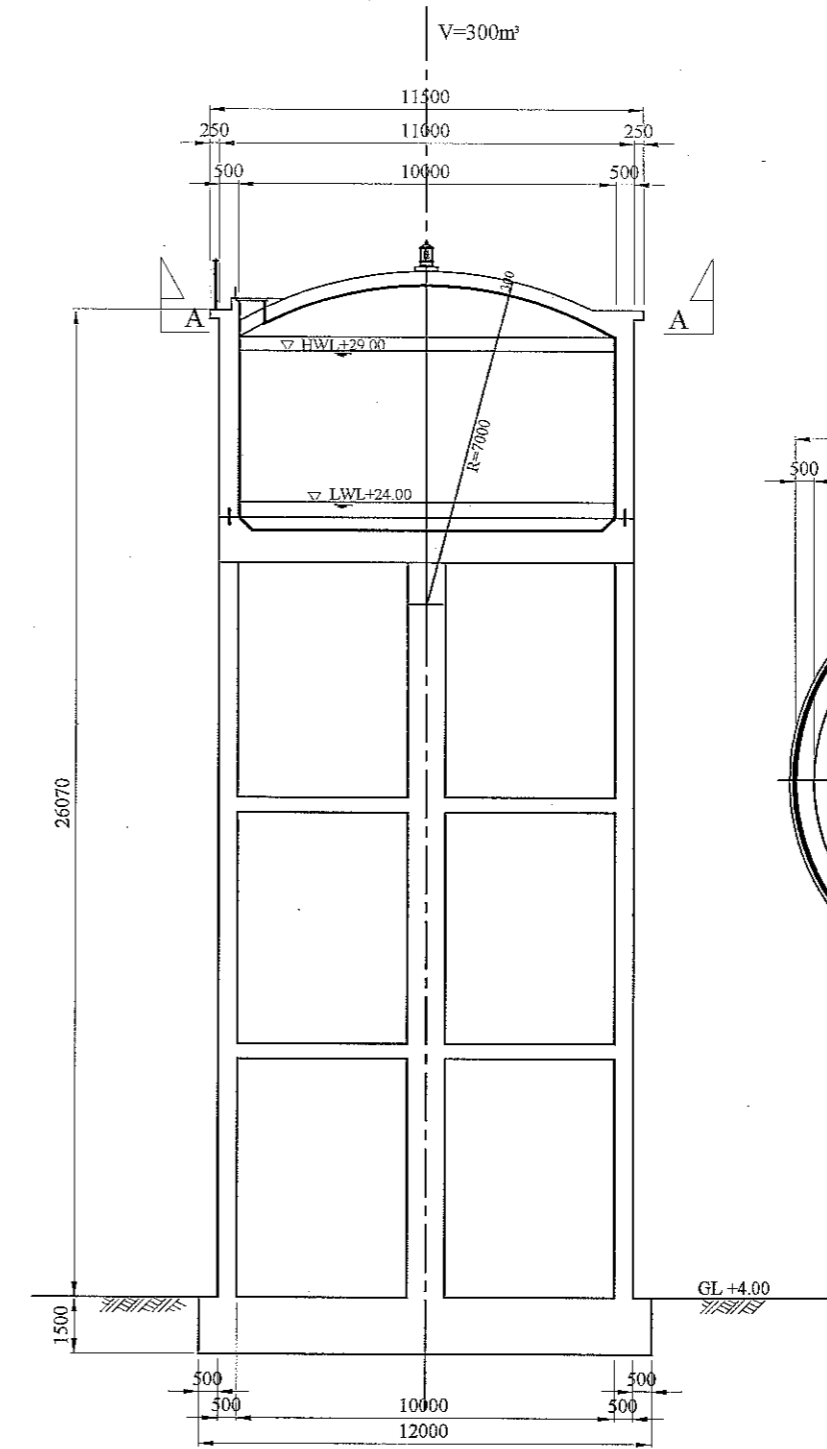
OVERHEAD TANK	SCALE	1:400
LAYOUT PLAN OF DPHE RUPSHA OVERHEAD TANK	DWG No.	92 OHT-G-006



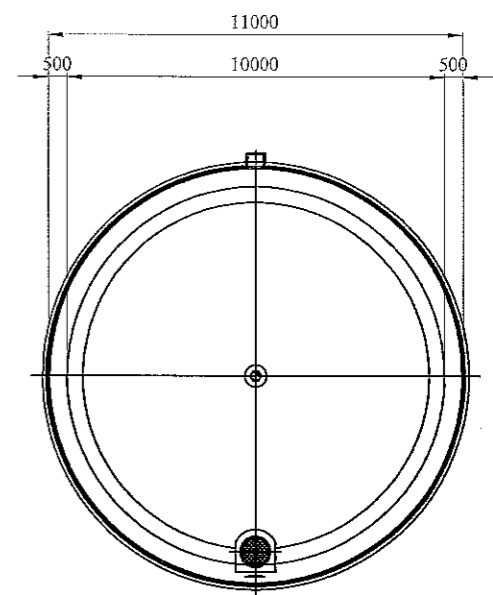
SECTION A-A
SCALE 1: 200



SECTION A-A
SCALE 1: 200

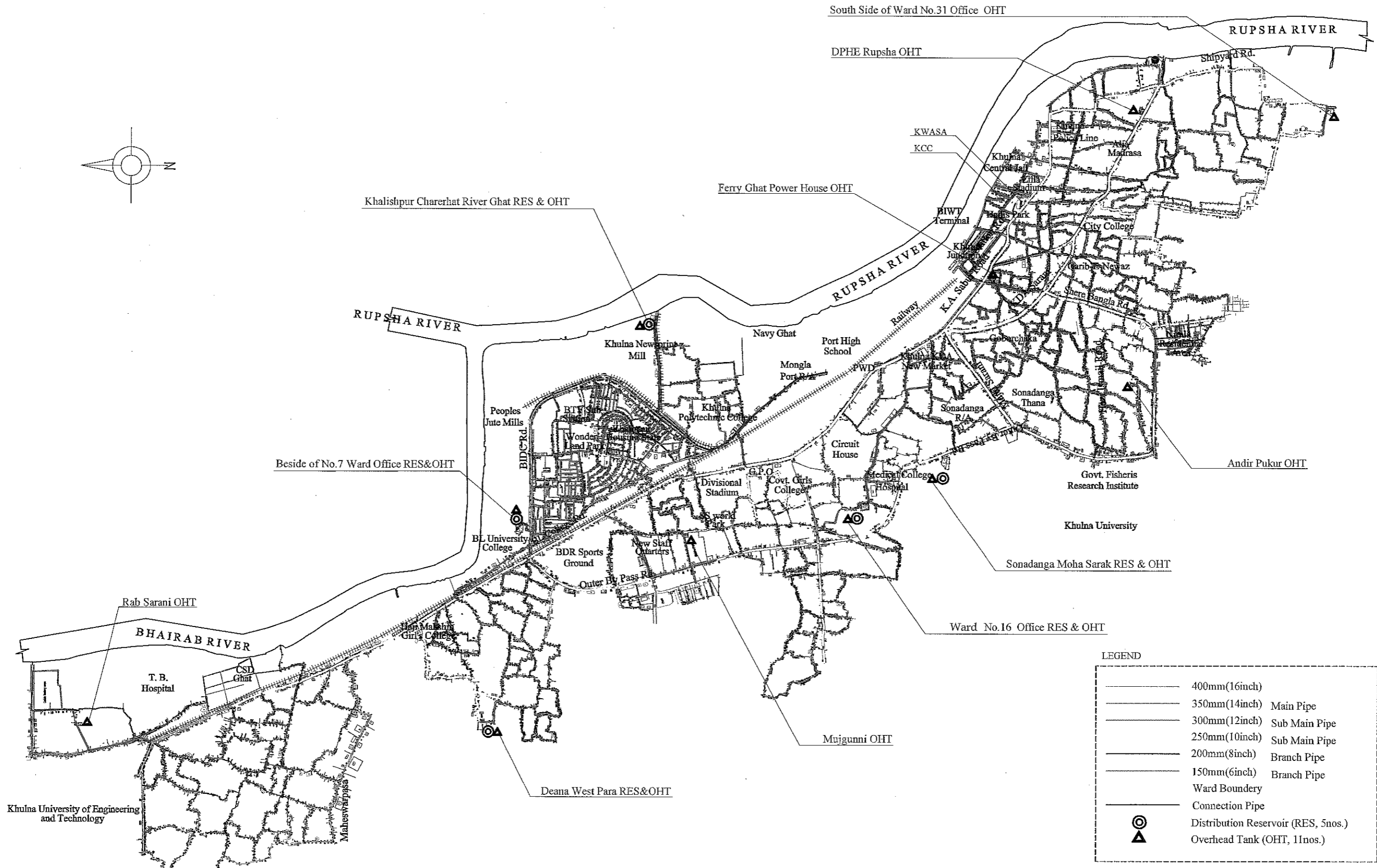
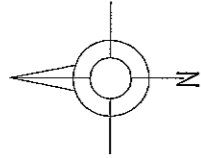


SECTION A-A
SCALE 1: 200



SECTION A-A
SCALE 1: 200

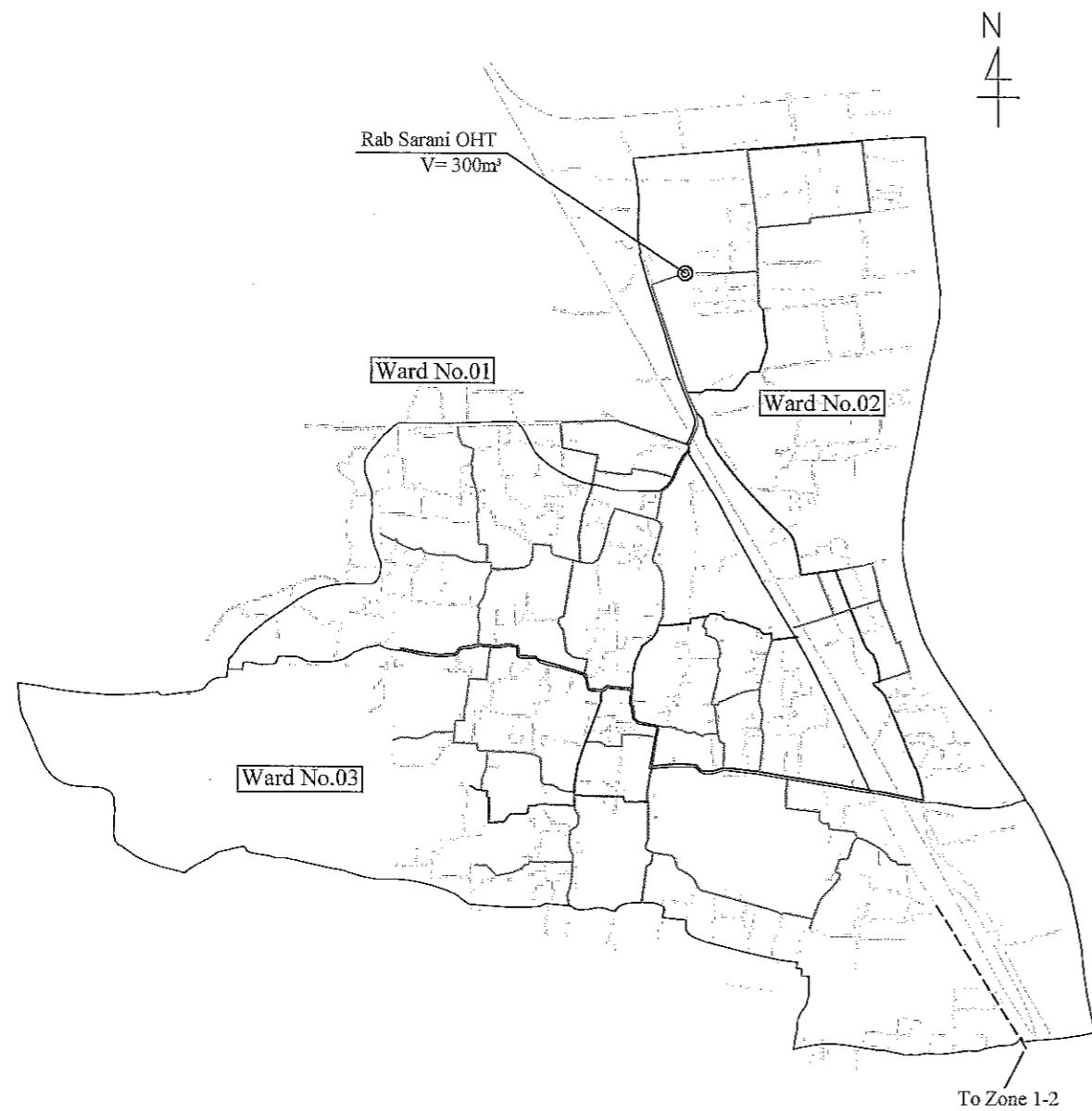
JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	OVERHEAD TANK (V=500m ³ , V=300m ³)	SCALE	1:200
NJS CONSULTANTS CO., LTD.	PLAN AND SECTION LAYOUT (V=500m ³ , V=300m ³)	DWG No.	93 OHT-D-001



LEGEND

	400mm(16inch)
	350mm(14inch) Main Pipe
	300mm(12inch) Sub Main Pipe
	250mm(10inch) Sub Main Pipe
	200mm(8inch) Branch Pipe
	150mm(6inch) Branch Pipe
	Ward Boundary
	Connection Pipe
	Distribution Reservoir (RES, 5nos.)
	Overhead Tank (OHT, 11nos.)

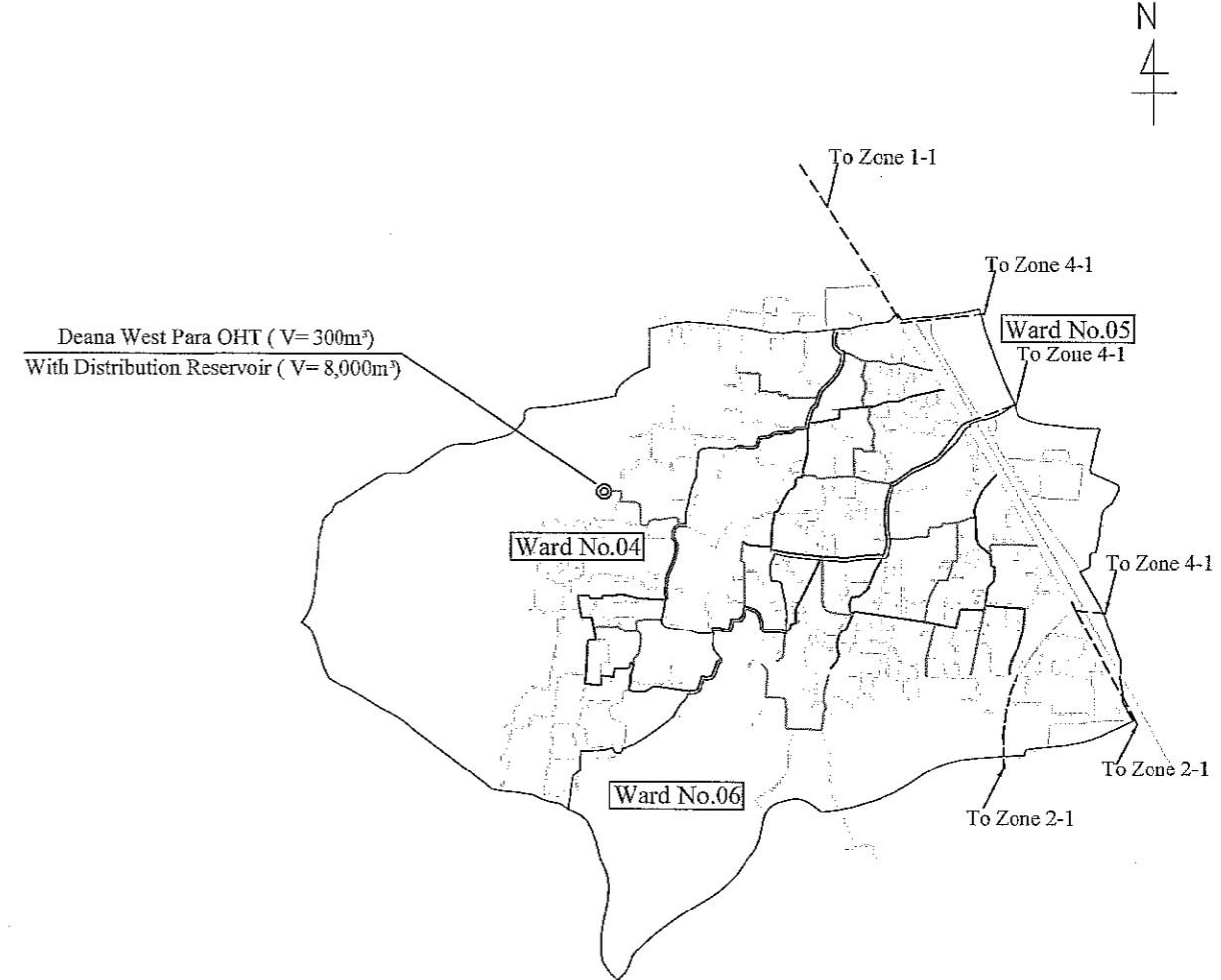
JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION PIPE NETWORK GENERAL MAP OF DISTRIBUTION NETWORK	SCALE DWG No.	1:40,000 94



PIPE NETWORK PLAN (ZONE 1-1).

Water Service Area: Ward No.1, 2 & 3

SCALE 1:30,000



PIPE NETWORK PLAN (ZONE 1-2)

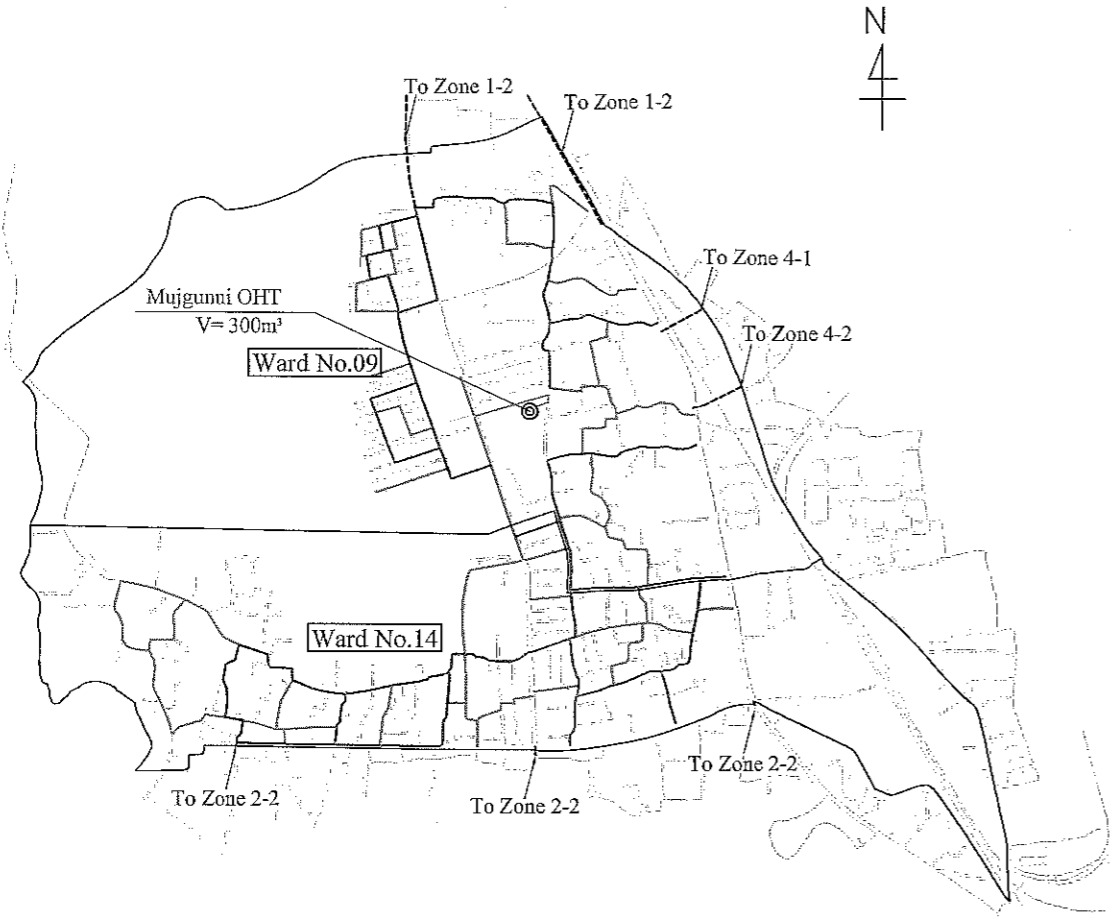
Water Service Area: Ward No.4, 5 & 6

SCALE 1:30,000

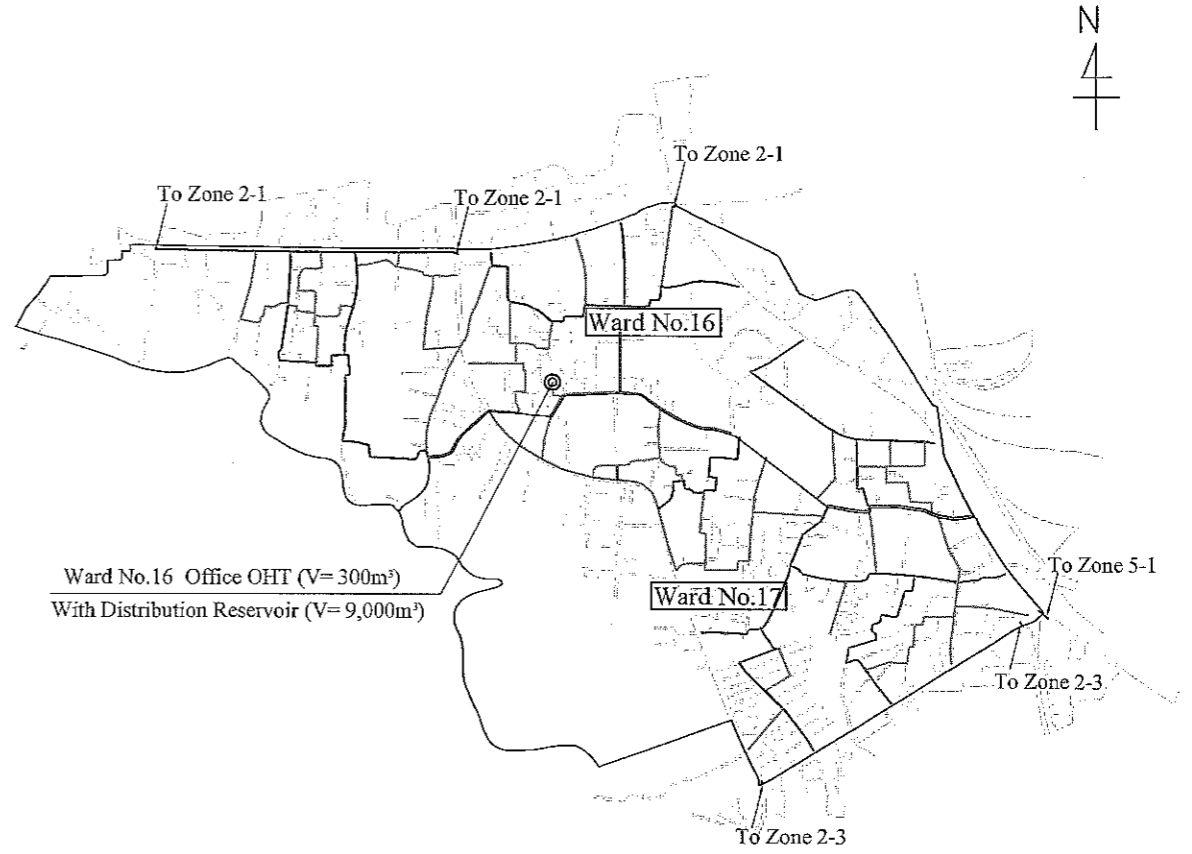
LEGEND

—————	400mm(16inch)	
—————	350mm(14inch)	Main Pipe
—————	300mm(12inch)	Sub Main Pipe
—————	250mm(10inch)	Sub Main Pipe
—————	200mm(8inch)	Branch Pipe
—————	150mm(6inch)	Branch Pipe
—————		Ward Boundary
- - - - -		Connection Pipe
⊙		Over Head Tank

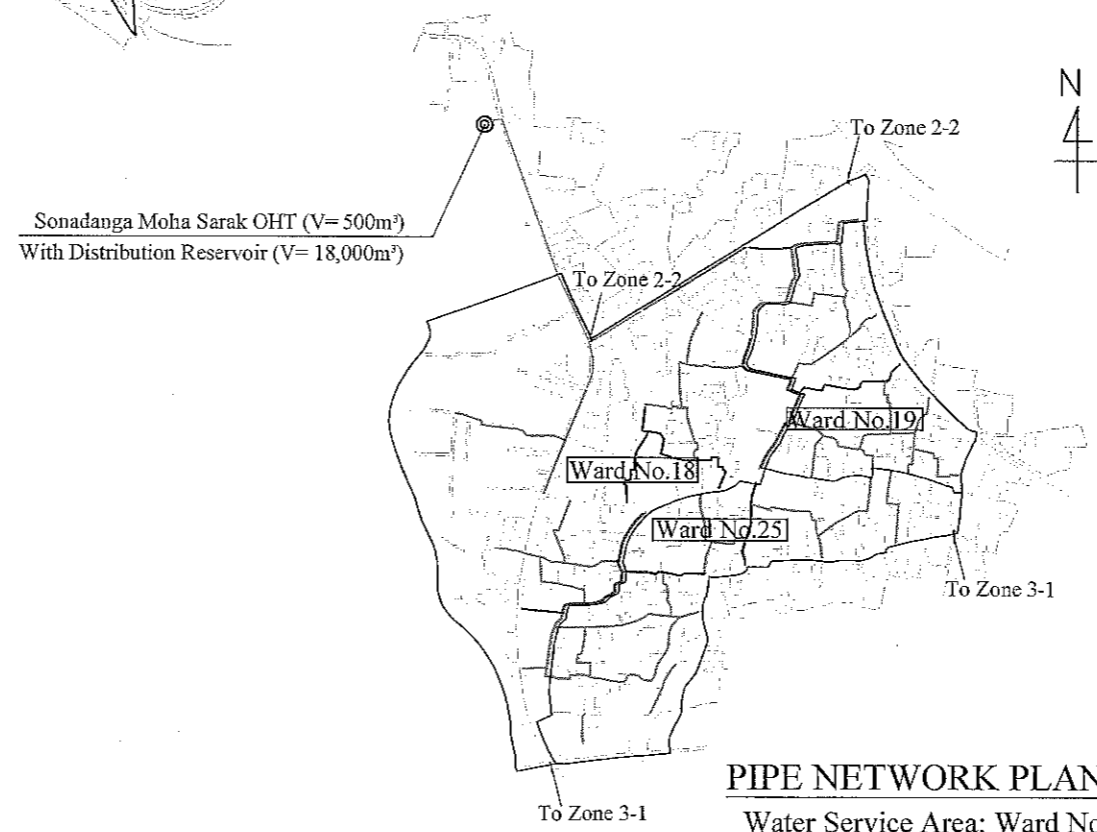
JICA JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	NJS CONSULTANTS CO., LTD.	DISTRIBUTION PIPE PIPE NETWORK PLAN (ZONE-1) (MORE THAN Ø150mm)	SCALE DWG No.



PIPE NETWORK PLAN (ZONE 2-1)
 Water Service Area: Ward No.9 & 14
 SCALE 1:30,000



PIPE NETWORK PLAN (ZONE 2-2)
 Water Service Area: Ward No.16 & 17
 SCALE 1:30,000

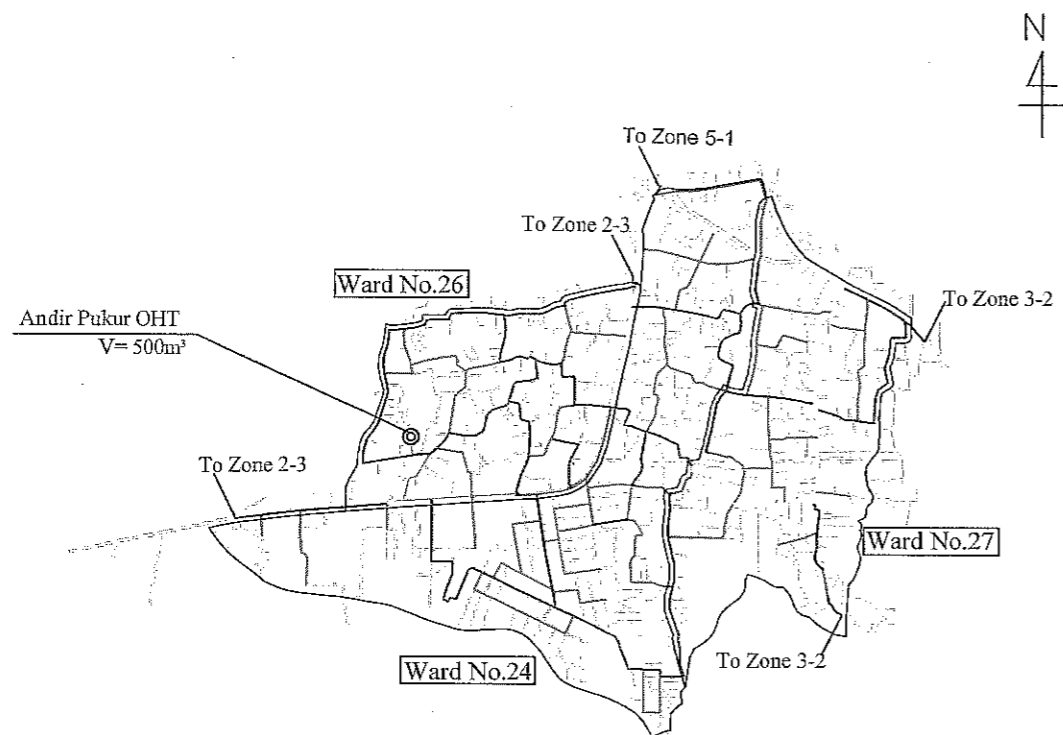


PIPE NETWORK PLAN (ZONE 2-3)
 Water Service Area: Ward No.18, 19 & 25
 SCALE 1:30,000

LEGEND

	400mm(16inch)	
	350mm(14inch)	Main Pipe
	300mm(12inch)	Sub Main Pipe
	250mm(10inch)	Sub Main Pipe
	200mm(8inch)	Branch Pipe
	150mm(6inch)	Branch Pipe
		Ward Boundary
		Connection Pipe
		Over Head Tank

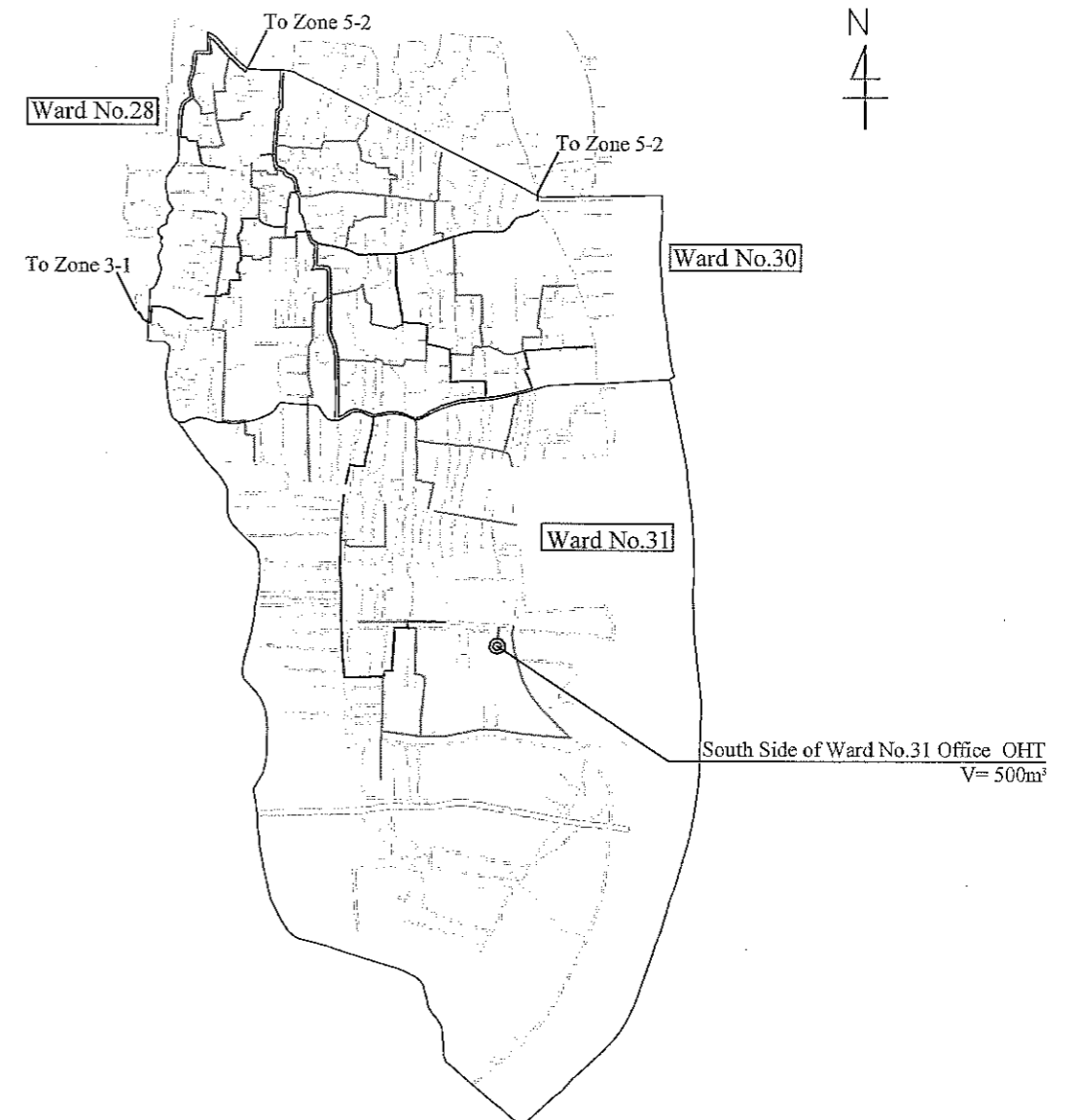
JICA JAPAN INTERNATIONAL COOPERATION AGENCY NJS CONSULTANTS CO., LTD.	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION PIPE PIPE NETWORK PLAN (ZONE-2) (MORE THAN Ø150mm)	SCALE DWG No.	1:30,000 96



PIPE NETWORK PLAN (ZONE 3-1)

Water Service Area: Ward No.24, 26 & 27

SCALE 1:30,000



PIPE NETWORK PLAN ZONE (3-2)

Water Service Area: Ward No.28, 30 & 31

SCALE 1:30,000

LEGEND

—————	400mm(16inch)	
—————	350mm(14inch)	Main Pipe
—————	300mm(12inch)	Sub Main Pipe
—————	250mm(10inch)	Sub Main Pipe
—————	200mm(8inch)	Branch Pipe
—————	150mm(6inch)	Branch Pipe
—————		Ward Boundary
-----		Connection Pipe
⊙		Over Head Tank



JAPAN INTERNATIONAL COOPERATION AGENCY

FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT
IN THE PEOPLE'S REPUBLIC OF BANGLADESH



NJS CONSULTANTS CO., LTD.

DISTRIBUTION PIPE

SCALE

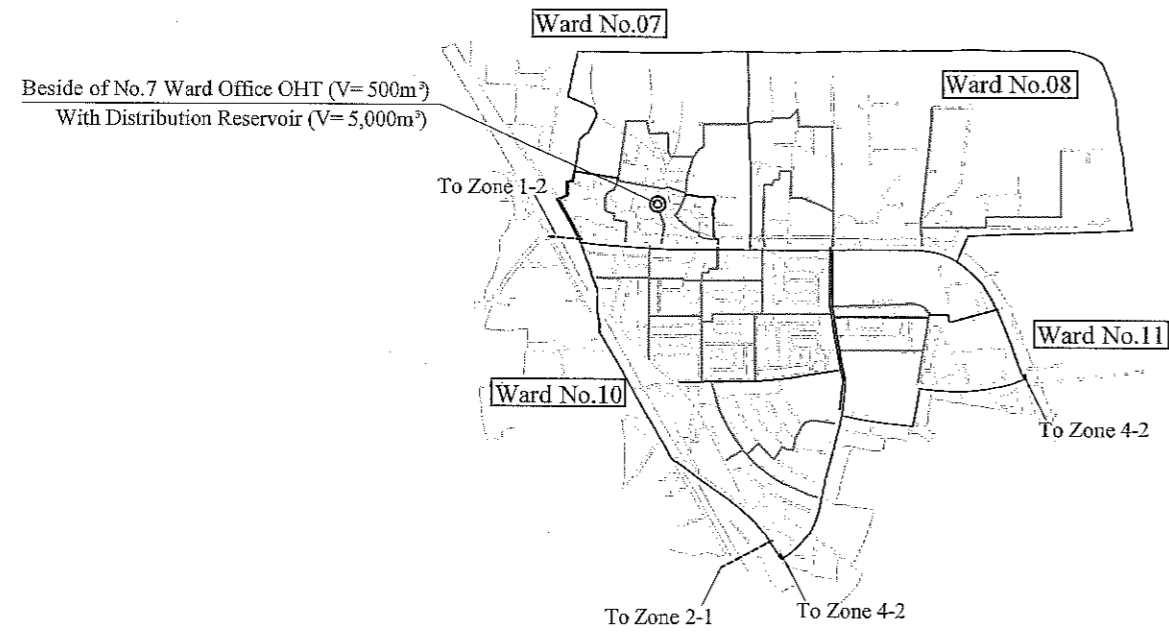
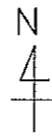
1:30,000

PIPE NETWORK PLAN (ZONE-3)
(MORE THAN Ø150mm)

DWG No.

97

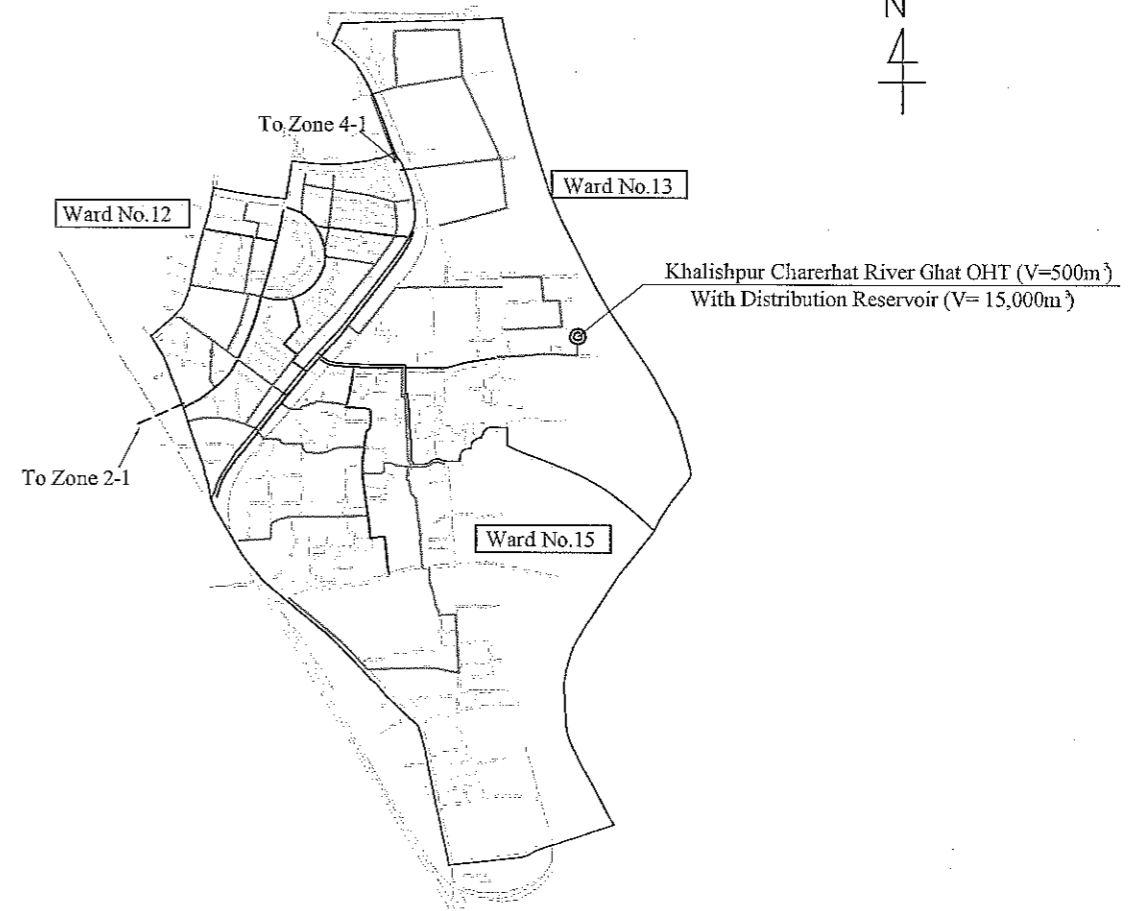
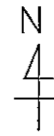
DPN-PNP-003



PIPE NETWORK PLAN (ZONE 4-1)

Water Service Area: Ward No. 7, 8, 10 & 11

SCALE 1:30,000



PIPE NETWORK PLAN (ZONE 4-2)

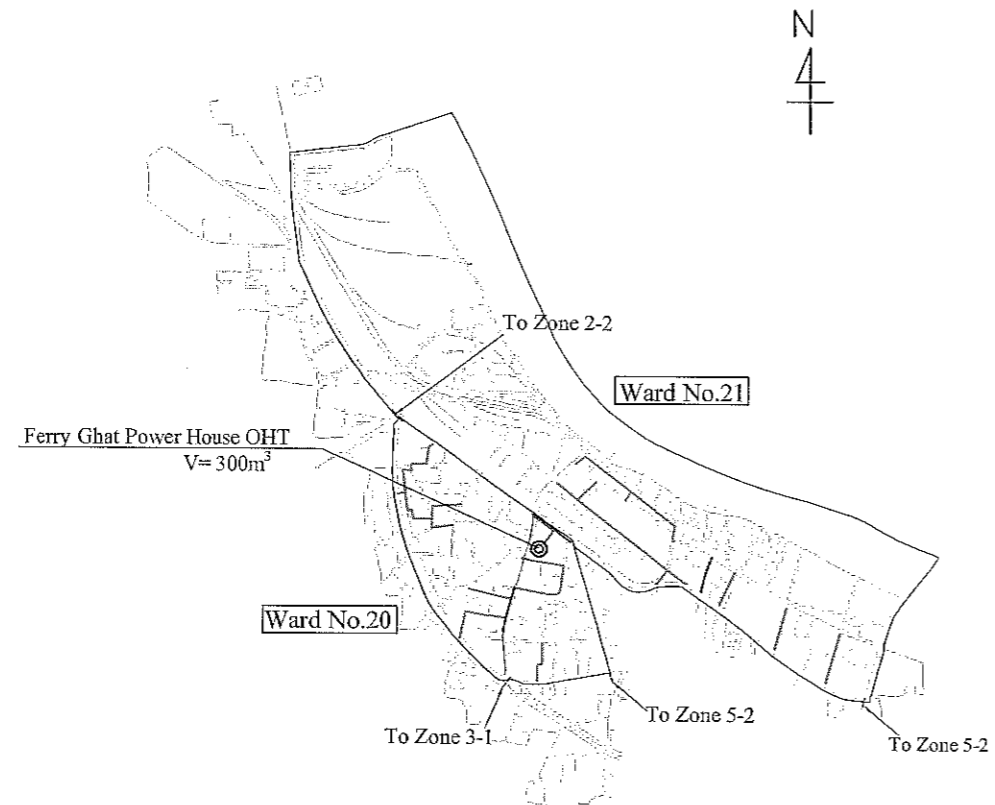
Water Service Area: Ward No. 12, 13 & 15

SCALE 1:30,000

LEGEND

	400mm(16inch)	
	350mm(14inch)	Main Pipe
	300mm(12inch)	Sub Main Pipe
	250mm(10inch)	Sub Main Pipe
	200mm(8inch)	Branch Pipe
	150mm(6inch)	Branch Pipe
		Ward Boundary
		Connection Pipe
		Over Head Tank

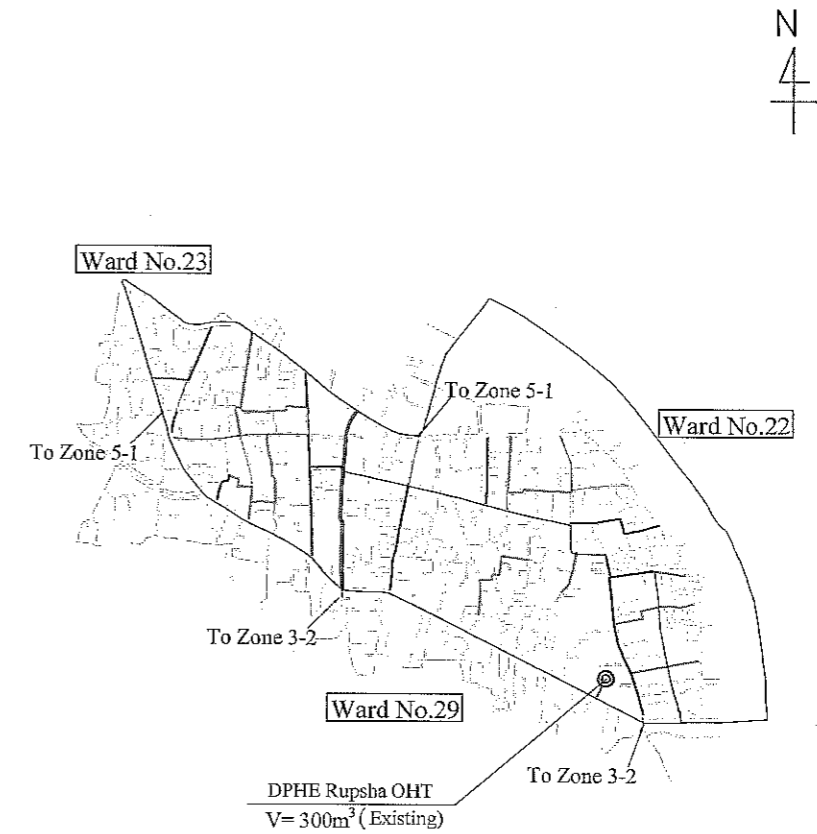
JICA JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION PIPE PIPE NETWORK PLAN (ZONE-4) (MORE THAN Ø150mm)	SCALE DWG No.	1:30,000 98
NJS CONSULTANTS CO., LTD.			



PIPE NETWORK PLAN (ZONE 5-1)

Water Service Area: Ward No.20 & 21

SCALE 1:30,000



PIPE NETWORK PLAN (ZONE 5-2)

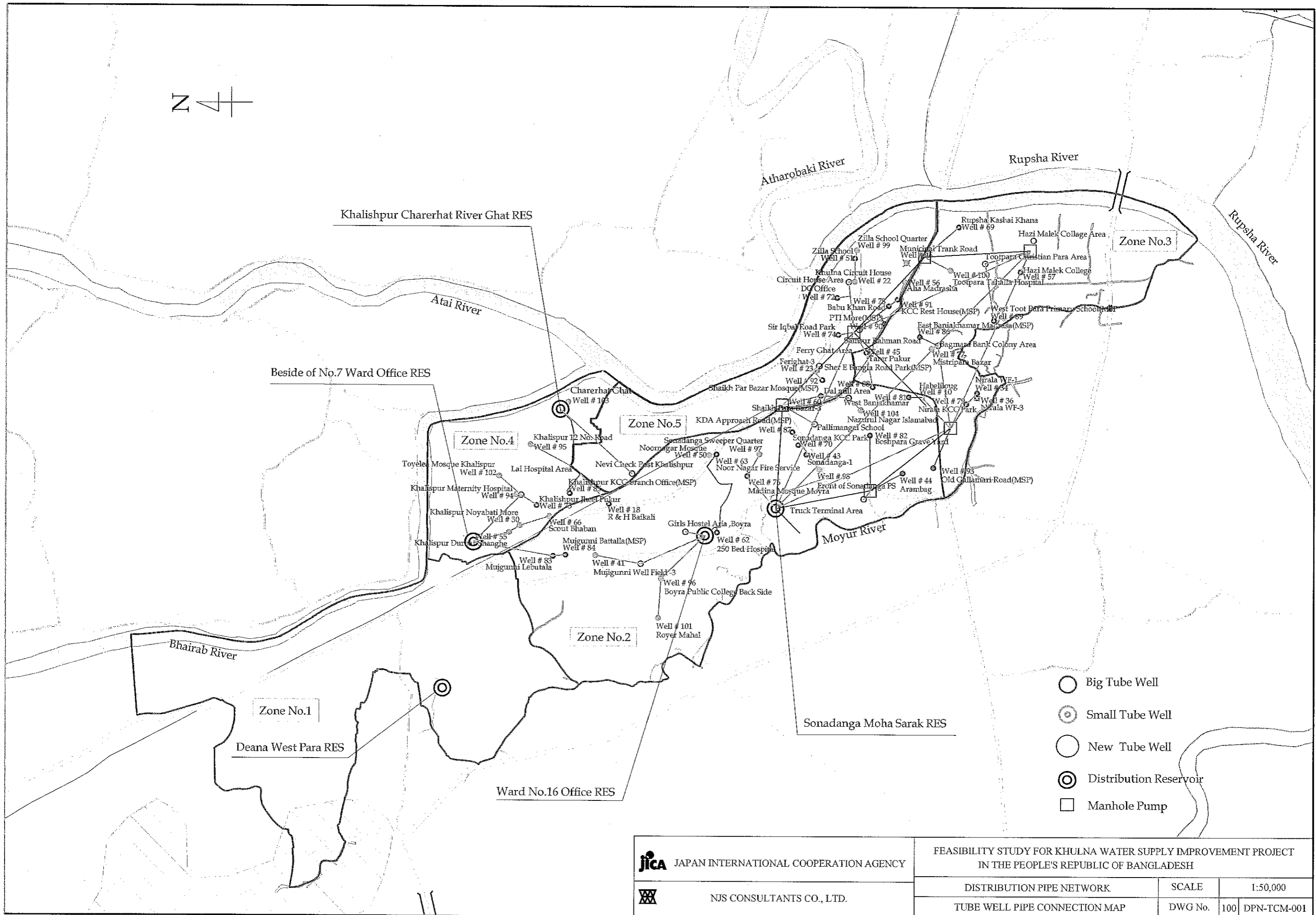
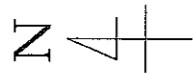
Water Service Area: Ward No.22, 23 & 29

SCALE 1:30,000

LEGEND

	400mm(16inch)	
	350mm(14inch)	Main Pipe
	300mm(12inch)	Sub Main Pipe
	250mm(10inch)	Sub Main Pipe
	200mm(8inch)	Branch Pipe
	150mm(6inch)	Branch Pipe
		Ward Boundary
		Connection Pipe
		Over Head Tank

JICA JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH		
	DISTRIBUTION PIPE PIPE NETWORK PLAN (ZONE-5) (MORE THAN Ø150mm)	SCALE DWG No.	1:30,000 99
NJS CONSULTANTS CO., LTD.	DPN-PNP-005		



JICA JAPAN INTERNATIONAL COOPERATION AGENCY	FEASIBILITY STUDY FOR KHULNA WATER SUPPLY IMPROVEMENT PROJECT IN THE PEOPLE'S REPUBLIC OF BANGLADESH			
	NJS CONSULTANTS CO., LTD.	DISTRIBUTION PIPE NETWORK	SCALE	1:50,000
	TUBE WELL PIPE CONNECTION MAP	DWG No.	100	DPN-TCM-001