

CONSULTANCY SERVICES FOR SURVEY, DESIGN AND EIA WORKS OF WATER SUPPLY AND
SEWERAGE FACILITIES IN 7 ISLANDS, MALDIVES

PACKAGE 6

SEWERAGE SYSTEM OF GA. DHEVVADHOO ,MALDIVES

For Ministry of National Planning and Housing Infrastructure, Republic of Maldives



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Legend

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41) - 1497 m
- 160mm Ø uPVC PS2 Gravity Sewer Main (SN4, SDR41) - 2232 m
- 160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41) - 2142 m
- 110 mm Ø HDPE Pumping Main (PE100, PN16, SDR11) - 1050 m
- 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11) - 300 m on land, 140 m offshore, 440 m total
- 600mm Ø PE/PP Maintenance Shaft - 101 nos
- 160mm Ø uPVC Clean Out - 64 nos
- PERMANENT SURVEY MARK P6_PBM_1 304273.609E, 61571.04N 1.510m From MSL
- PERMANENT SURVEY MARK P6_PBM_2 304232.634E, 61556.021N 1.593m From MSL

Notes

- ALL LEVELS SHOWN ARE IN METERS.
- ALL LEVELS SHOWN ARE FROM MEAN SEA LEVEL.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
- ALL GRAVITY SEWER PIPES SHALL BE UPVC TO BS EN1401-1:2019.
- ALL GRAVITY SEWER MAINS SHALL BE 160MM DIA UPVC OF WALL THICKNESS & STIFFNESS RATED TO SN4 & SDR41.
- ALL GRAVITY HOUSE LATERALS SHALL BE 110MM DIA UPVC OF WALL THICKNESS & STIFFNESS RATED TO SN4 & SDR41.
- ALL GRAVITY SEWER MAINS SHALL HAVE MINIMUM 0.4% SLOPE.
- ALL GRAVITY SEWER PIPES SHALL BE JOINTED USING RUBBER RING PUSH FIT JOINTING METHOD & RUBBER RINGS COMPLY WITH BS 2494 (TYP2).
- CONNECTION FROM THE HOUSEHOLD TO THE INSPECTION CHAMBER IS NOT INCLUDED. PROVISION SHALL BE GIVEN IN IC FOR MULTIPLE CONNECTIONS.
- ALL SEWER PIPES SHALL BE BURIED UNDER EARTH COVER OF MINIMUM 0.6 METERS.
- CATCHMENT OVER FLOW LINKS ARE TO BE CONNECTED AS INDICATED BELOW:
 - a) CO3-26 and CO3-21
 - b) CO3-13 and CO3-28
 - c) CO3-24 and MH3-24
 - d) CO1-01 and CO3-18
 - e) CO2-09 and CO3-04
 - f) CO2-16 and CO3-08
 - g) CO2-06 and CO2-12
 - h) CO2-24 and MH2-25

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Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 5 islands, Maldives - PaCkage 6

Sub Title:
Sewerage System in GA. Dhevvadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

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A-(1)

GA, DHEVVADHOO SEWERAGE SYSTEM - DETAILED DESIGN OF SEWERAGE NETWORK LAYOUT

1:3000



- PS-1 Catchment Area
- PS-2 Catchment Area
- PS-3 Catchment Area

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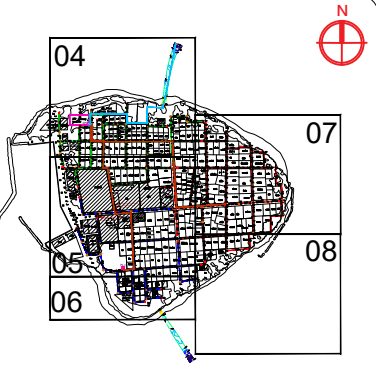
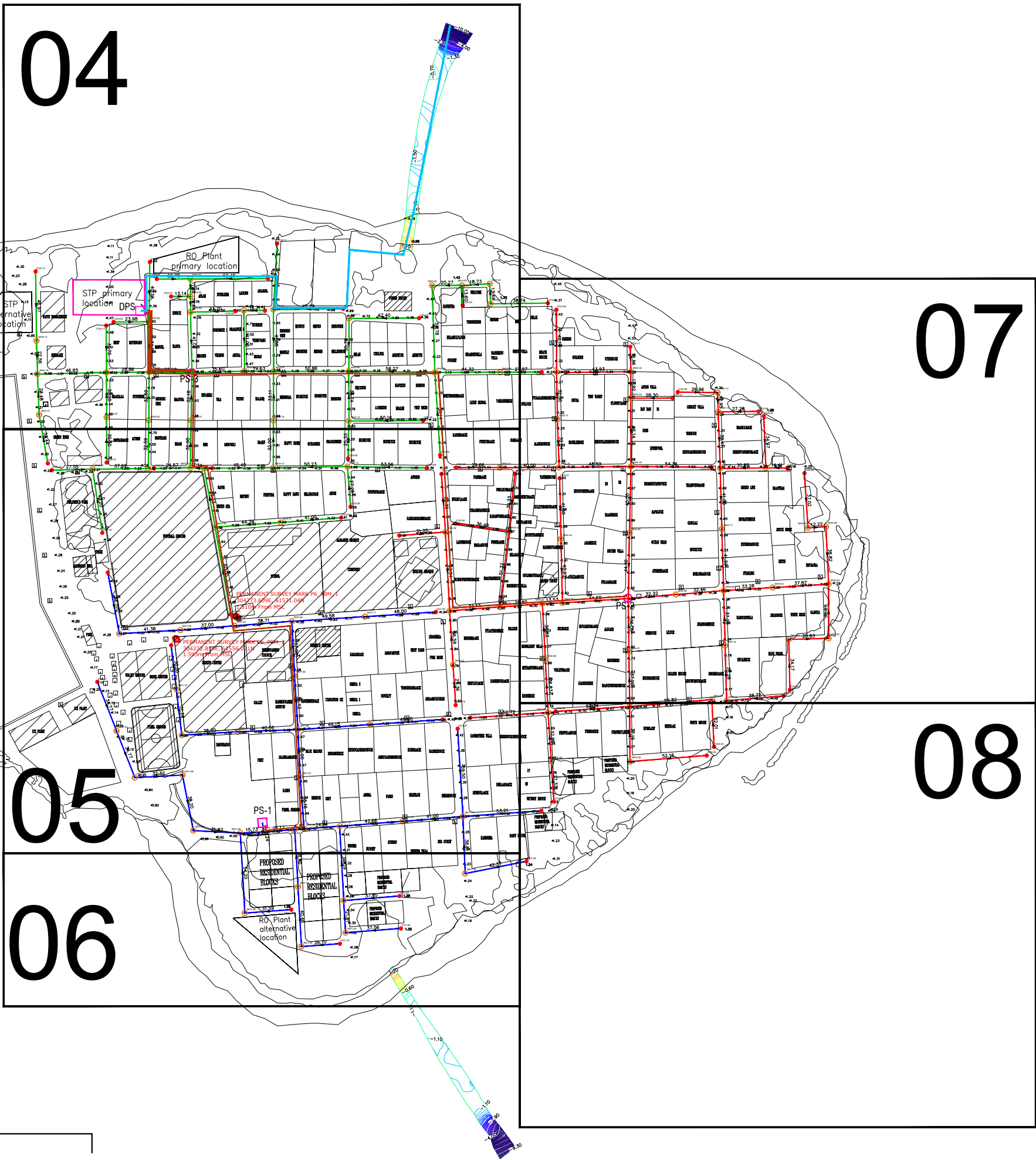
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A-(2)



Legend

-  160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)
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-  160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41)
-  600mm Ø PE/PP Maintenance Shaft
-  160mm Ø uPVC Clean Out
-  160 mm Ø HDPE Pumping Main (PE100, PN16, SDR11)
-  160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

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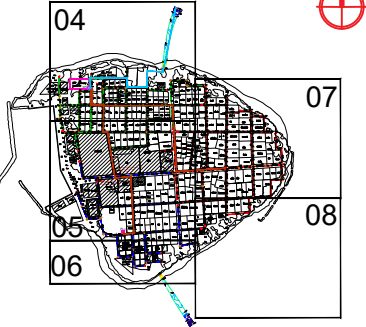
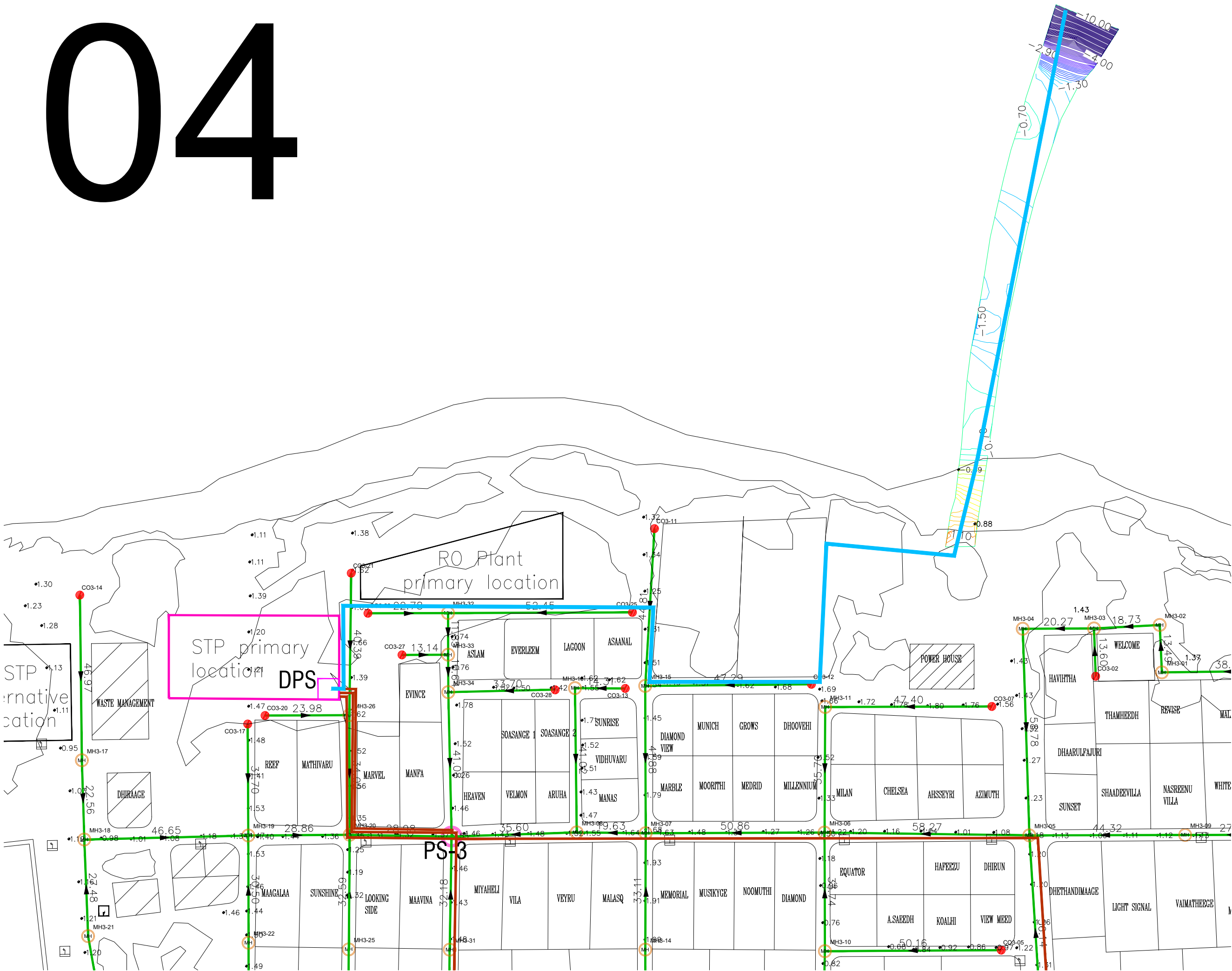


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04



Legend

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)
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- 160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41)
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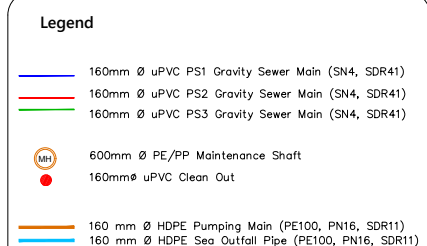
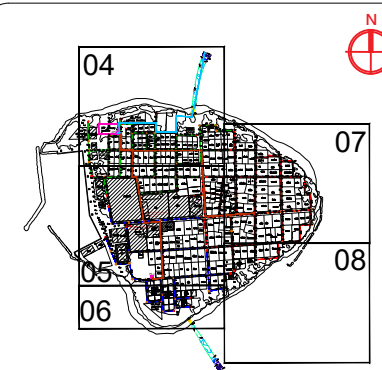
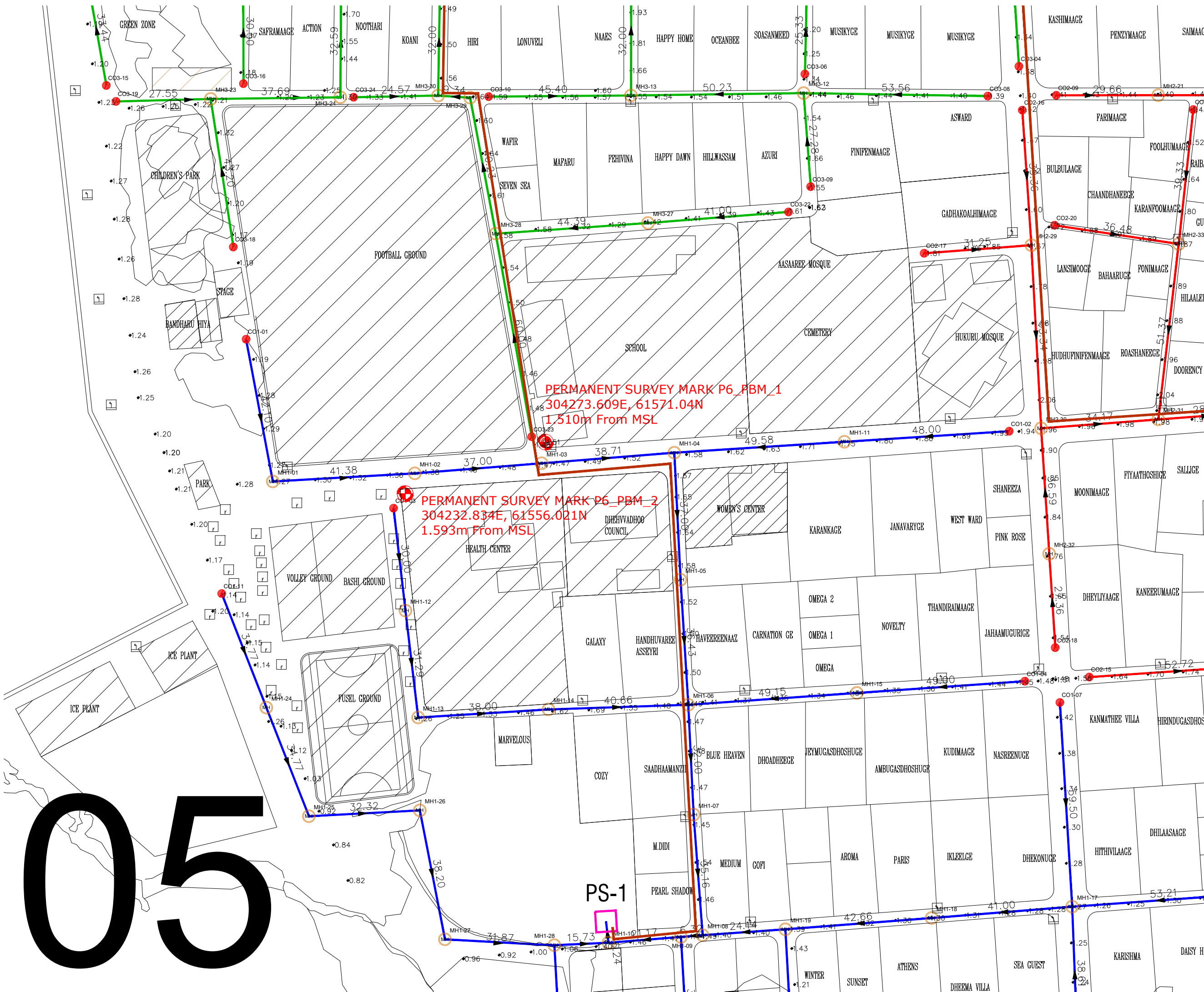
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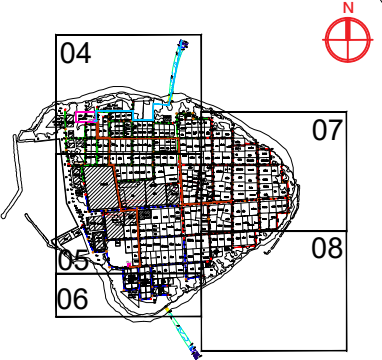
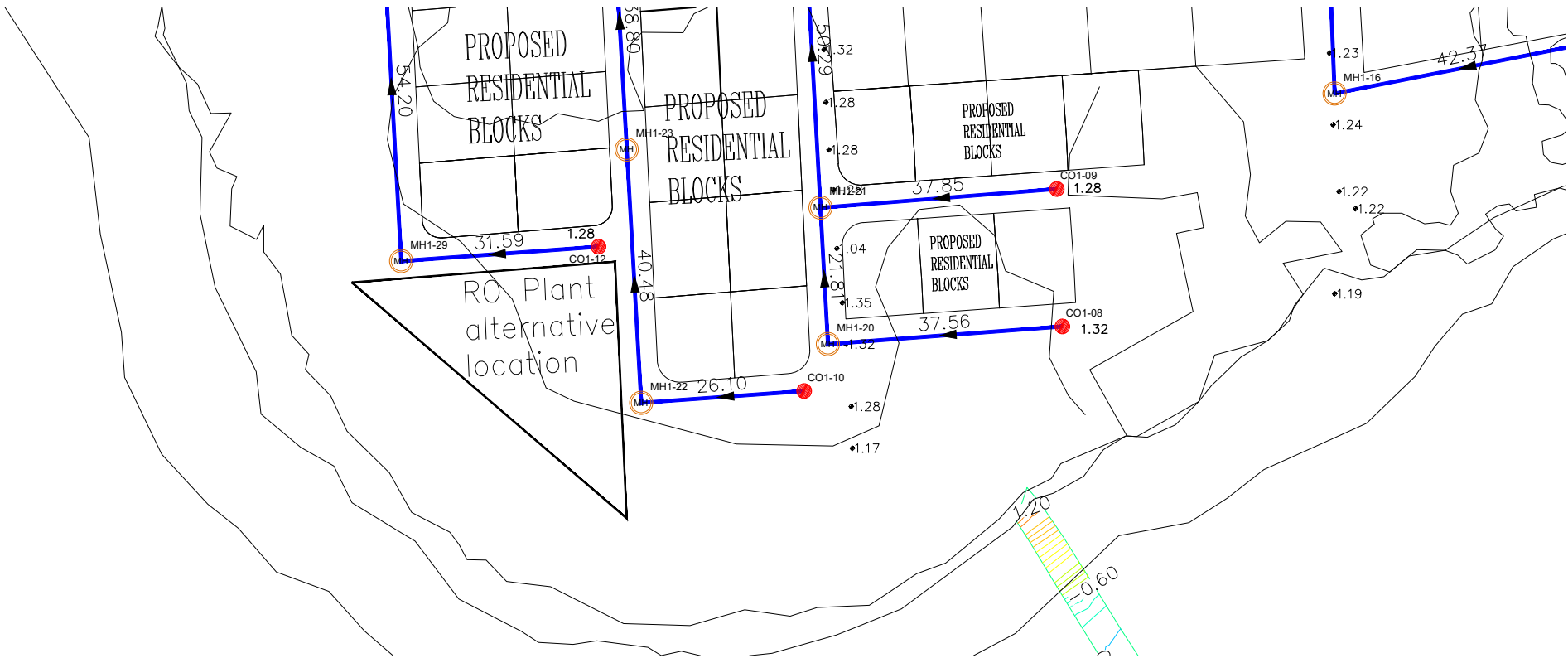


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Legend

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- 160mm Ø uPVC PS2 Gravity Sewer Main (SN4, SDR41)
- 160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41)
- 600mm Ø PE/PP Maintenance Shaft
- 160mm Ø uPVC Clean Out
- 160 mm Ø HDPE Pumping Main (PE100, PN16, SDR11)
- 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

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07

04

07

05

06

08

Legend

160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)

160mm Ø uPVC PS2 Gravity Sewer Main (SN4, SDR41)

160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41)

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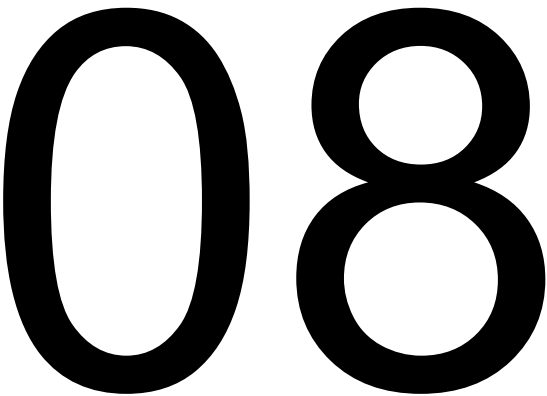
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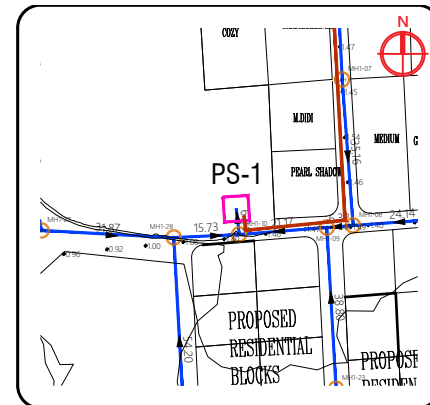
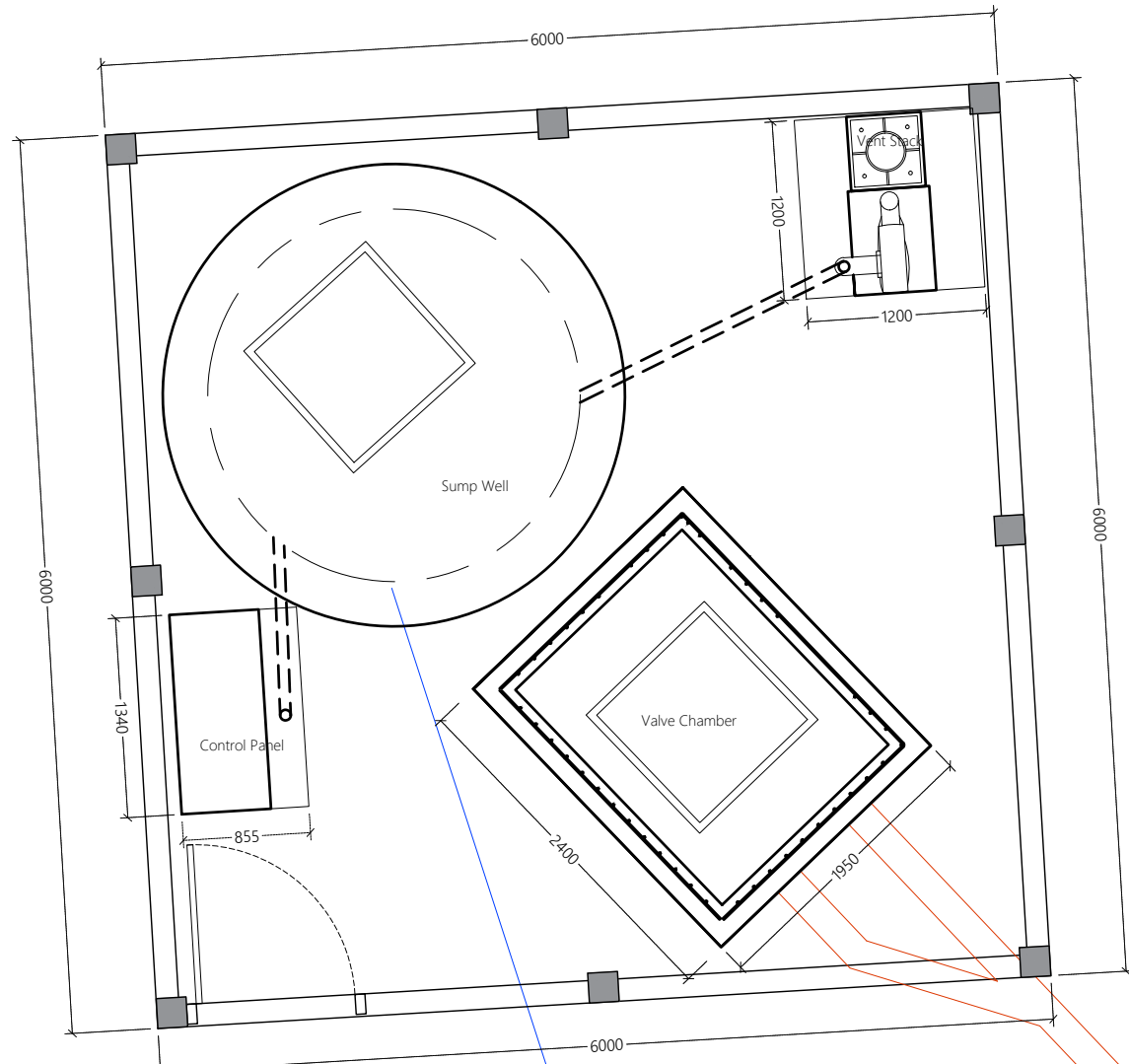
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Legend

— 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)

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Sub Title:
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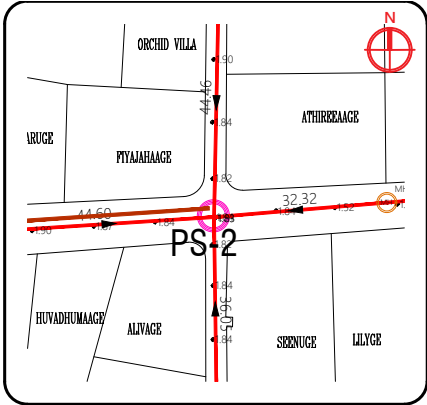
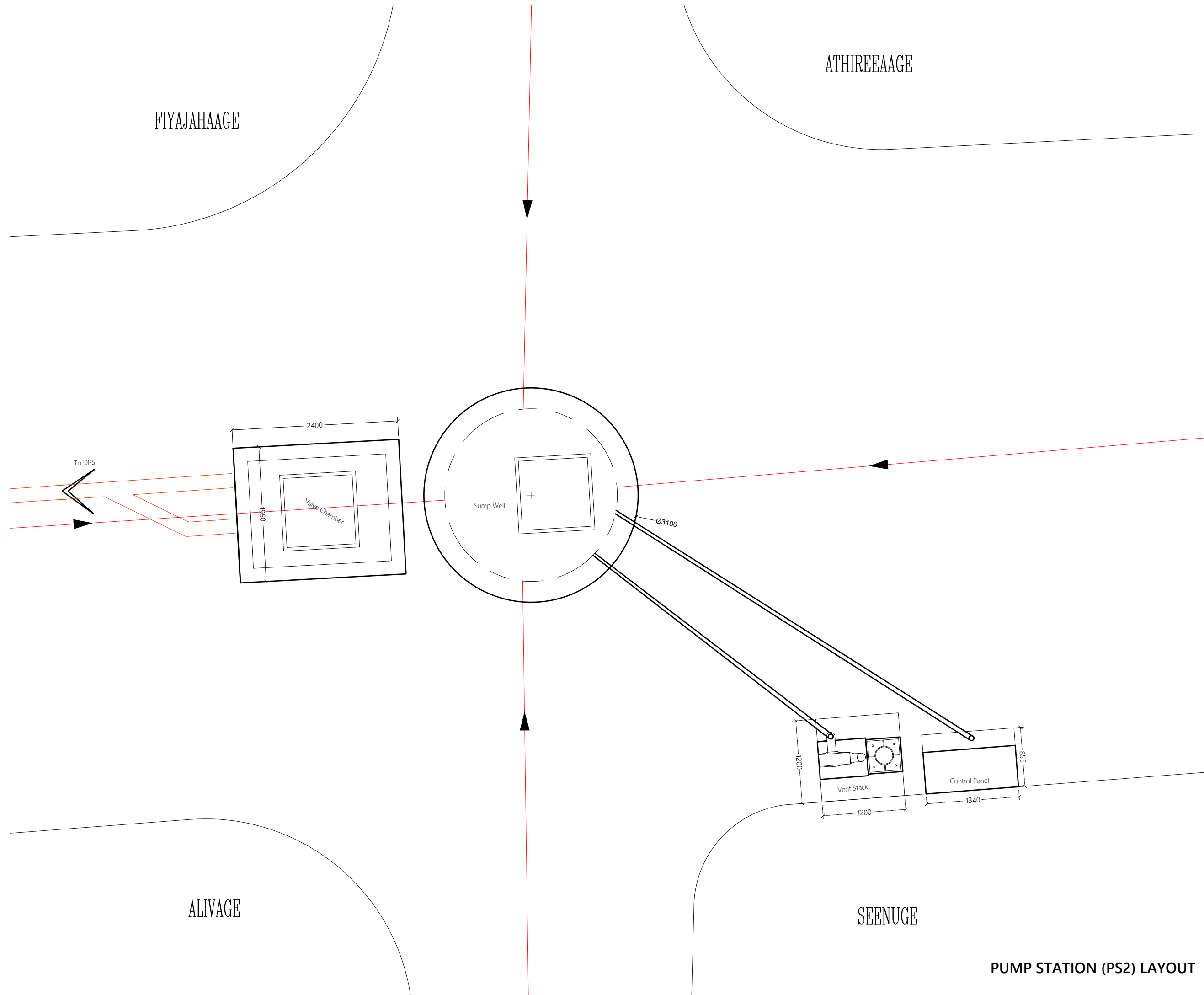
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PUMP STATION (PS1) LAYOUT
1:50



Legend

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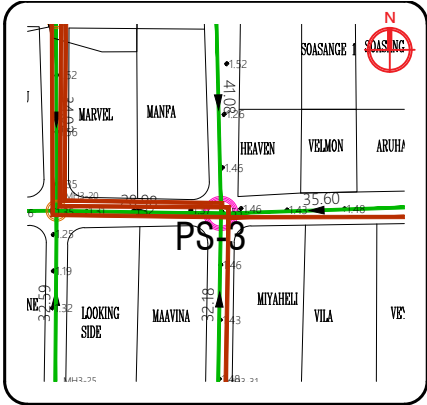
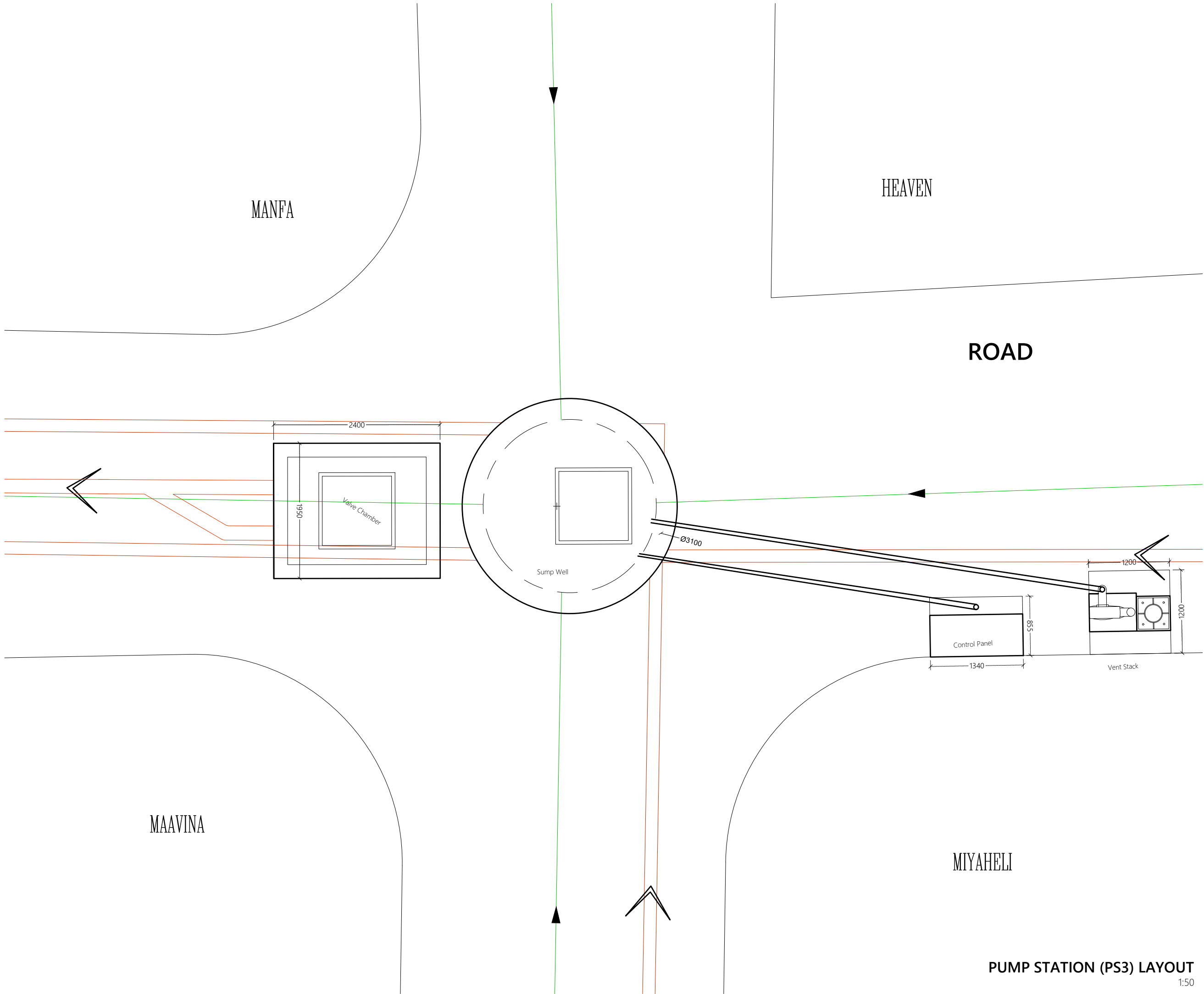
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PUMP STATION (PS2) LAYOUT



Legend

160mm Ø uPVC PS3 Gravity Sewer Main (SN4, SDR41)

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Sub Title:
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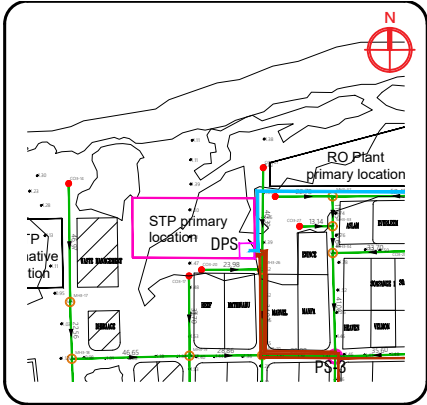
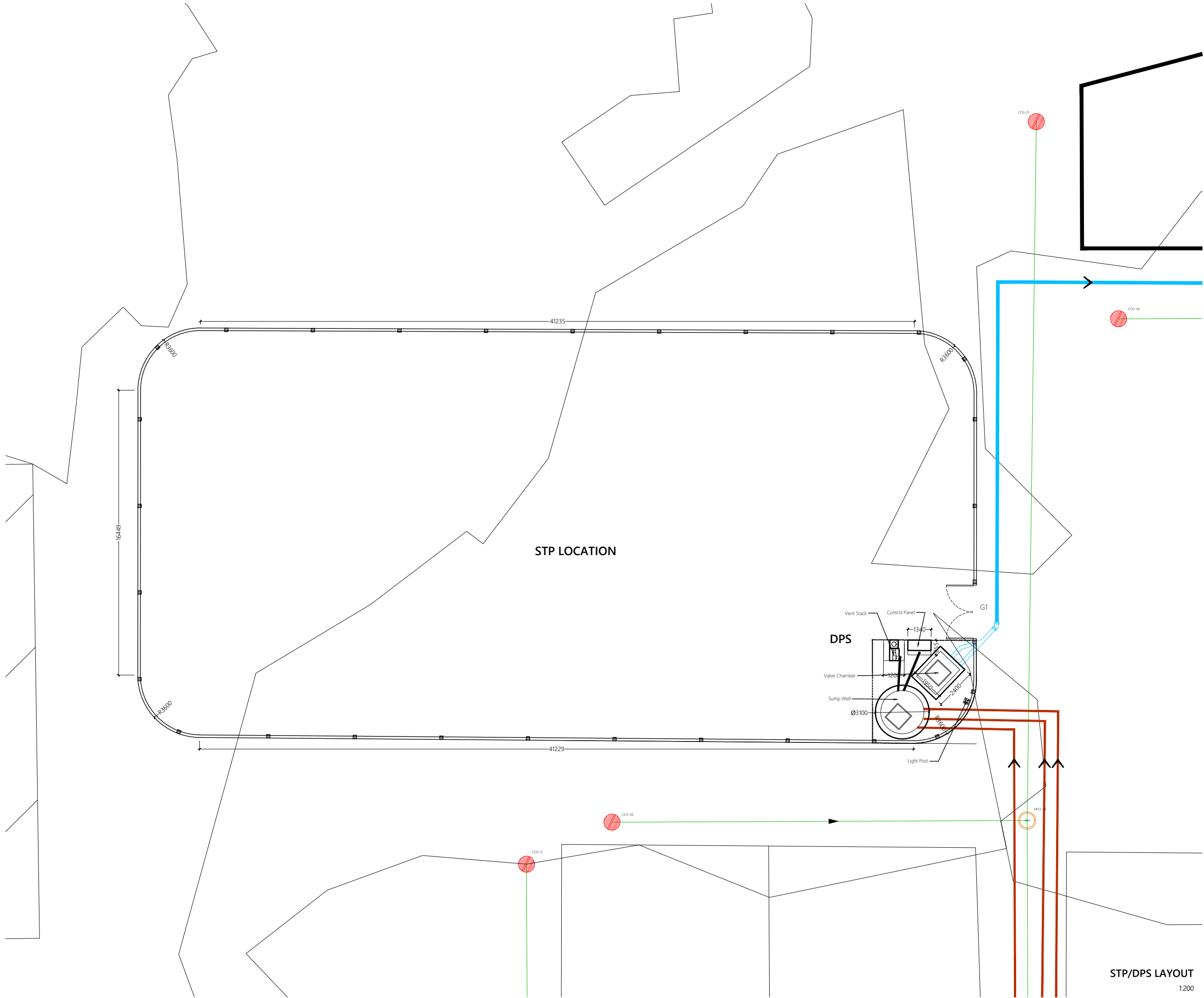
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PUMP STATION (PS3) LAYOUT
1:50



Legend

- 160mm Ø uPVC Gravity Sewer Main (SN4, SDR41)
- 110 mm Ø HDPE Pumping Main (PE100, PN16, SDR11)
- 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

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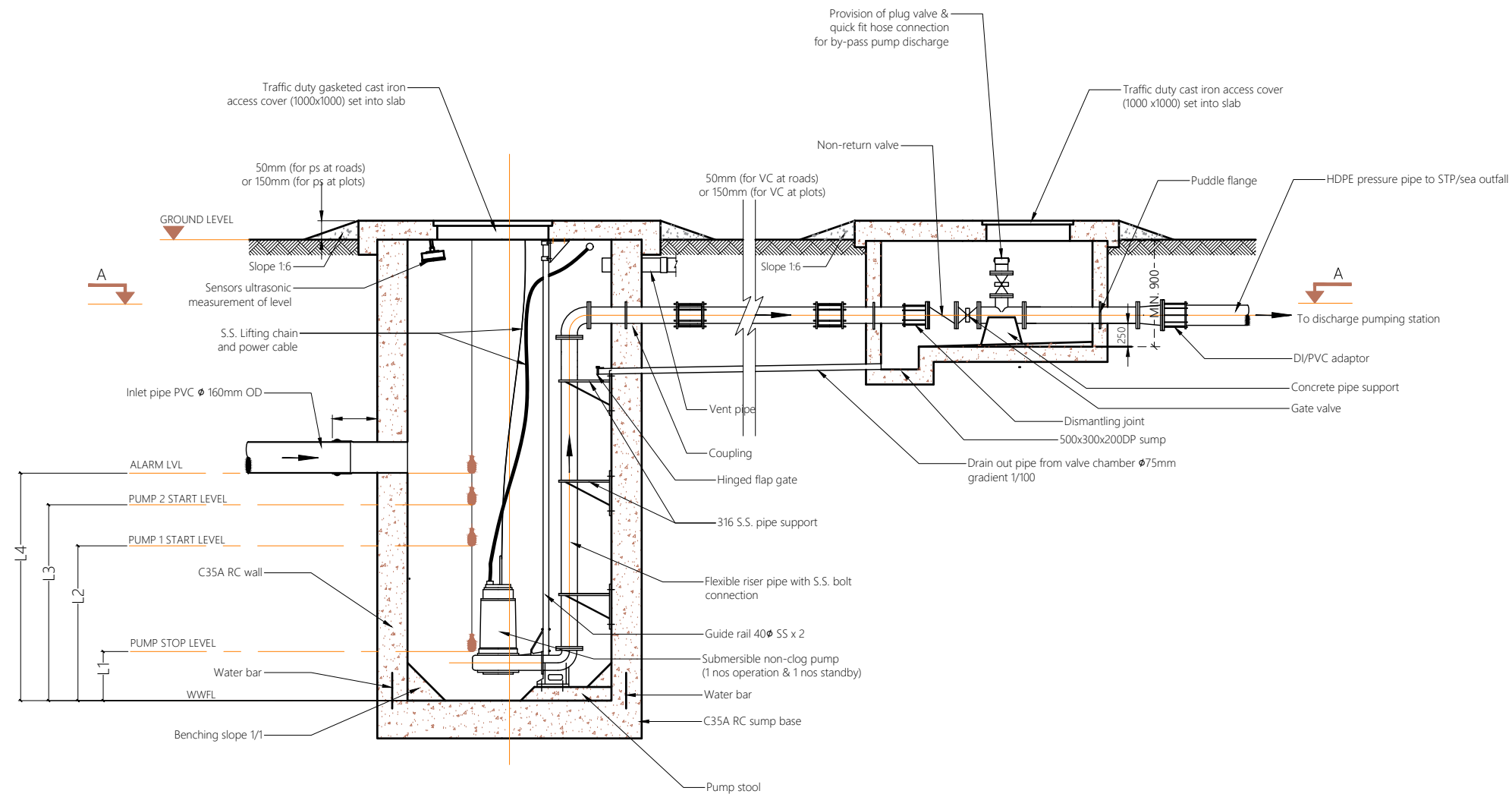
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PUMP STATION DESIGN DETAILS

(15 YEARS)

PUMP STATION DESIGN DETAILS						(15 YEARS)		Levels			
Pump Station	Diameter (ϕ)	Depth (D)	Inlet Depth	Pump Capacity	Head	L1	L2	L3	L4		
PS1	2.5m	3.10m	2.3m	2.7 l/s	11.8 m	0.300m	0.383m	0.533m	0.683m		
PS2	2.5m	3.10m	2.4m, 2.1m, 2.1m, 2.0m	4.1 l/s	12.4 m	0.300m	0.424m	0.574m	0.724m		
PS3	2.5m	3.10m	2.2m, 1.9m, 1.8m, 1.5m	3.9 l/s	6.3 m	0.300m	0.419m	0.569m	0.719m		
DPS	2.5m	3.10m	0.8m	10.7 l/s	21.1 m	0.300m	0.626m	0.776m	0.926m		

PUMP STATION DETAILS - LONGITUDINAL SECTION

NTS

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W-(5)



Legend

Notes:

- Pumps, pipe work, fittings and control panel shall be installed in accordance with manufacturers recommendations.
- Orientation of valve chamber pipework to suit location.
- All structural concrete shall be of grade C35A.
- All castings shall be done using sulphate resistant portland cement to BS 4027:1996.
- All structural reinforcement shall be epoxy coating of non-pre-stressed reinforcement to ASTM-A775/A775M.
- A cover of 75mm should be given for all reinforcements.
- Internal concrete surfaces to be coated with 5mm thickness of epoxy bonded glass fibre and finished with gel coat or 500 microns epoxy paint coating.
- External concrete surfaces to be painted with 3 coats of bitumen/rubber emulsion and protected by 500 micron polyethene.

List of main instruments of pumping station:

1. Sewage pumps (1 duty & 1 standby)
2. Power cable
3. Auto-coupling with 40Ø SS guide rail
4. Stainless steel (316) suspension chain
5. Cable with float control and weight
6. Discharge pipe
7. Puddle flange
8. Bitumen emulsion and 500 micron polythene sheet protection to external concrete surfaces
9. Construction joint / water bars
10. Manhole cover double seal ductile heavy duty cast iron / SS 316 cover
11. Vent pipe with vent cowl

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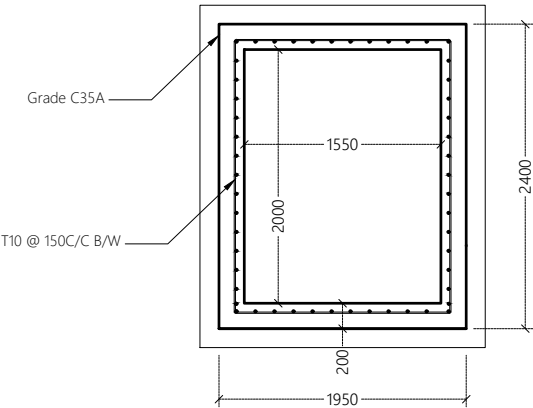
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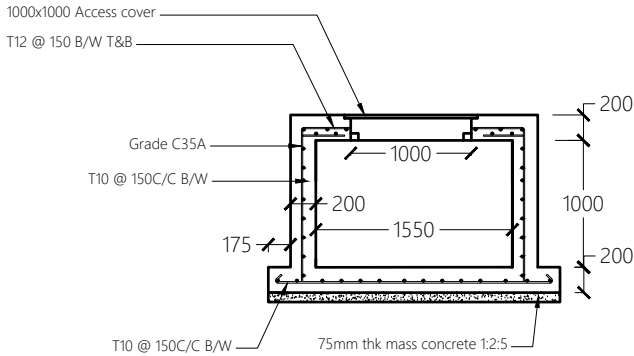
INFRA
Maldives

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Date: Sep 2020	SCALE (A3): NTS
Project No:	EP-WS/2019/06
Rev:	Page: W-(7)

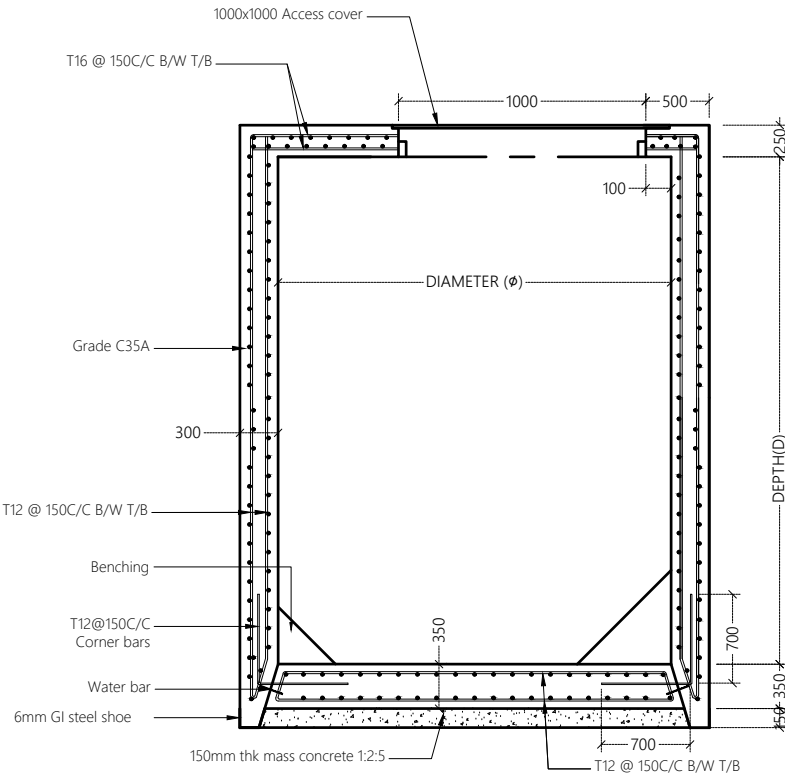
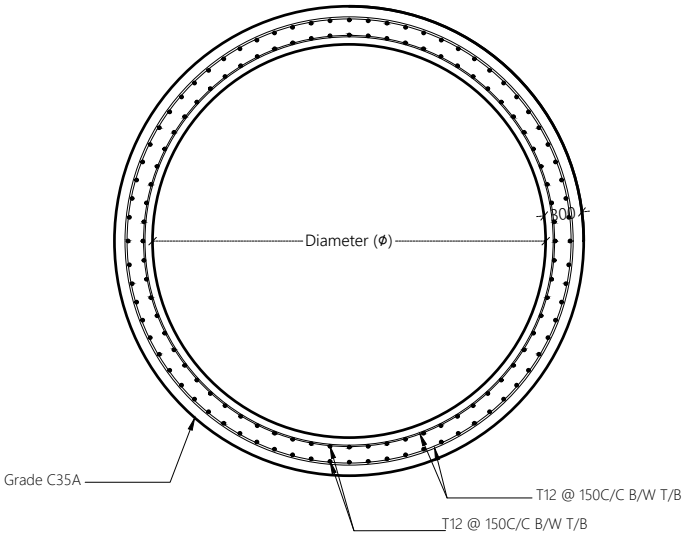
PLAN VIEW



SECTION



VALVE CHAMBER DETAIL

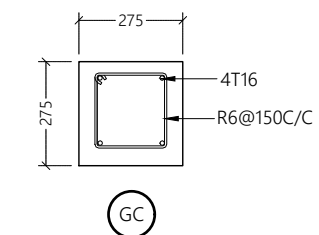
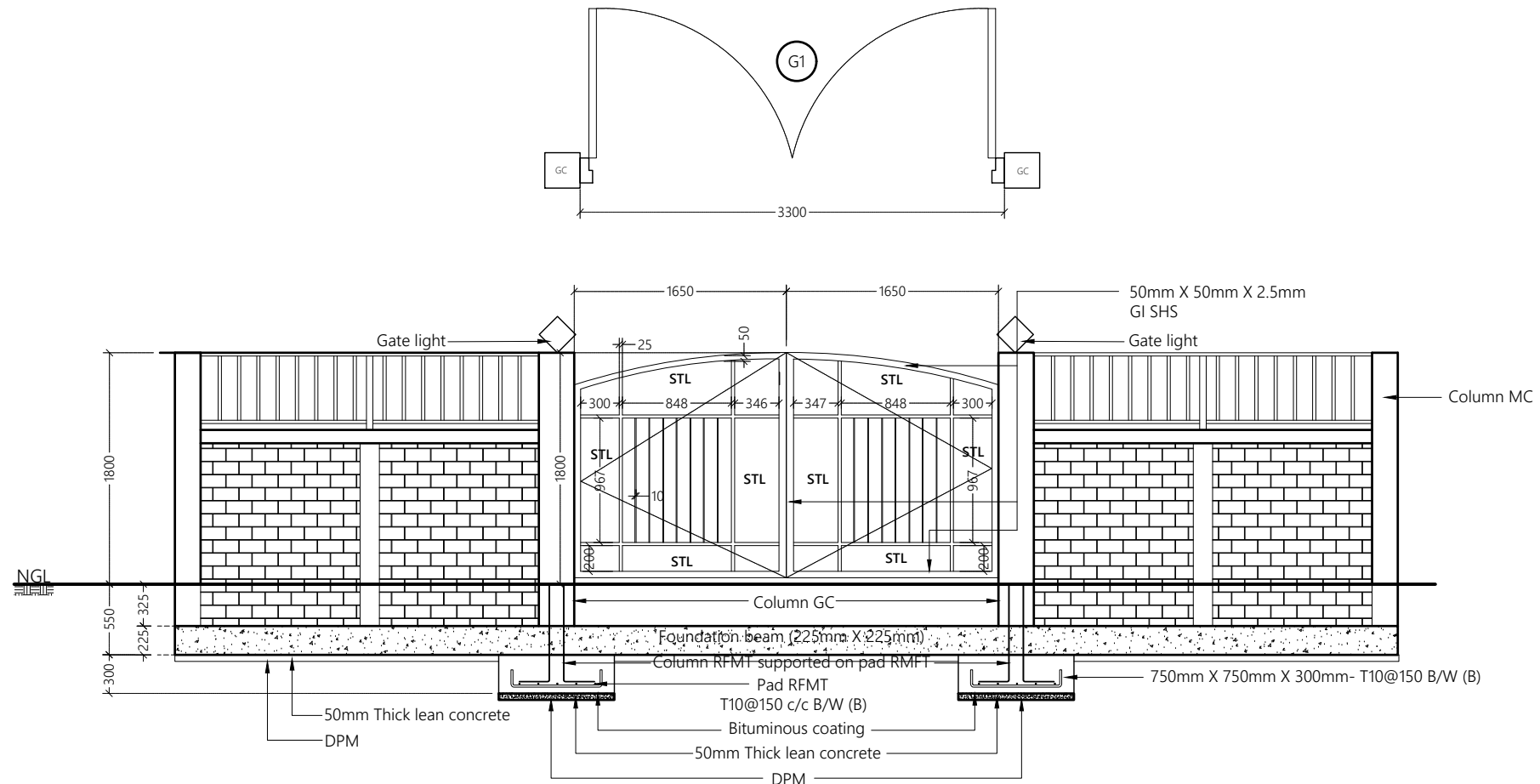


PUMP STATION DETAIL

Pump Station	Diameter (Ø)	Depth (D)	Inlet Depth
PS1	2.5m	3.10m	2.304m
PS2	2.5m	3.10m	2.414m, 2.148m, 2.139m, 2.039m
PS3	2.5m	3.10m	2.197m, 1.888m, 1.833m, 1.524m
DPS	2.5m	3.00m	0.8m

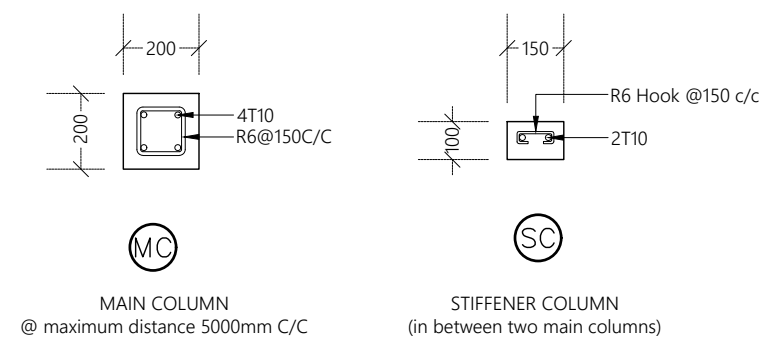
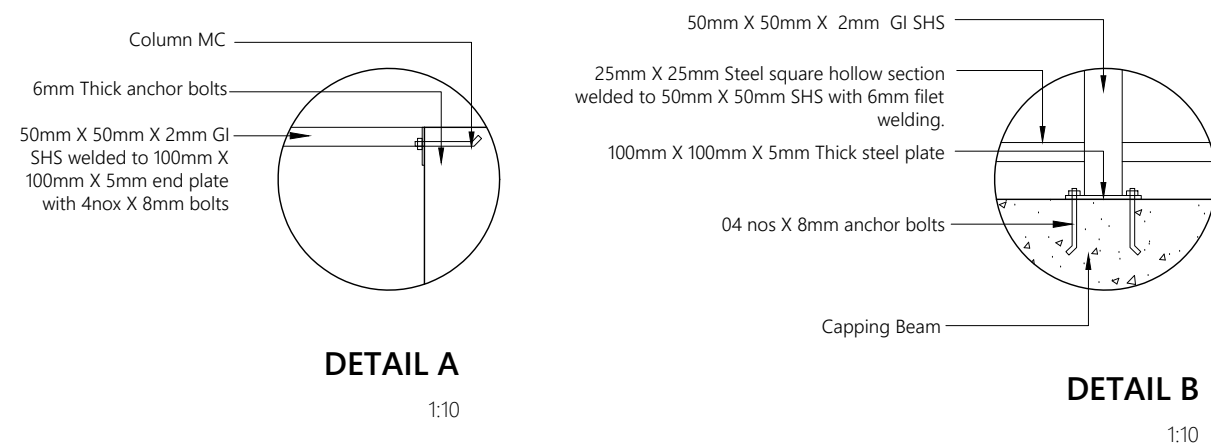
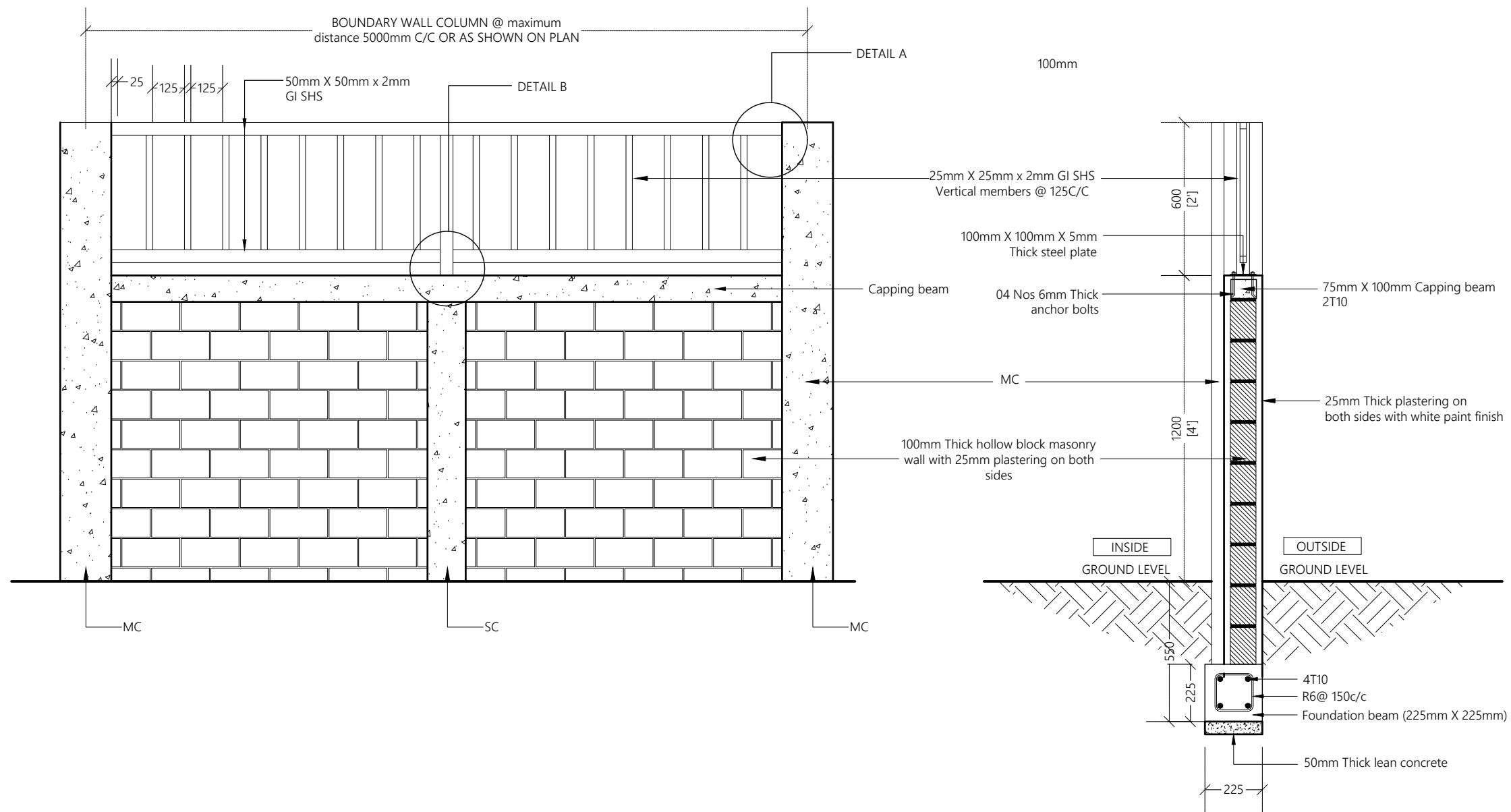
PUMP STATION STRUCTURAL DETAILS

NTS



FOUNDATION BEAM DETAIL
1:20

W-(8)



1:20

- FRAME MATERIAL : Steel gate frame 2.5mm thick
- GI sections SHS
- All steel members and GI SHS to be applied with 2 coats of anti-corrosive paint with epoxy finishing paint
- Allowance shall be made to fix pad lock in Gates

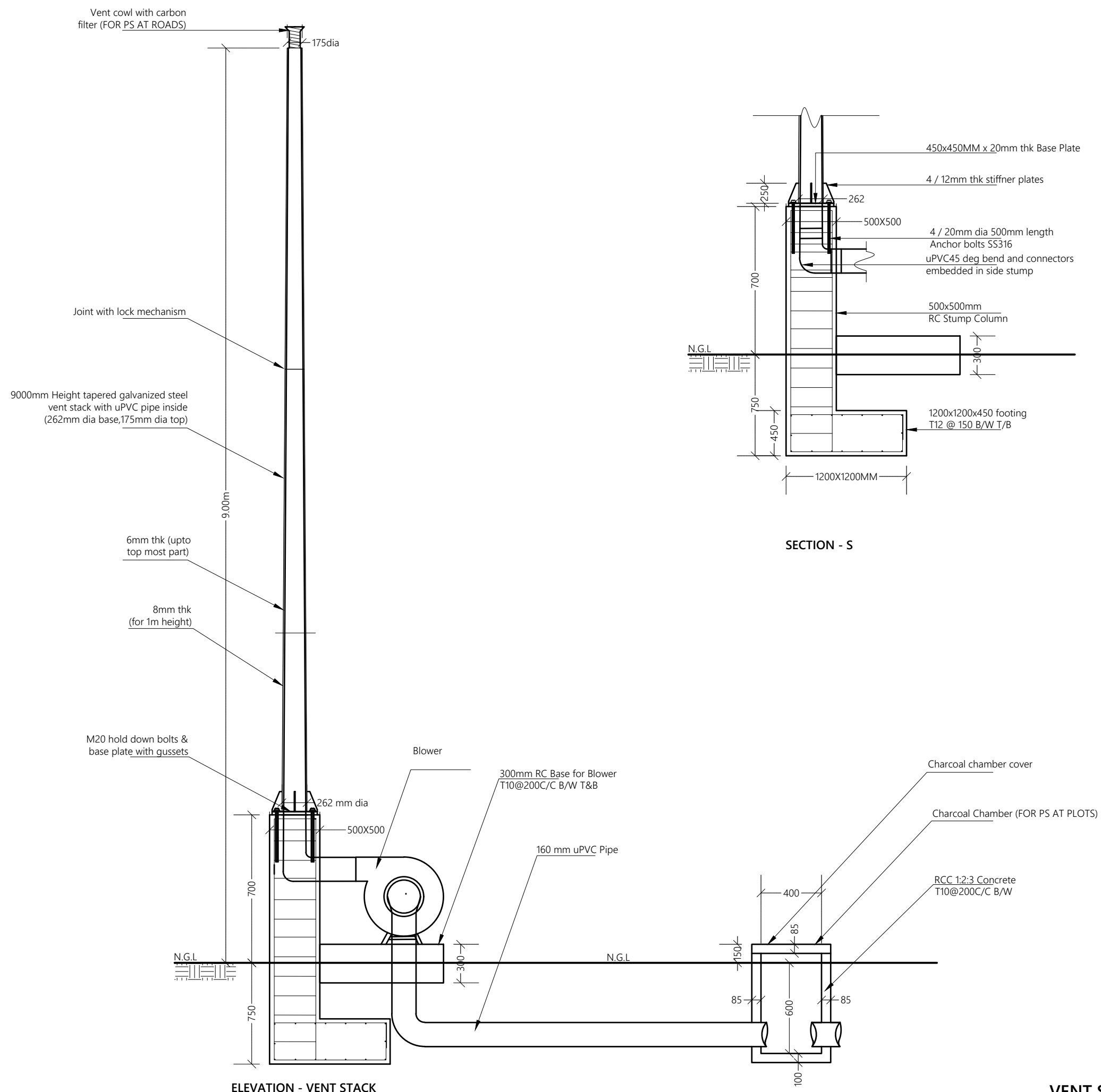
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Client:
**Ministry of National Planning, Housing and
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Drawn: F.I.A.	Checked: M.S.S.
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Project No: EP-WS/2019/06	
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NTS

Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	App

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
7 islands, Maldives - Pakage 6**

Sub Title:
Water Supply System in GA. Dheevadhoo

Client: **Ministry of National Planning, Housing and Infrastructure, Republic of Maldives**

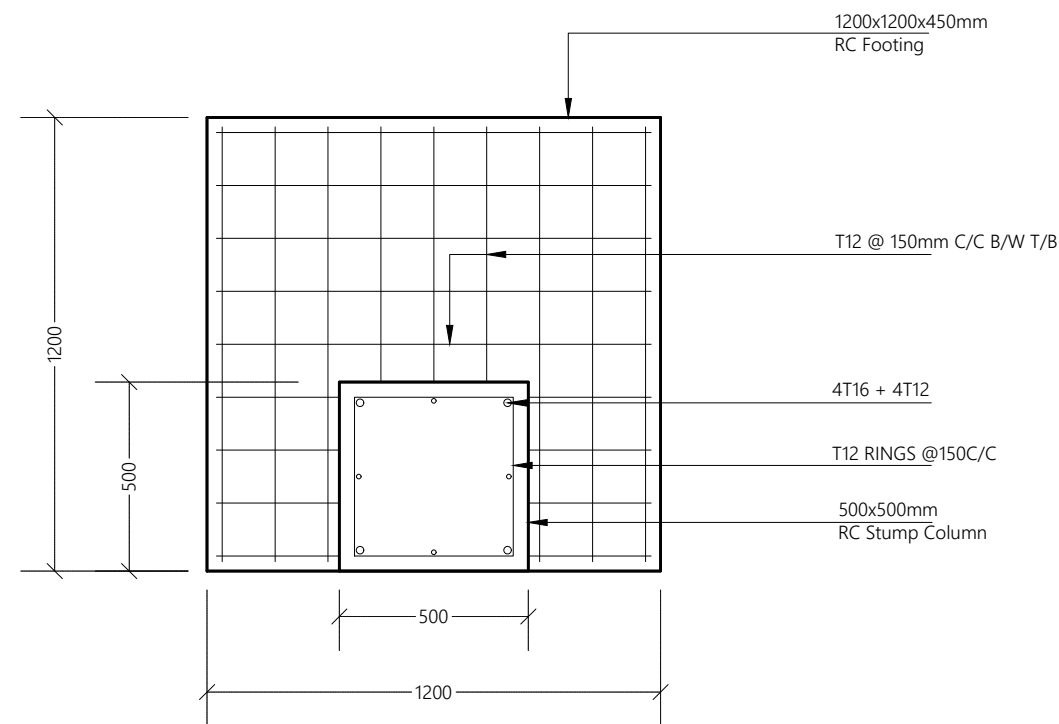


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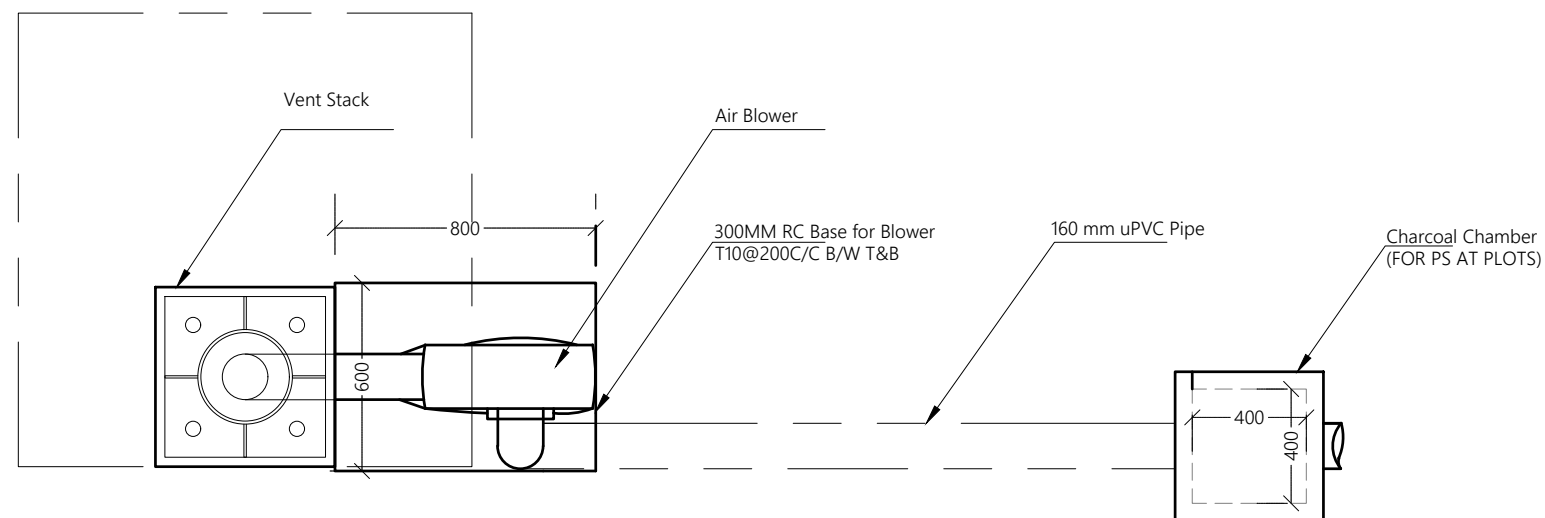


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Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	
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FOOTING & STUMP DETAILS OF VENT STACK



AIR BLOWER DETAILS (Plan View)

VENT STACK AND AIR BLOWER DETAILS

NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

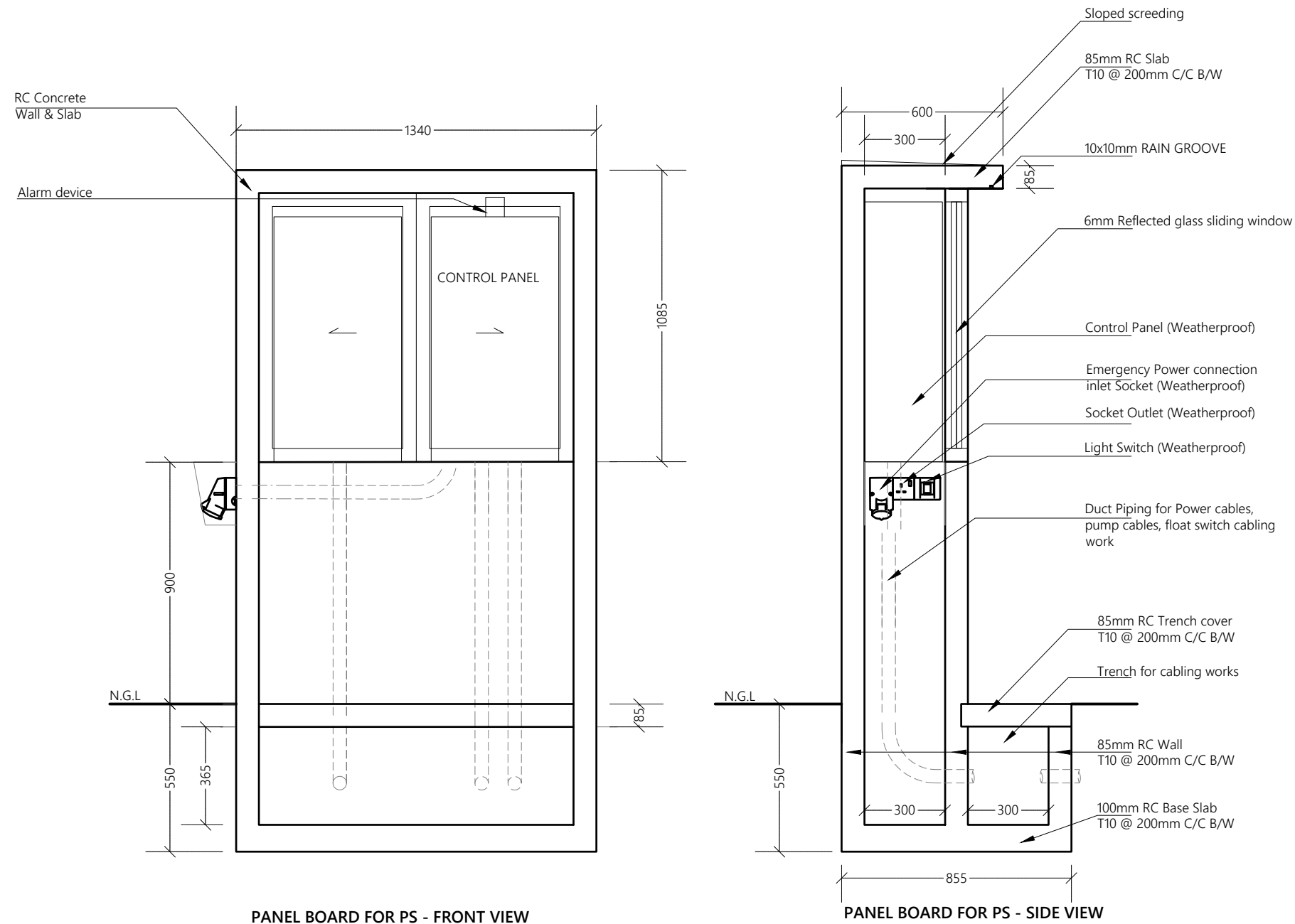
Sub Title:
Water Supply System in GA. Dhevadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

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FEEDBACK INFRA
 Maldives Sri Lanka Sri Lanka Sri Lanka

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Rev:	



CONTROL PANEL BOARD DETAILS

NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

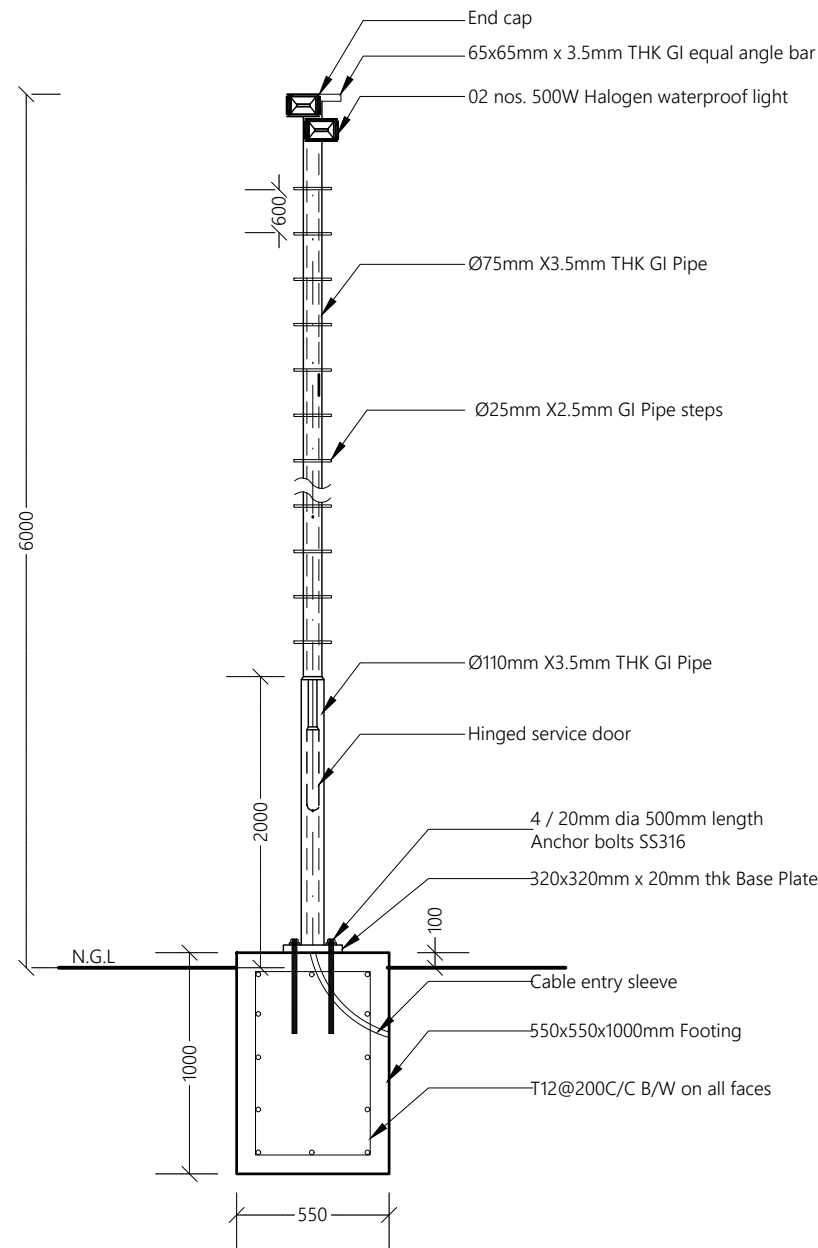
Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

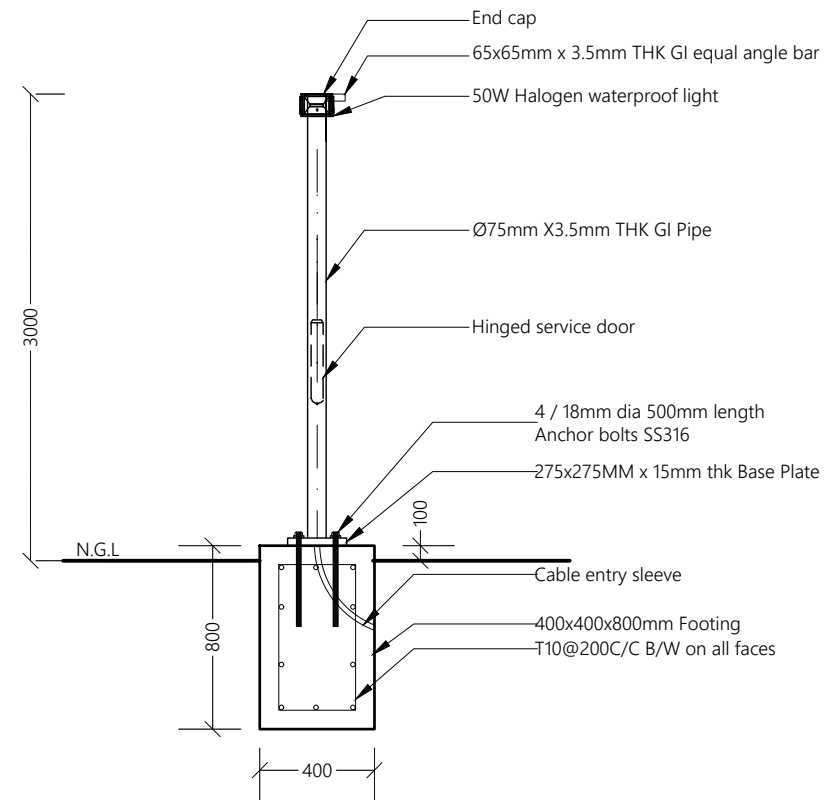
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FEEDBACK INFRA
 Maldives Infrastructure Development

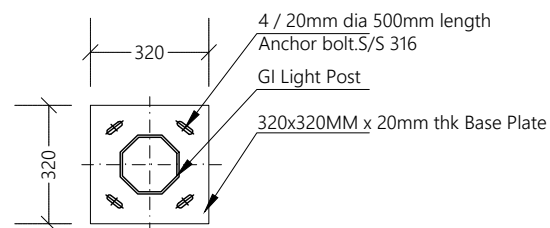
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Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	
Rev:	Page: W-(12)



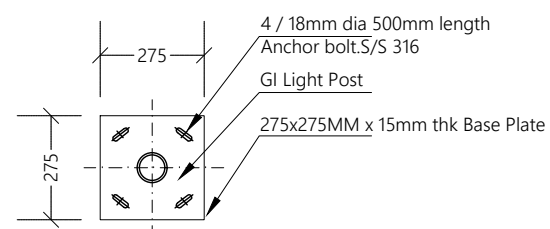
LIGHT POST DETAILS FOR STP COMPOUND (LP1)



LIGHT POST DETAILS FOR PUMP STATION (LP2)



BASE PLATE (LP1)



BASE PLATE (LP2)

NOTE:
 - CONCRETE COVER :50mm
 - All steel members and GI SHS to be applied with 2 coats of anti-corrosive paint with epoxy finishing paint

LIGHT POST DETAILS

NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

Sub Title:
Water Supply System in GA. Dhevadhoo

Client:
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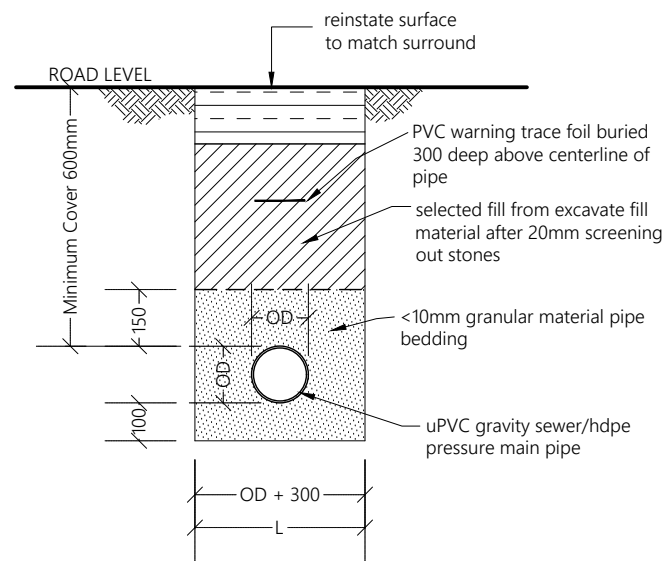
Designed: F.I.A. Approved: I.W.

Date: Sep 2020 SCALE (A3): NTS

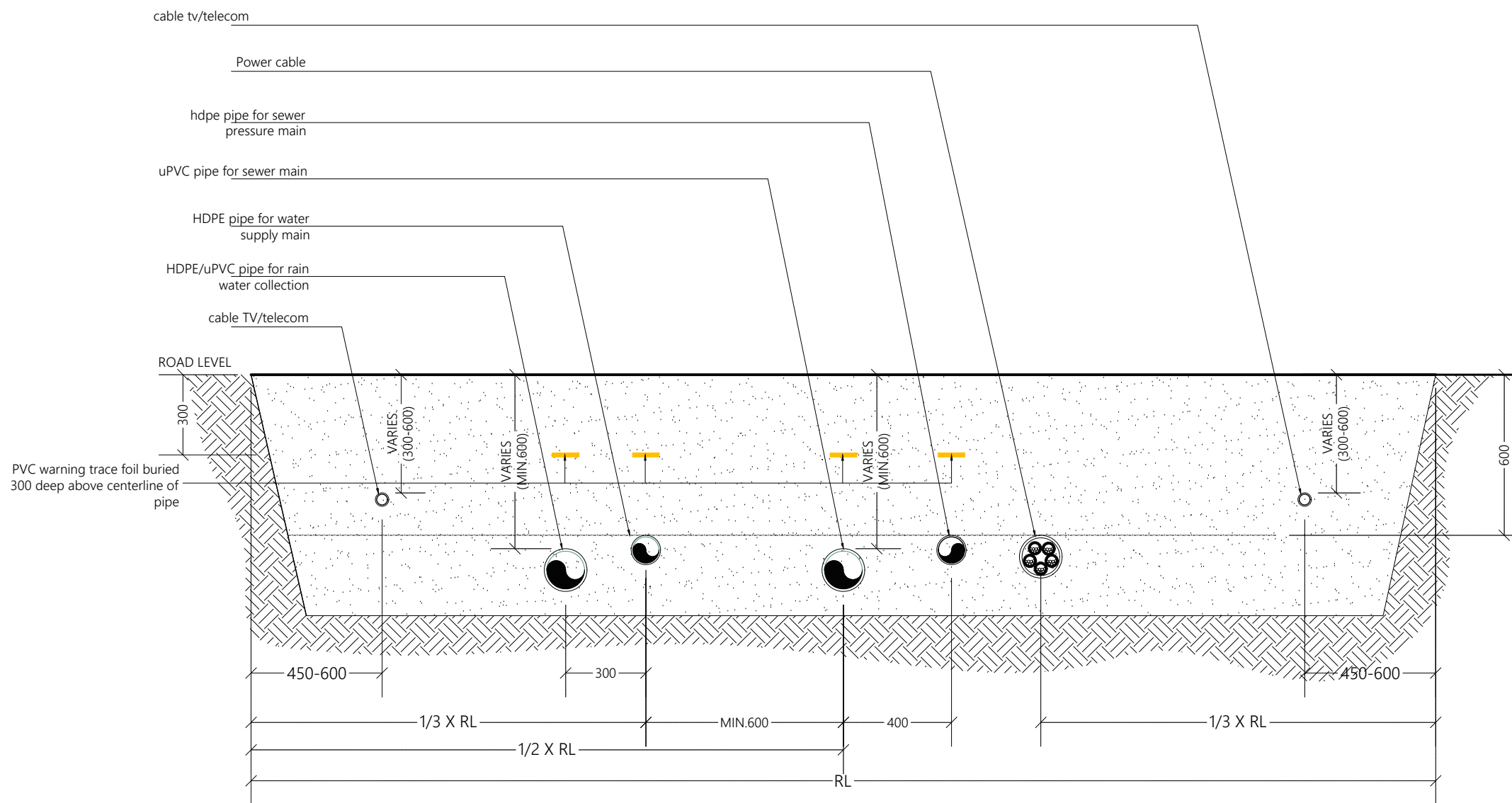
Project No: EP-WS/2019/06

Rev: Page:

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TRENCH & BEDDING DETAILS



TYPICAL ROAD SECTION

TRENCH AND BEDDING DETAILS

1:20

Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
7 Islands, Maldives - Package 6**

Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**



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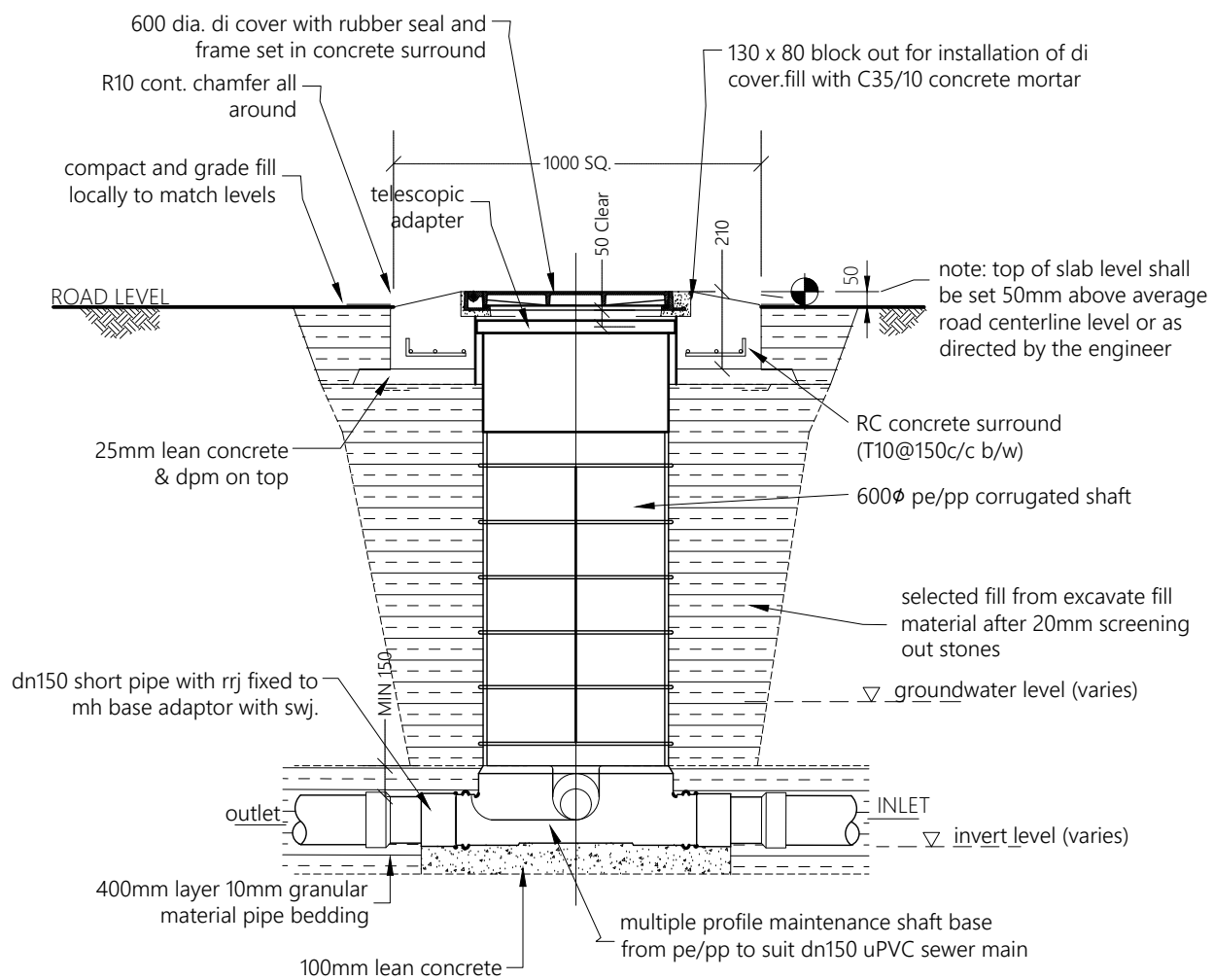
Designed: F.I.A. Approved: I.W.

Date: Sep 2020 SCALE (A3): 1:20

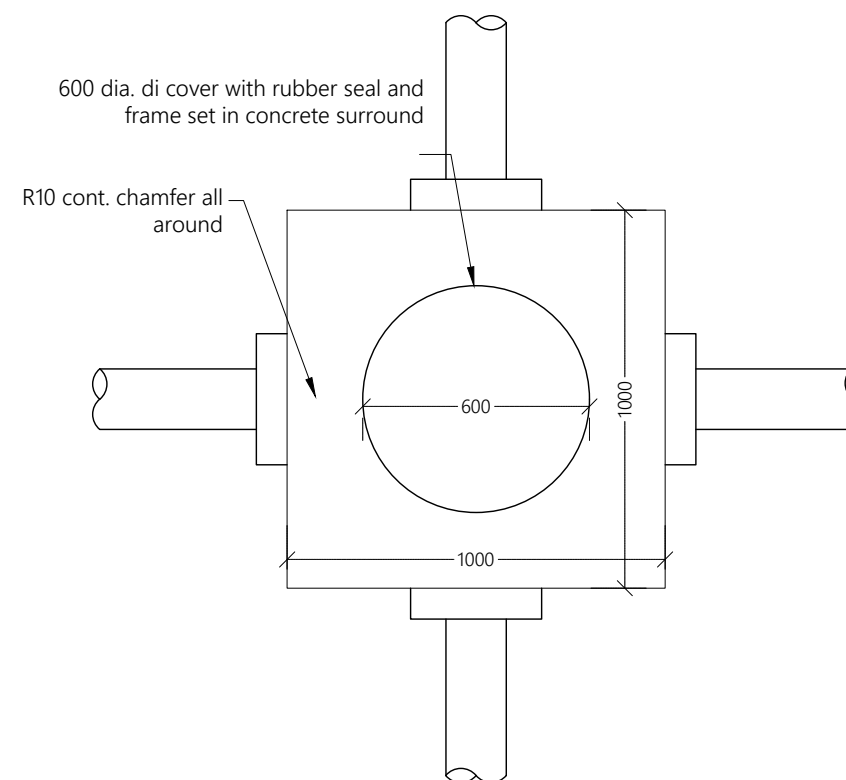
Project No: EP-WS/2019/06

Rev: Page:

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ELEVATION - MAINTENANCE SHAFT (MH)



PLAN VIEW - MAINTENANCE SHAFT (MH)

MAINTENANCE SHAFT (MH) DETAILS

1:20



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives



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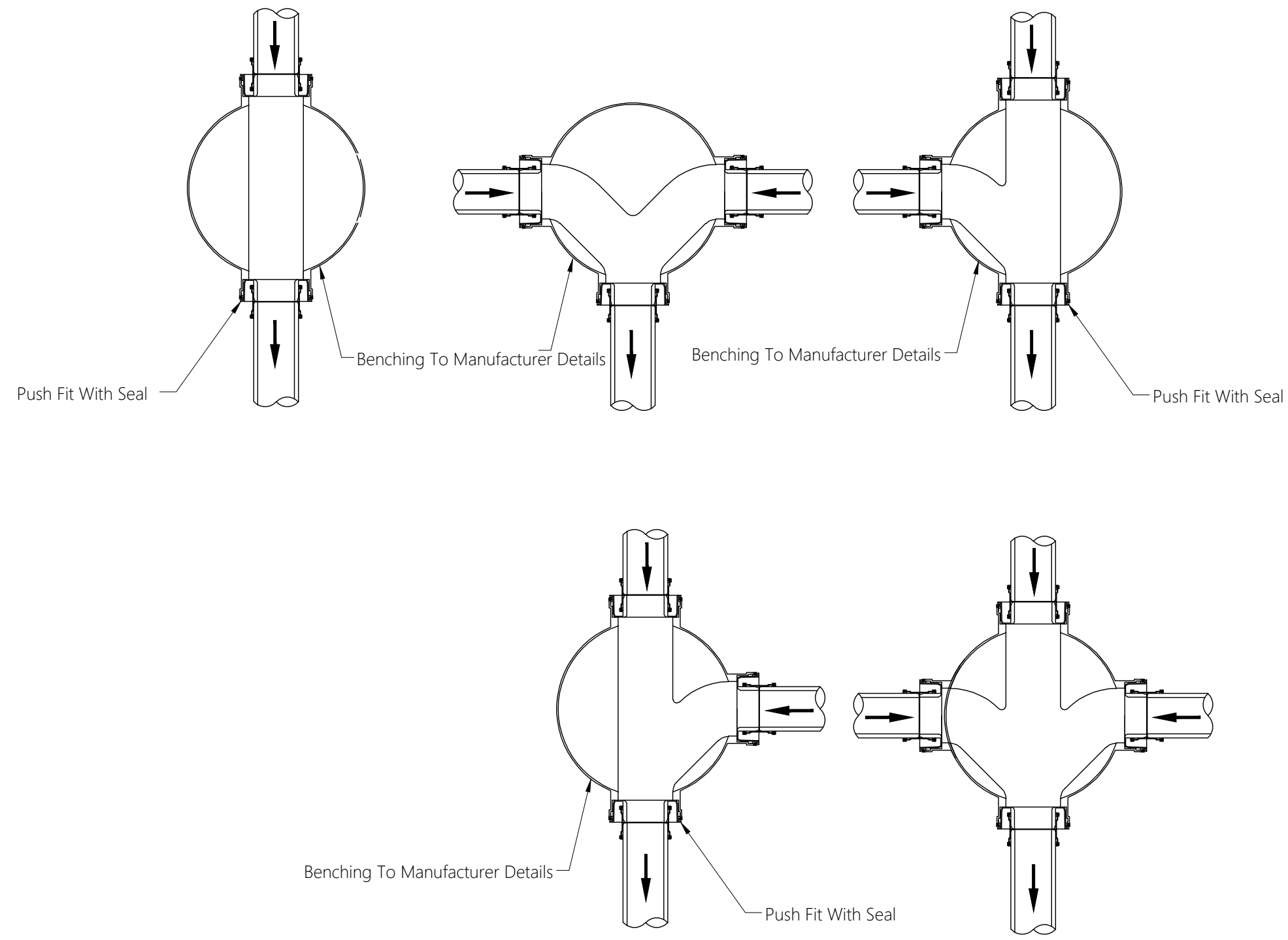
Designed: F.I.A. Approved: I.W.

Date: Sep 2020 SCALE (A3): 1:20

Project No: EP-WS/2019/06

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TYPICAL MANHOLE BASE DETAILS
NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

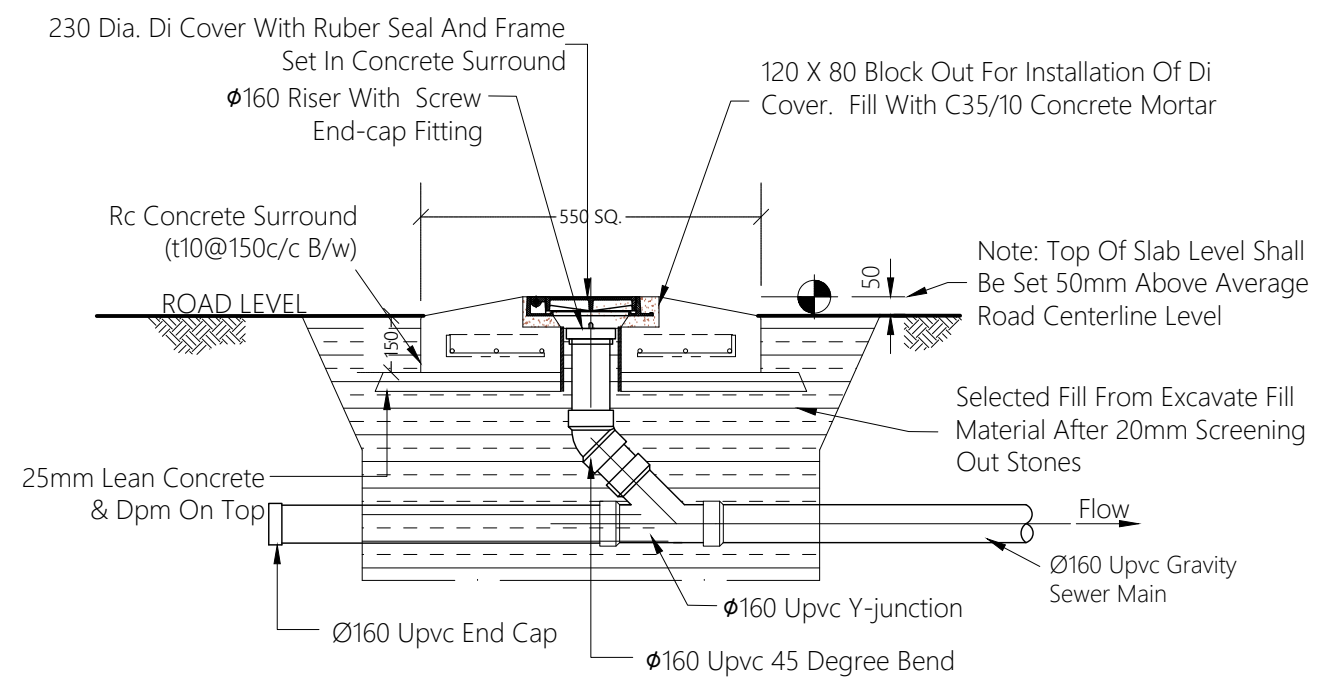
Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

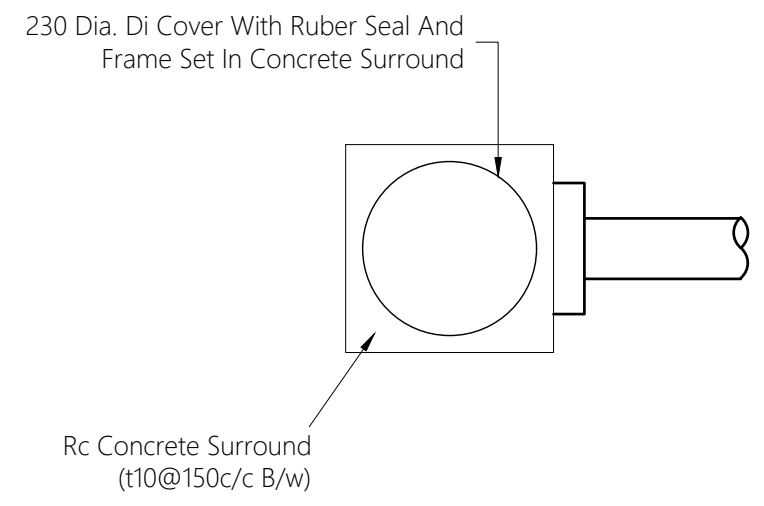
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FEEDBACK INFRA
Working with you to improve infrastructure

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Date: Sep 2020	SCALE (A3): NTS
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ELEVATION - CLEANOUT (CO)



PLAN VIEW - CLEANOUT (CO)

CLEAN OUT DETAILS

NTS

Legend

REV.	NO.	Date	Revision Description	Drawn	Chkd	Appd.

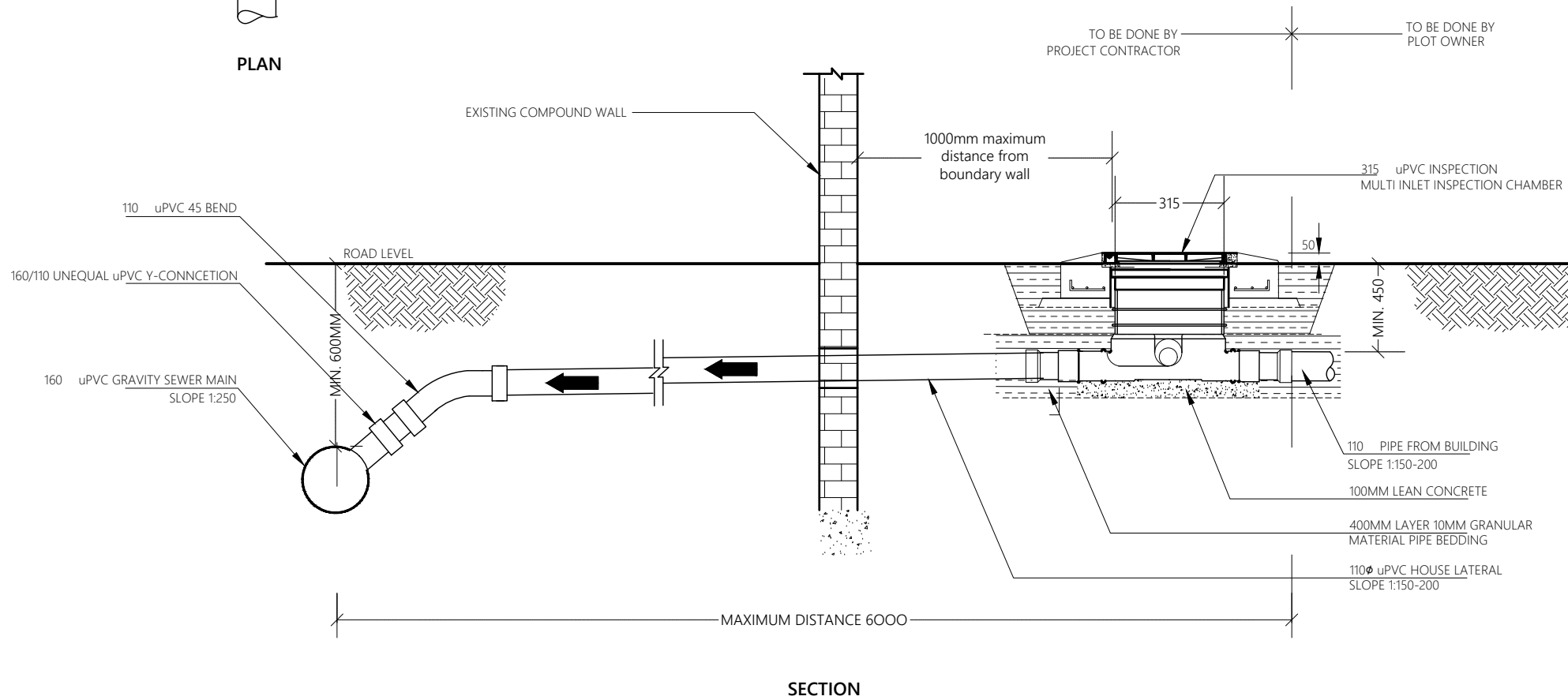
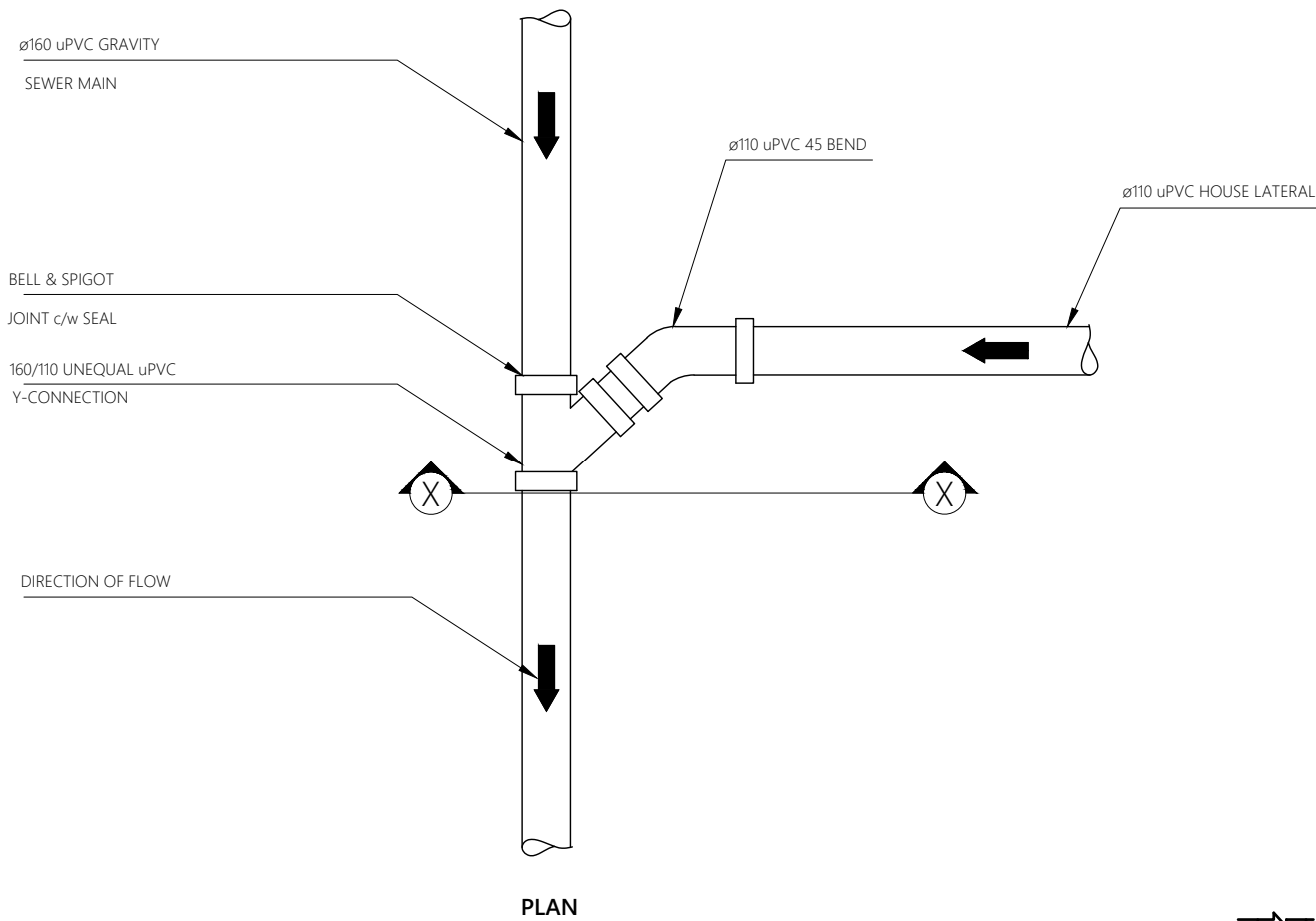
Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
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Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	
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TYPICAL HOUSE CONNECTION DETAIL

NTS



Legend

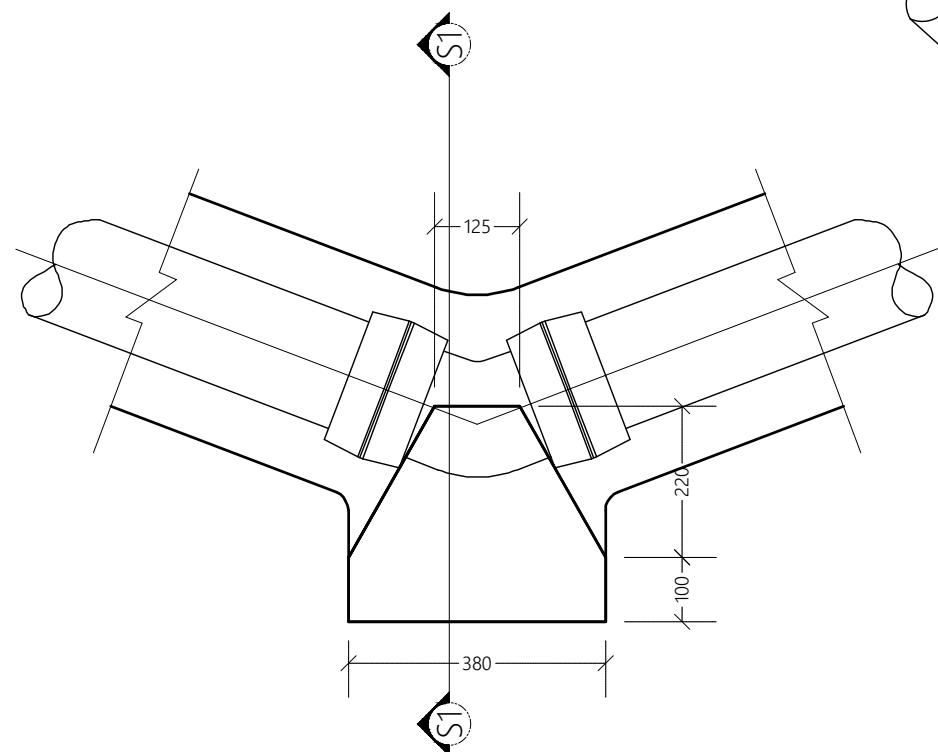
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6
 Sub Title:
Water Supply System in GA. Dhevadhoo
 Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

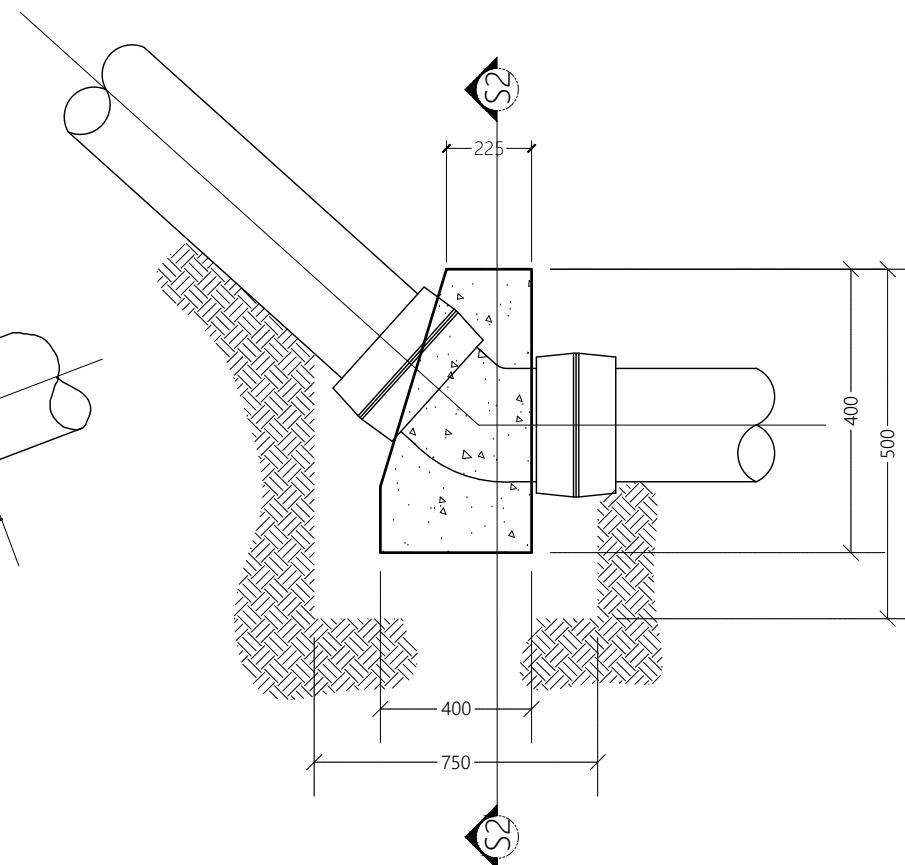
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FEEDBACK INFRA
Maldives Infrastructure Solutions

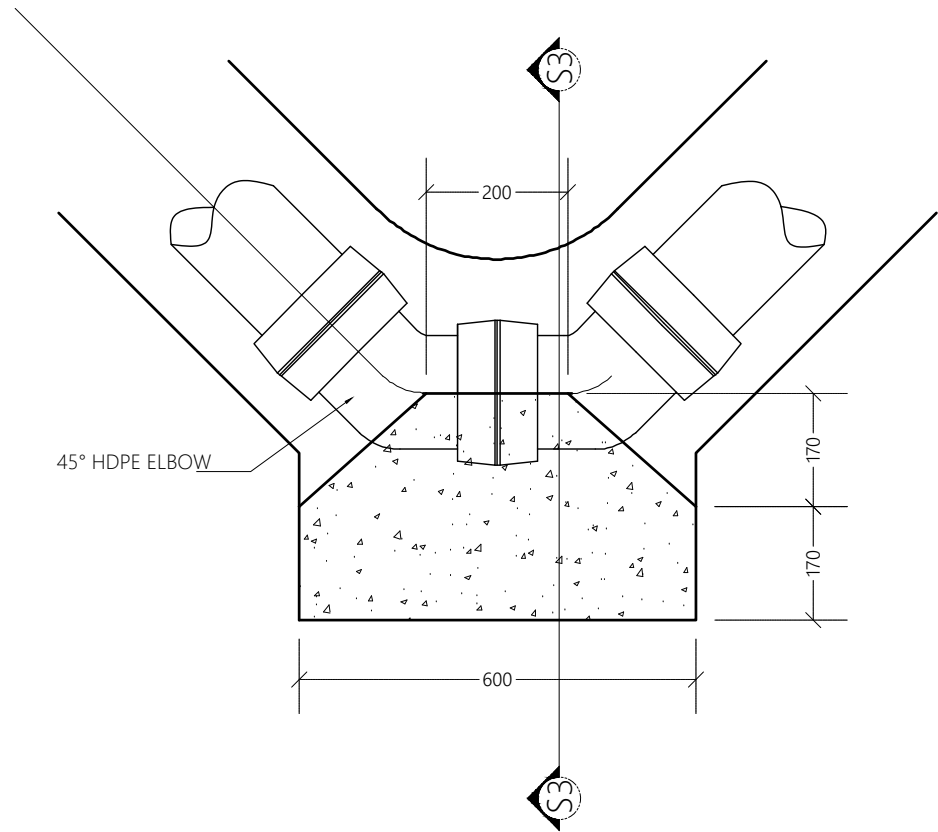
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Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	
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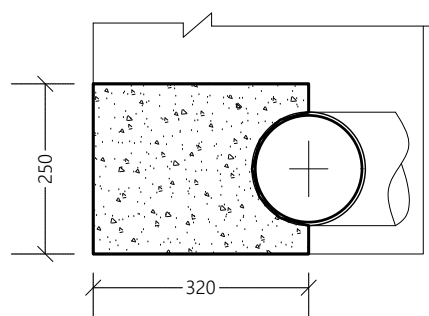
HORIZONTAL 45° BEND
NTS



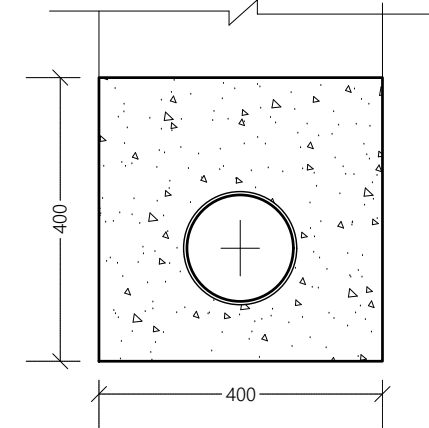
VERTICAL 45° BEND
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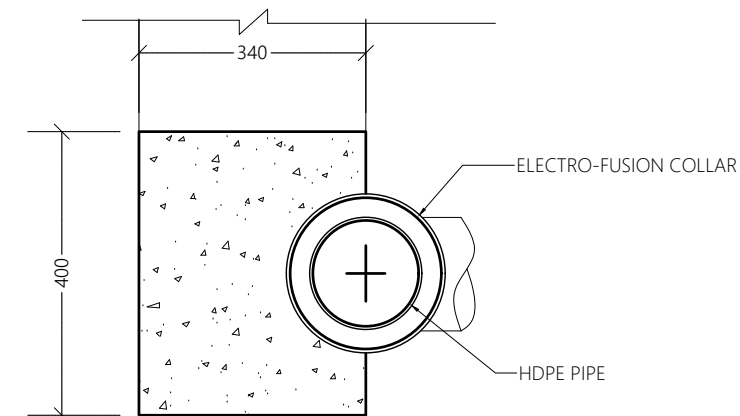
HORIZONTAL 90° BEND
NTS



SECTION S1-S1
NTS



SECTION S2-S2
NTS



SECTION S3-S3
NTS

ELECTRO-FUSION COLLAR
HDPE PIPE

THRUST BLOCK DETAILS
NTS



Legend

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

Sub Title:
Water Supply System in GA. Dheevadhoo

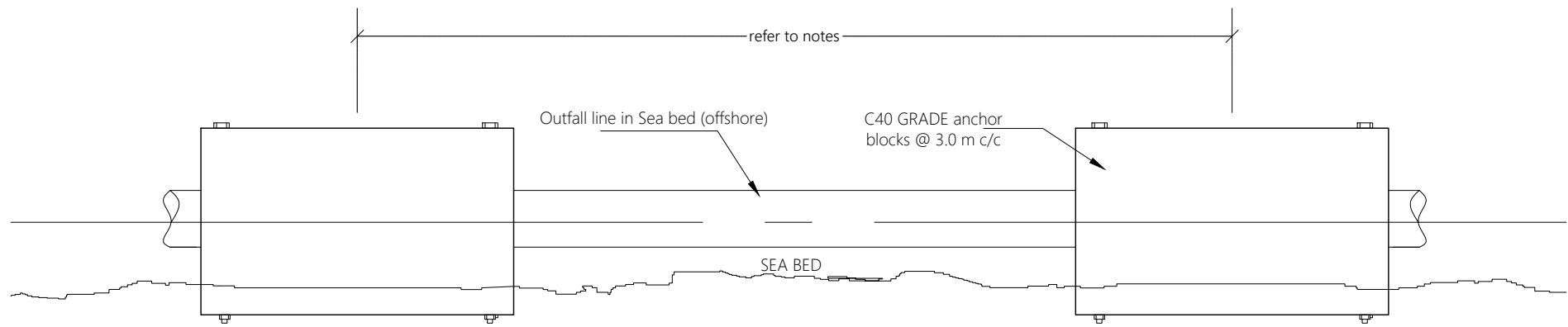
Client:
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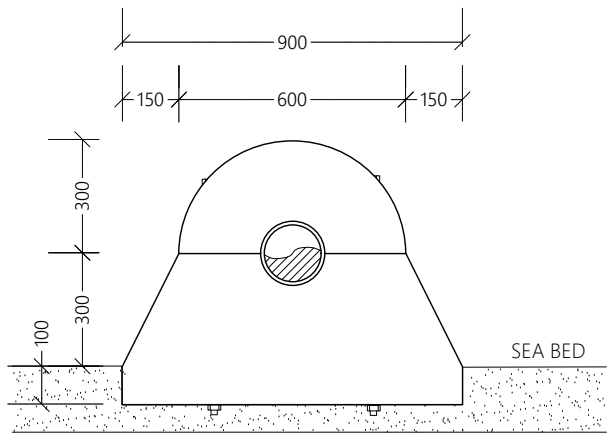
FEEDBACK INFRA
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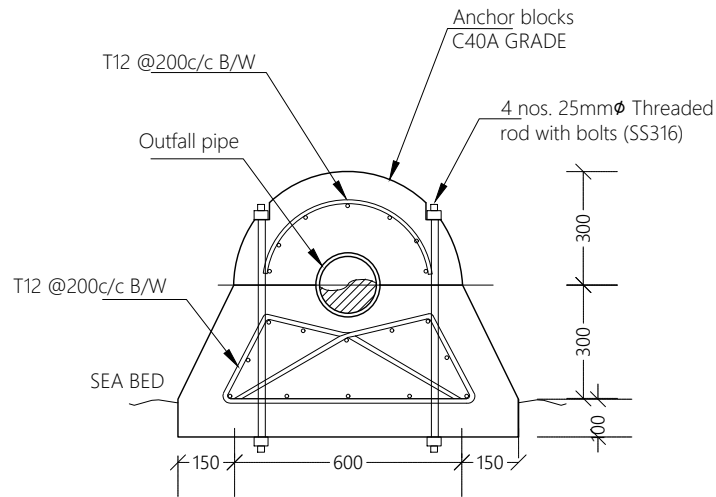
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Date: Sep 2020 SCALE (A3): NTS
Project No: EP-WS/2019/06
Rev: Page:



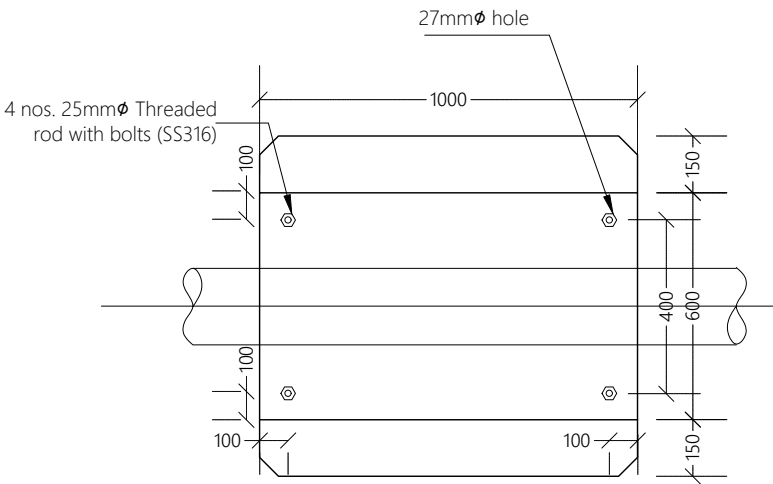
BALLAST BLOCK SIDE ELEVATION



BALLAST BLOCK FRONT ELEVATION



BALLAST BLOCK SECTION



BALLAST BLOCK PLAN

BALLAST BLOCK DETAILS

NTS



Legend

Notes:

1. All backing rings for stub flanges , nuts and bolts shall be grade 316 stainless steel.
2. All pipe work shall be bedded on 10mm thick neoprene rubber seat in semicircular recess matching the O.D. the pipe.
3. Fabricate specific pipe clamps to provide firm clamping action according to pipe O.D.
4. All structural concrete shall be of grade C40A.
5. All castings shall be done using sulphate resistant portland cement to BS 4027:1996.
6. All structural reinforcement shall be epoxy coating of non-pre-stressed reinforcement to ASTM-A775/A775M.
7. A cover of 75mm should be given for all reinforcements.
8. In shallow water (regions where the depth is less than 1m), the ballast block spacing is 3.5m. In deeper water (regions where the depth is greater than 1m), the ballast block spacing is 2.0m. All distances are from c/c of blocks.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

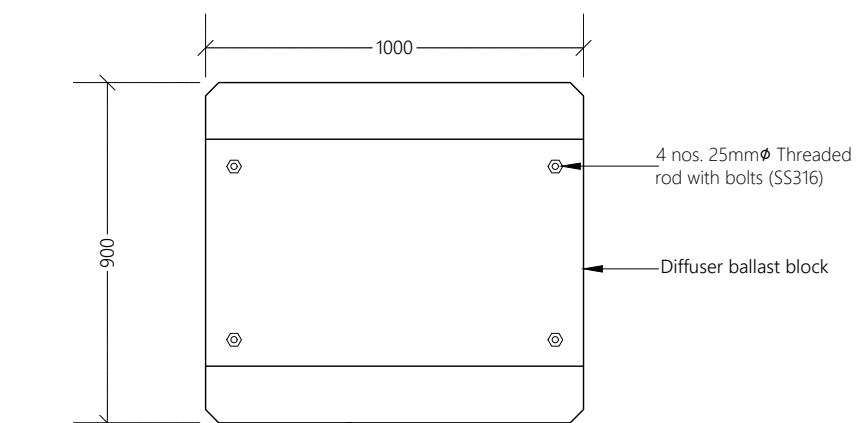
Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

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FEEDBACK INFRA
 Maldives Infrastructure Support

Drawn: F.I.A.	Checked: M.S.S.
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Date: Sep 2020	SCALE (A3): NTS
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Technical drawing of the diffuser layout showing dimensions and components:

- Overall width: 1000
- Overall height: 700
- Top section height: 300
- Bottom section height: 400
- Bottom section height (from diffuser): 100
- Components:
 - 4 nos. 25mm ϕ Threaded rod with bolts (SS316)
 - Diffuser ballast block
 - 160 ϕ HDPE PIPE
 - SEA BED

600

700

300

400

100

900

4 nos. 25mm ϕ Threaded rod with bolts (SS316)

Diffuser ballast block

SEA BED

Technical drawing of the diffuser assembly showing dimensions and components:

- Overall width: 1000
- Overall height: 700
- Top section height: 300
- Bottom section height: 400
- Bottom flange height: 100
- Components:
 - 4 nos. 25mm ϕ Threaded rod with bolts (SS316)
 - Diffuser ballast block
 - 160 ϕ HDPE PIPE
 - SEA BED

Technical drawing of the cross-section of a rectangular structure, likely a culvert or tunnel. The structure has a top width of 600 units and a bottom width of 1000 units. The total height is 700 units, divided into a top section of 300 units and a bottom section of 400 units. The bottom section contains a rectangular opening with a width of 1000 units and a height of 100 units. The structure is reinforced with T12 bars at 200mm center-to-center spacing (T12@200C/C B/W). The bottom section is labeled "SEA BED".

Technical drawing of a rectangular diffuser ballast block. The drawing shows a perspective view of a trapezoidal block with a top width of 600 and a bottom width of 1000. The height is divided into three sections: 300 for the top section, 400 for the middle section, and 100 for the bottom section. The block contains two horizontal rectangular frames, each labeled "T12@200C/C B/W". The top frame is labeled "4 nos. 25mm ϕ Threaded rod with bolts (SS316)". The bottom frame is labeled "SEA BED". The block is labeled "Diffuser ballast block".

T DIFFUSER DETAILS



1. All backing rings for stub flanges , nuts and bolts should be grade 316 stainless steel
2. All pipe work shall be bedded on 10mm thick neoprene rubber seat in semicircular recess matching the O.D. the pipe.
3. Fabricate specific pipe clamps to provide firm clamping action according to pipe O.D.
4. All structural concrete shall be of grade C40A.
5. All castings shall be done using sulphate resistant portland cement to BS 4027:1996.
6. All structural reinforcement shall be epoxy coating of non-pre-stressed reinforcement to ASTM-A775/A775M.
7. A cover of 75mm should be given for all reinforcements.
8. In shallow water (regions where the depth is less than 1m), the ballast block spacing is 3.5m. In deeper water (regions where the depth is greater than 1m), the ballast block spacing is 2.0m. All distances are from c/c of blocks.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
7 islands, Maldives - Pakage 6**

Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**

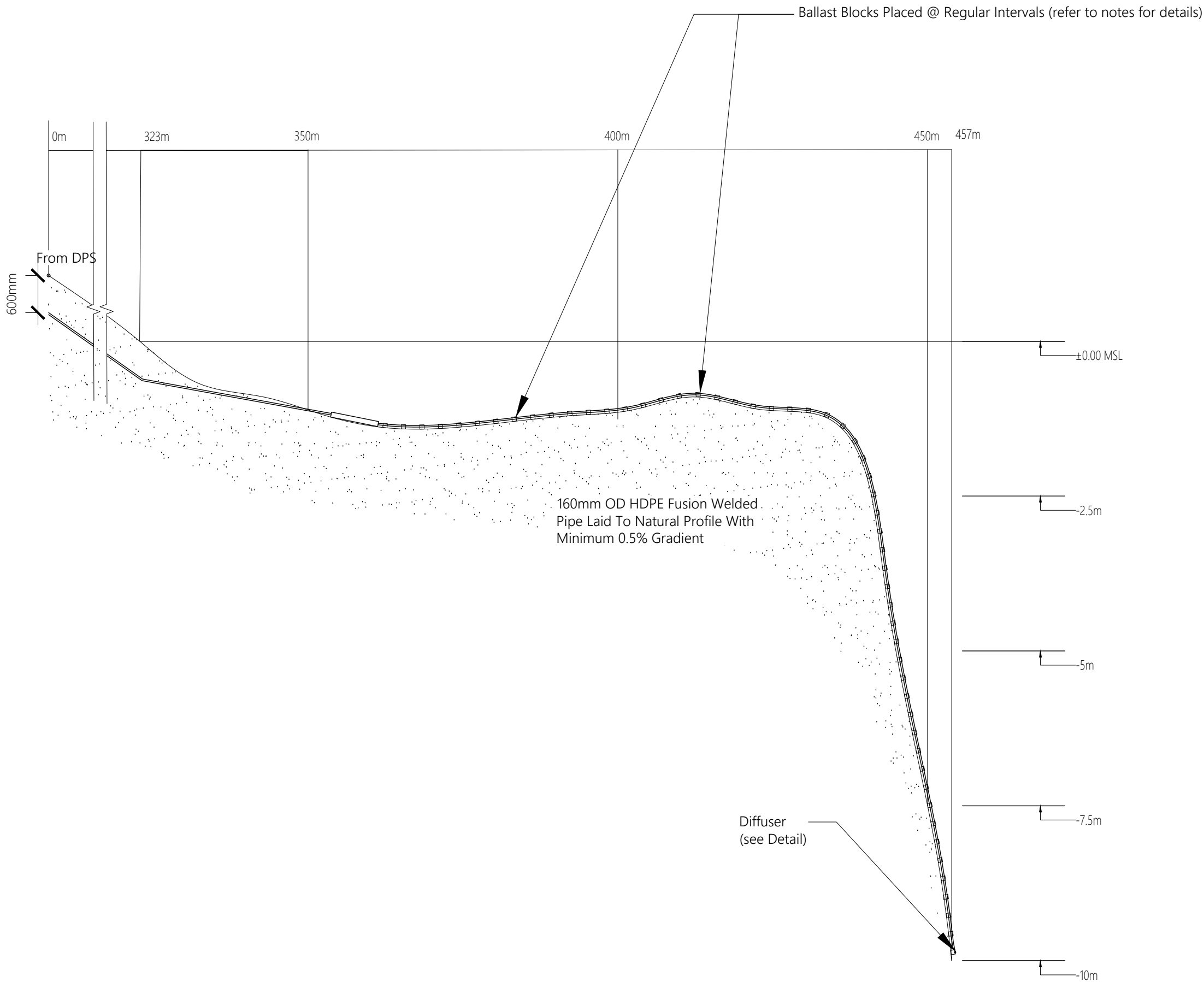


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Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/06	
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SEA OUTLET DETAILS

NTS



Legend

Notes:

1. Contractor should carry out a detailed bathymetric survey for the proposed area, revise and present a shop drawing for the outfall layout prior to commencement of outfall works.
2. In shallow water (regions where the depth is less than 1m), the ballast block spacing is 3.5m. In deeper water (regions where the depth is greater than 1m), the ballast block spacing is 2.0m. All distances are from c/c of blocks.

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

Sub Title:
Water Supply System in GA. Dheevadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives



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W: www.epochassociates
A: G. Rosary West,
Husnuheena Magu, Male', Maldives



Drawn: F.I.A. Checked: M.S.S.

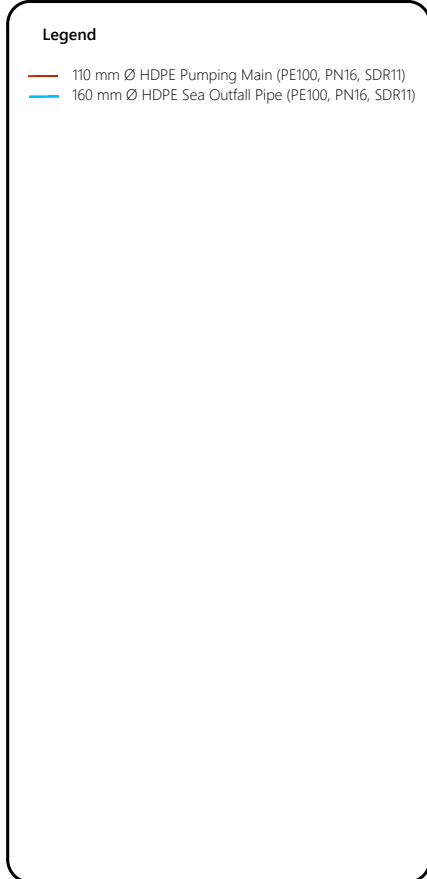
Designed: F.I.A. Approved: I.W.

Date: Sep 2020 SCALE (A3): NTS

Project No: EP-WS/2019/06

Rev: Page:

W-(22)





REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 7 islands, Maldives - Package 6

Sub Title:
Water Supply System in GA, Dhevvadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

 <p>EPOCH ASSOCIATES</p> <p>T: +960 333 3528 E: info@epoch.associates W: www.epoch.associates A: G. Rosary West, Husnuheena Magu, Male', Maldives</p>	
<p>Drawn: F.I.A.</p> <p>Designed: F.I.A.</p> <p>Date: Sep 2020</p>	<p>Checked: M.S.S.</p> <p>Approved: I.W.</p> <p>SCALE (A3): 1:3000</p>

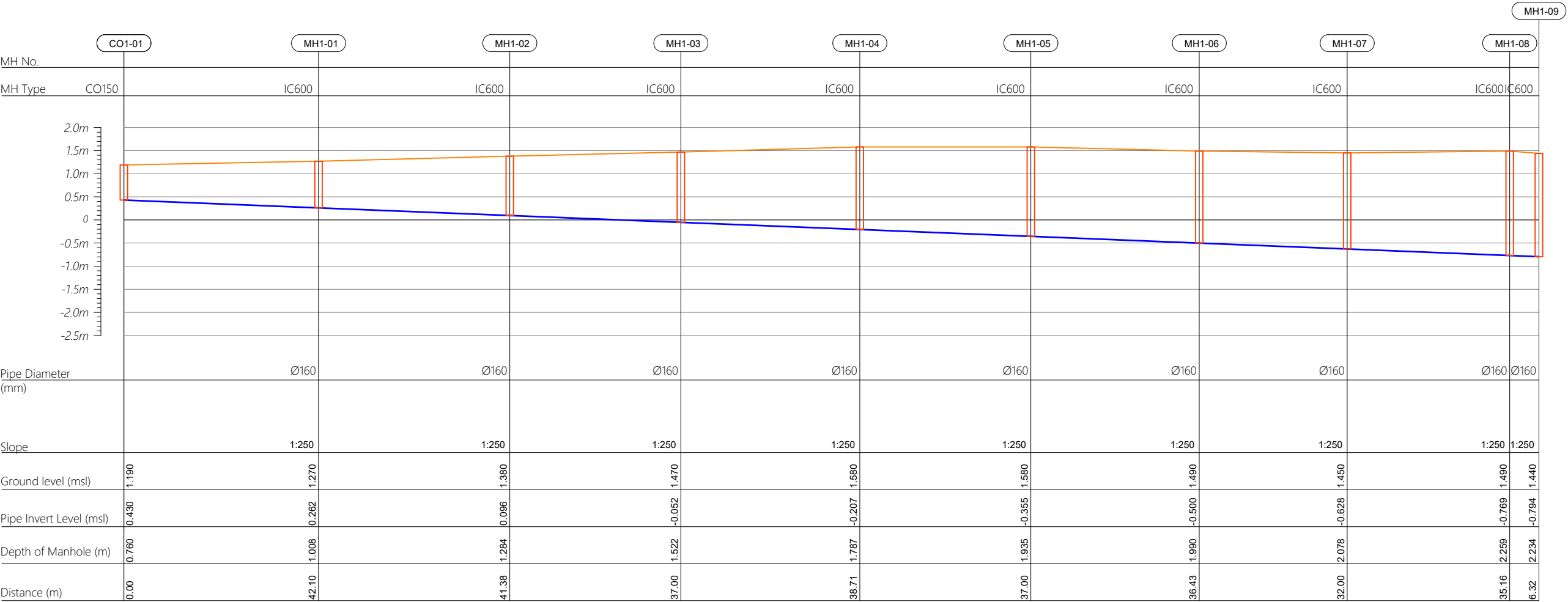
Project No: _____

EP-WS/2019/06

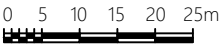
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W-(23)

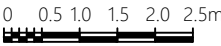
Profile 01



HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**



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A: G. Rosary West,
Husnuheemaa Magu, Male', Maldives



Maldivu Infrastructure Develop

Drawn: A.R.W Checked: M.S.S

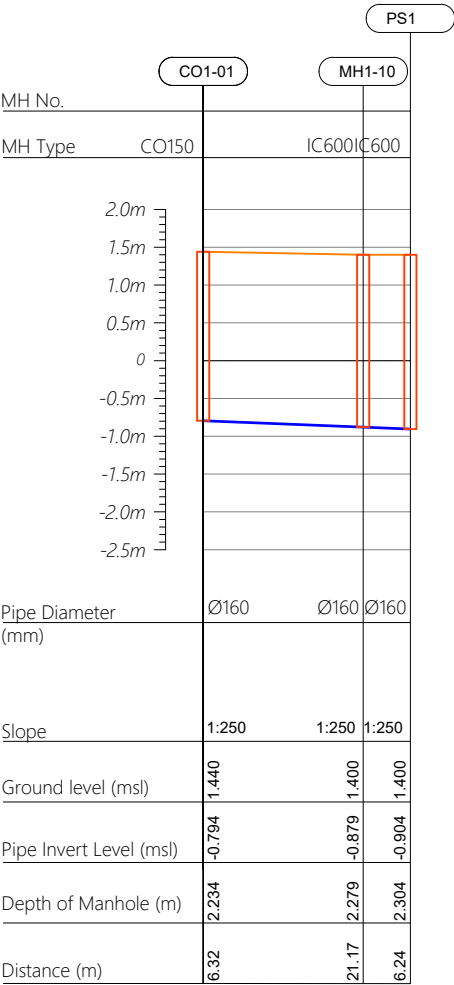
Designed: F.I.A Approved: I.W

Date: Aug 2020 SCALE (A3): 1:100

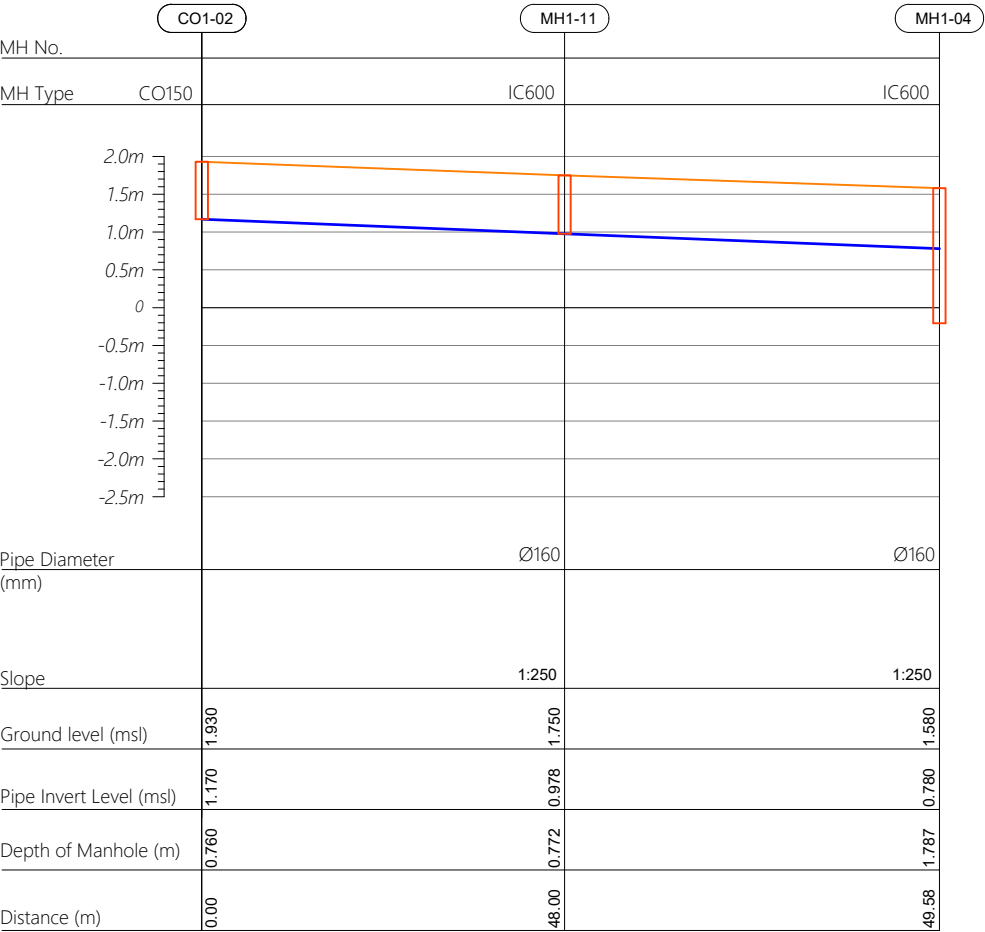
Project No: 01010101

Rev: R-01 Page: **PS1-01**

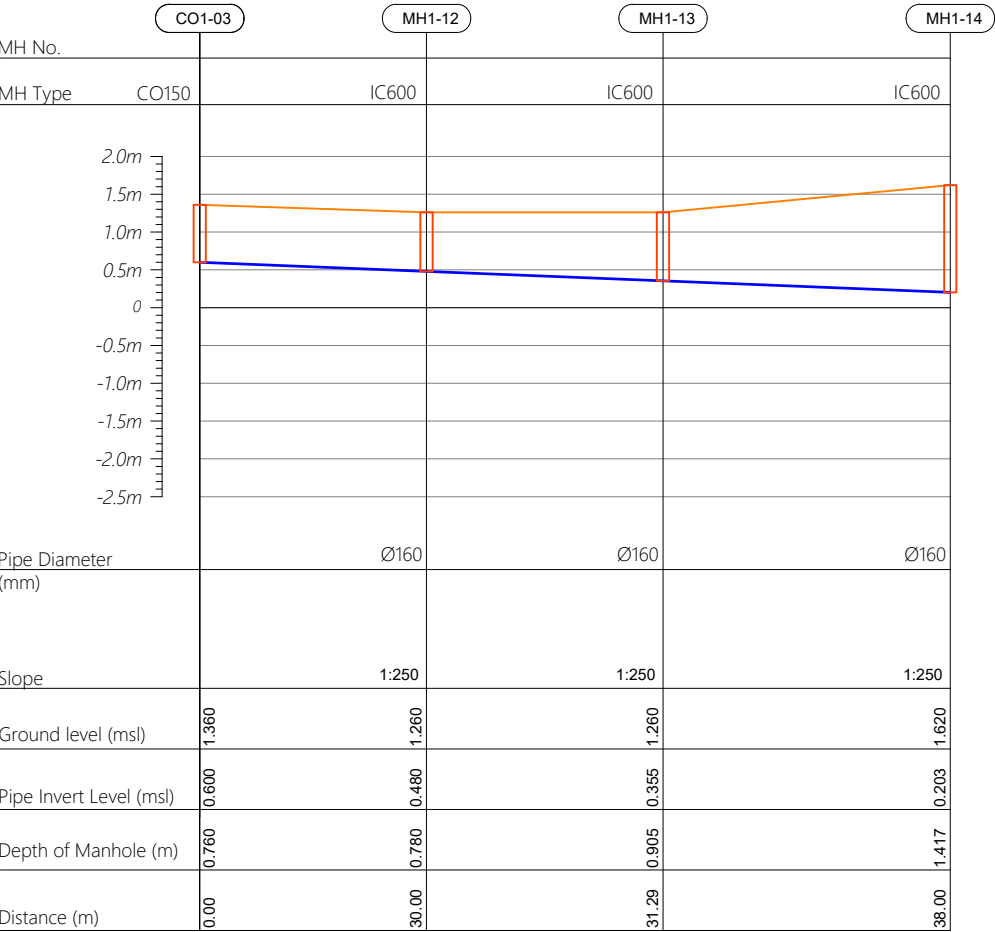
Profile 01



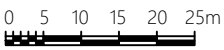
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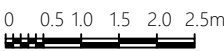
Profile 03



HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 5 islands, Maldives - Package 6

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives



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W: www.epoch.associates
A: G. Rosary West,
Husnuheemaa Magu, Male', Maldives



Drawn: A.R.W Checked: M.S.S

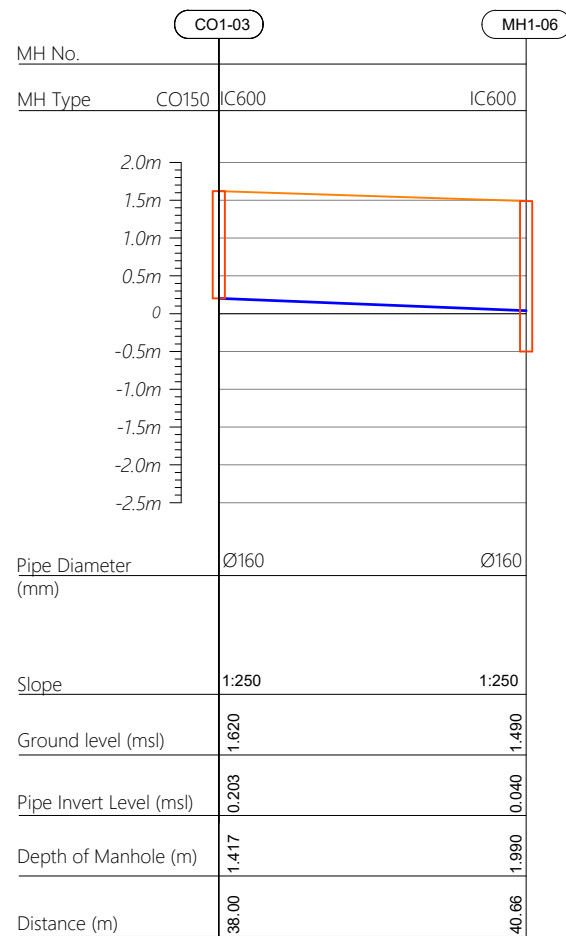
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Date: Aug 2020 SCALE (A3): 1:100

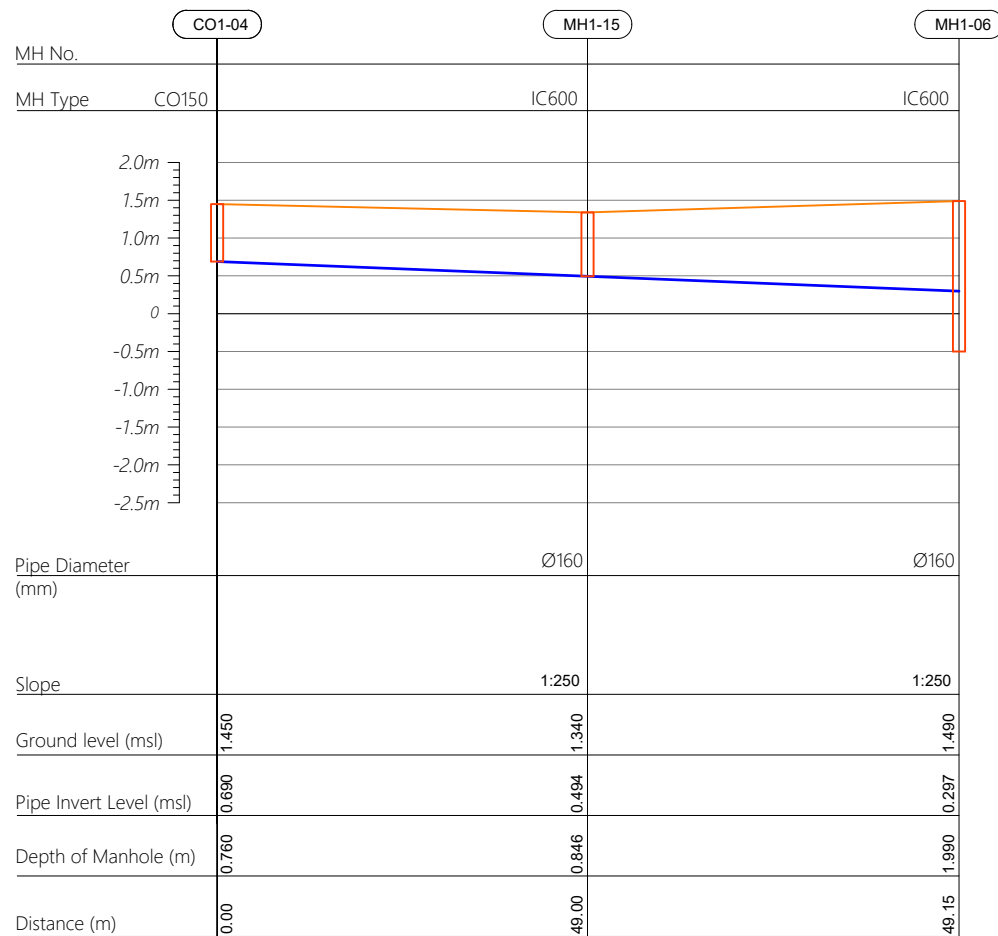
Project No: 01010101

Rev: R-01 Page: PS1-02

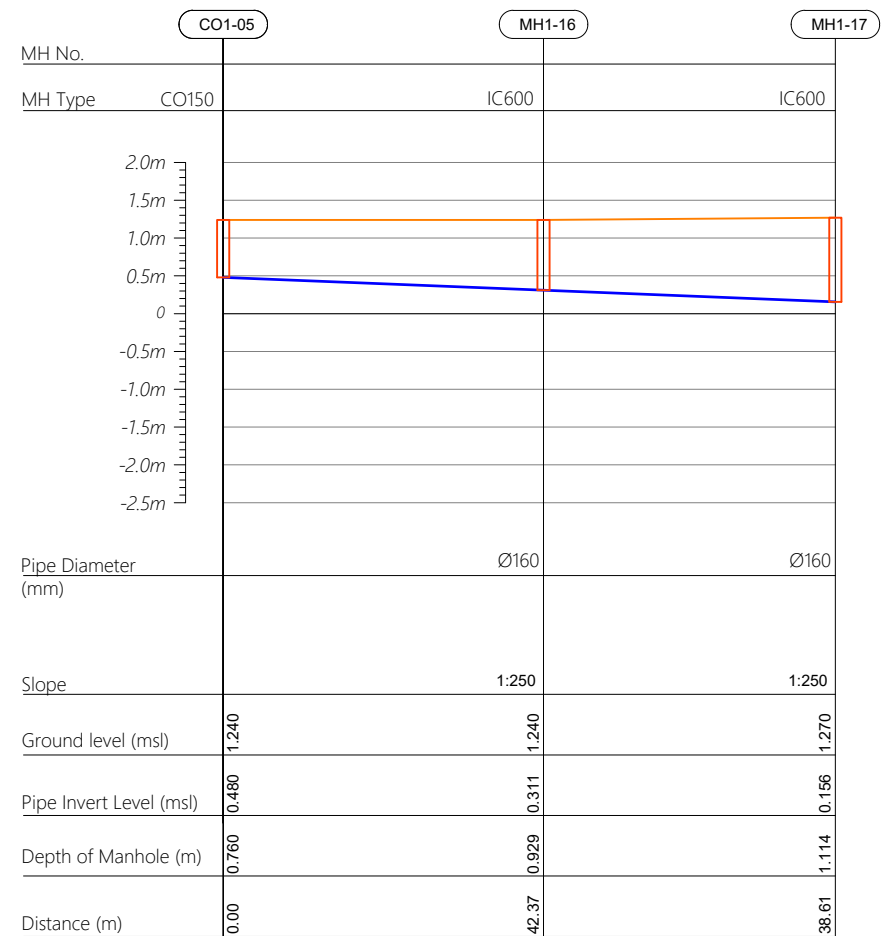
Profile 03



Profile 04



Profile 05



CO160 — Cleanout ϕ 160
IC600 — HDPE Manhole ϕ 600
PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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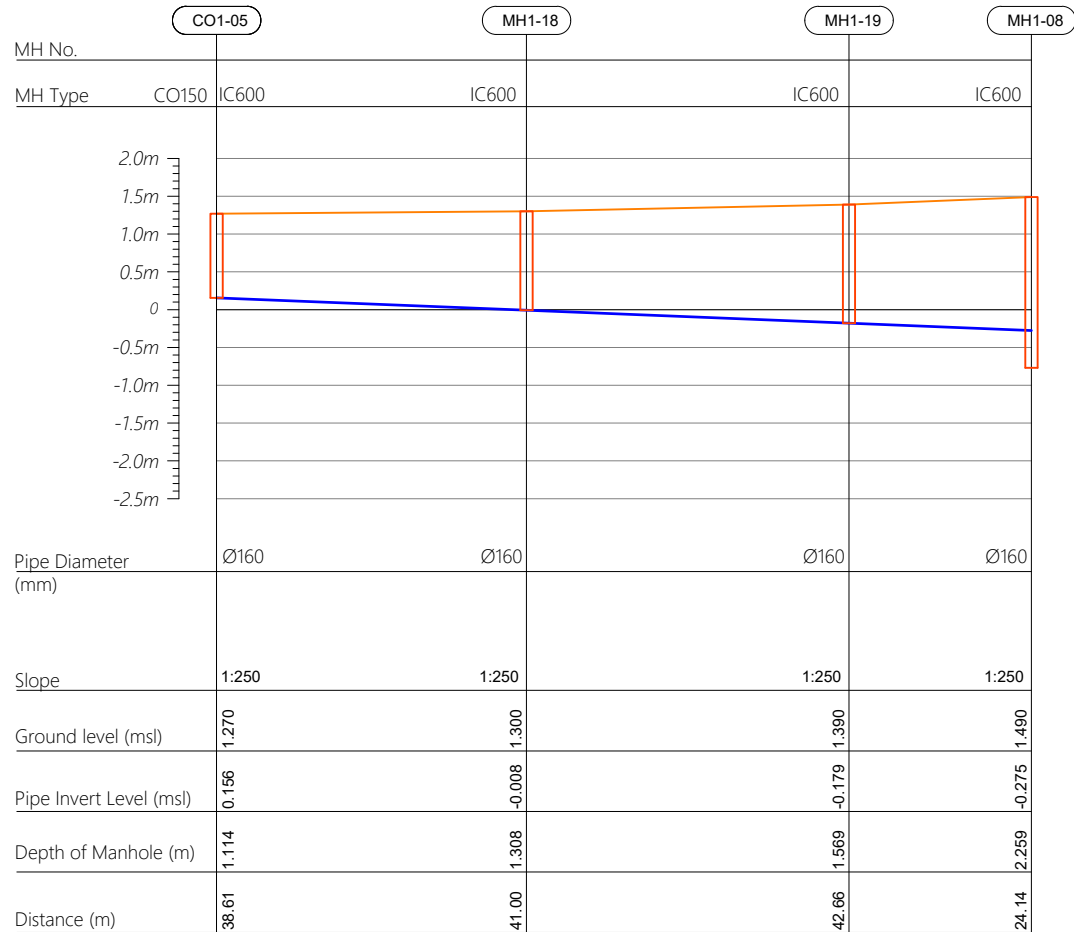
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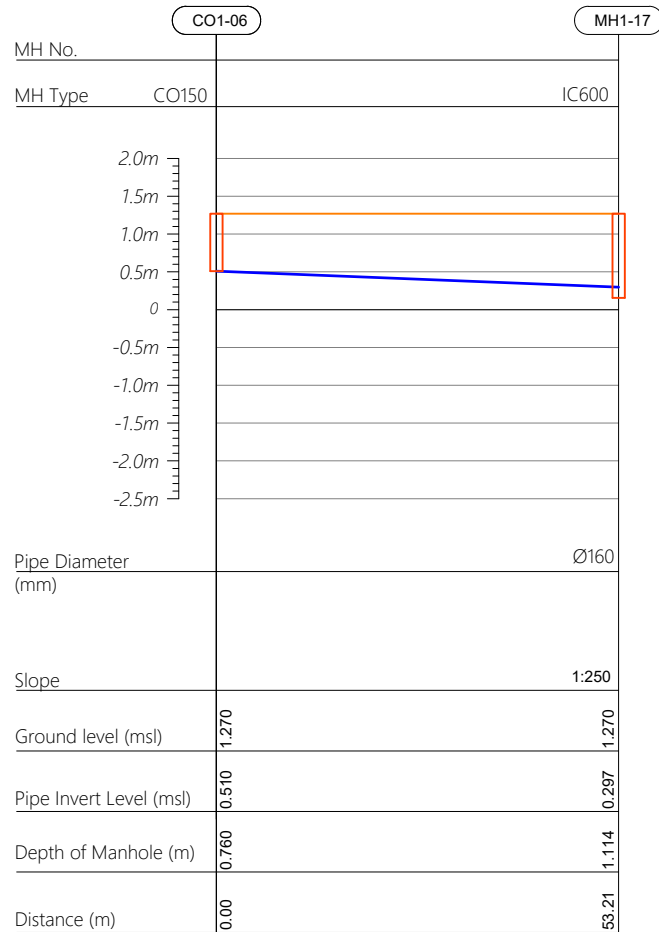
Project No: 01010101

Rev: <i>R-01</i>	Page: <i>PS1-03</i>
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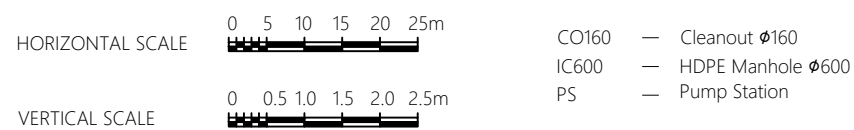
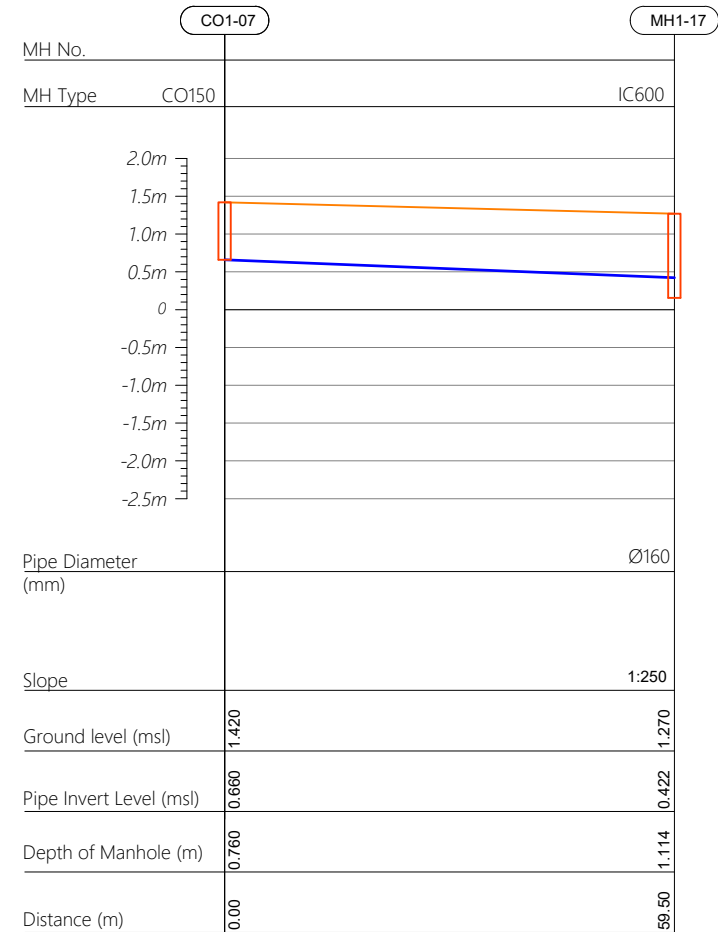
Profile 05



Profile 06



Profile 07



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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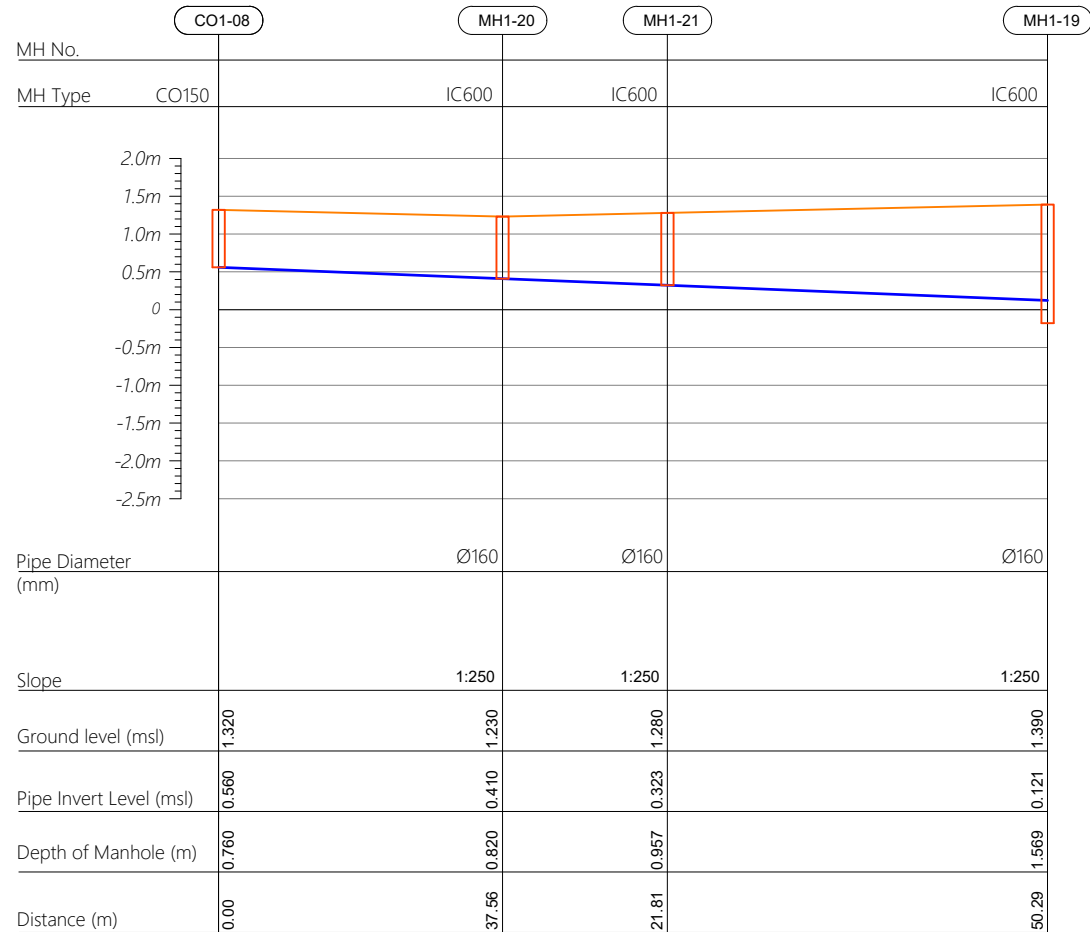
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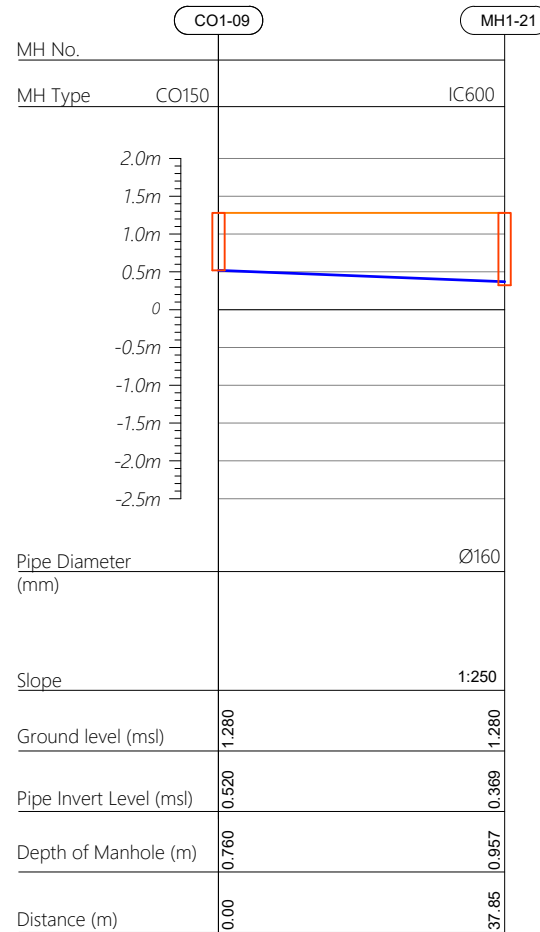
Project No: 01010101

Rev: R-01	Page: PS1-04
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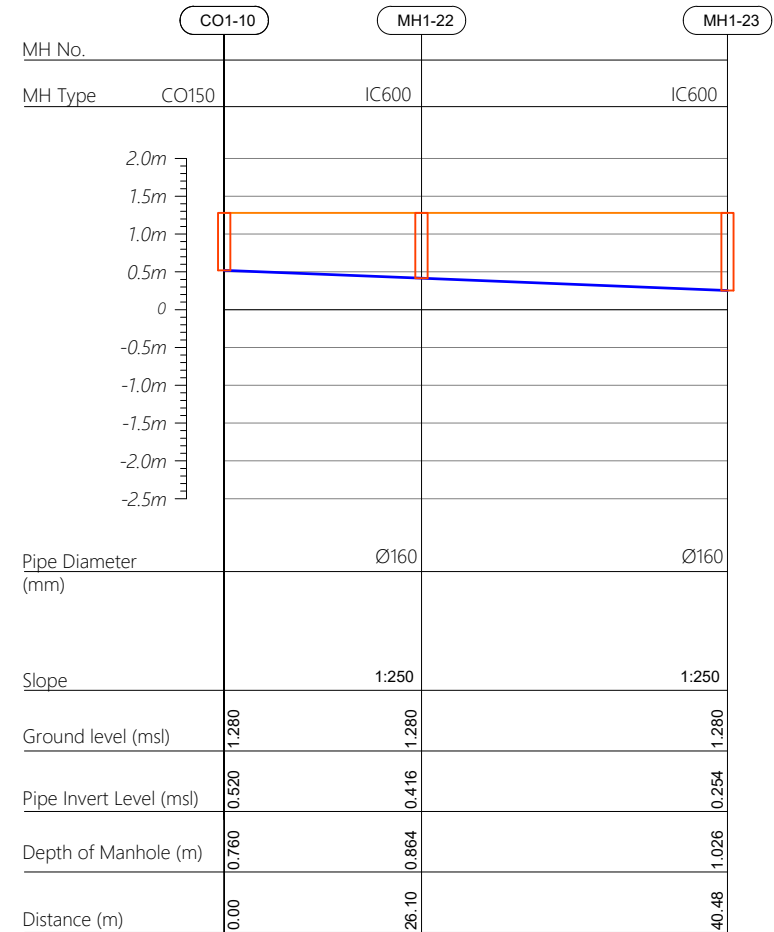
Profile 08



Profile 09



Profile 10



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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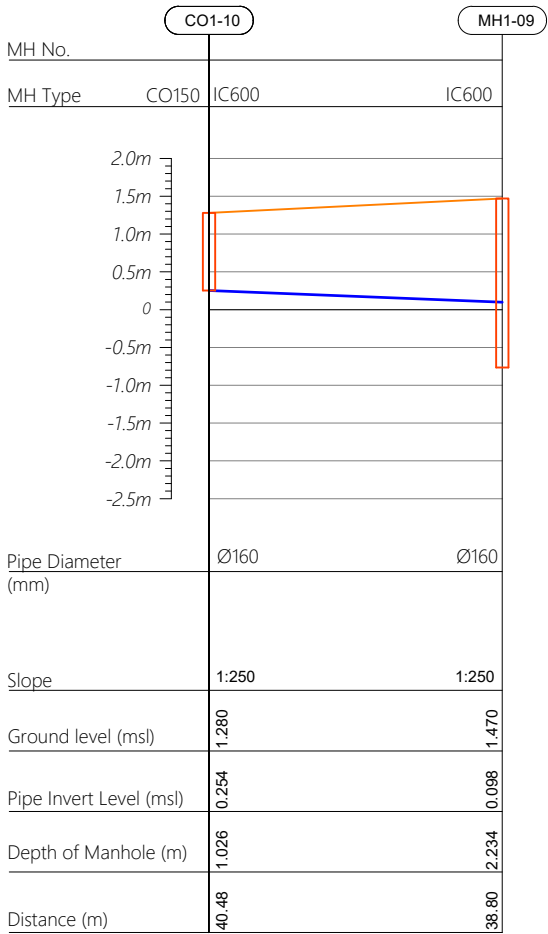
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Date: Aug 2020	SCALE (A3): 1:100
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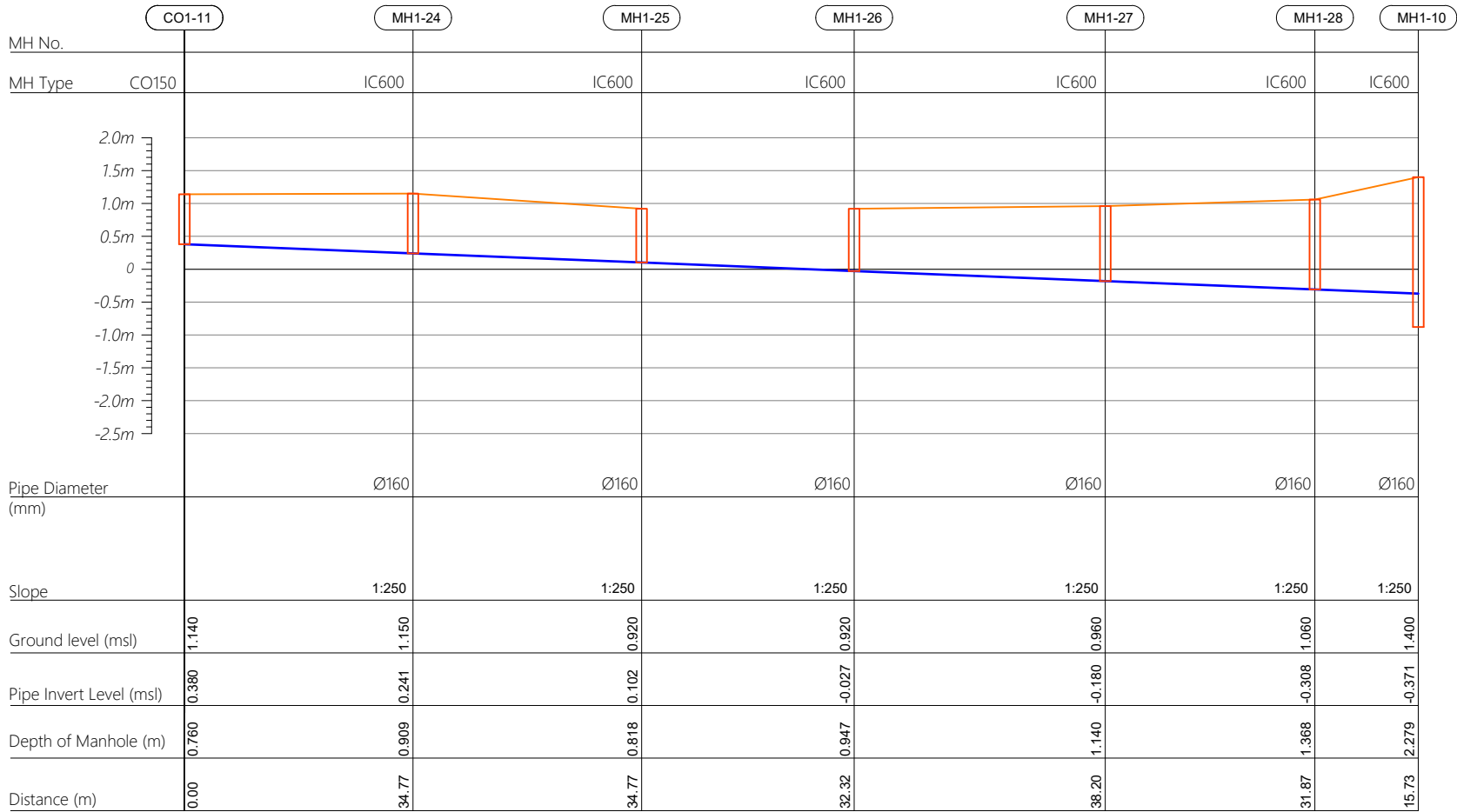
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Rev: <i>R-01</i>	Page: <i>PS1-05</i>
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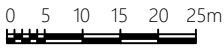
Profile 10



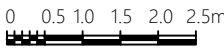
Profile 11



HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dehvadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**



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Husnuheemaa Magu, Male', Maldives



Drawn: A.R.W

Checked: M.S.S

Designed: F.I.A

Approved: I.W

Date: Aug 2020

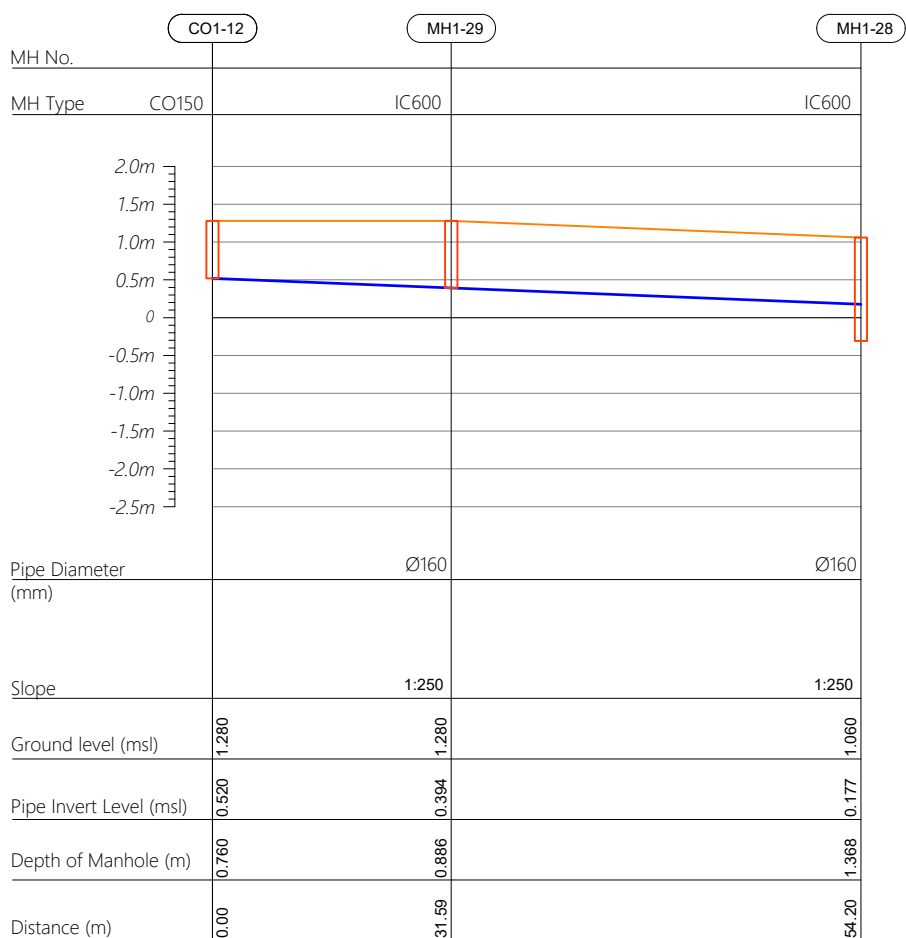
SCALE (A3): 1:100

Project No: 01010101

Rev: R-01

Page: PS1-06

Profile 12



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appo

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*

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W: www.epoch.associates
A: G. Rosary West,
Husnuheena Maqu, Male', Maldives

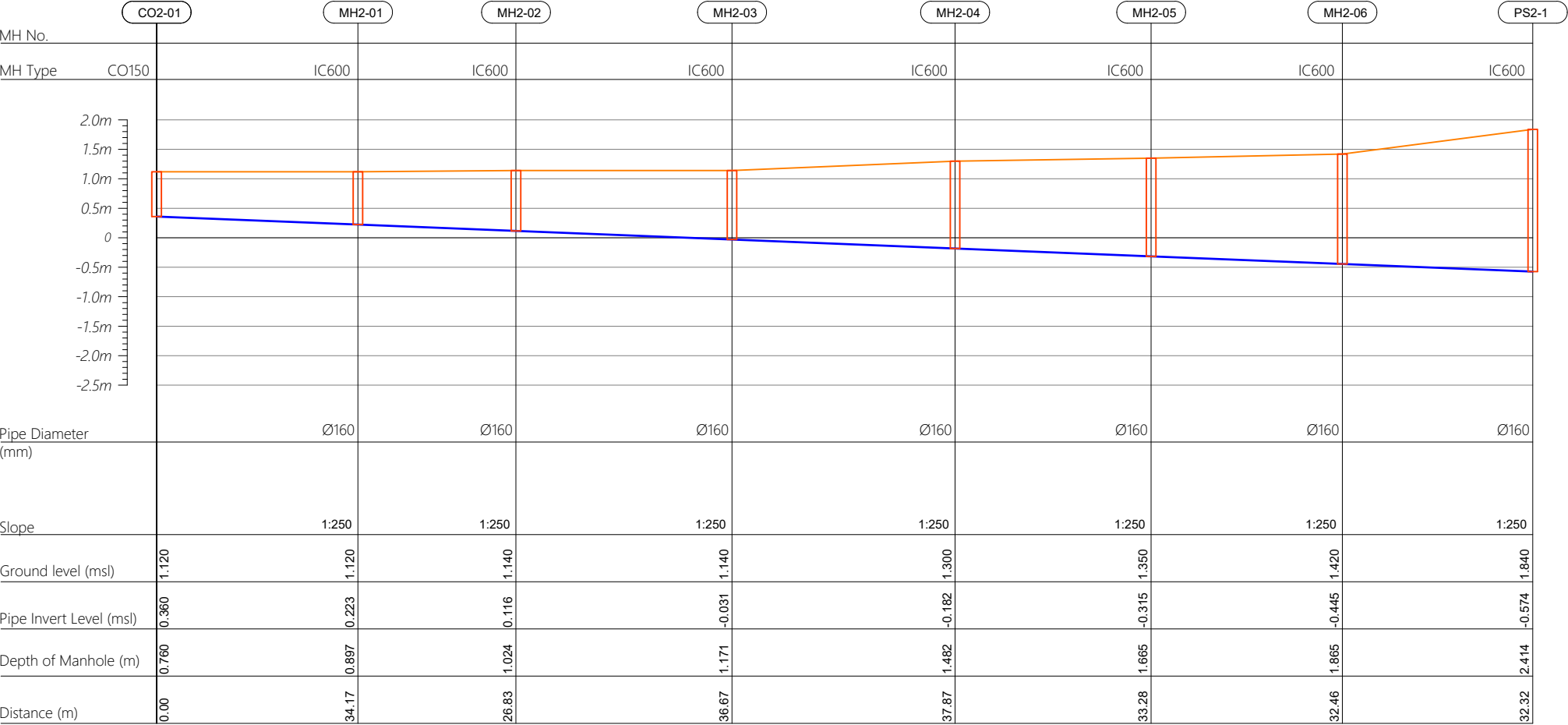
FEEDBACK INFRA
Making Infrastructure Happen

Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100

Project No: 01010101

Rev.
R-01Page: **PS1-07**

Profile 01



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*

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Husnuheemaa Magu, Male', Maldives

Maldivu Infrastructure Happa

Drawn: A.R.W Checked: M.S.S

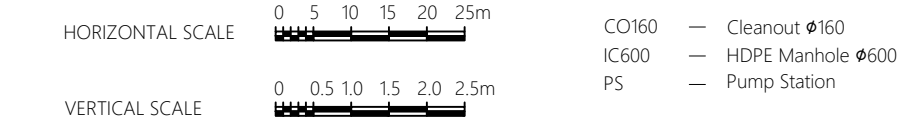
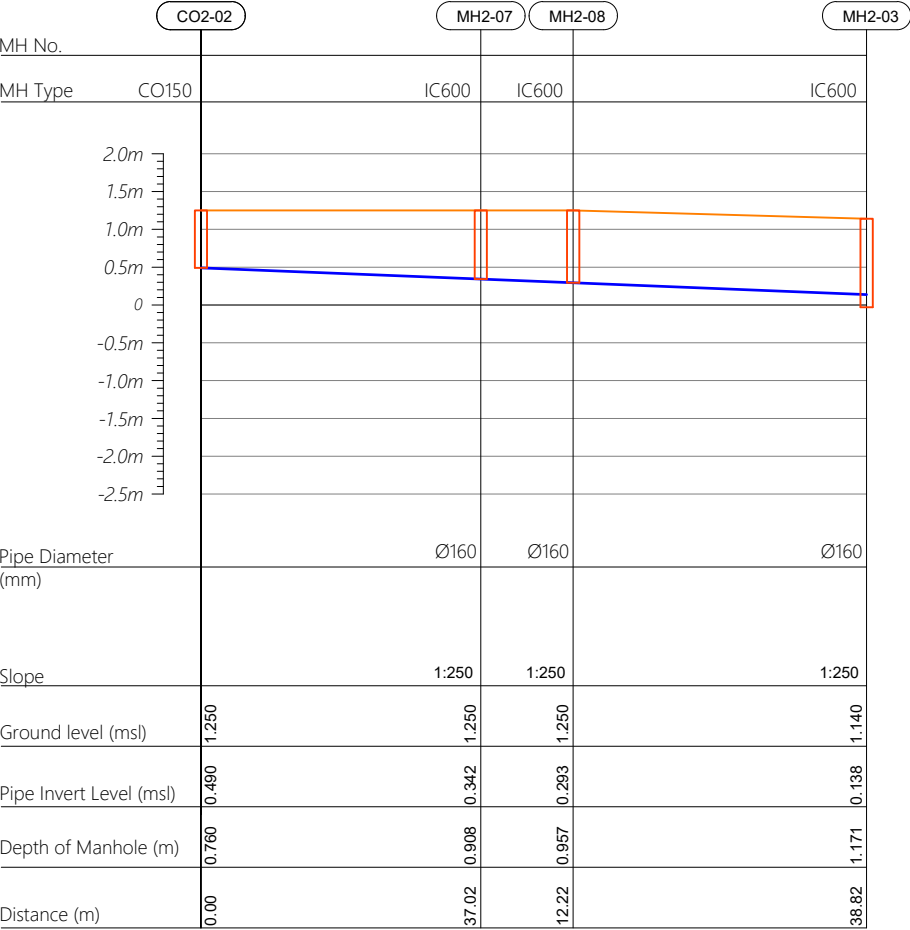
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Date: Aug 2020 SCALE (A3): 1:100

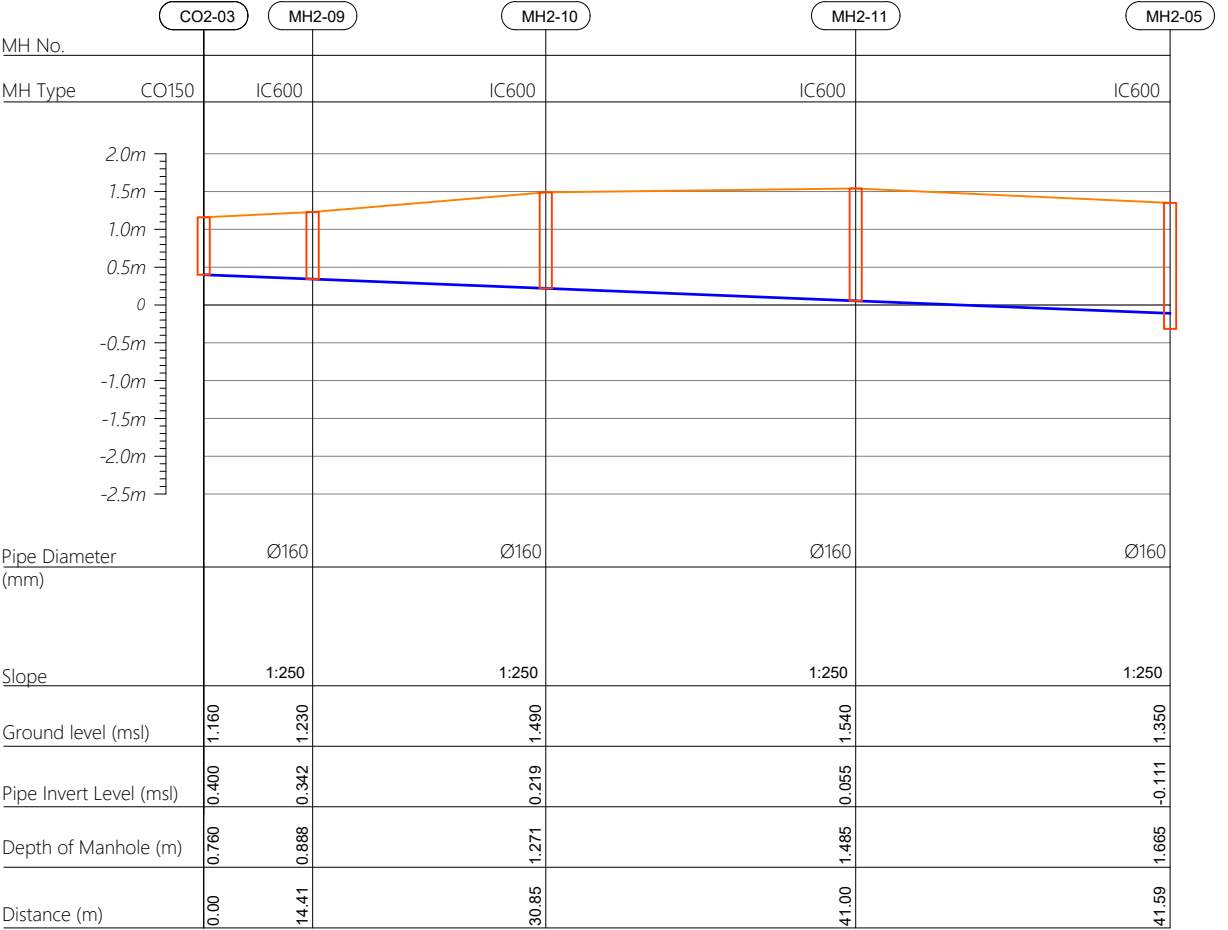
Project No: 01010101

Rev: R-01 Page: PS2-01

Profile 02



Profile 03



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 Islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**

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Maldivu Infrastructure Hopper

Drawn: A.R.W

Designed: F.I.A

Date: Aug 2020

Project No: 01010101

Checked: M.S.S

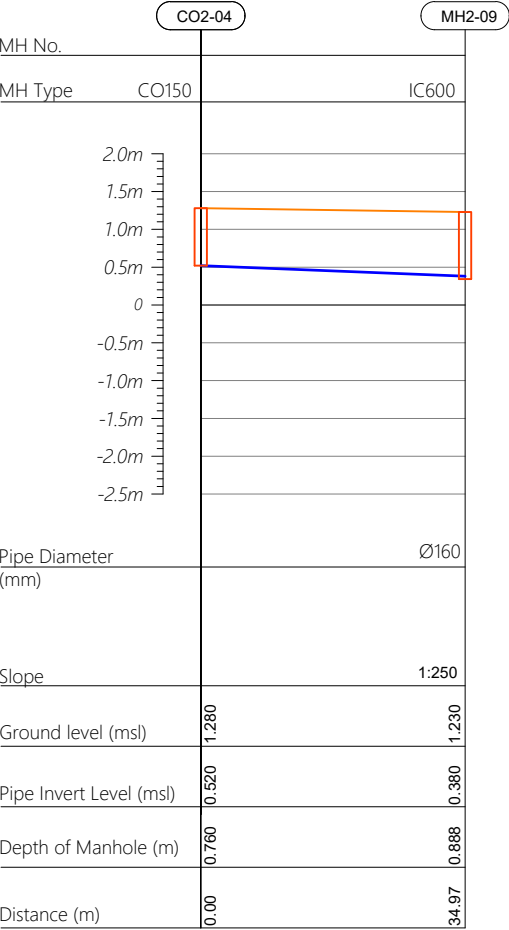
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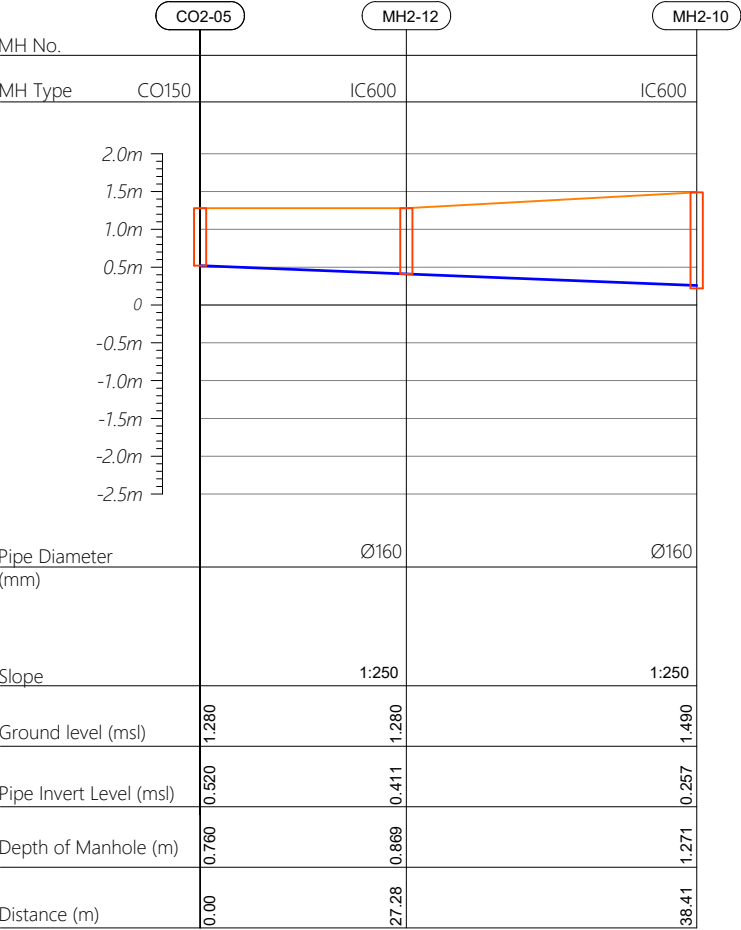
Rev: R-01

Page: PS2-02

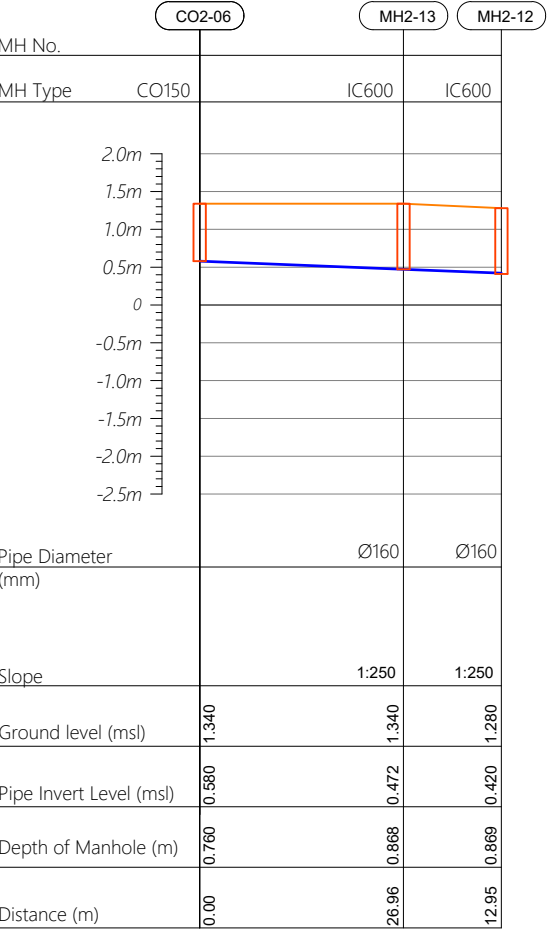
Profile 04



Profile 05



Profile 06



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6

Sub Title:
Sewerage System in GA.Dehvadhoo

Client:
Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives

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A: G. Rosary West,
Husnuheemaa Magu, Male', Maldives

FB

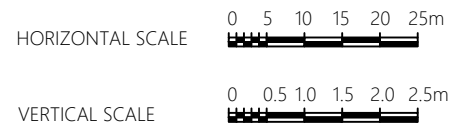
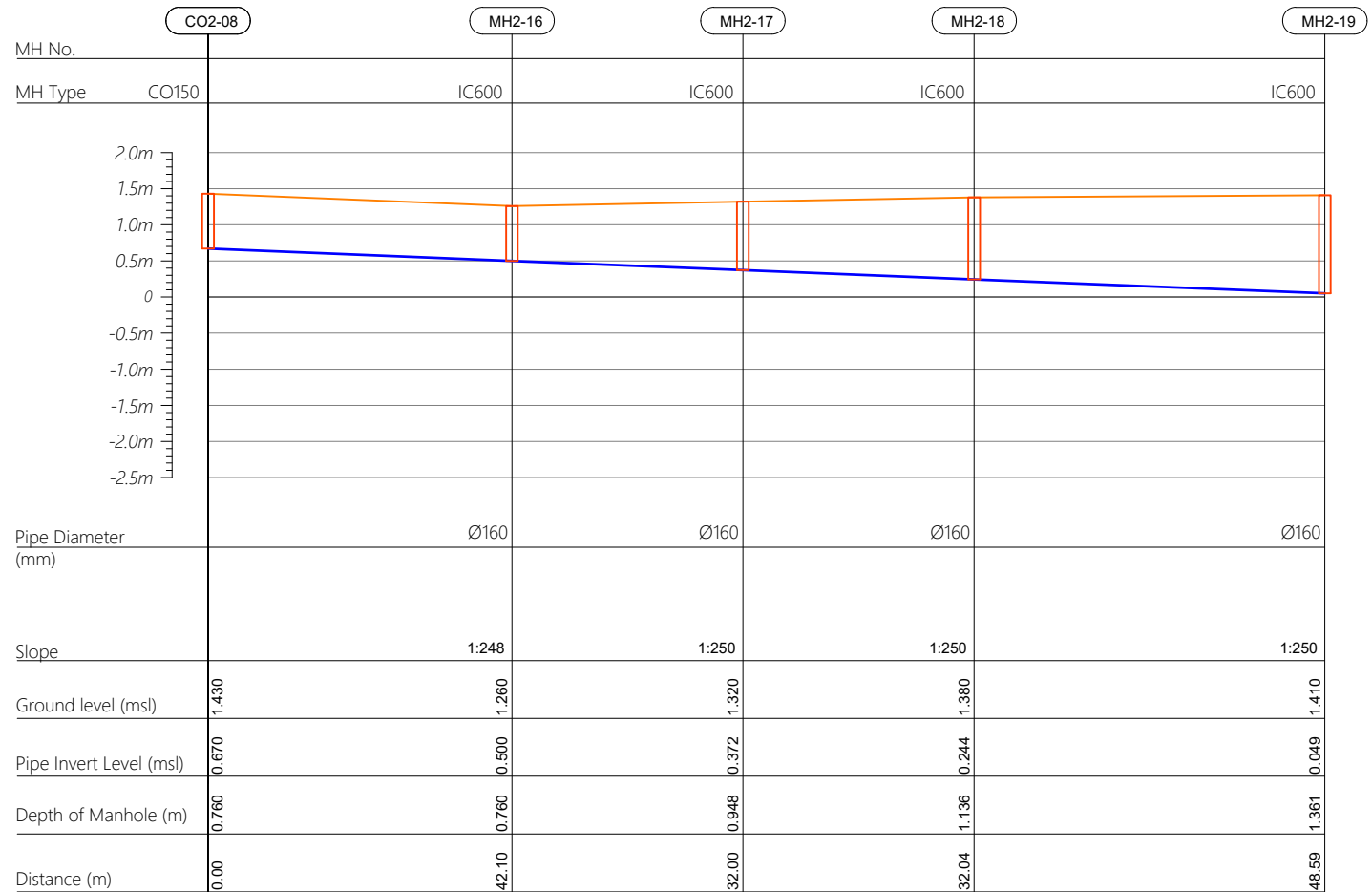
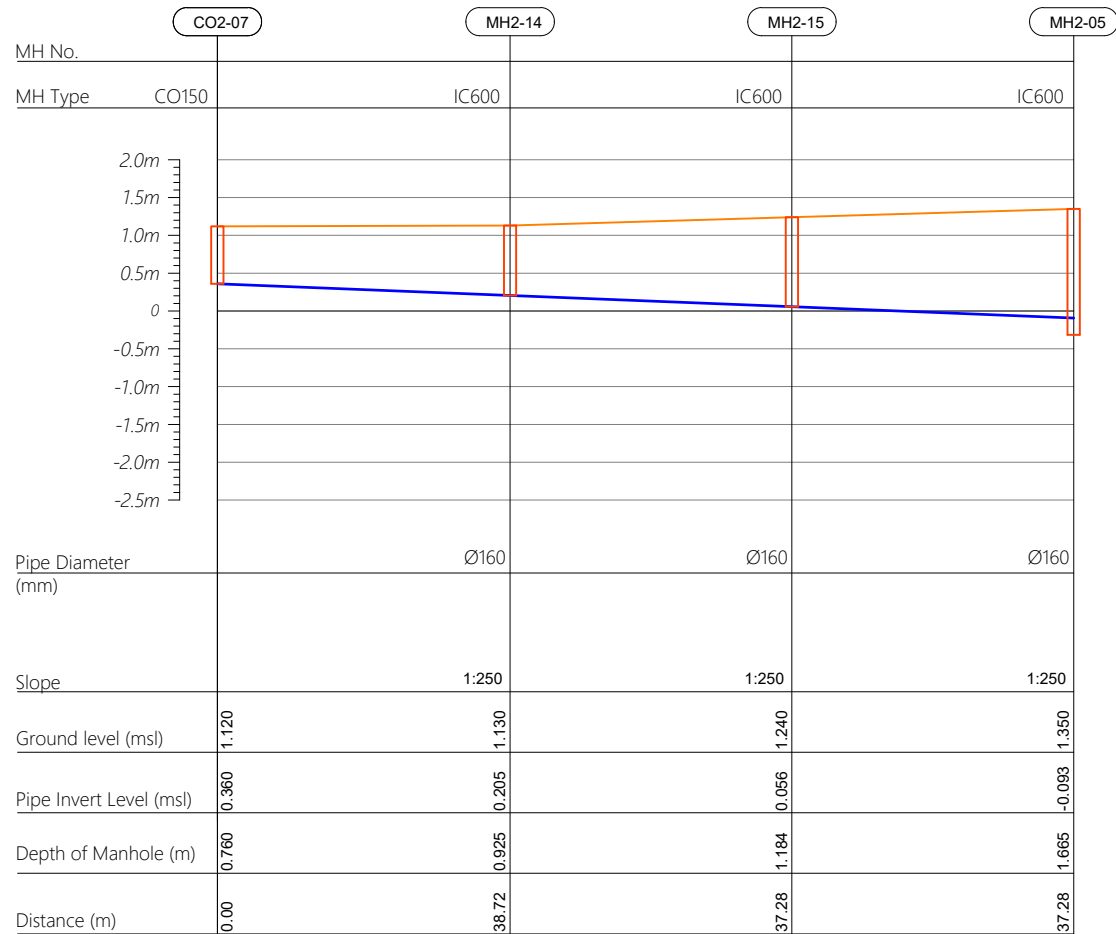
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INFRA

Maldivu Infrastructure Develop

Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS2-03

Profile 07



CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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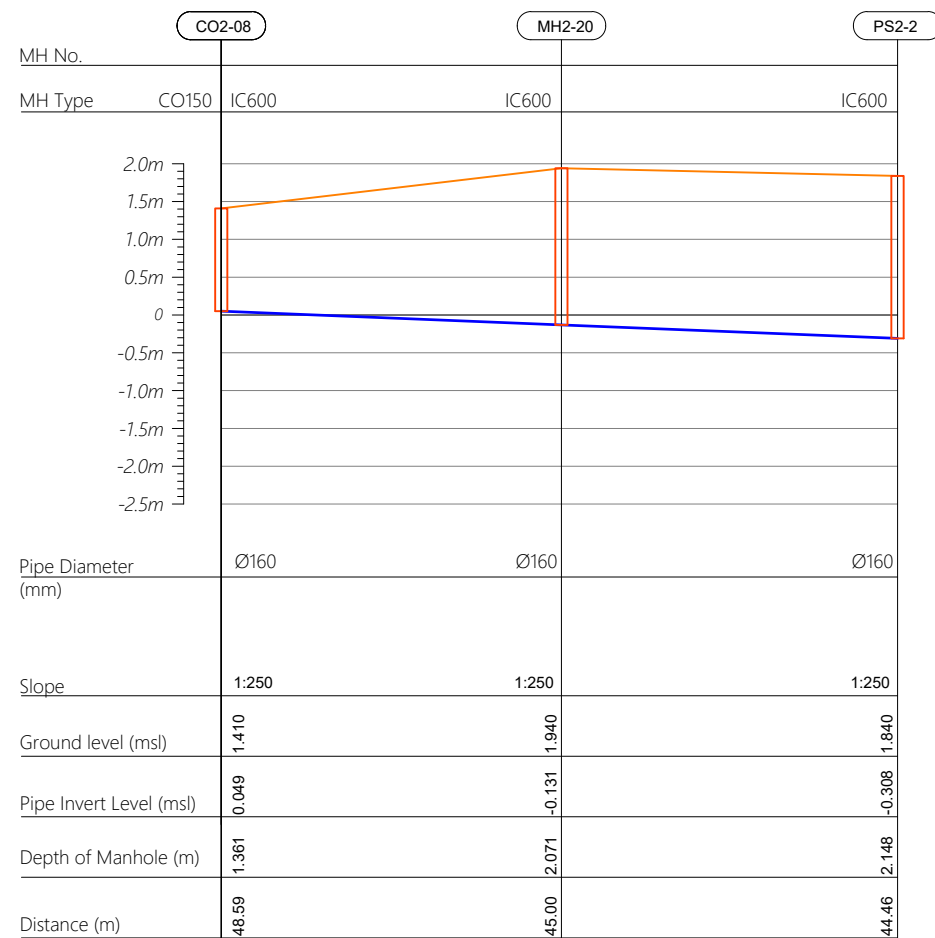
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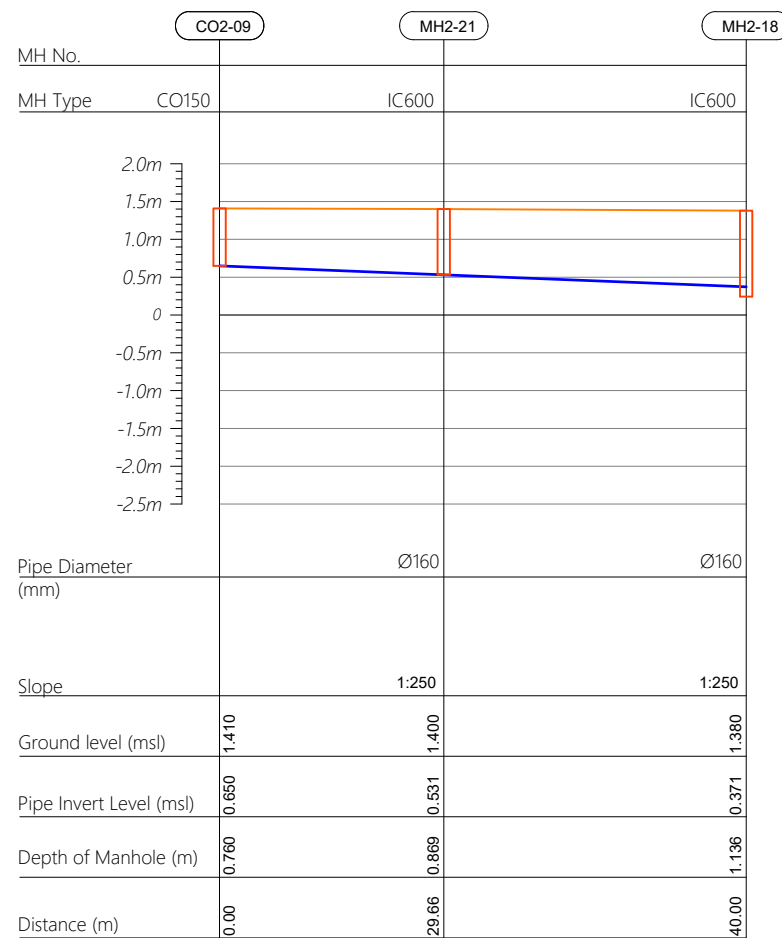
Project No: 01010101

Rev:	Page:
R-01	PS2-04

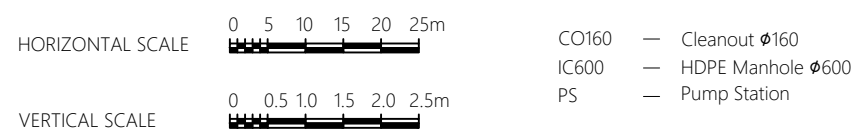
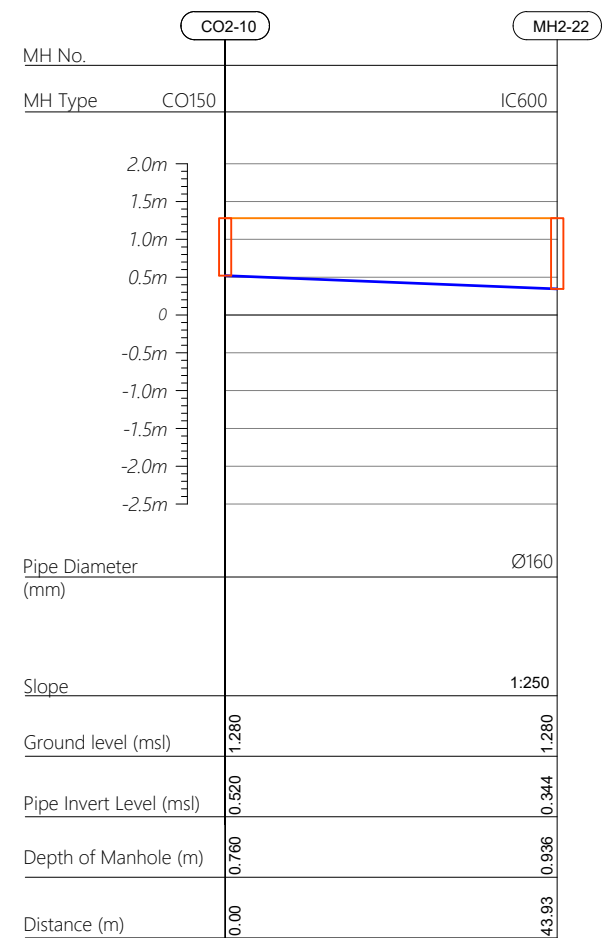
Profile 08



Profile 09



Profile 10



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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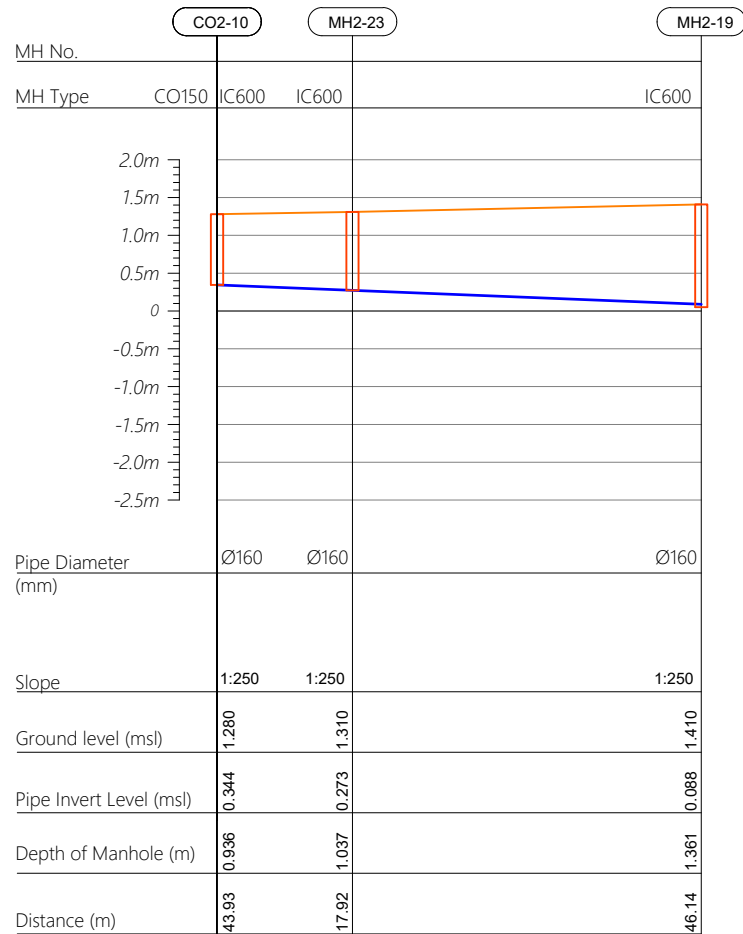
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Date: Aug 2020	SCALE (A3): 1:100
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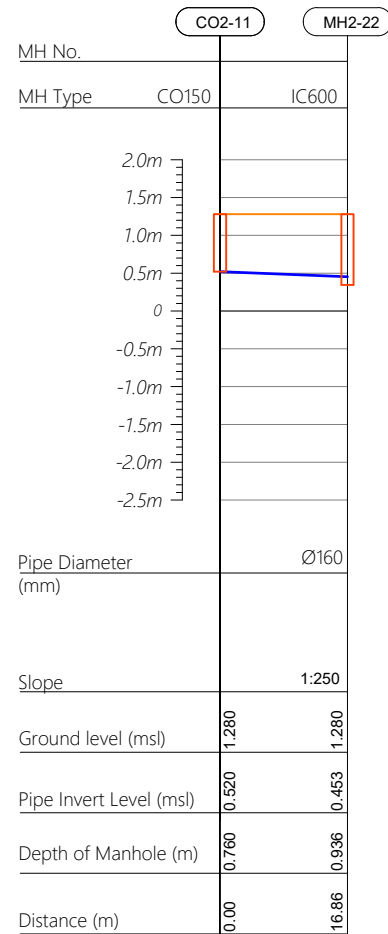
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Rev: <i>R-01</i>	Page: <i>PS2-05</i>
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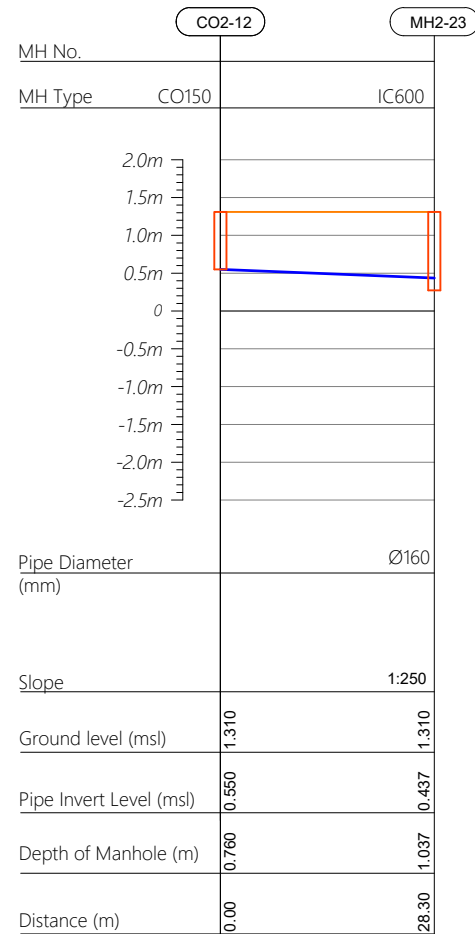
Profile 10



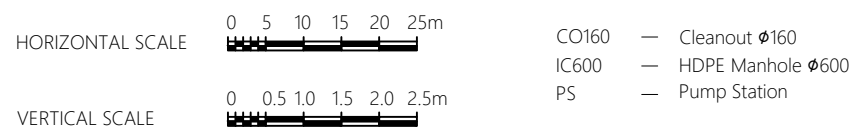
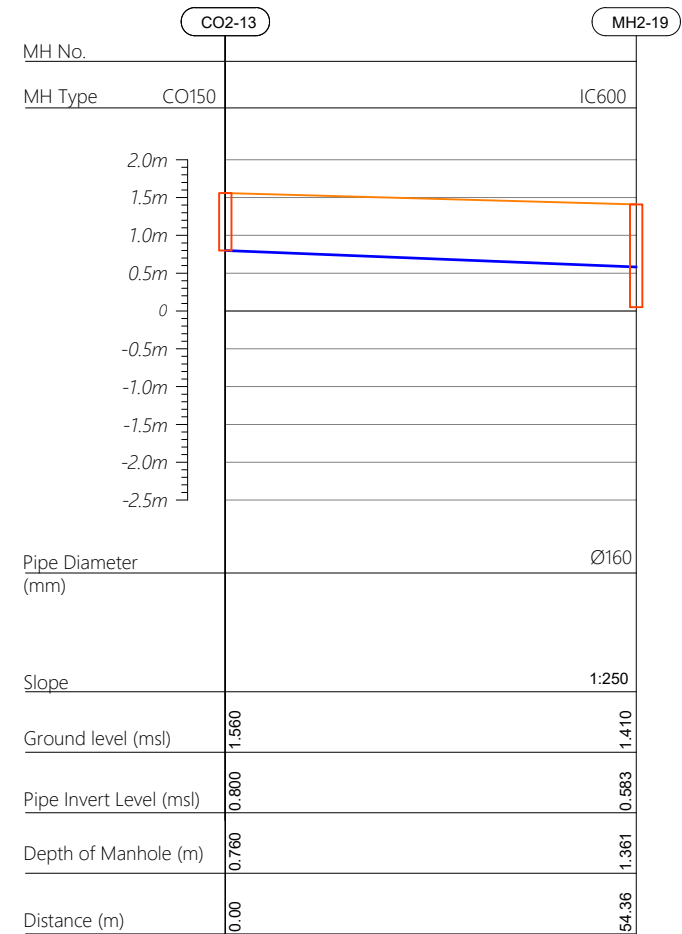
Profile 11



Profile 12



Profile 13



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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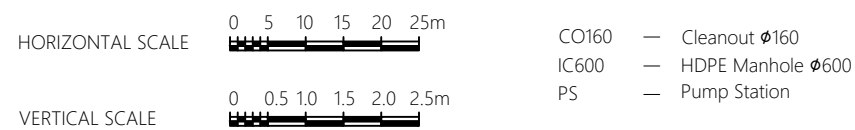
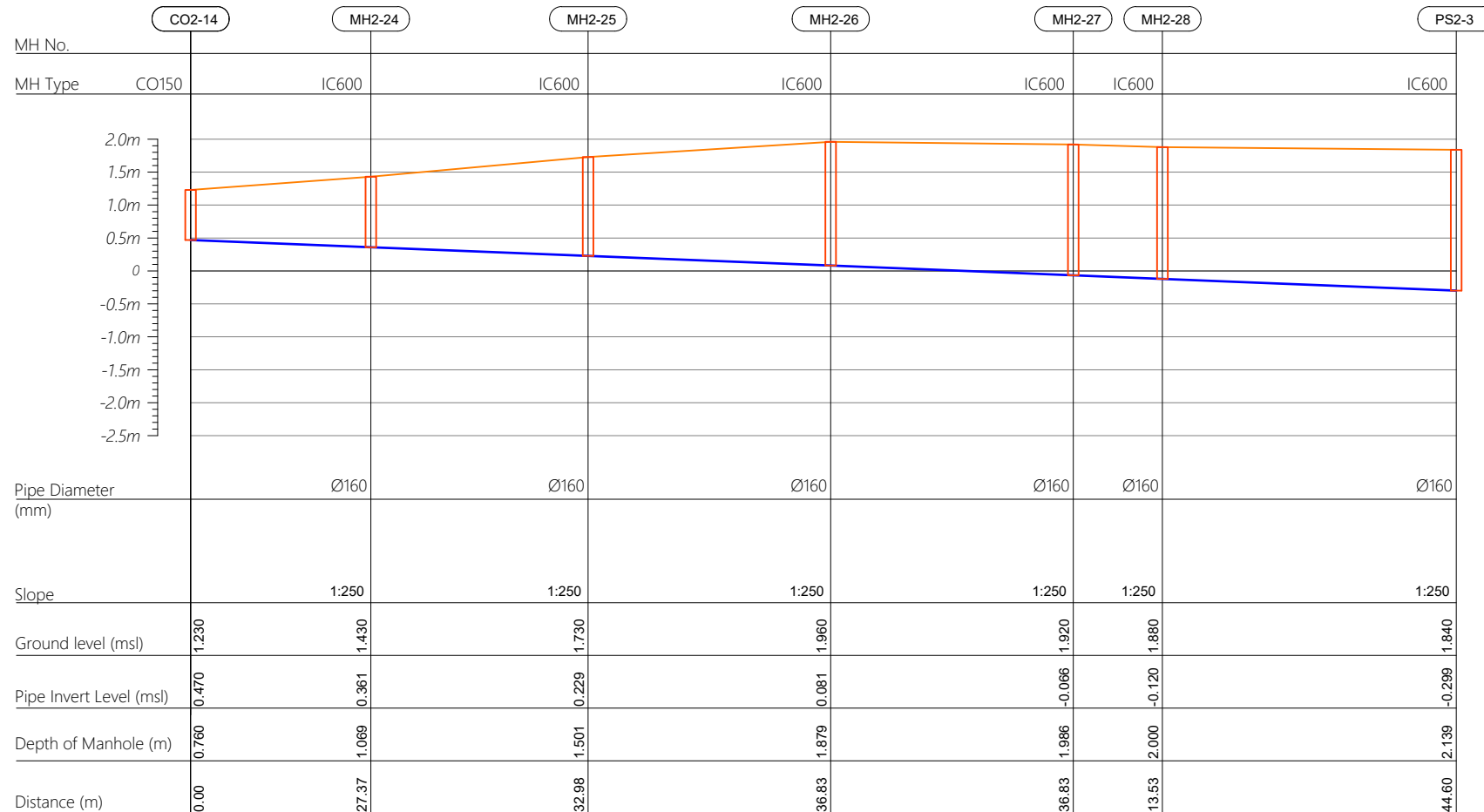
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Date: Aug 2020	SCALE (A3): 1:100
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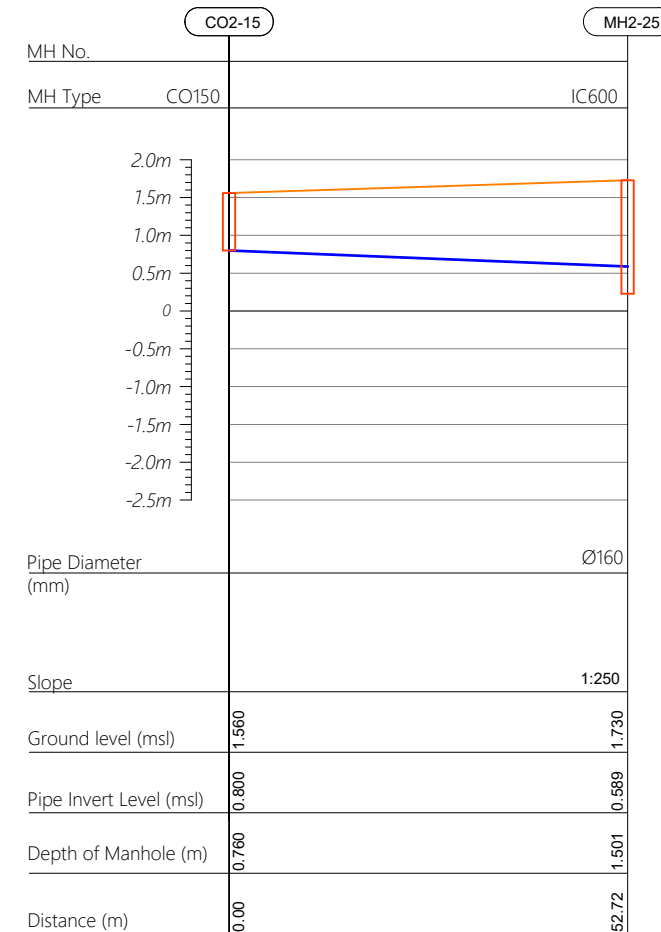
Project No: 01010101

Rev:	Page:
R-01	PS2-06

Profile 14



Profile 15



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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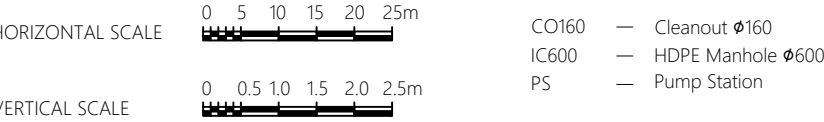
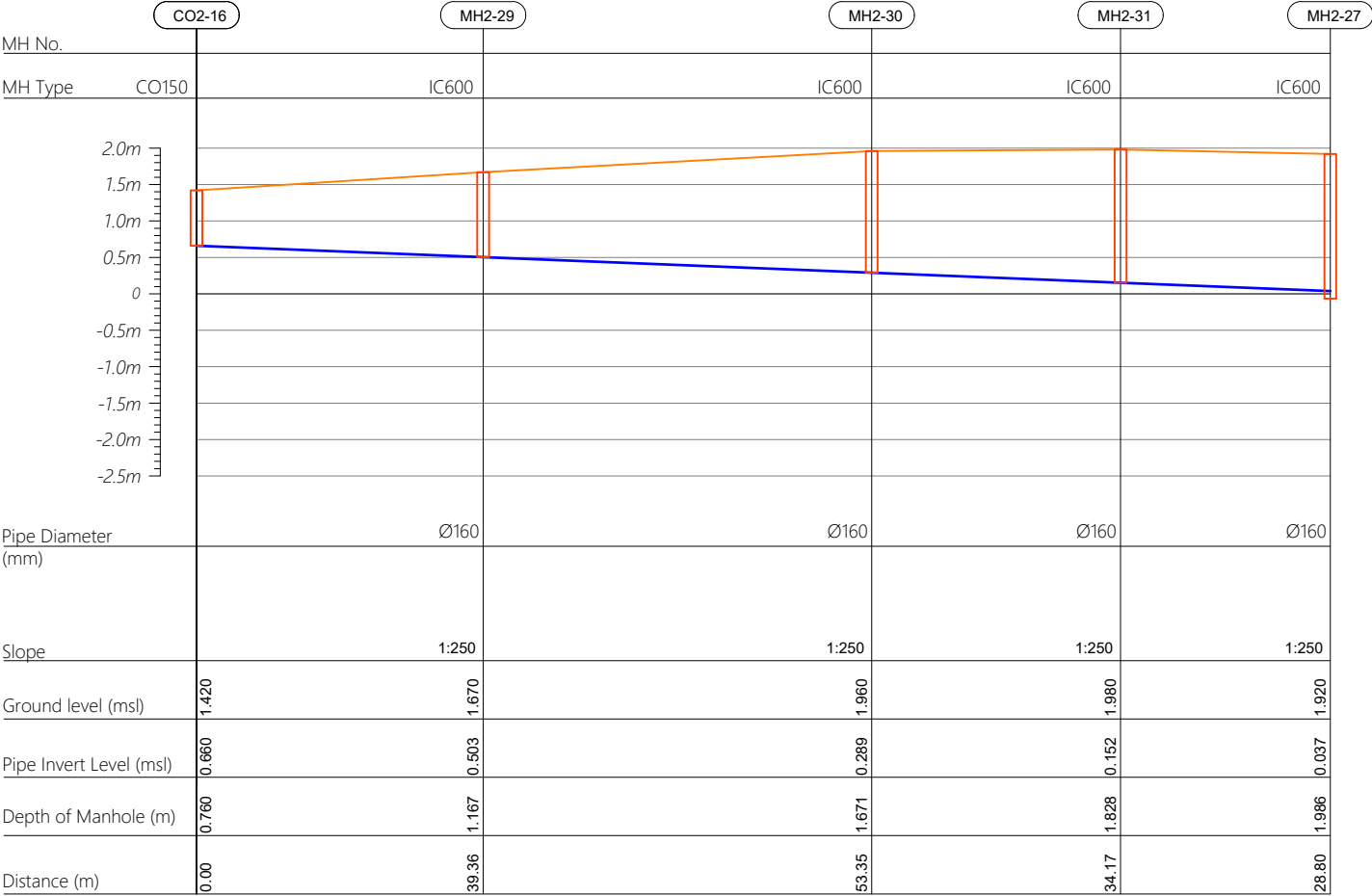
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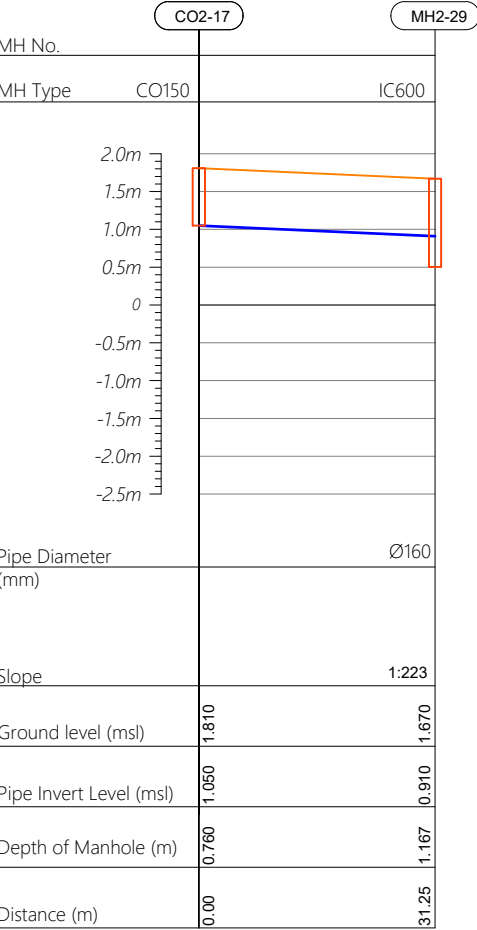
Project No: 01010101

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Profile 16



Profile 17



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dehvadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**

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A: G. Rosary West,
Husnuheemaa Magu, Male', Maldives

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Drawn: A.R.W Checked: M.S.S

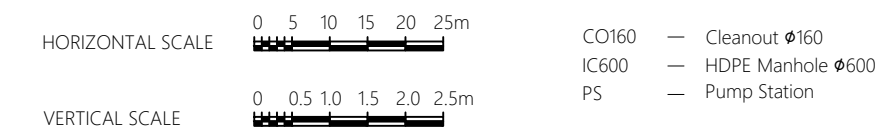
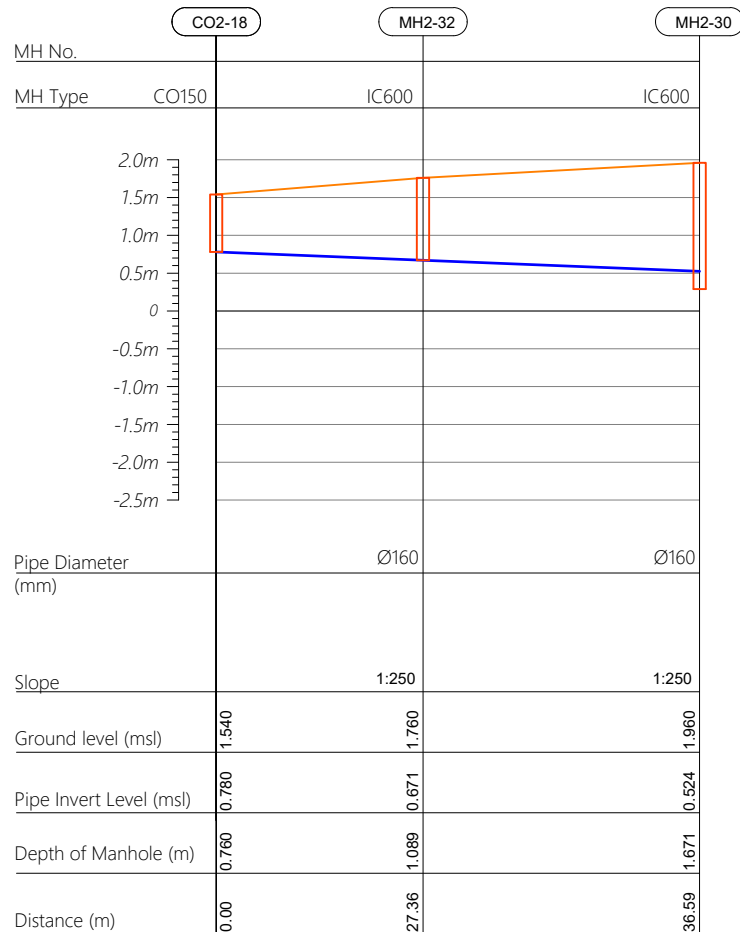
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Date: Aug 2020 SCALE (A3): 1:100

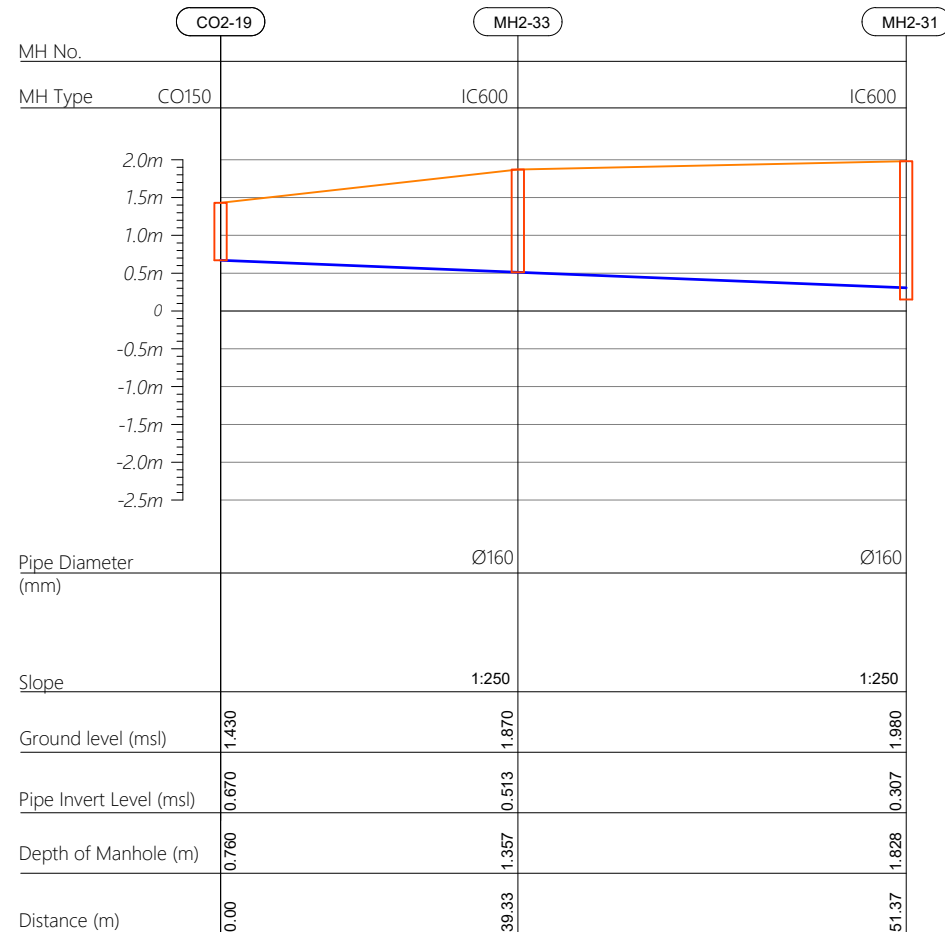
Project No: 01010101

Rev: R-01 Page: PS2-08

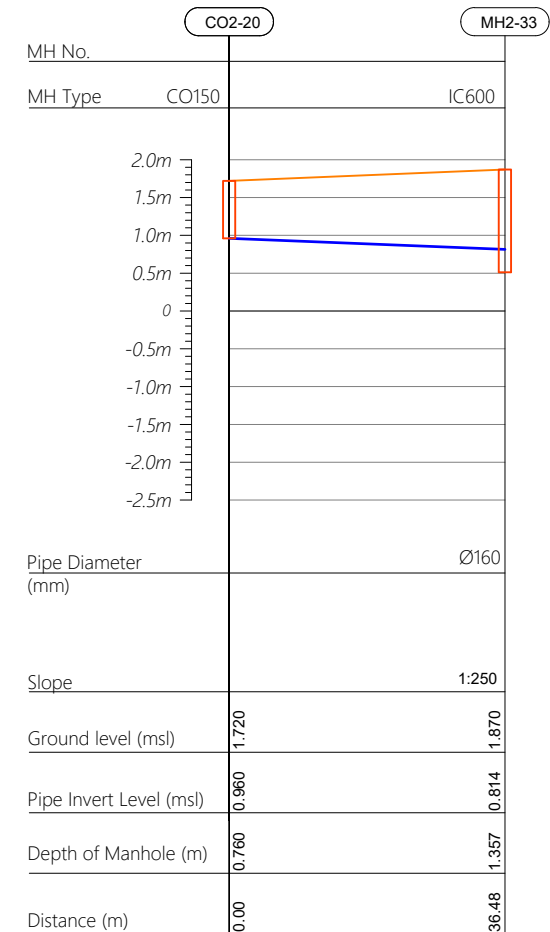
Profile 18



Profile 19



Profile 20



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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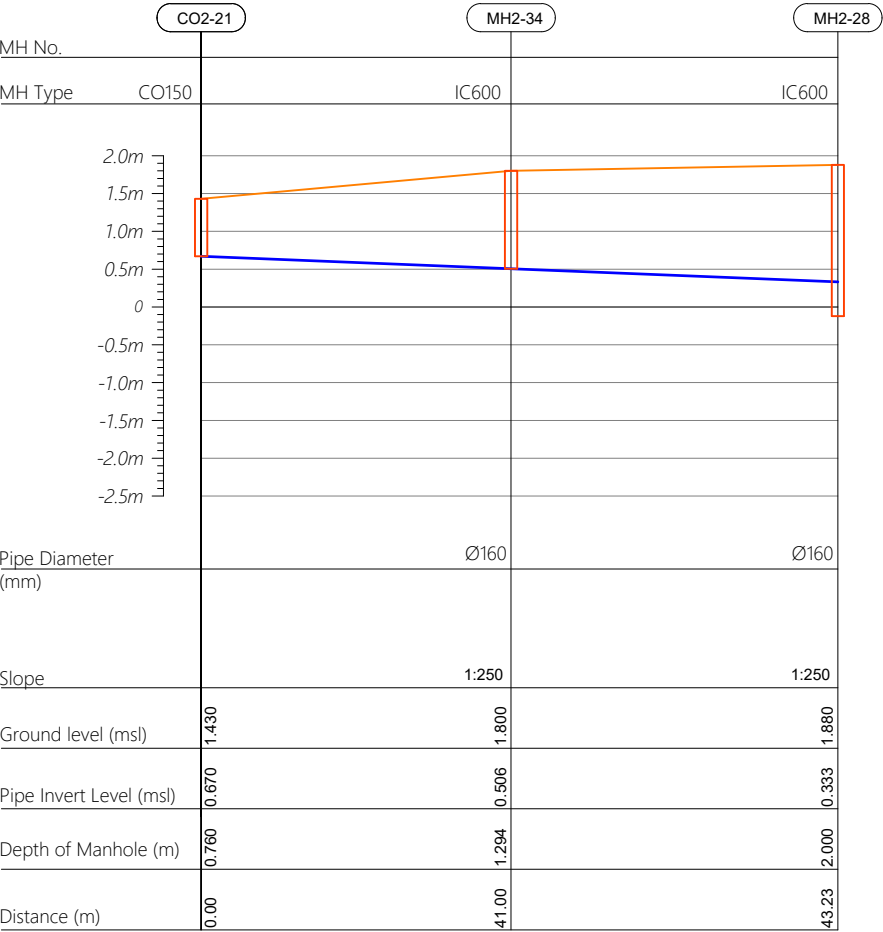
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Date: Aug 2020	SCALE (A3): 1:100
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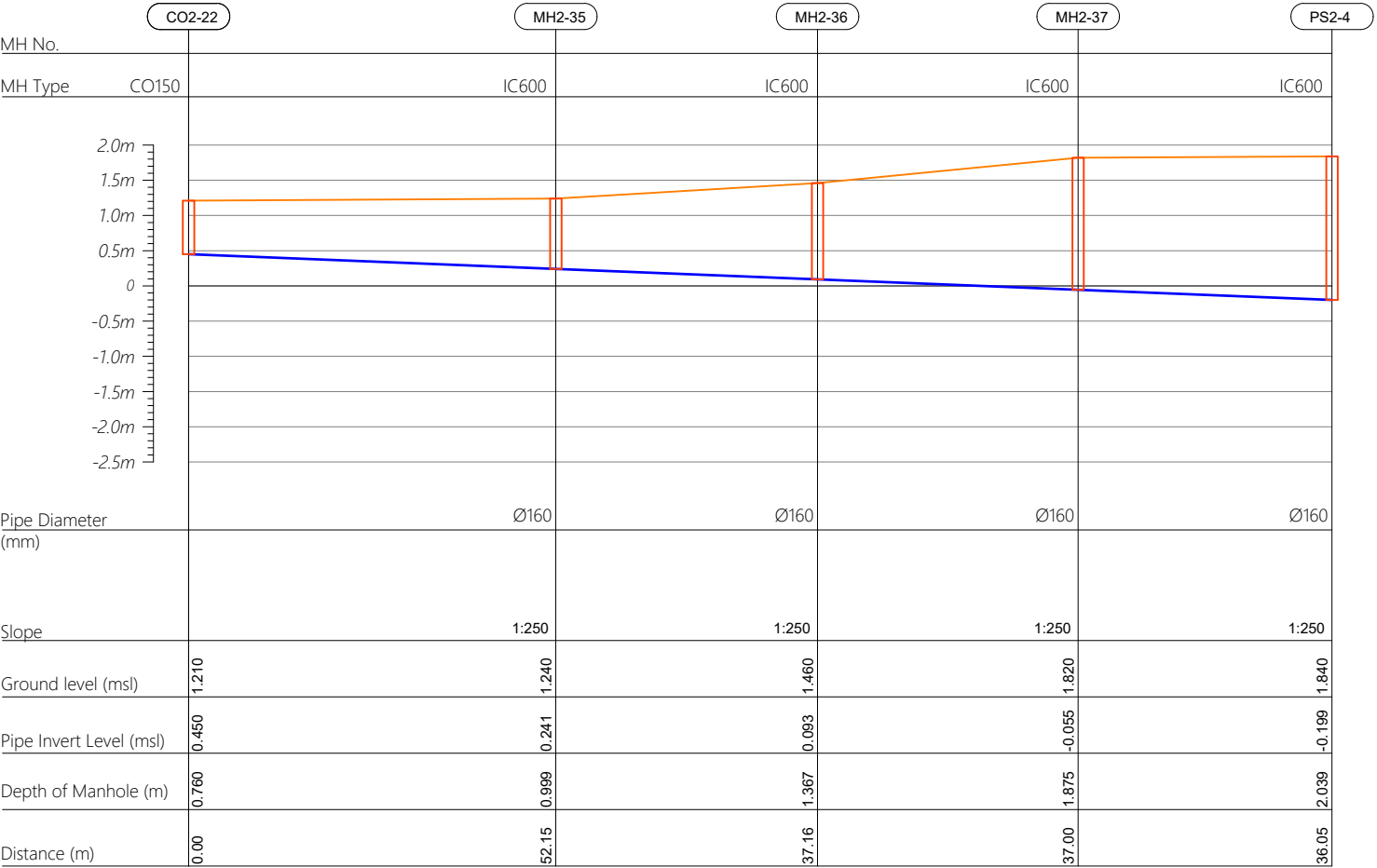
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Profile 21



Profile 22



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dehvadhoo

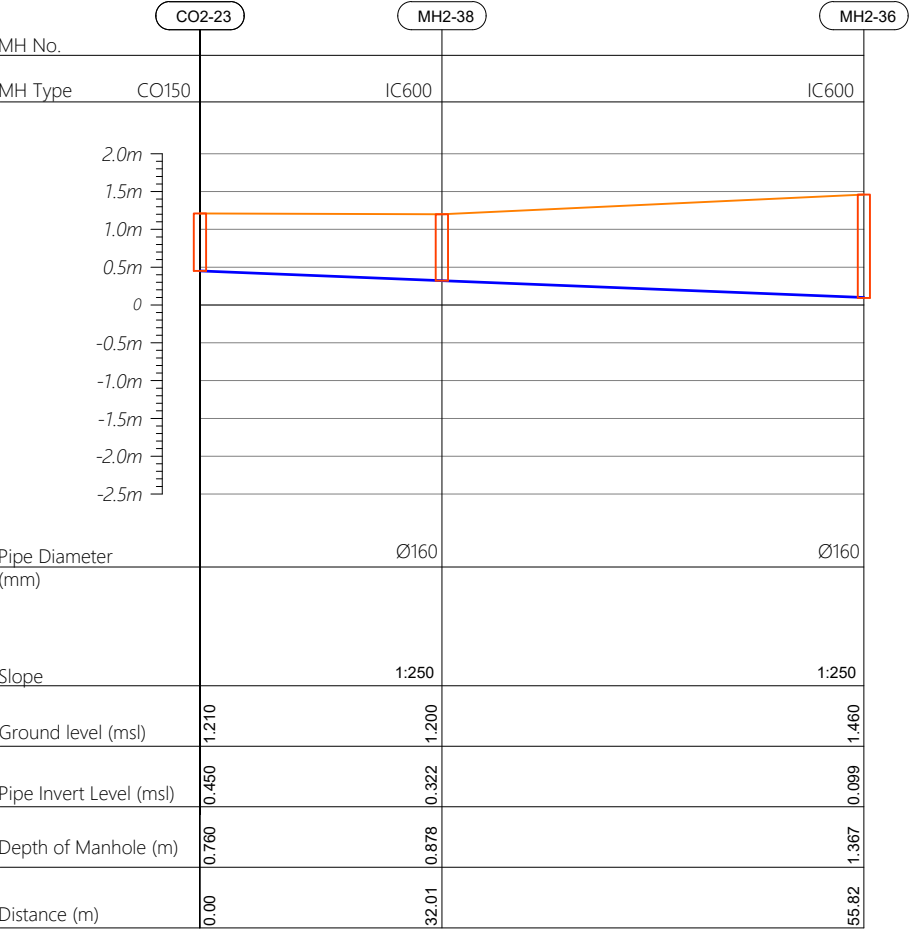
Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**

T: +960 333 3528
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W: www.epoch.associates
A: G. Rosary West,
Husnuheemaa Magu, Male', Maldives

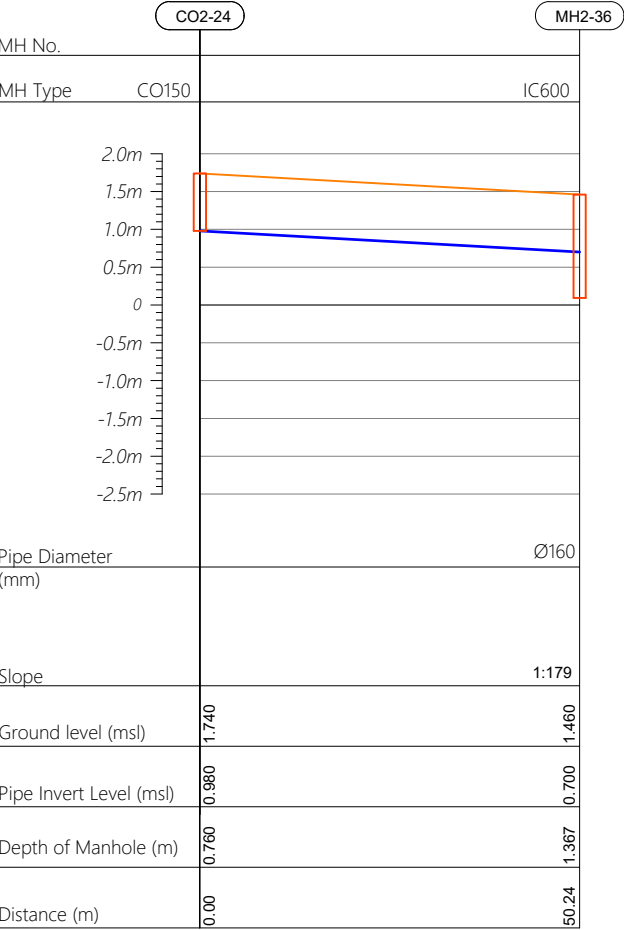
Maldivu Infrastructure Develop

Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
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Profile 23



Profile 24



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:

Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 5 islands, Maldives - Package 6

Sub Title:

Sewerage System in GA.Dhehavadhoo

Client:

Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

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Drawn: A.R.W

Checked: M.S.S

Designed: F.I.A

Approved: I.W

Date: Aug 2020

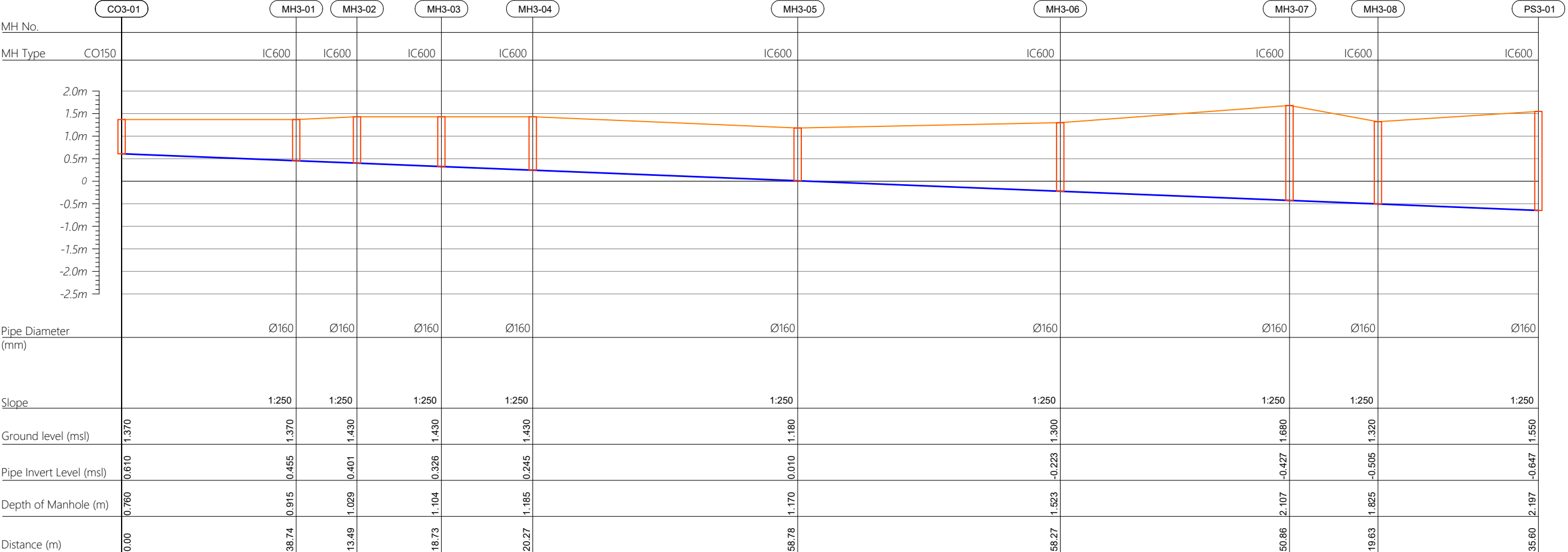
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Project No: 01010101

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Profile 01



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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Designed: F.I.A	Approved: I.W
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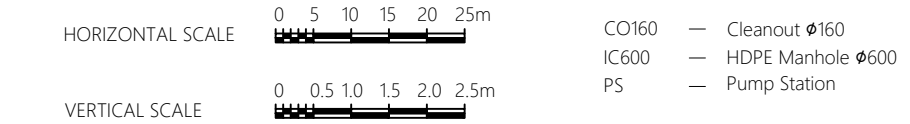
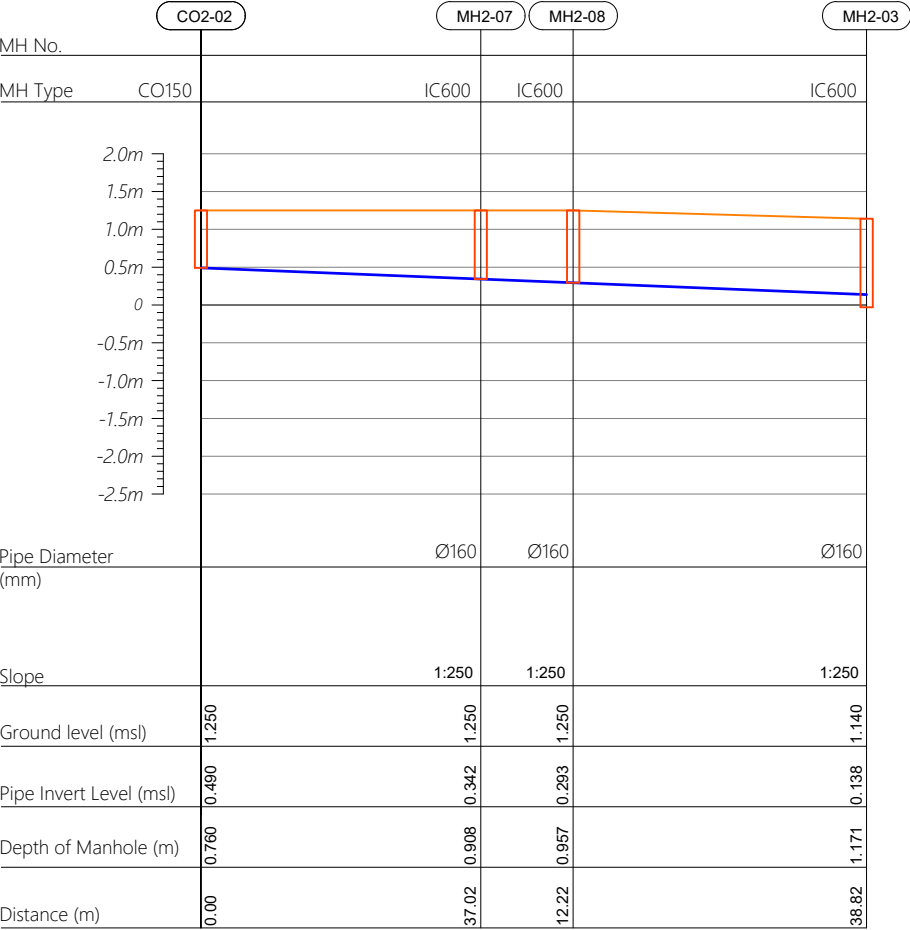
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Project No: 01010101

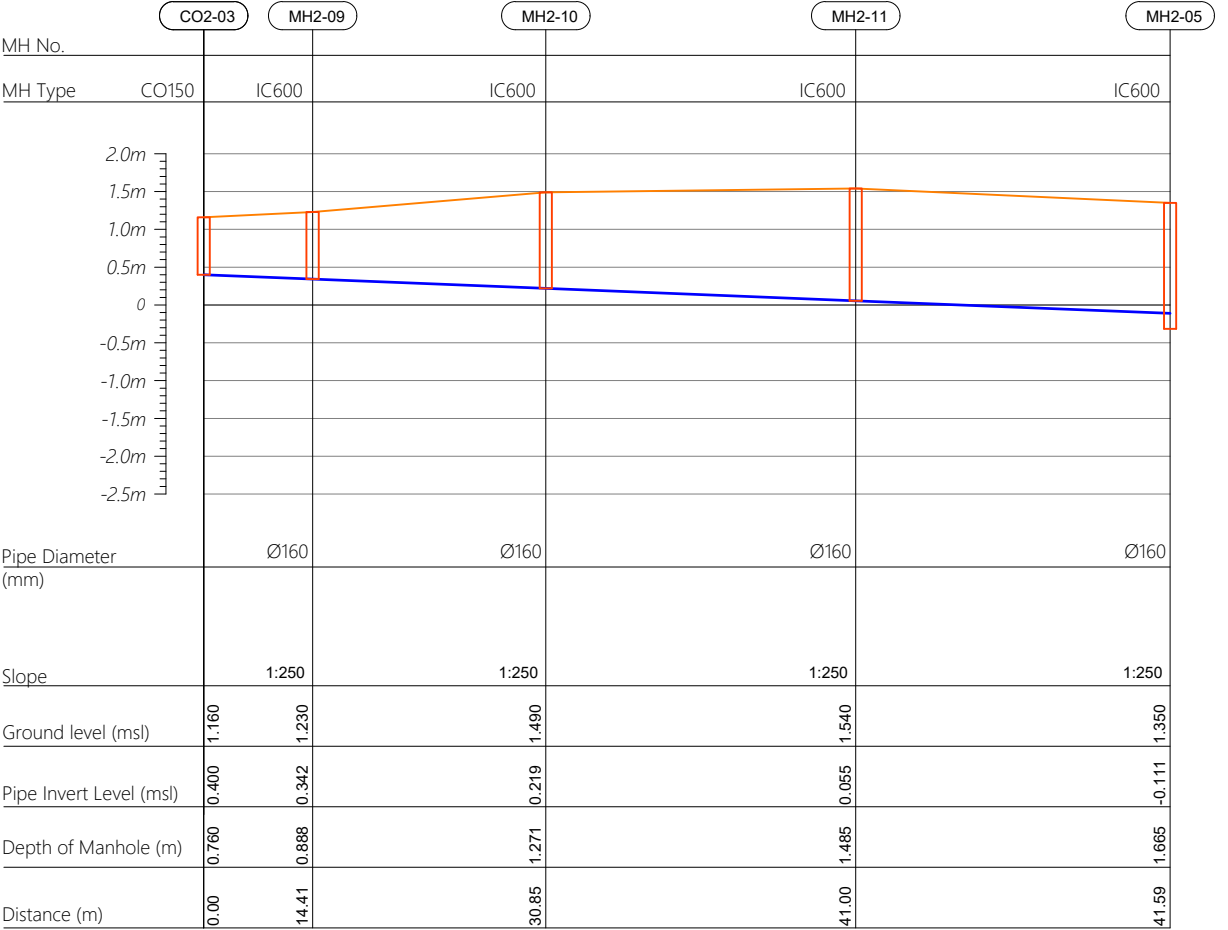
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Profile 02



Profile 03



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:

Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 Islands, Maldives - Package 6

Sub Title:

Sewerage System in GA.Dhehvadhoo

Client:

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Drawn: A.R.W

Checked: M.S.S

Designed: F.I.A

Approved: I.W

Date: Aug 2020

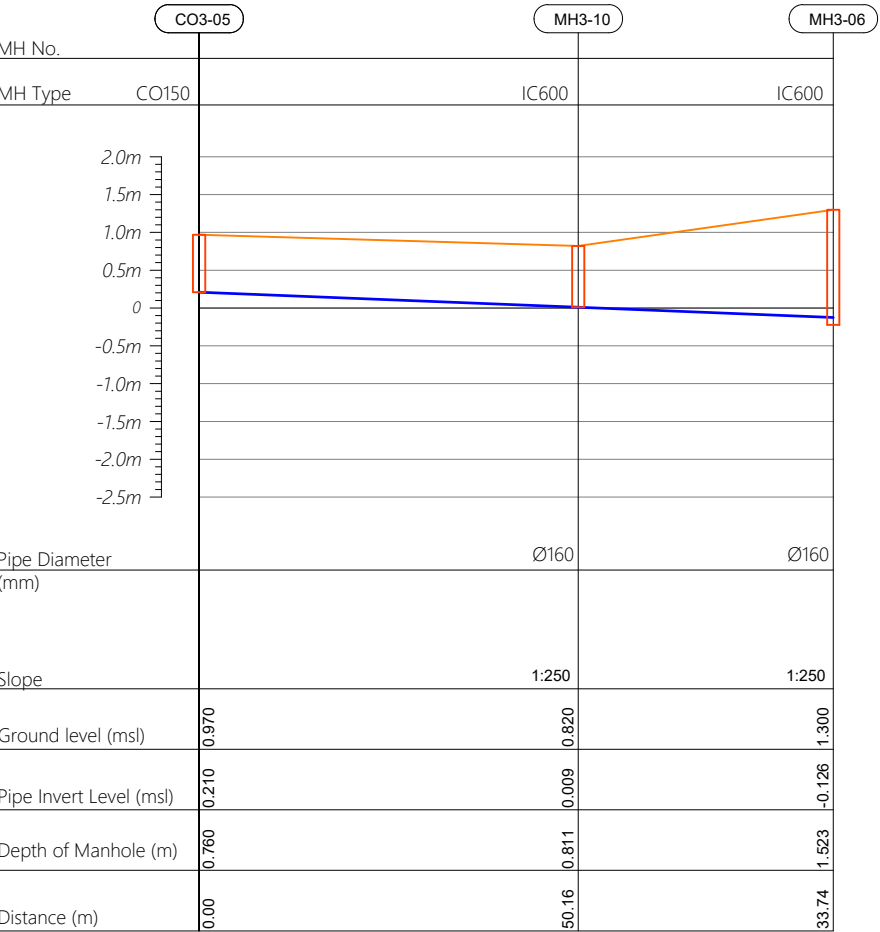
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Project No: 01010101

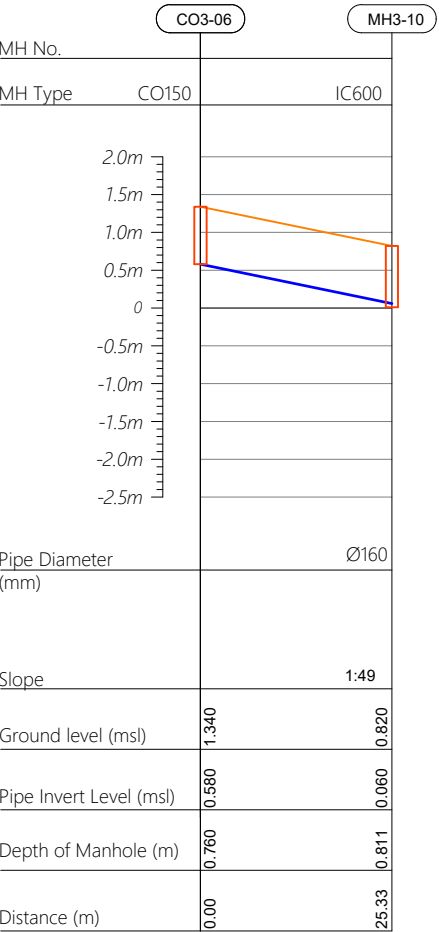
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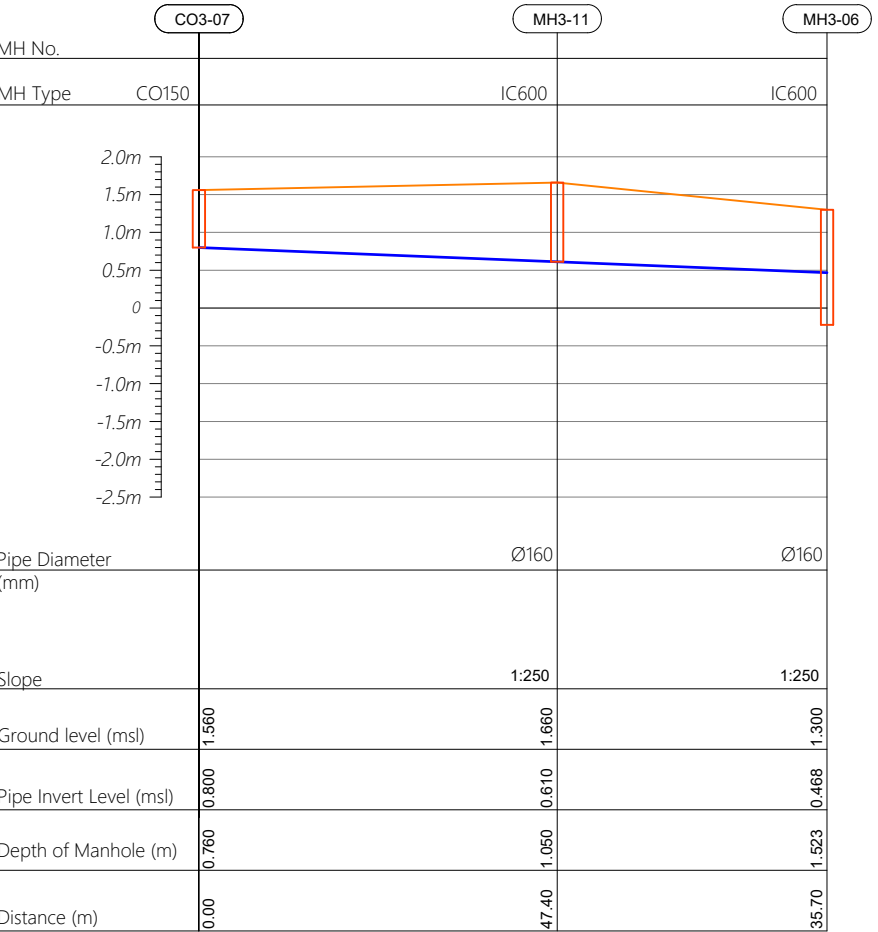
Profile 05



Profile 06



Profile 07



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dehvadhoo

Client:
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Drawn: A.R.W Checked: M.S.S

Designed: F.I.A Approved: I.W

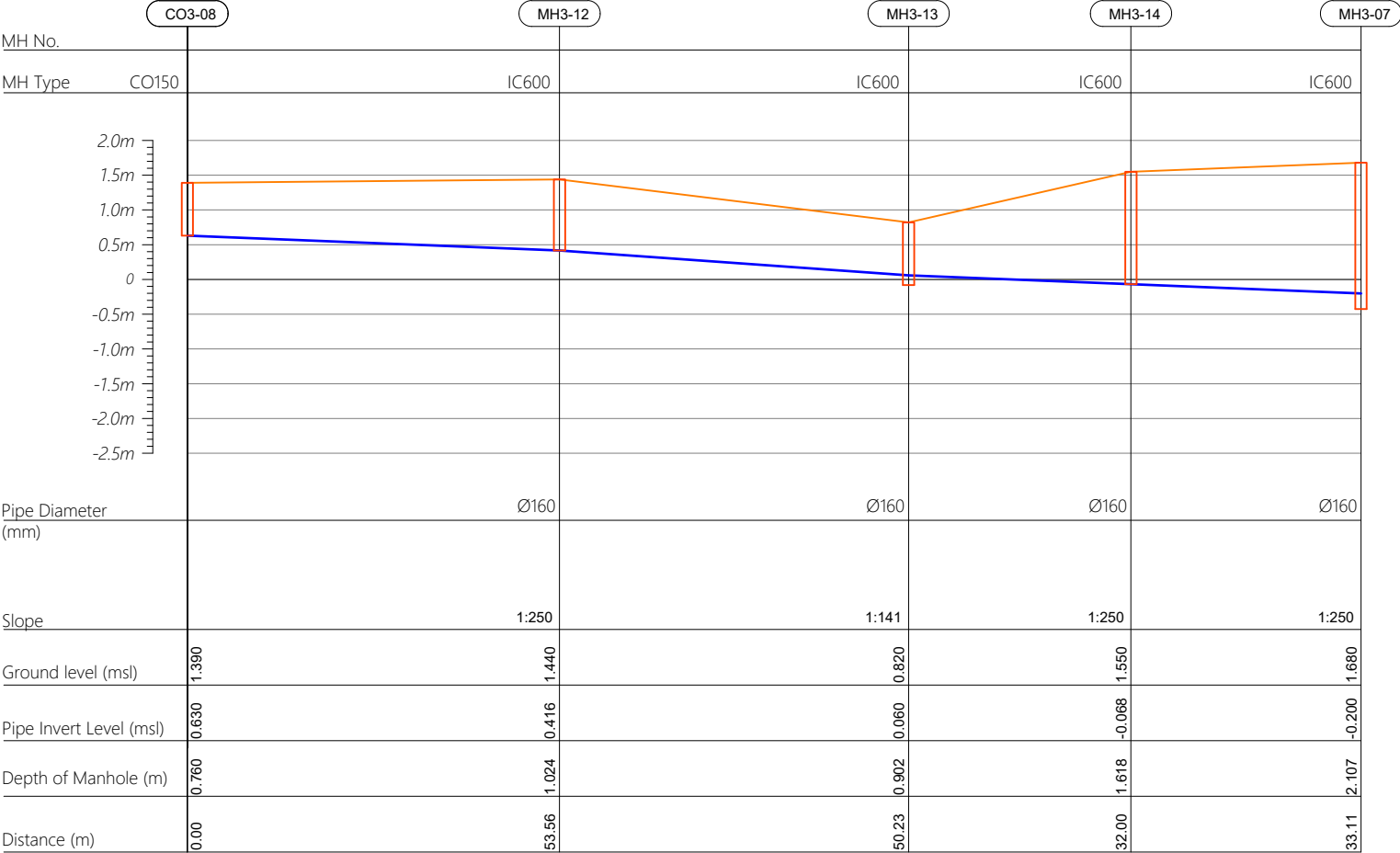
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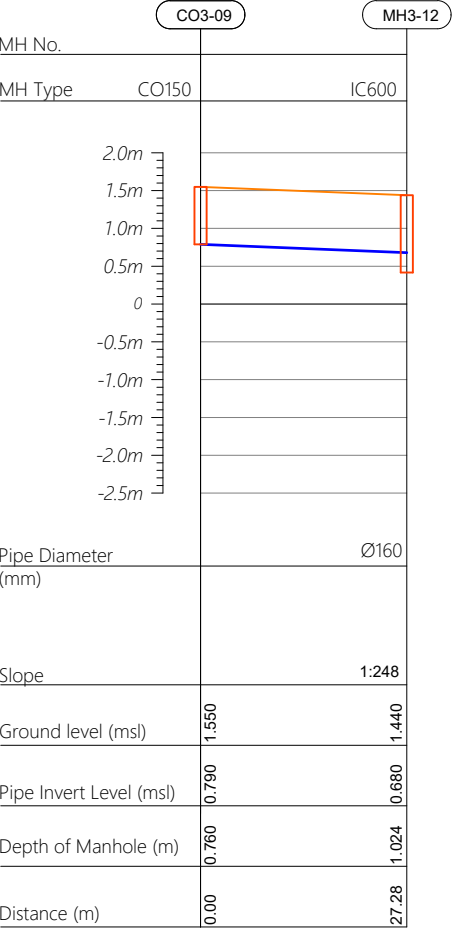
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Profile 08



Profile 09



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 5 islands, Maldives - Package 6

Sub Title:
Sewerage System in GA.Dehvadhoo

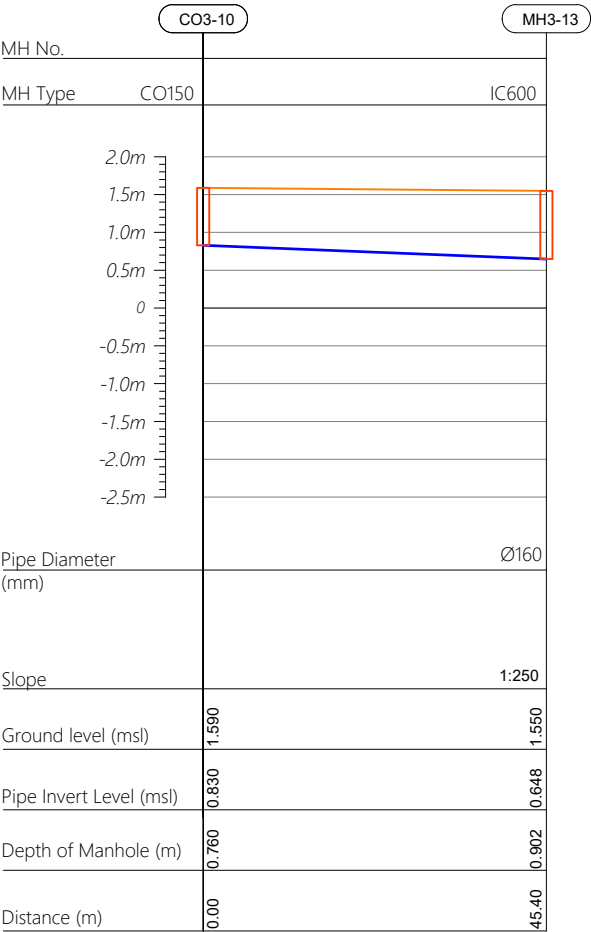
Client:
Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

T: +960 333 3528
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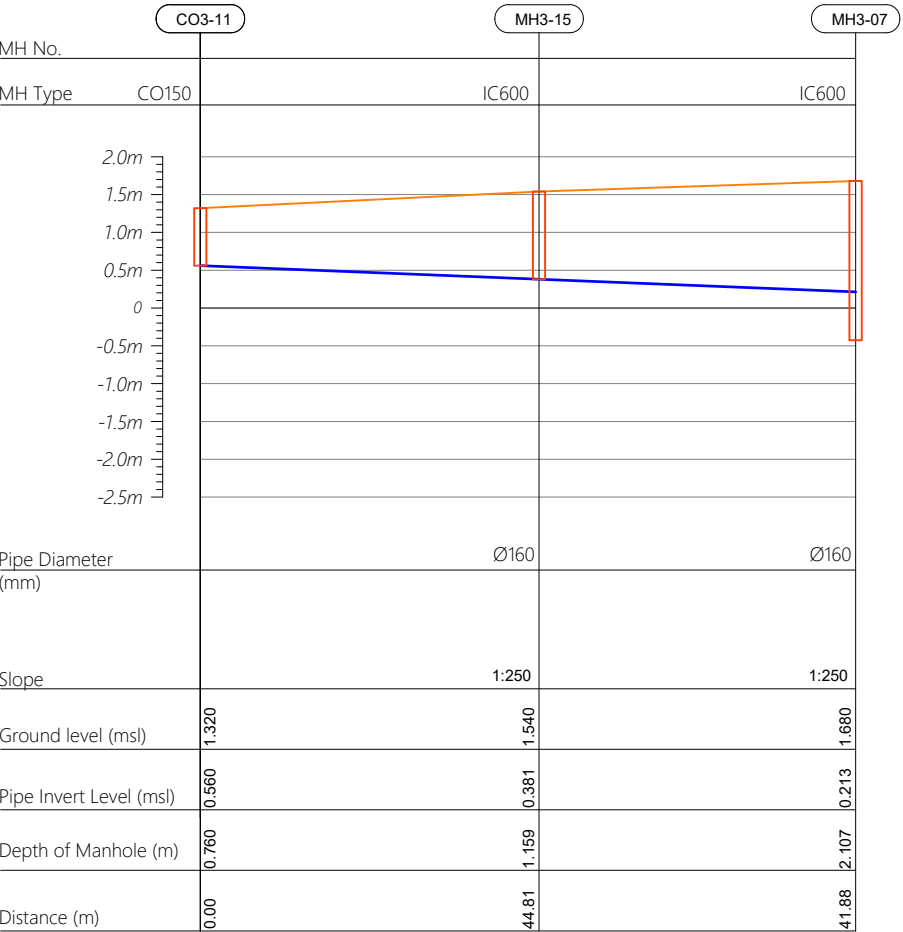
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Drawn: A.R.W	Checked: M.S.S
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Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS3-04

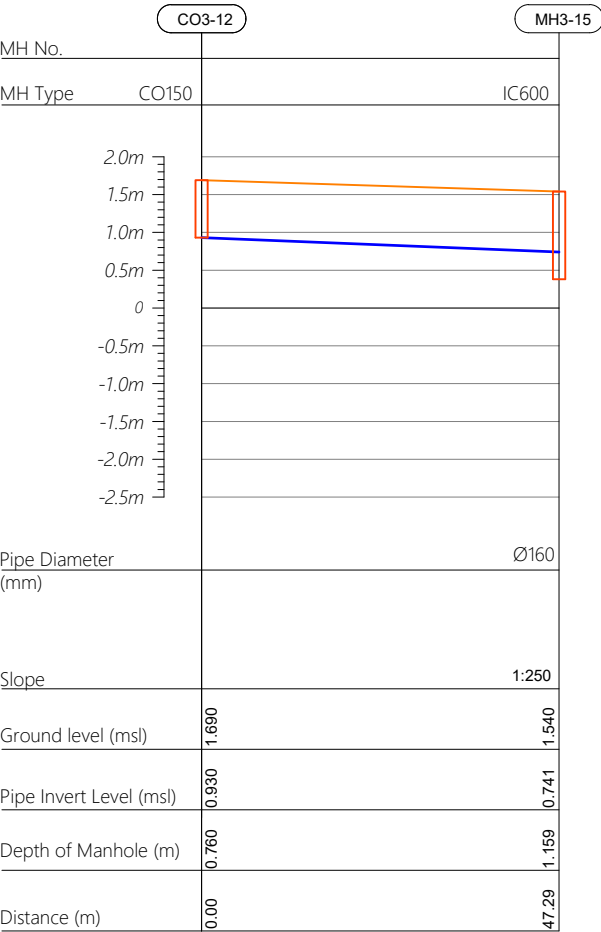
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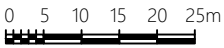
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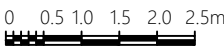
Profile 12



HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
IC600 — HDPE Manhole Ø600
PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
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Infrastructure, Republic of Maldives**



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Drawn: A.R.W Checked: M.S.S

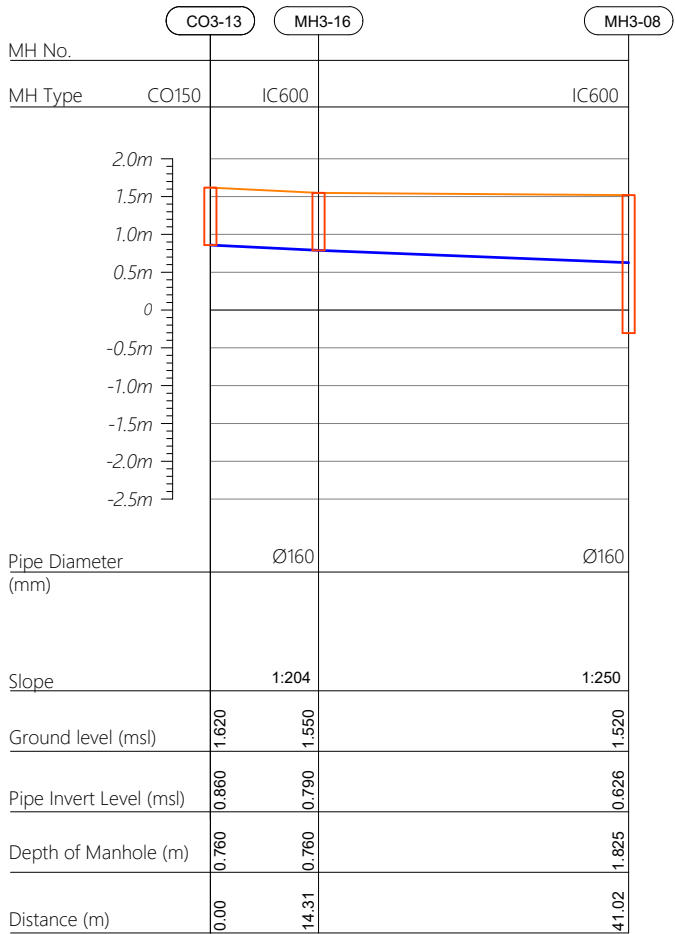
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Date: Aug 2020 SCALE (A3): 1:100

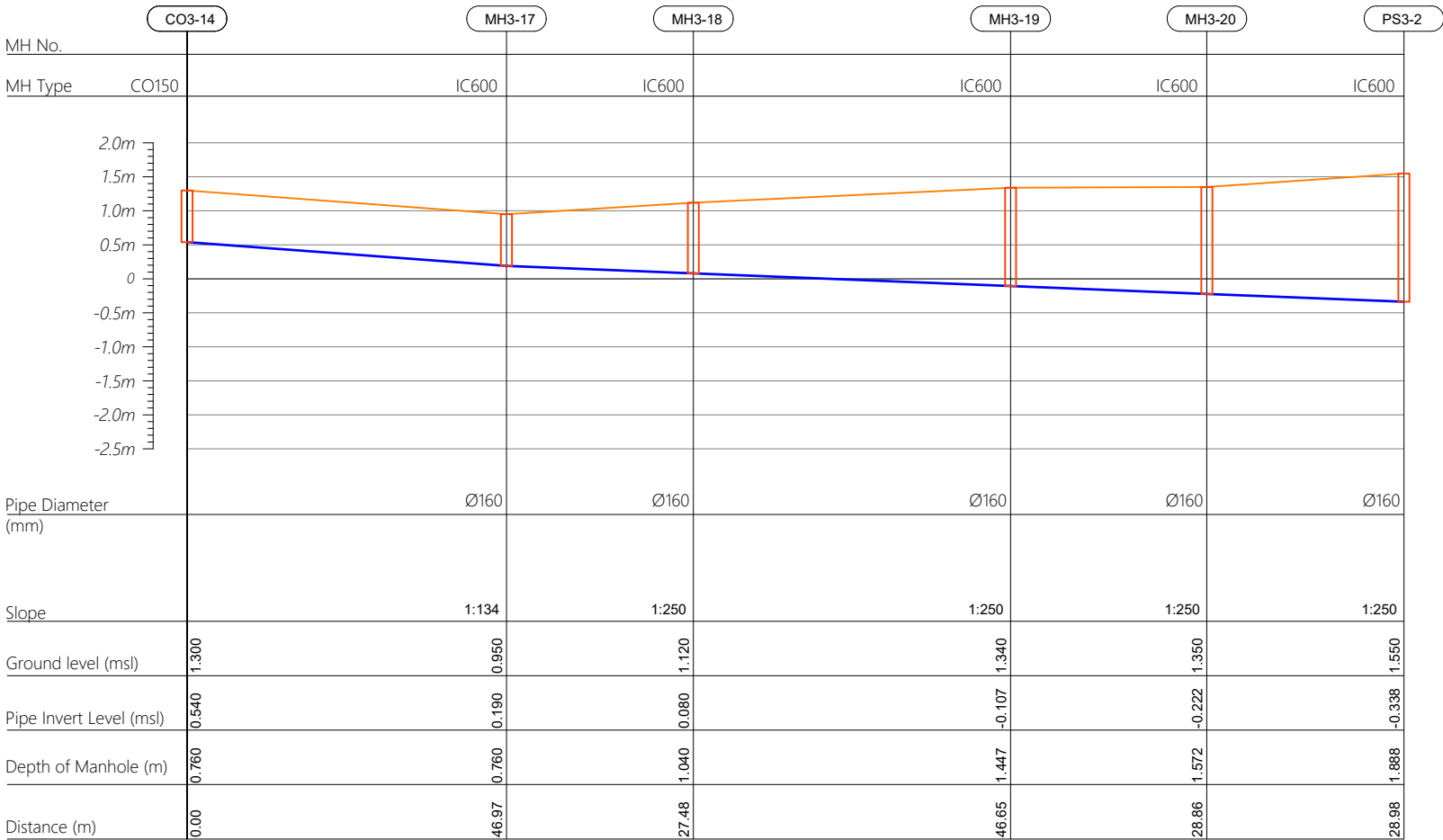
Project No: 01010101

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Profile 13



Profile 14



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
**Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6**

Sub Title:
Sewerage System in GA.Dehvadhoo

Client:
**Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives**

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Husnuheemaa Magu, Male', Maldives

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Maldivu Sufasturktur Happra

Drawn: A.R.W Checked: M.S.S

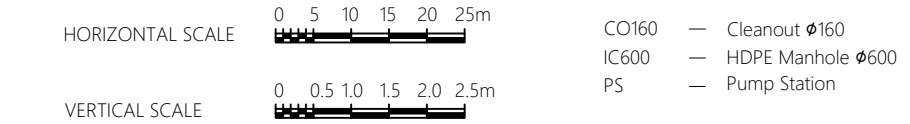
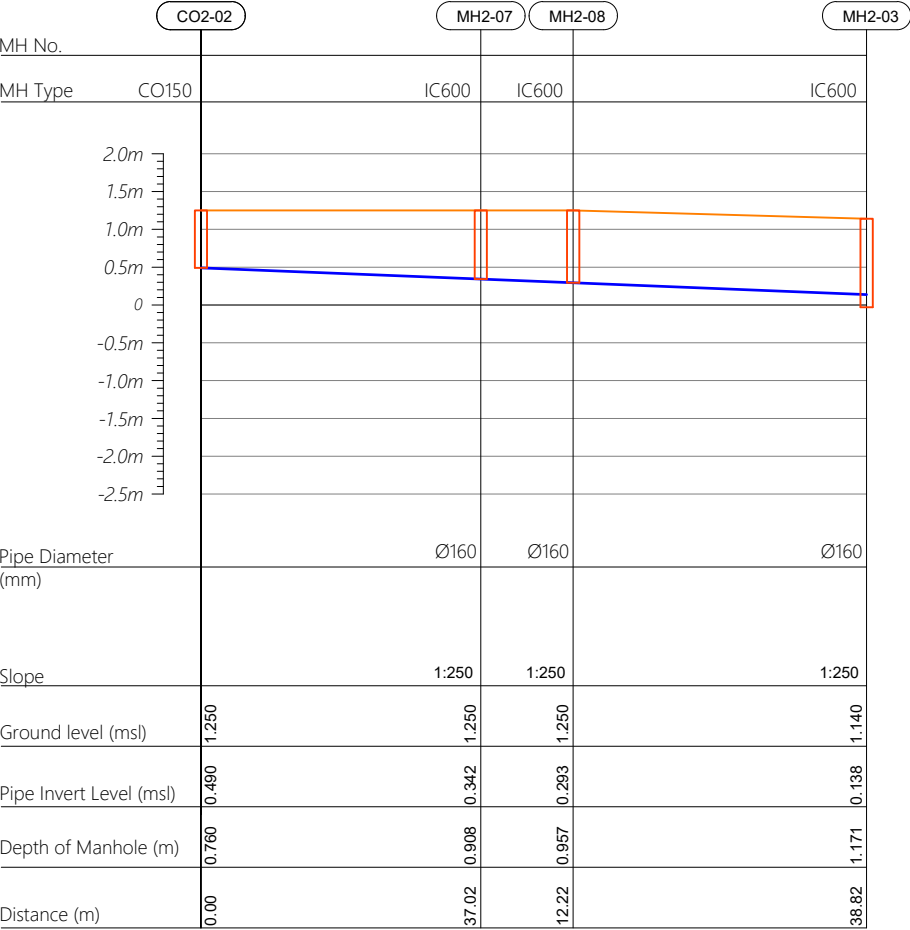
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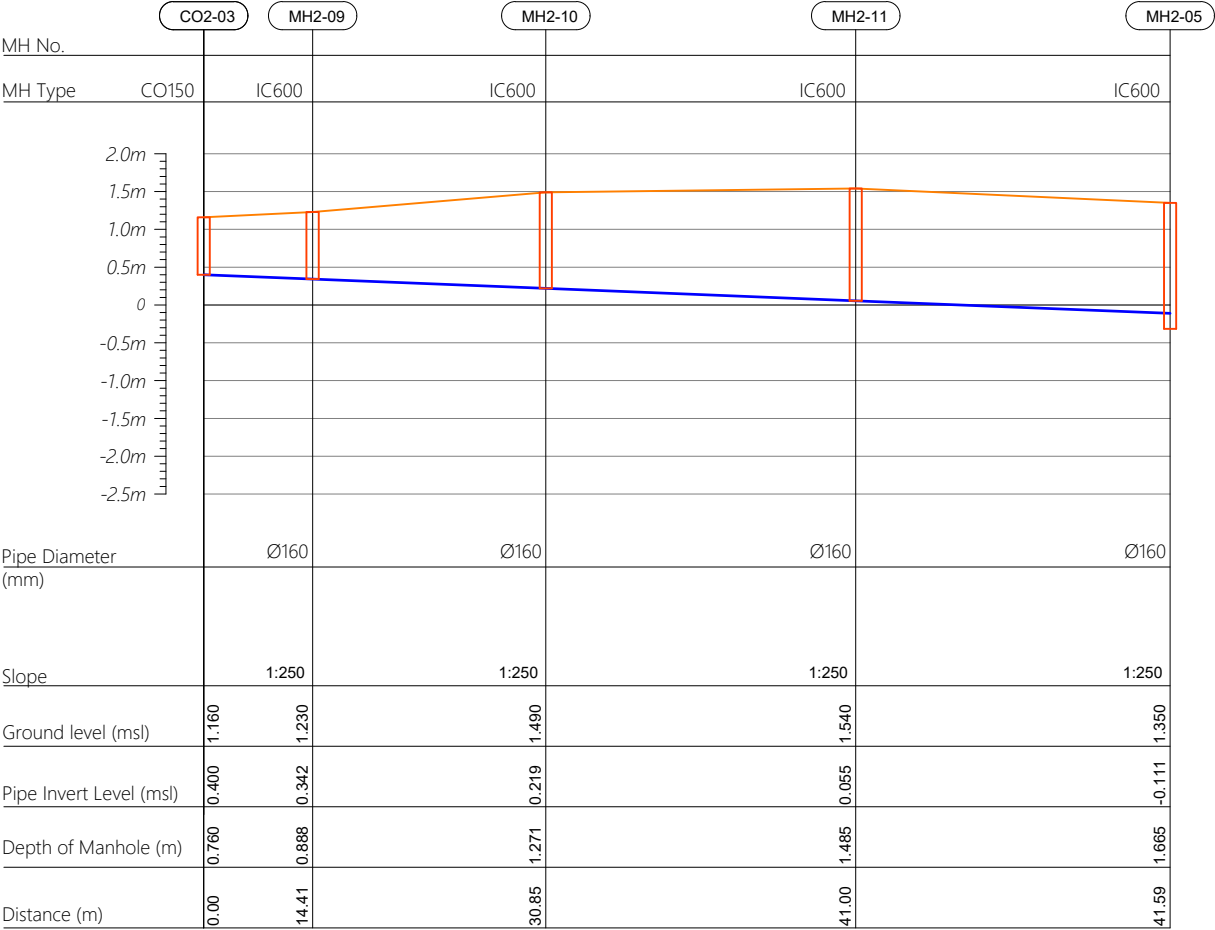
Project No: 01010101

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Profile 02



Profile 03



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:

Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 5 islands, Maldives - Package 6

Sub Title:

Sewerage System in GA.Dhehvadhoo

Client:

Ministry of National Planning, Housing and Infrastructure, Republic of Maldives

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Designed: F.I.A

Approved: I.W

Date: Aug 2020

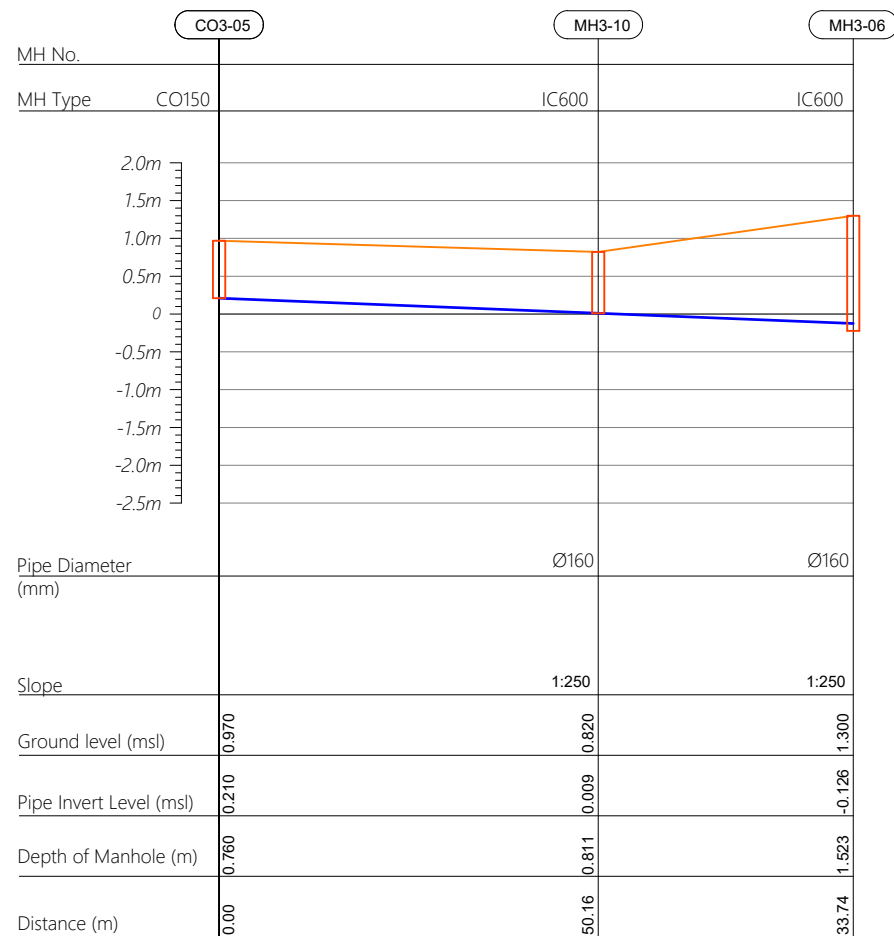
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Project No: 01010101

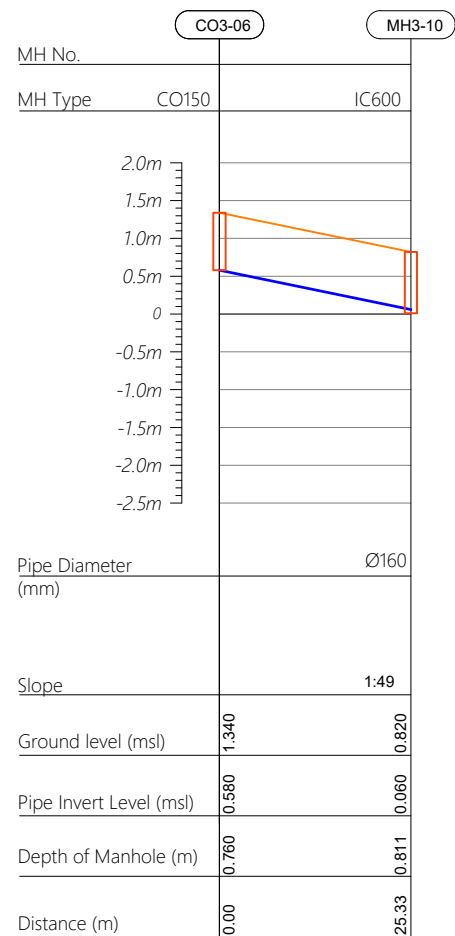
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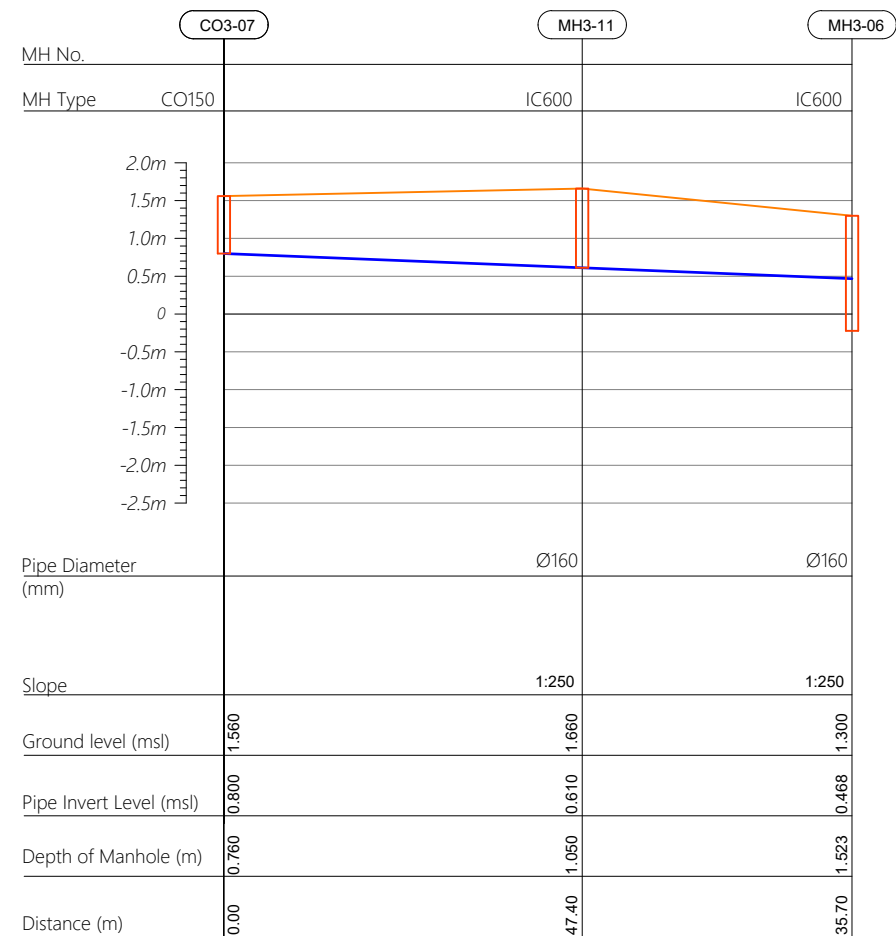
Profile 05



Profile 06



Profile 07



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
Supply and Sewerage Facilities in
5 islands, Maldives - Package 6*

Sub Title:
Sewerage System in GA.Dhehvadhoo

Client:
*Ministry of National Planning, Housing and
Infrastructure, Republic of Maldives*



Drawn: A.R.W	Checked: M.S.S
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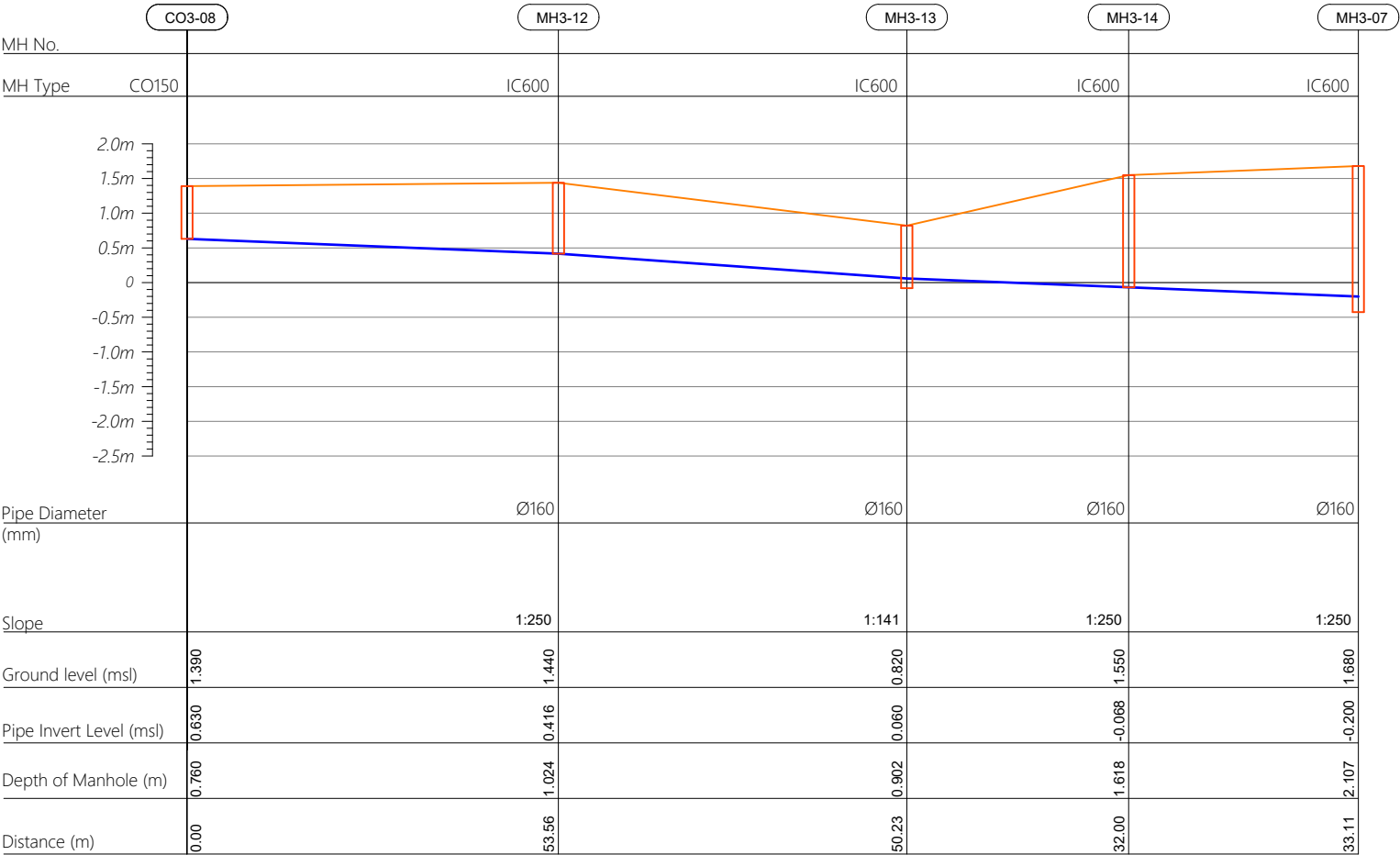
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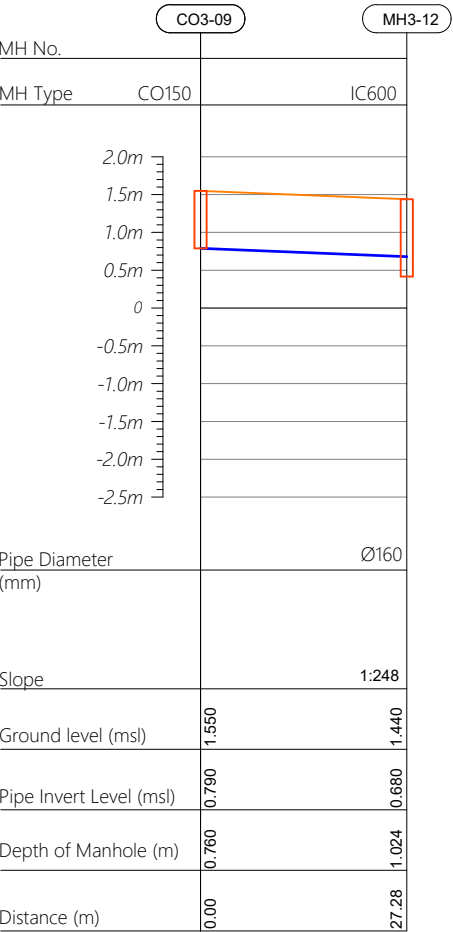
Project No: 01010101

Rev:	Page:
R-01	PS3-08

Profile 08



Profile 09



R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
Consultancy Services for Survey, Design and EIA works of Water Supply and Sewerage Facilities in 5 islands, Maldives - Package 6

Sub Title:
Sewerage System in GA.Dehvadhoo

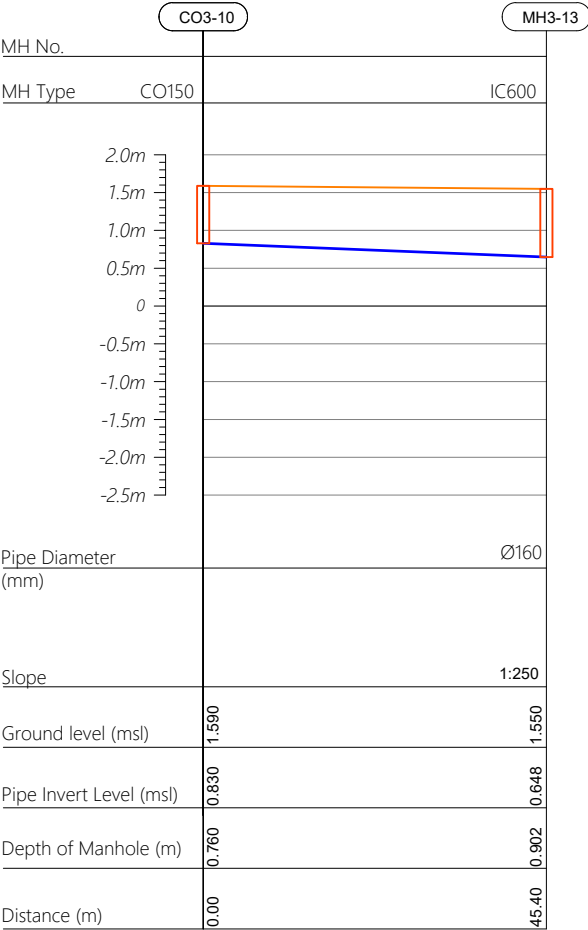
Client:
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A: G. Rosary West, Huseenuheemaa Magu, Male', Maldives

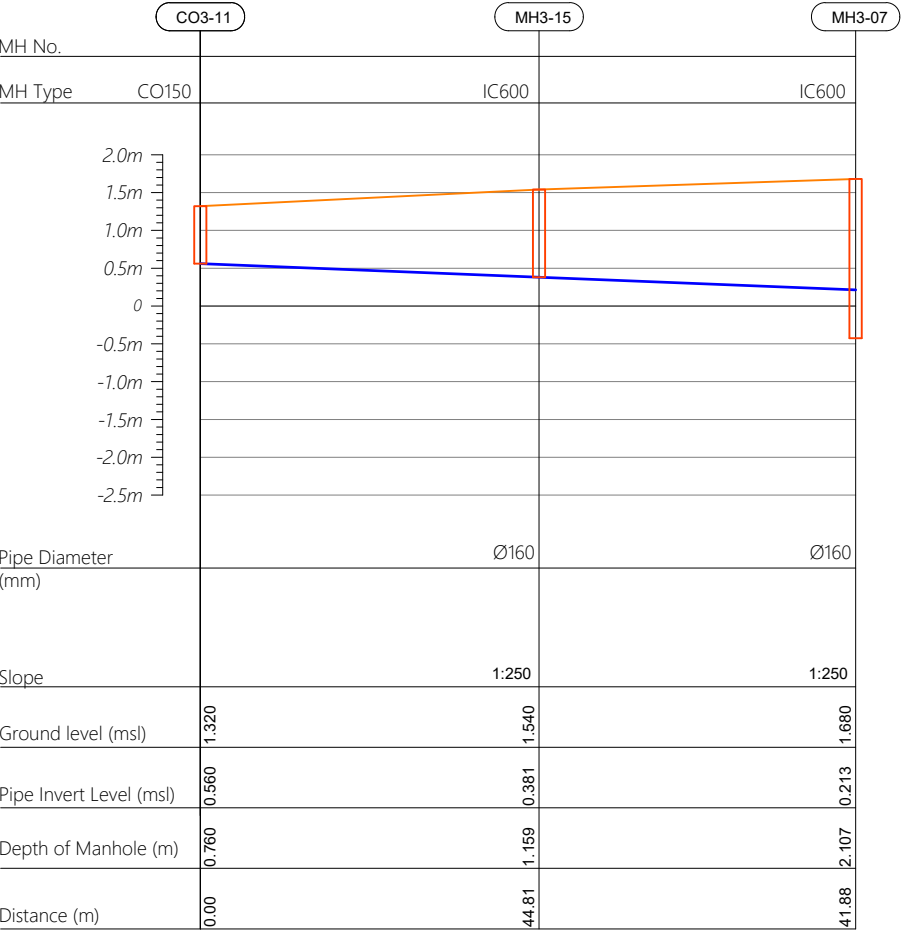
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Drawn: A.R.W	Checked: M.S.S
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Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS3-09

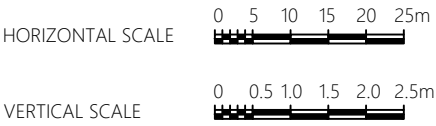
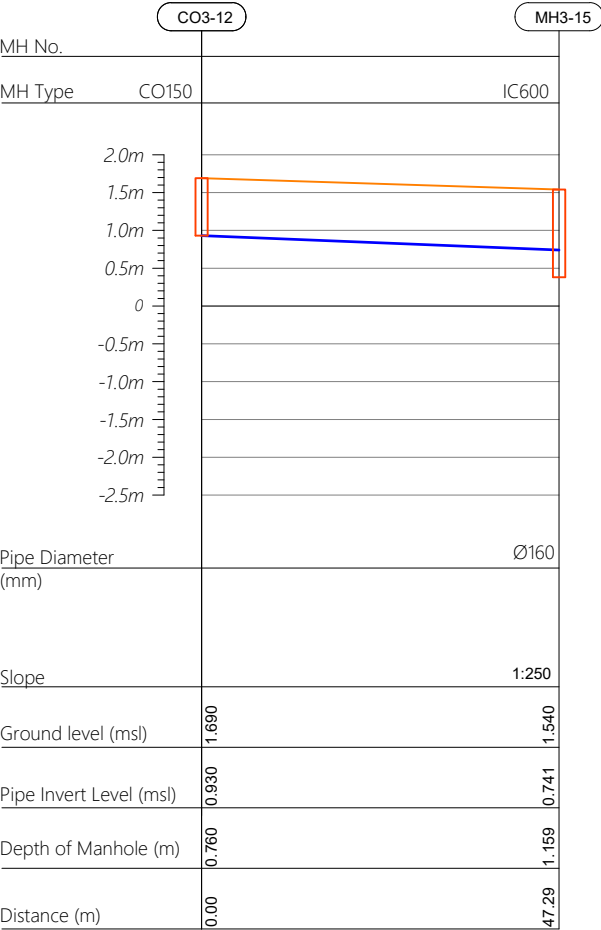
Profile 10



Profile 11



Profile 12



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
*Consultancy Services for Survey,
Design and EIA works of Water
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Sub Title:
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Client:
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Drawn: A.R.W

Checked: M.S.S

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Date: Aug 2020

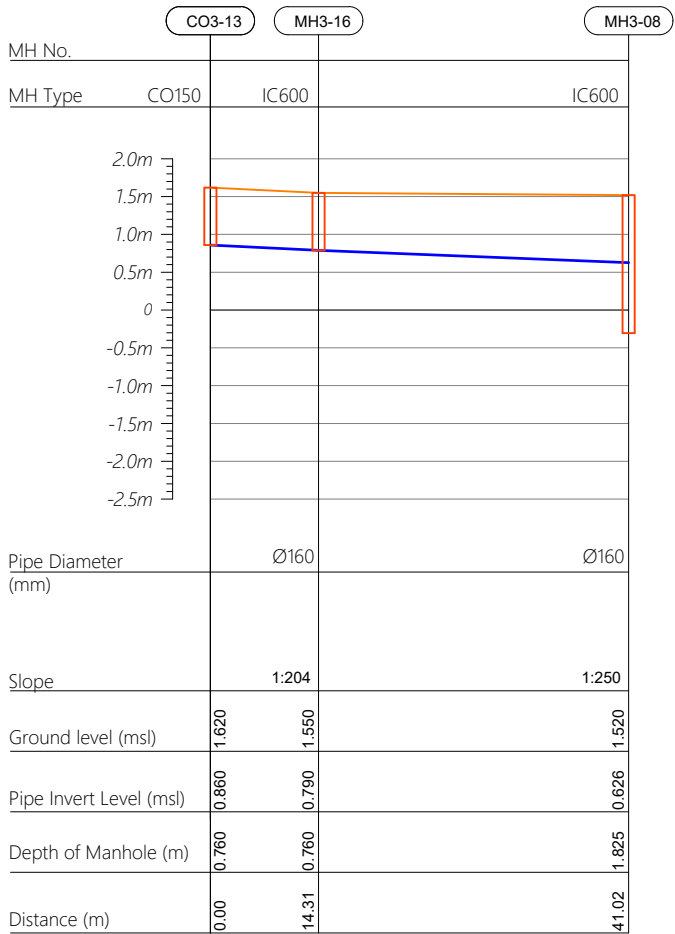
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Project No: 01010101

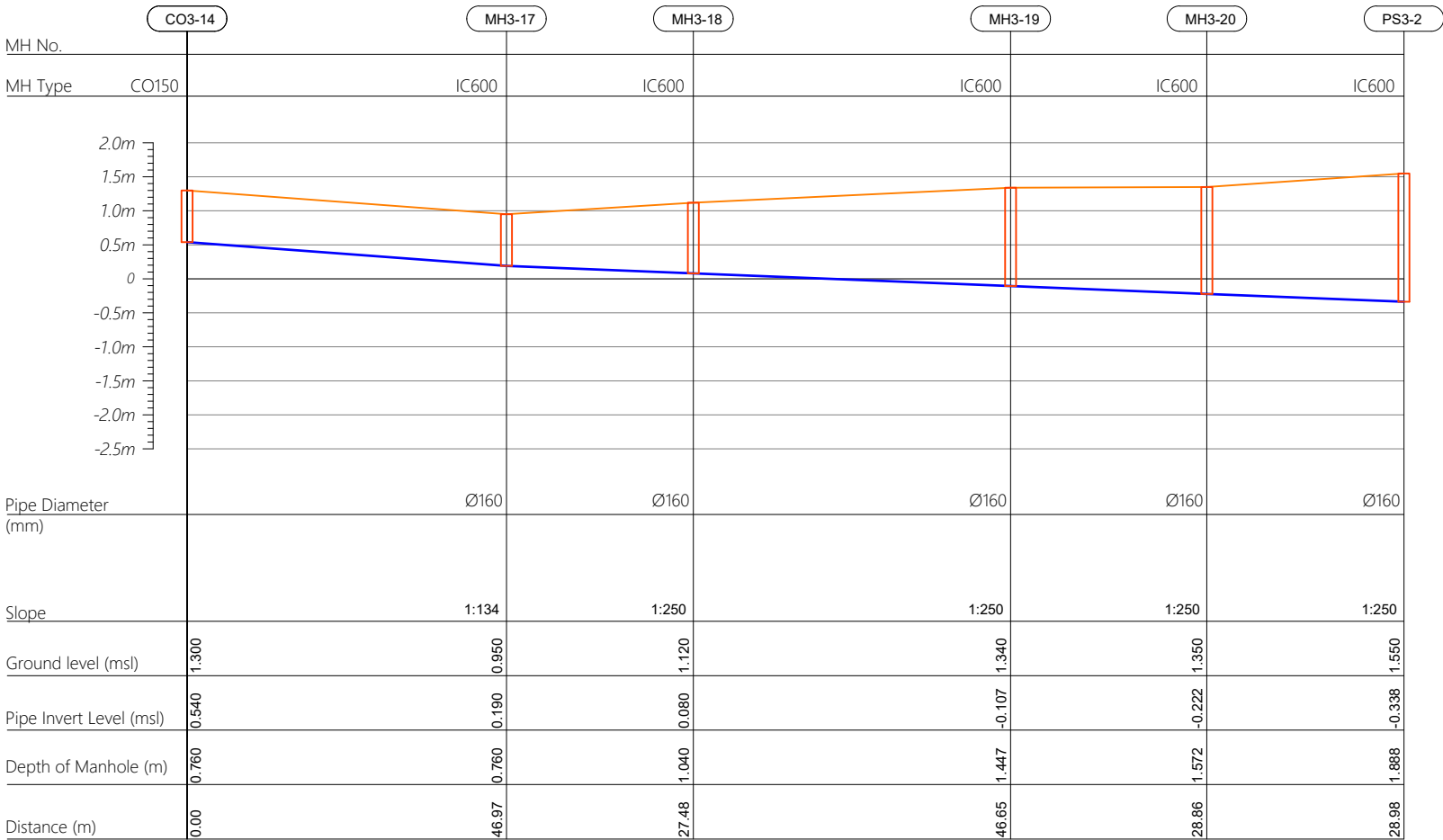
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Page: PS3-10

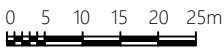
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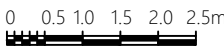
Profile 14



HORIZONTAL SCALE



VERTICAL SCALE



- CO160 — Cleanout Ø160
- IC600 — HDPE Manhole Ø600
- PS — Pump Station

R00	JUNE 2020	STAGE -1	PD	SBC	SD
REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:
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Designed: F.I.A Approved: I.W

Date: Aug 2020 SCALE (A3): 1:100

Project No: 01010101

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