

CONSULTANCY SERVICES FOR SURVEY, DESIGN AND EIA WORKS OF WATER SUPPLY AND  
SEWERAGE FACILITIES IN 6 ISLANDS, MALDIVES

PACKAGE 5

## **SEWERAGE SYSTEM OF V. KEYODHOO, MALDIVES**

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

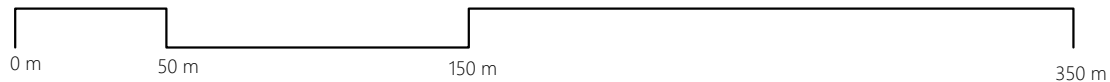


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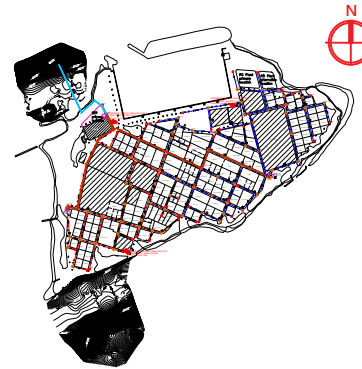


CONTENTS

OVERALL LAYOUT	
Sewerage Network Layout	A-(1)
Sewerage Network Catchment Areas	A-(2)
Sewerage Network Zone Layout	A-(3)
Sewerage Network Layout - Zone 01	04
Sewerage Network Layout - Zone 02	05
Sewerage Network Layout - Zone 03	06
DETAILED DRAWINGS FOR SPECIFIC COMPONENTS	
PUMP STATION 1 LAYOUT	W-(1)
PUMP STATION 2 LAYOUT	W-(2)
STP LAYOUT	W-(3)
PUMP STATION DETAILS	W-(4), W(5), W(6)
GATE DETAILS	W-(7)
PUMP STATION BOUNDARY WALL DETAILS	W-(8)
VENT STACK DETAILS	W-(9)
VENT STACK AND AIR BLOWER DETAILS	W-(10)
CONTROL PANEL BOARD DETAILS	W-(11)
LIGHT POST DETAILS	W-(12)
TRENCH & BEDDING DETAILS	W-(13)
MAINTENANCE SHAFT (MH) DETAILS	W-(14)
TYPICAL MANHOLE BASE DETAILS	W-(15)
CLEANOUT DETAILS	W-(16)
TYPICAL HOUSE CONNECTION DETAILS	W-(17)
THRUST BLOCK DETAILS	W-(18)
BALLAST BLOCK DETAILS	W-(19)
T-HEAD DIFFUSER DETAILS	W-(20)
SEA OUTFALL DETAILS	W-(21)
PRESSURE NETWORK LAYOUT	W-(22)
PROFILE DIAGRAMS - PUMP STATION 01	PS1-01 - PS1-12
PROFILE DIAGRAMS - PUMP STATION 02	P2-02 - PS2-05



V. KEYODHOO SEWERAGE SYSTEM - DETAILED DESIGN OF SEWERAGE NETWORK LAYOUT  
1:2500



#### Legend

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, - 1497 m SDR41)
- 160mm Ø uPVC PS2 Gravity Sewer Main (SN4, - 2232 m SDR41)
- 160 mm Ø HDPE Pumping Main (PE100, PN16, SDR11) - 1050 m
- 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11) - 326 m on land, 131 m offshore, 457 m total
- 600mm Ø PE/PP Maintenance Shaft - 101 nos
- 160mmØ uPVC Clean Out - 64 nos
- PERMANENT SURVEY MARK PSM 0301 338835.373E, 382648.909N 0.757m From MSL
- PERMANENT SURVEY MARK PSM 0302 339023.490E, 382905.977N 0.658m From MSL
- PERMANENT SURVEY MARK PSM 0303 338812.937E, 382876.671N 0.723m 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:
  - CO2-01 and CO2-20
  - CO1-28 and CO2-10
  - CO1-02 and MH1-31

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

Title:

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

Sub Title:

**Sewerage System in V. Keyodhoo**

Client:

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



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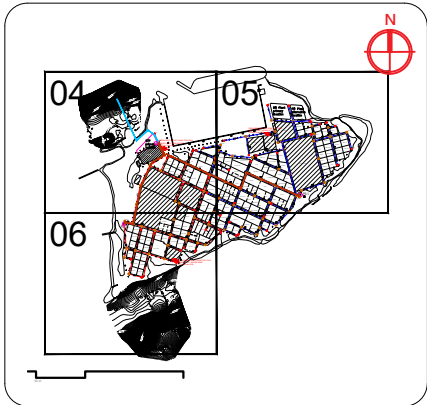
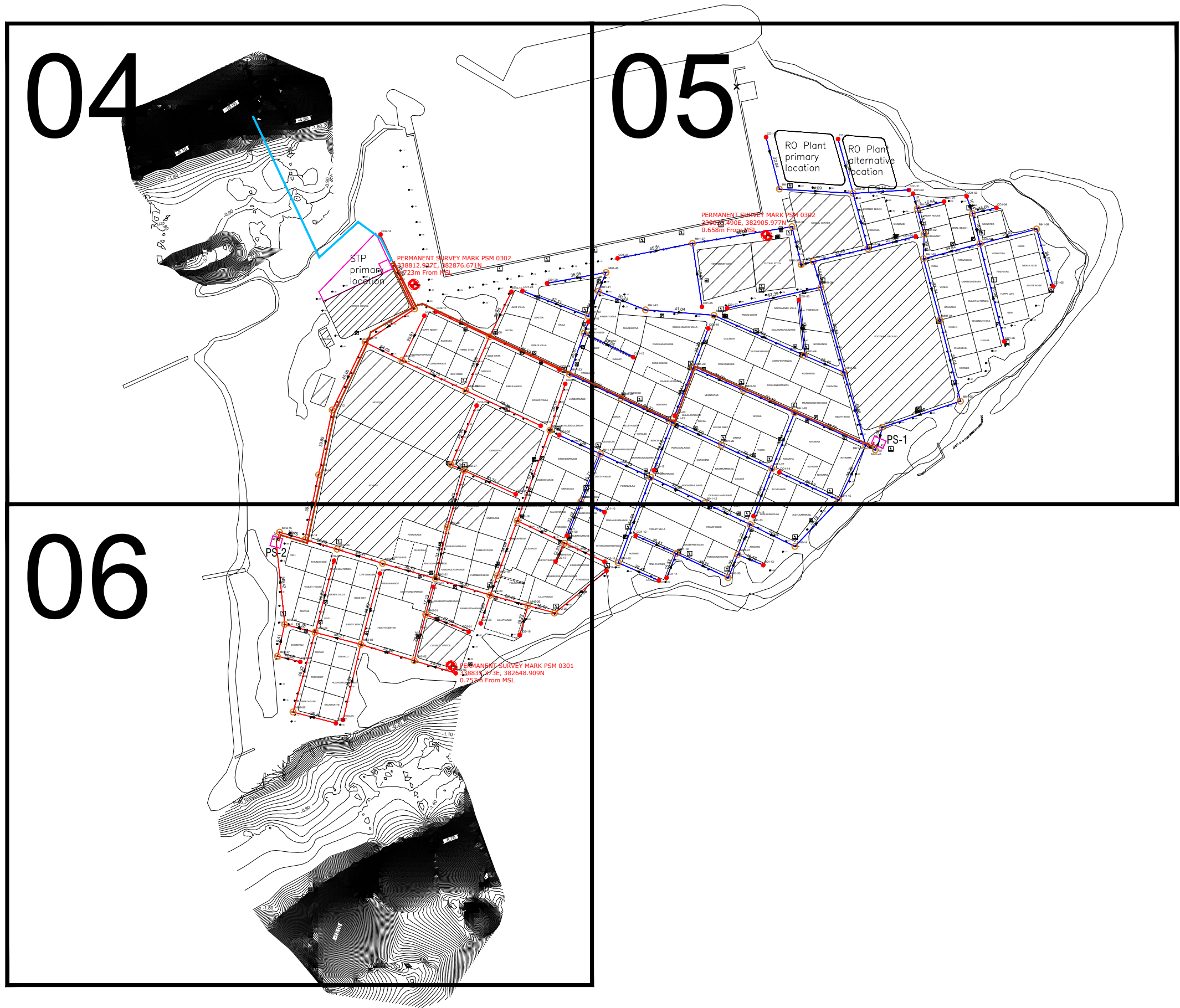
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**A-(1)**







Legend

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)
- 160mm Ø uPVC PS2 Gravity Sewer Main (SN4, SDR41)
- 600mm Ø PE/PP Maintenance Shaft
- 160mmØ 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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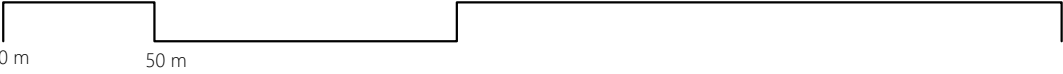
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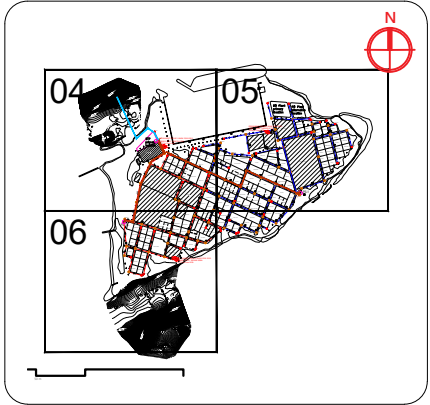
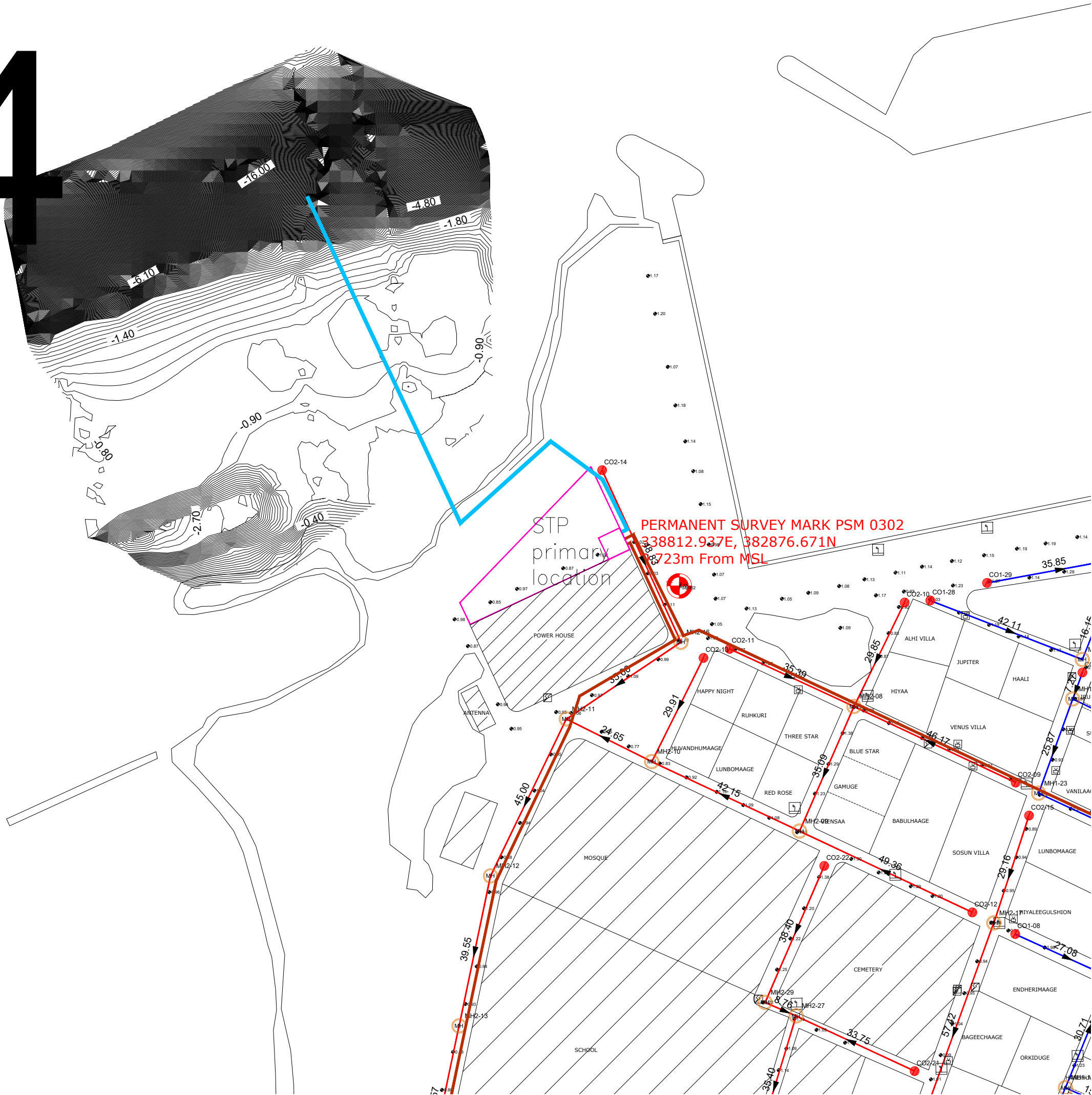
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V. KEYODHOO SEWERAGE SYSTEM - SEWERAGE NETWORK ZONE LAYOUT  
1:2500



**Legend**

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)
- 160mm Ø uPVC PS2 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)
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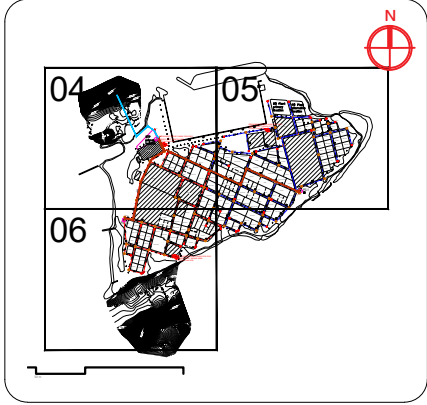
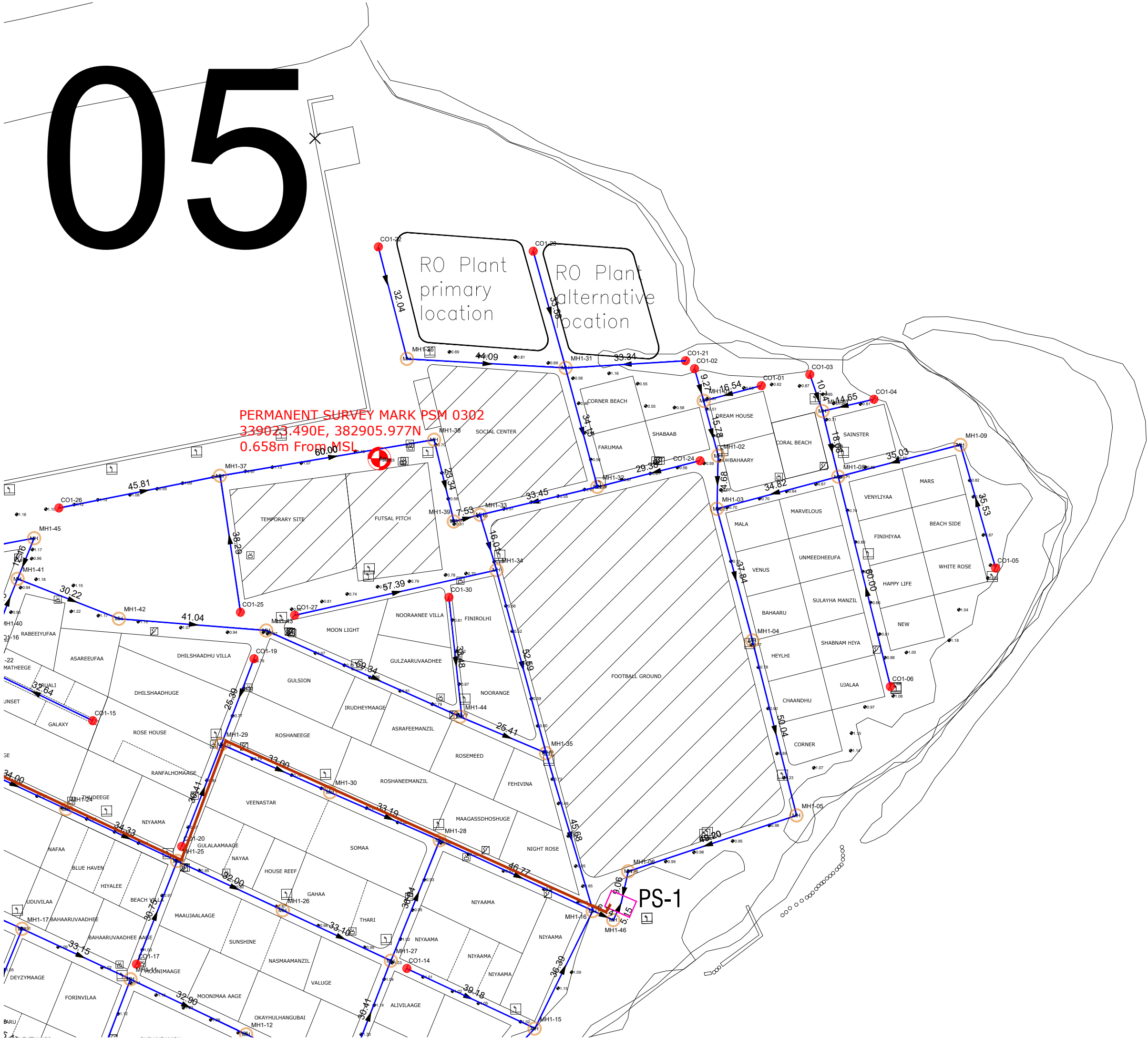
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05



**Legend**

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)
- 160mm Ø uPVC PS2 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)
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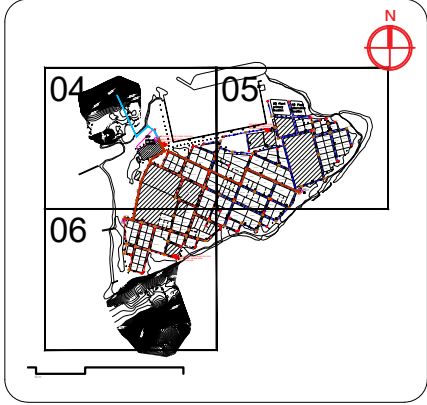
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06



**Legend**

- 160mm Ø uPVC PS1 Gravity Sewer Main (SN4, SDR41)
- 160mm Ø uPVC PS2 Gravity Sewer Main (SN4, SDR41)
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Sub Title:  
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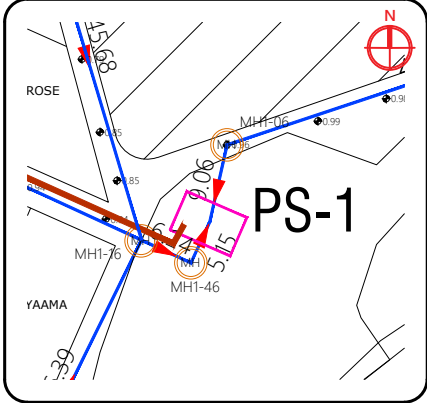
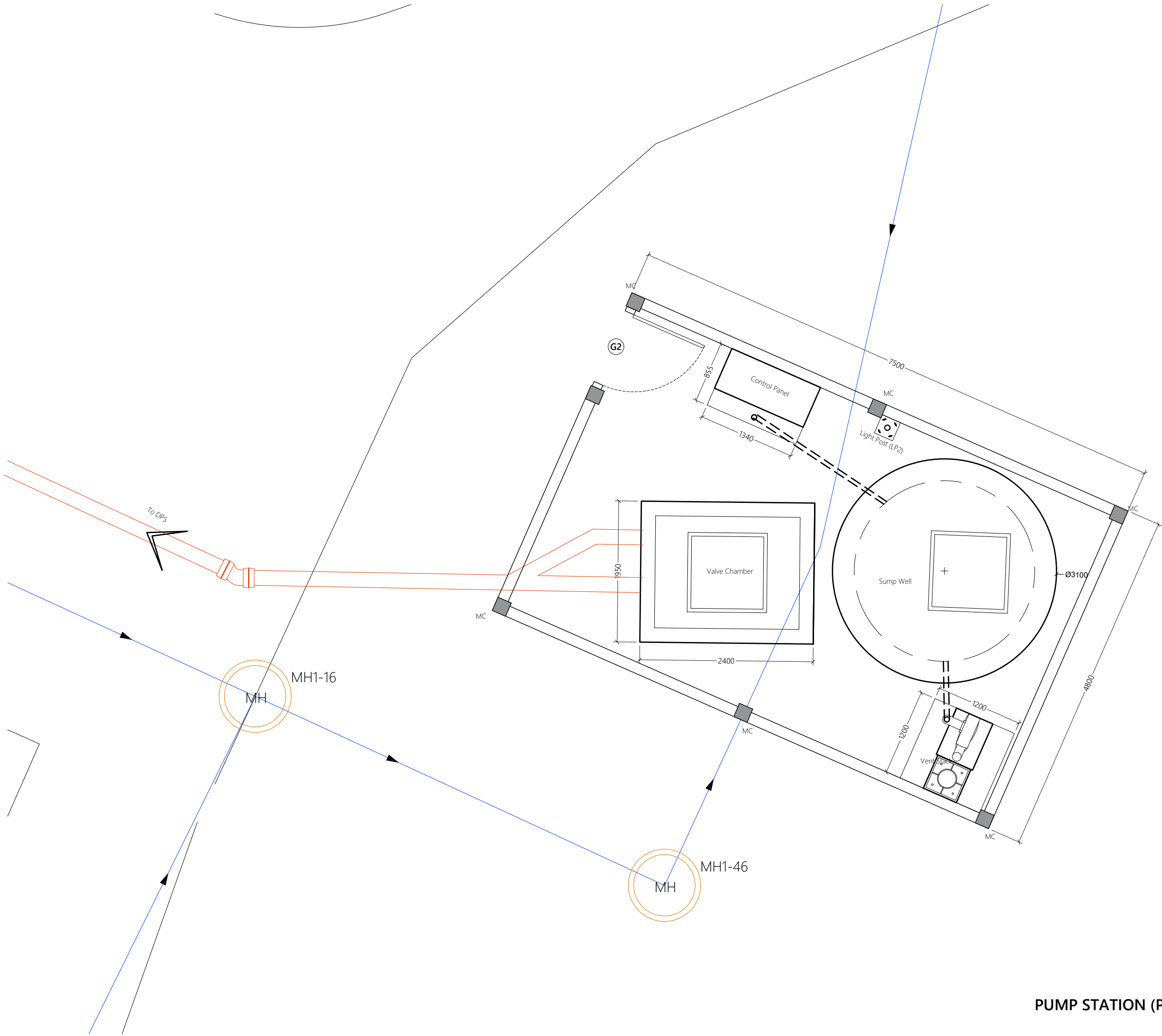
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Legend

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

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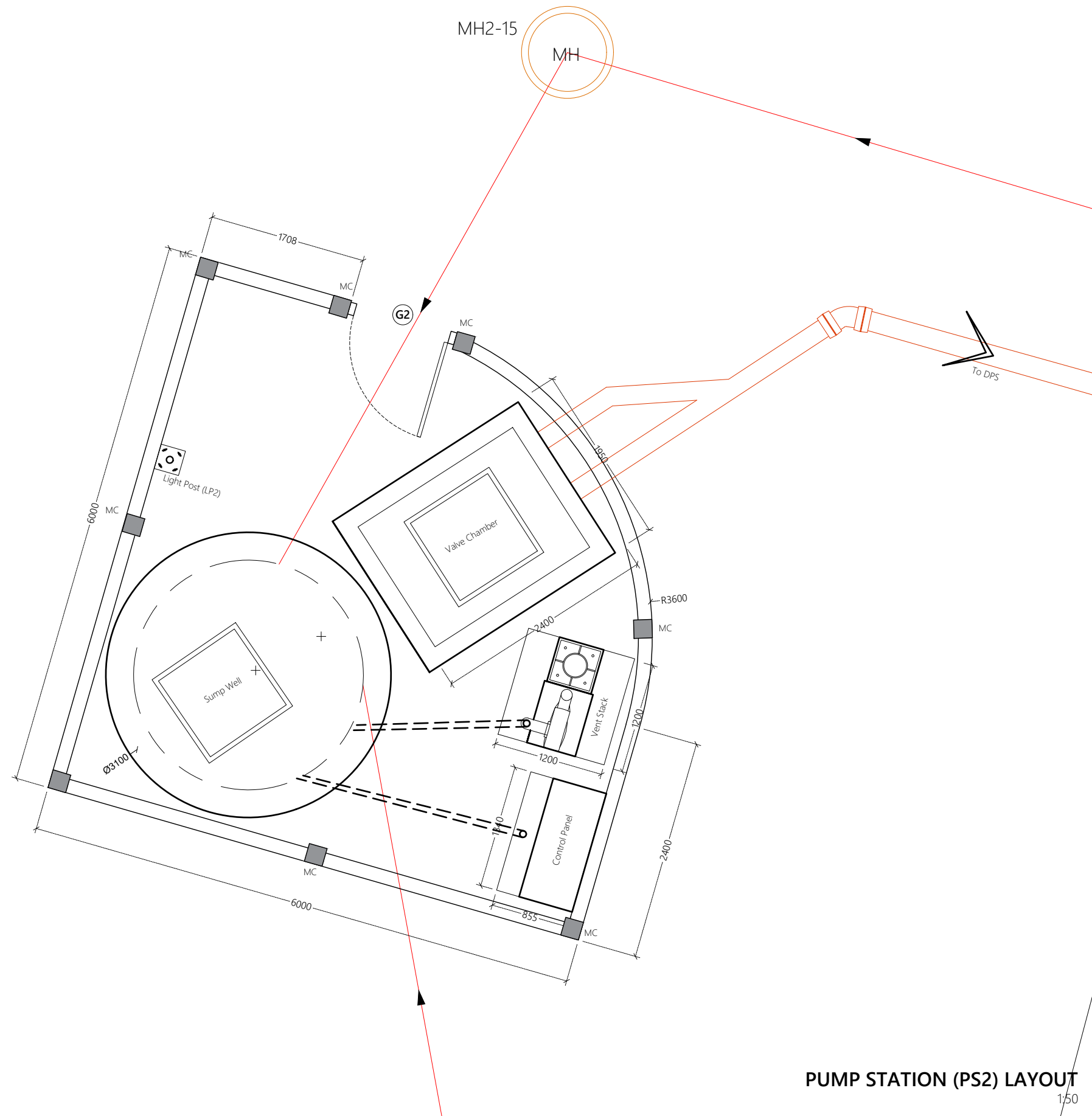
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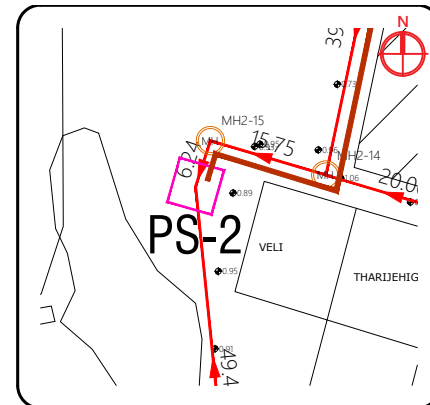
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PUMP STATION (PS1) LAYOUT  
1:50



PUMP STATION (PS2) LAYOUT  
1/50



**Legend**

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

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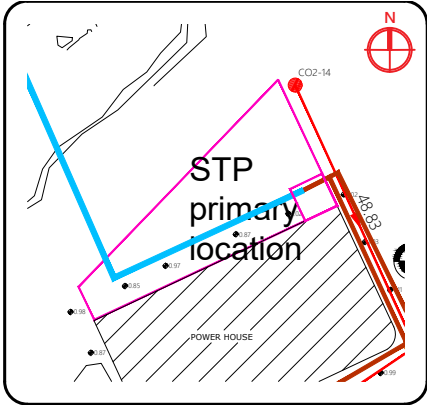
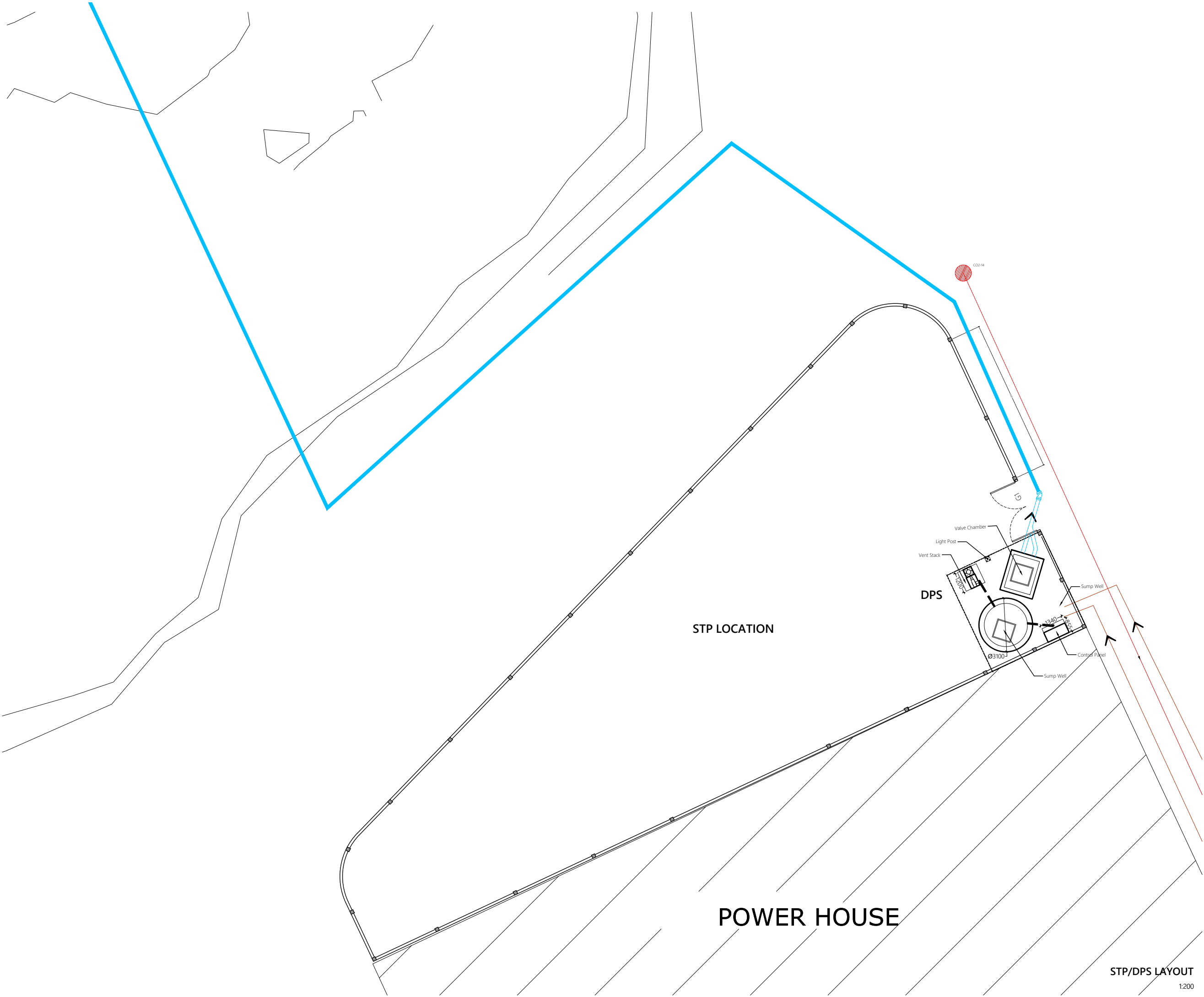
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Project No: EP-WS/2019/05	Page: W-(2)



Legend

- 160mm Ø uPVC PS2 Gravity Sewer Main (SN4, SDR41)
- 110 mm Ø HDPE Pumping Main (PE100, PN16, SDR11)
- 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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

Sub Title:  
**Sewerage System in V. Keyodhoo**

Client:  
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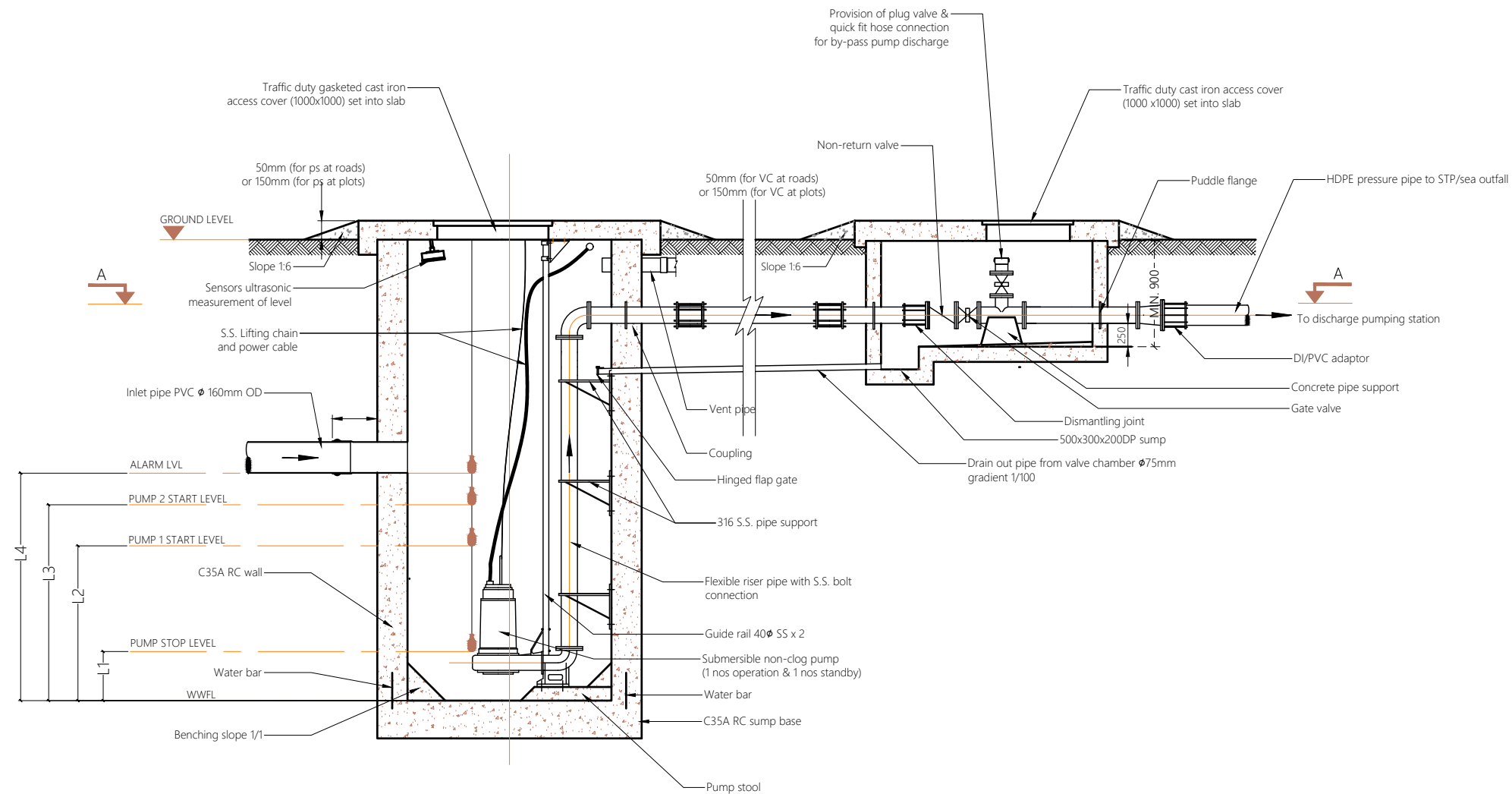
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**POWER HOUSE**

**STP/DPS LAYOUT**  
1:200



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	3.00m	1.963m, 2.049m	4.7 l/s	10.4 m	0.300m	0.444m	0.594m	0.744m
PS2	2.5m	2.70m	1.552m, 1.927m	3.2 l/s	8.1 m	0.300m	0.398m	0.548m	0.698m
DPS	2.5m	2.70m	0.8m	7.9 l/s	17.5 m	0.300m	0.542m	0.692m	0.842m

## PUMP STATION DETAILS - LONGITUDINAL SECTION

### 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 polythene.

- List of main instruments of pumping station:
- 1. Sewage pumps (1 duty & 1 standby)
- 2. Power cable
- 3. Auto-coupling with 400 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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**Consultancy Services for Survey,  
Design and EIA works of Water  
Supply and Sewerage Facilities in  
6 islands, Maldives - Package 5**

Sub Title:  
**Sewerage System in V. Keyodhoo**

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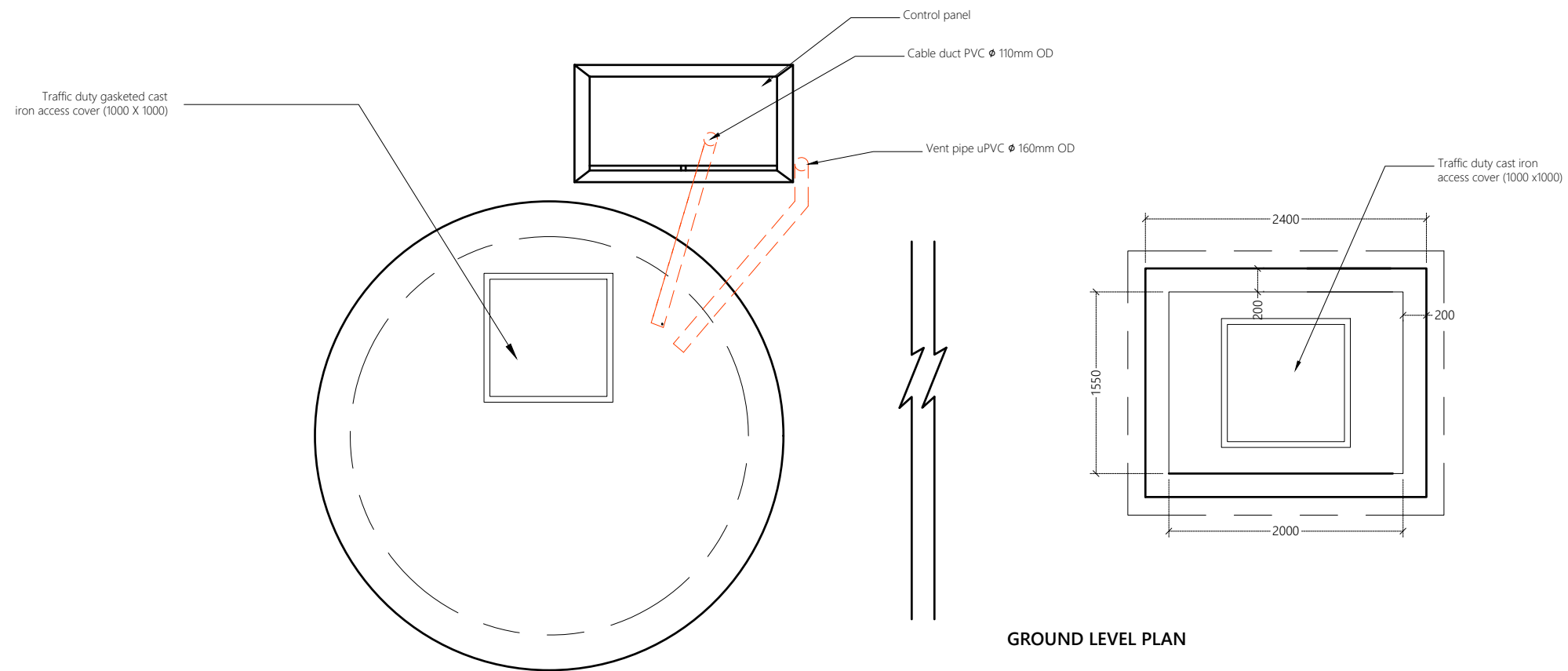
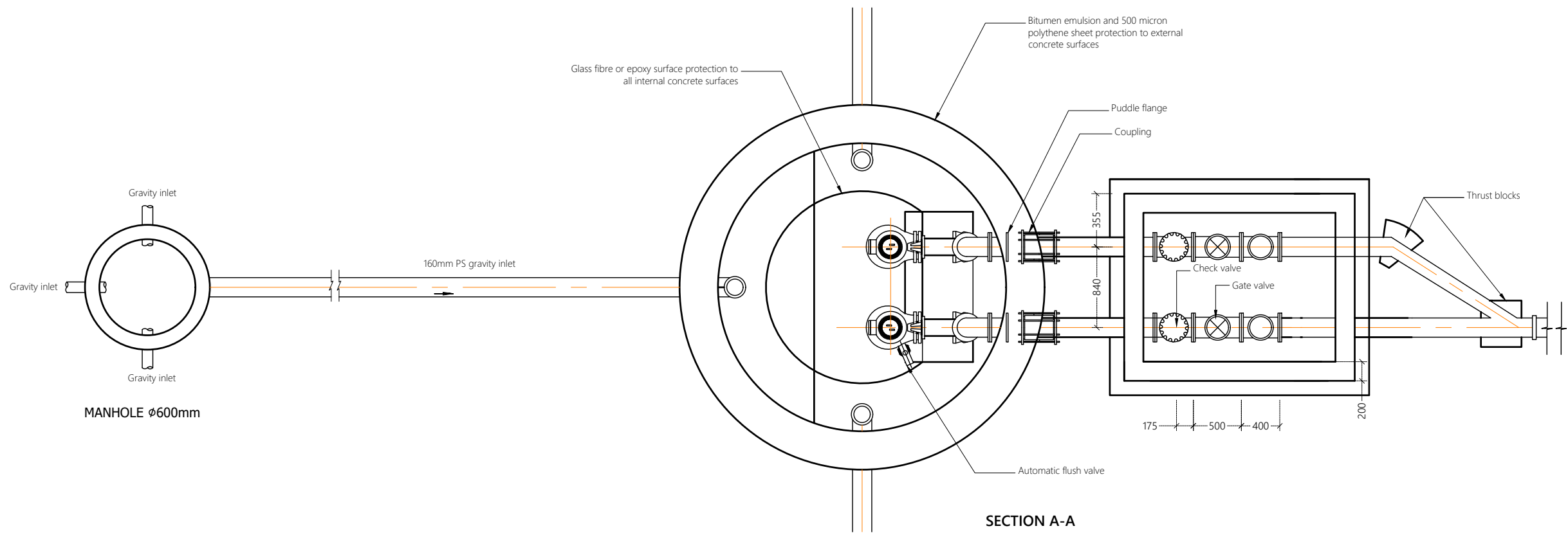
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**PUMP STATION DETAILS - PLAN VIEW**  
NTS



#### Legend

#### Notes:

- Pumps, pipe work, fittings and control panel shall be installed in accordance with manufacturers recommendations.
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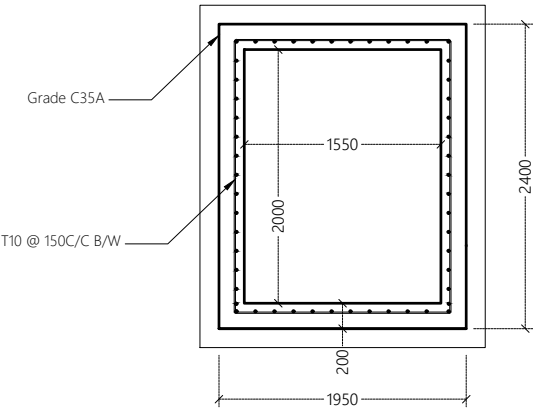
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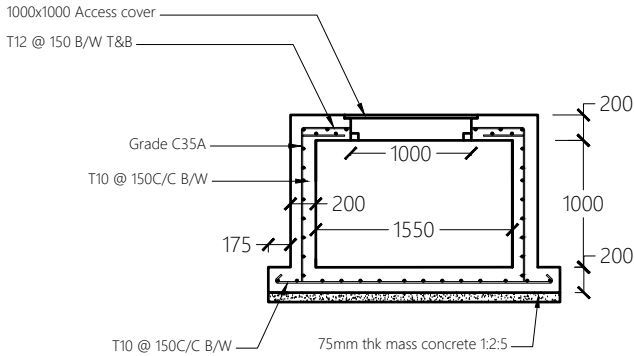
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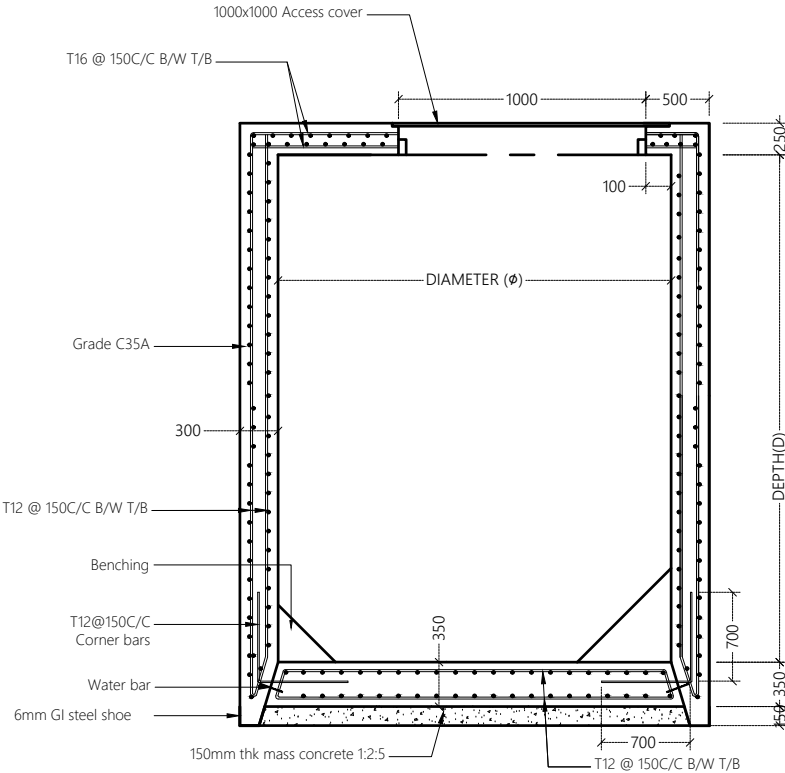
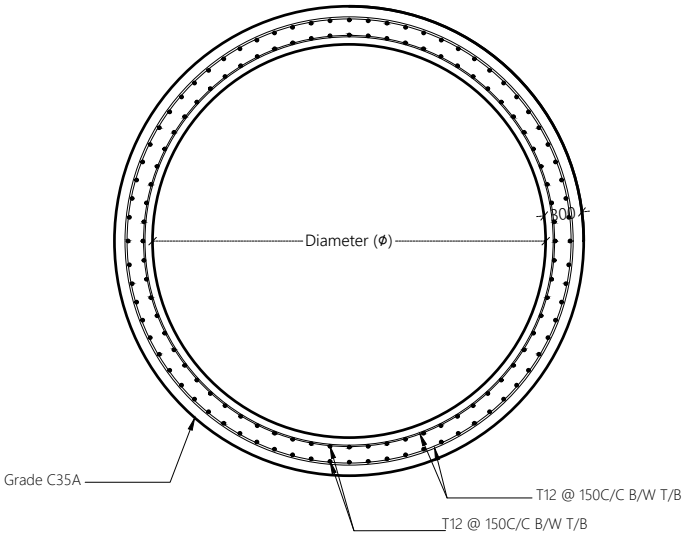
PLAN VIEW



SECTION



VALVE CHAMBER DETAIL



PUMP STATION DETAIL

Pump Station	Diameter ( $\phi$ )	Depth (D)	Inlet Depth
PS1	2.5m	3.00m	1.963m, 2.049m
PS2	2.5m	2.70m	1.552m, 1.927m
DPS	2.5m	2.70m	0.8m

PUMP STATION STRUCTURAL DETAILS

NTS



Legend

- Notes:**
- Pumps, pipe work, fittings and control panel shall be installed in accordance with manufacturers recommendations.
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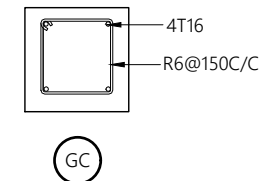
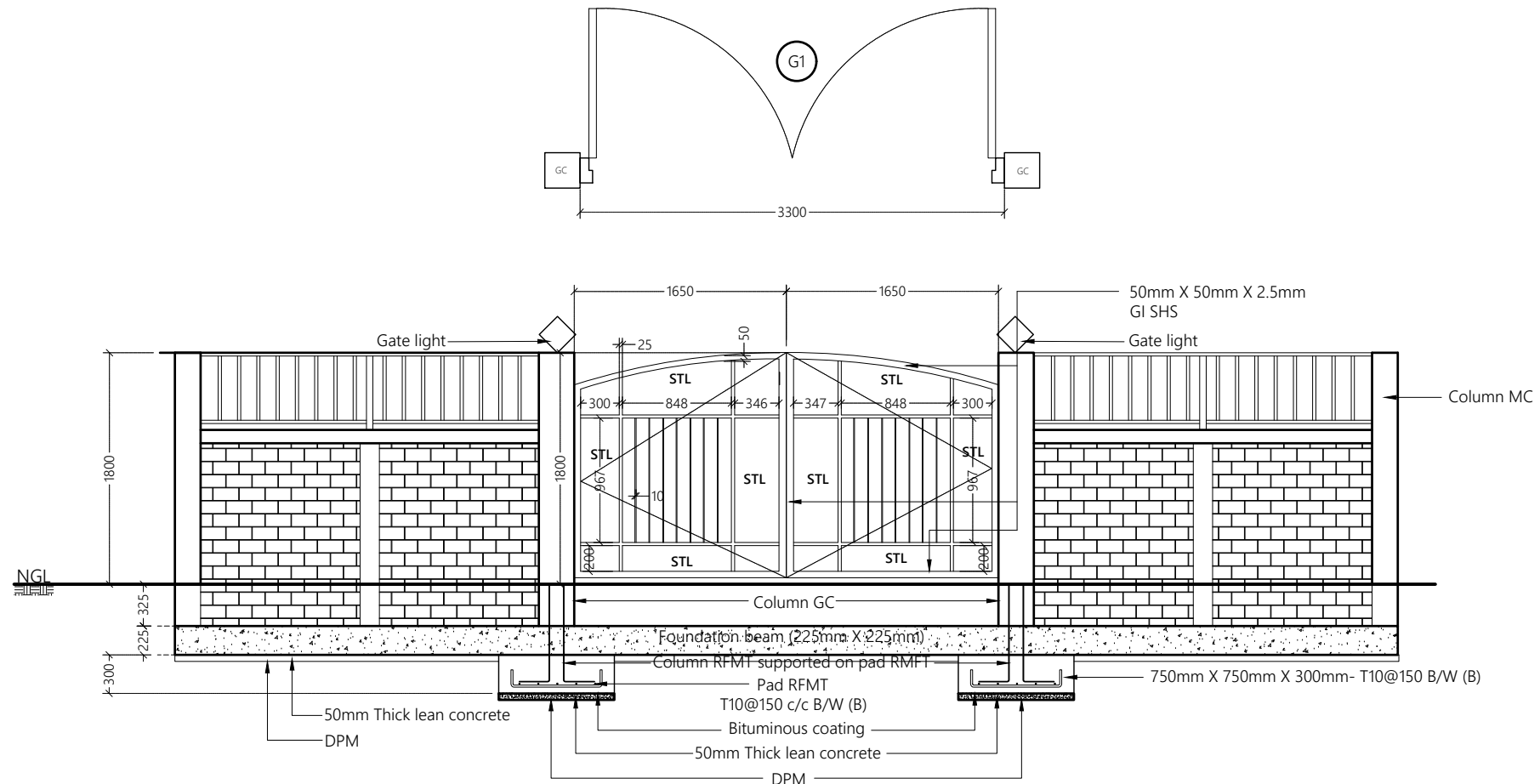


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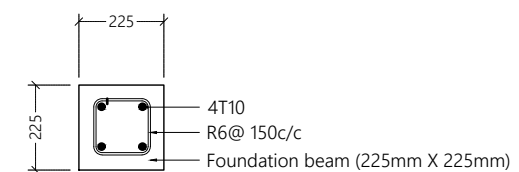
**INFRA**  
Maldives Infrastructure Development

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Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/05	Rev: W-(6)

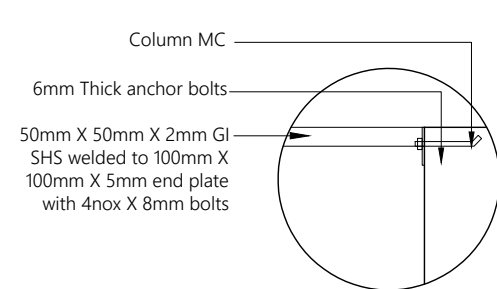
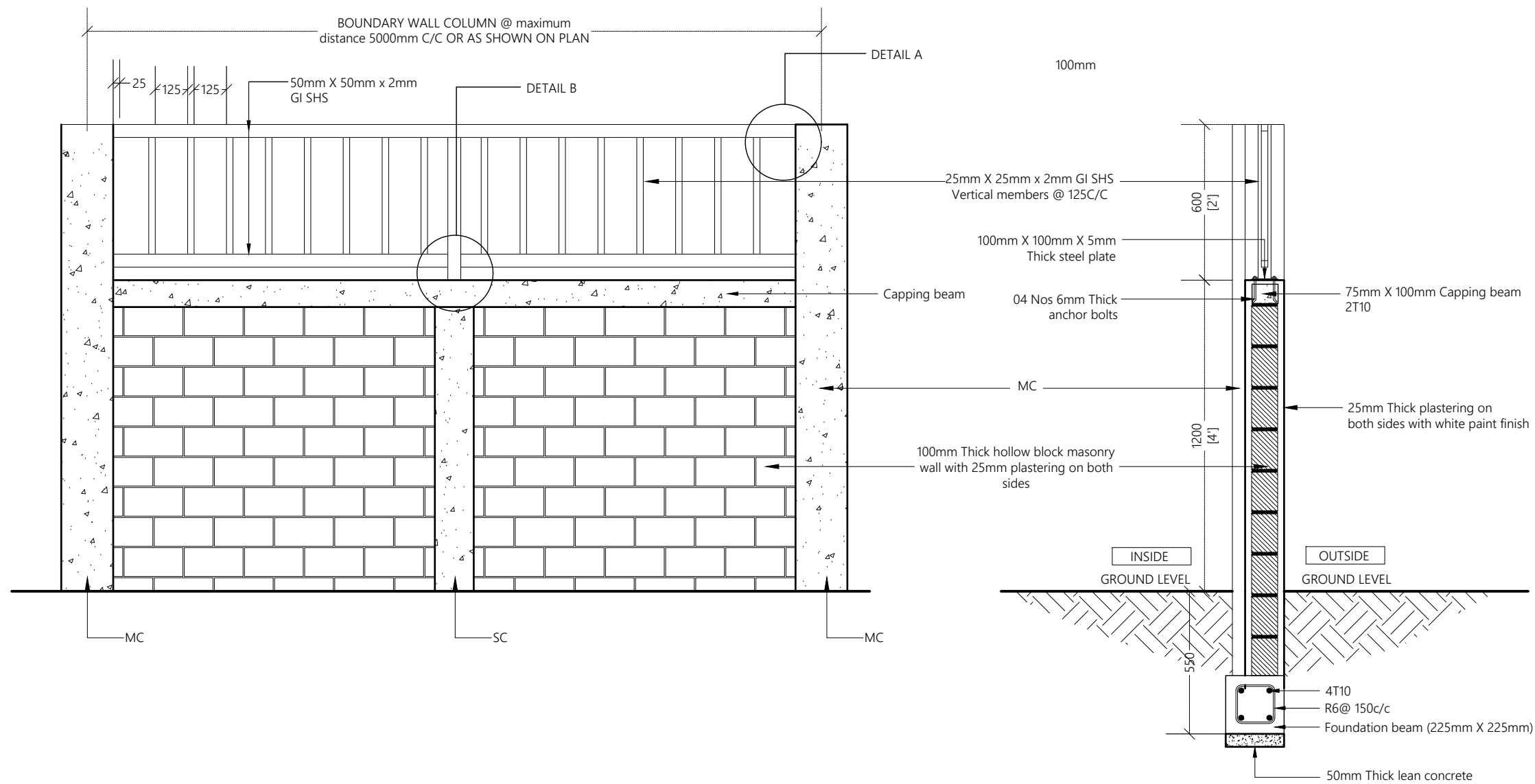


The diagram illustrates a cross-section of a gate structure. Key components and dimensions include:

- Dimensions:**
  - Overall height: 1800
  - Foundation beam depth: 225
  - Gate height: 1475
  - Gate width: 225
  - Gate thickness: 50
  - Gate light height: 150
  - Column height: 325
- Materials and Components:**
  - Foundation beam: 225mm X 225mm
  - 50mm Thick lean concrete
  - DPM (Dimpled Plastic Membrane)
  - Column MC (Main Column)
  - Gate light
  - 50mm X 50mm X 2.5mm GI SHS (Galvanized Iron Structural Hollow Section)
  - STL (Steel Plate)
  - MC (Main Column)
- Other Labels:**
  - NGL (Natural Ground Level)

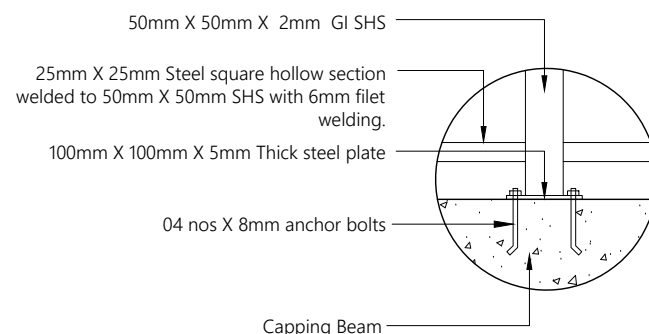


W-(7)



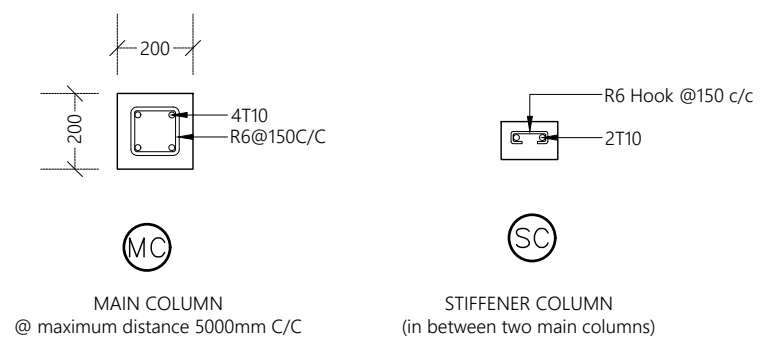
DETAIL A

1:10



DETAIL B

1:10



## BOUNDARY WALL AND FENCING DETAILS

1:20



### Legend

#### Notes:

- 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

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

Sub Title:  
**Sewerage System in V. Keyodhoo**

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

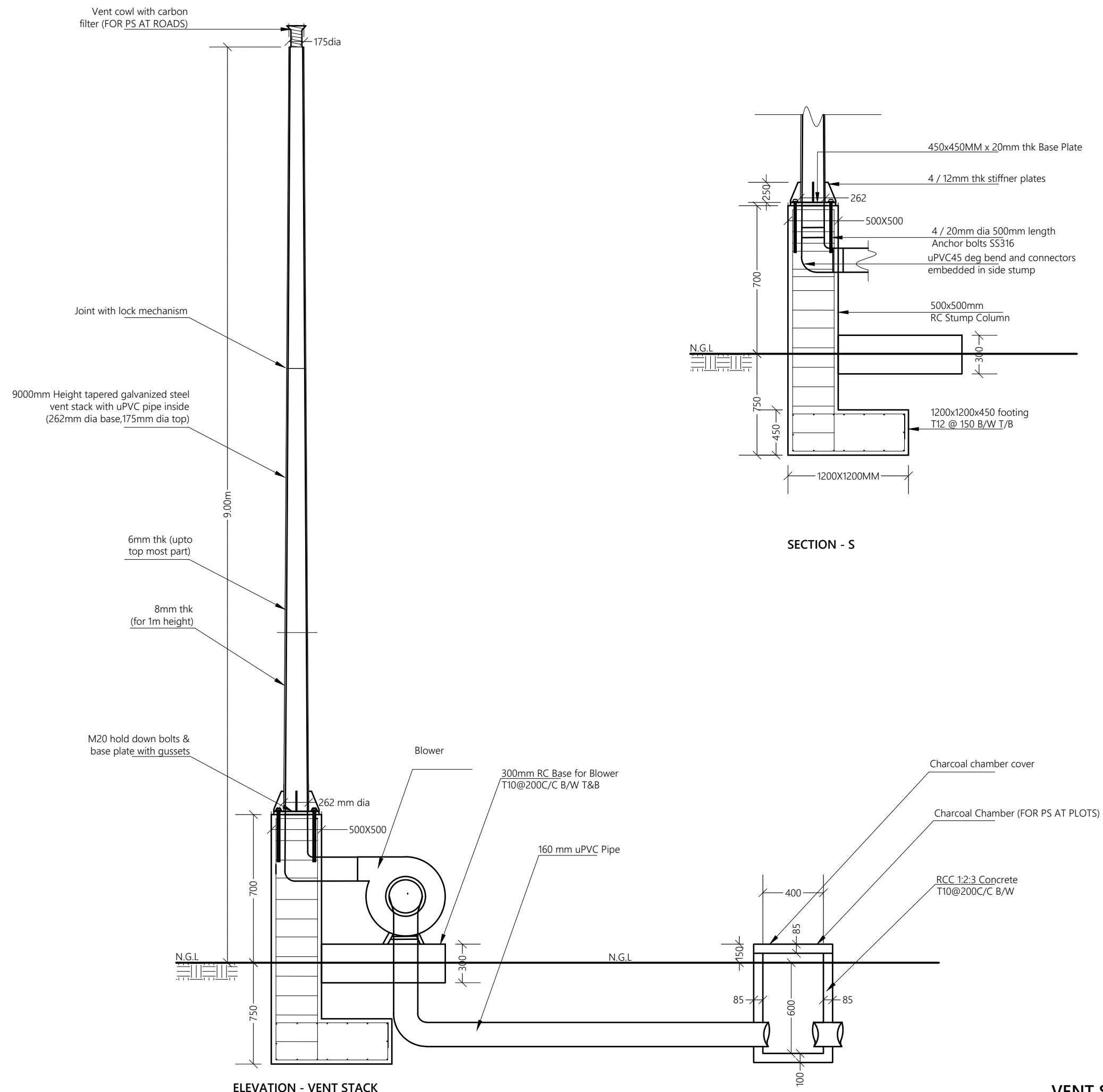


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Project No: EP-WS/2019/05	Page: W-(8)

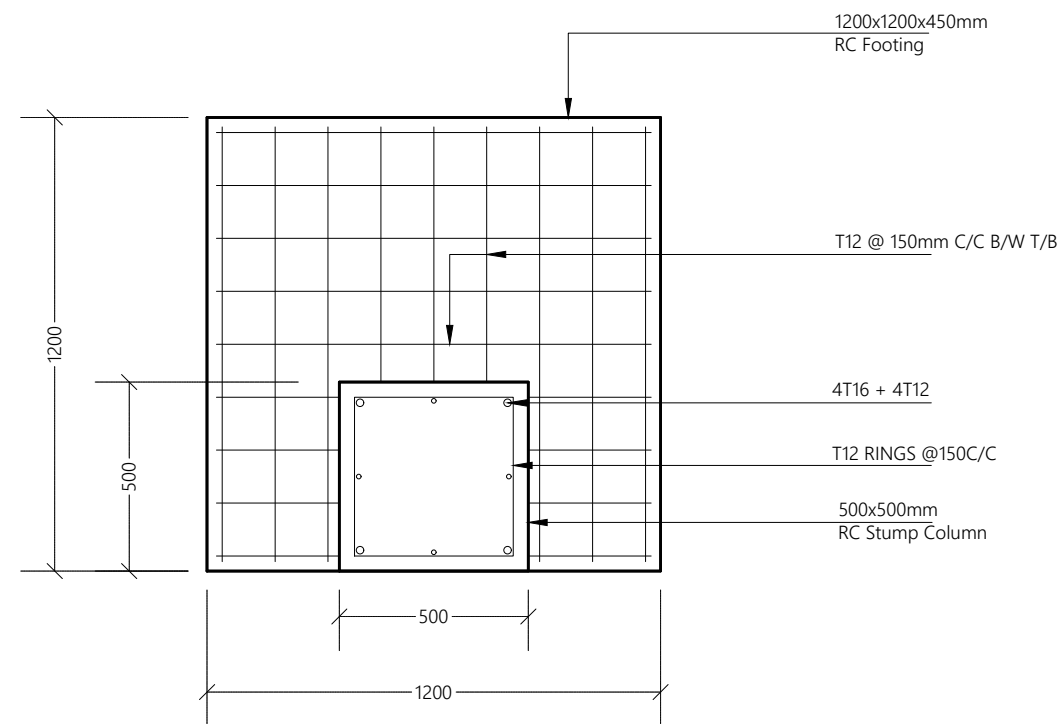




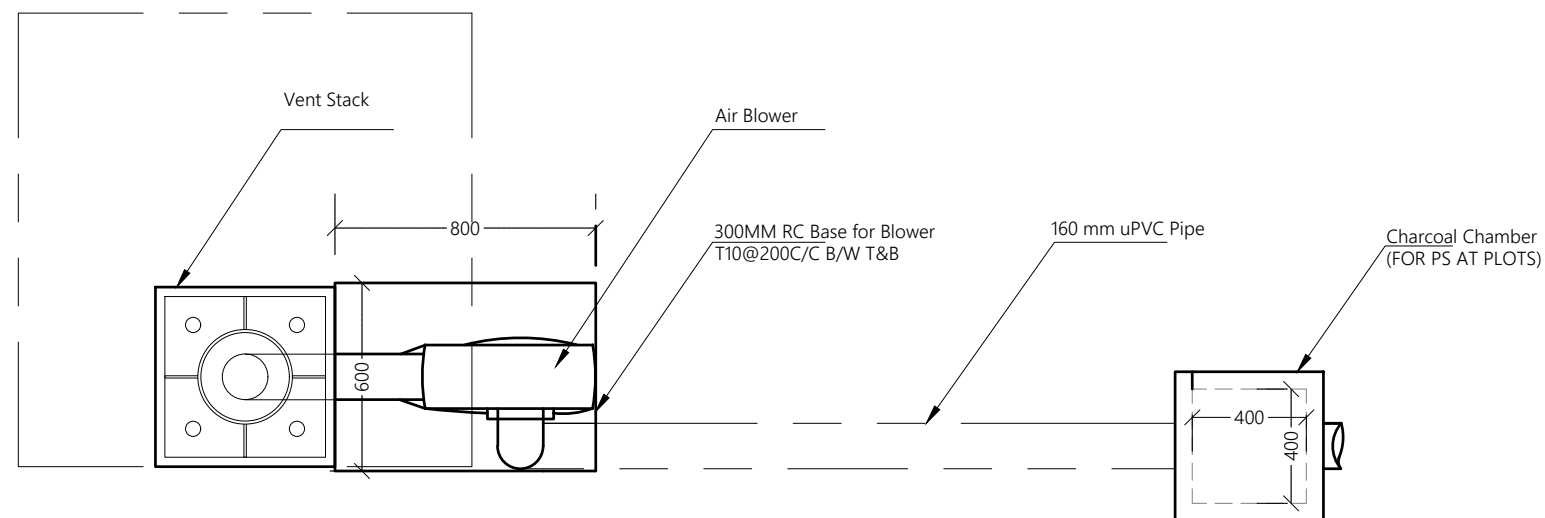
## NTS

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Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/05	
Rev:	Page: <b>W-(9)</b>



FOOTING & STUMP DETAILS OF VENT STACK



AIR BLOWER DETAILS (Plan View)

## VENT STACK AND AIR BLOWER DETAILS

NTS



### Legend

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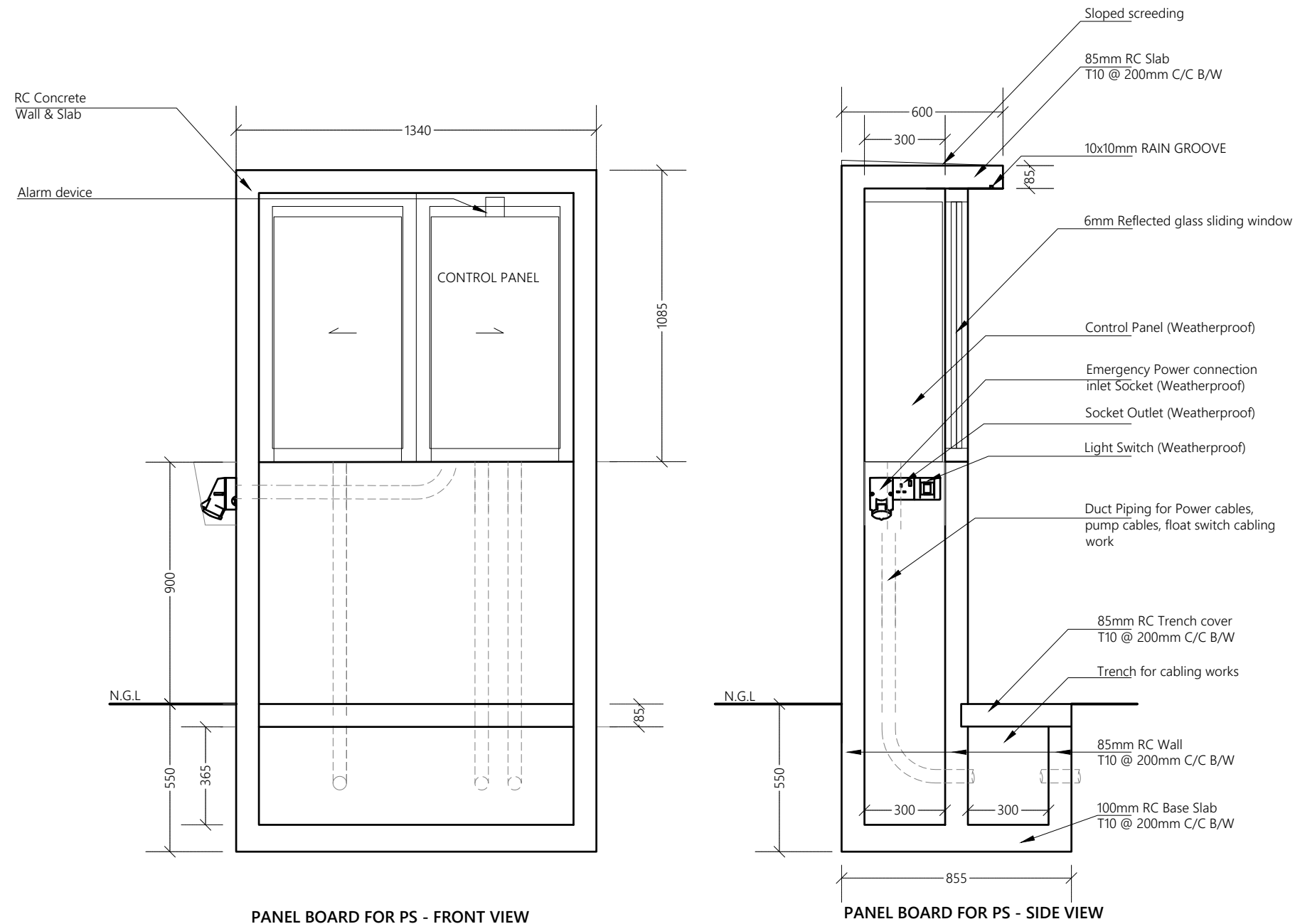
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W-(10)



## CONTROL PANEL BOARD DETAILS

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### Legend

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Sub Title:  
**Sewerage System in V. Keyodhoo**

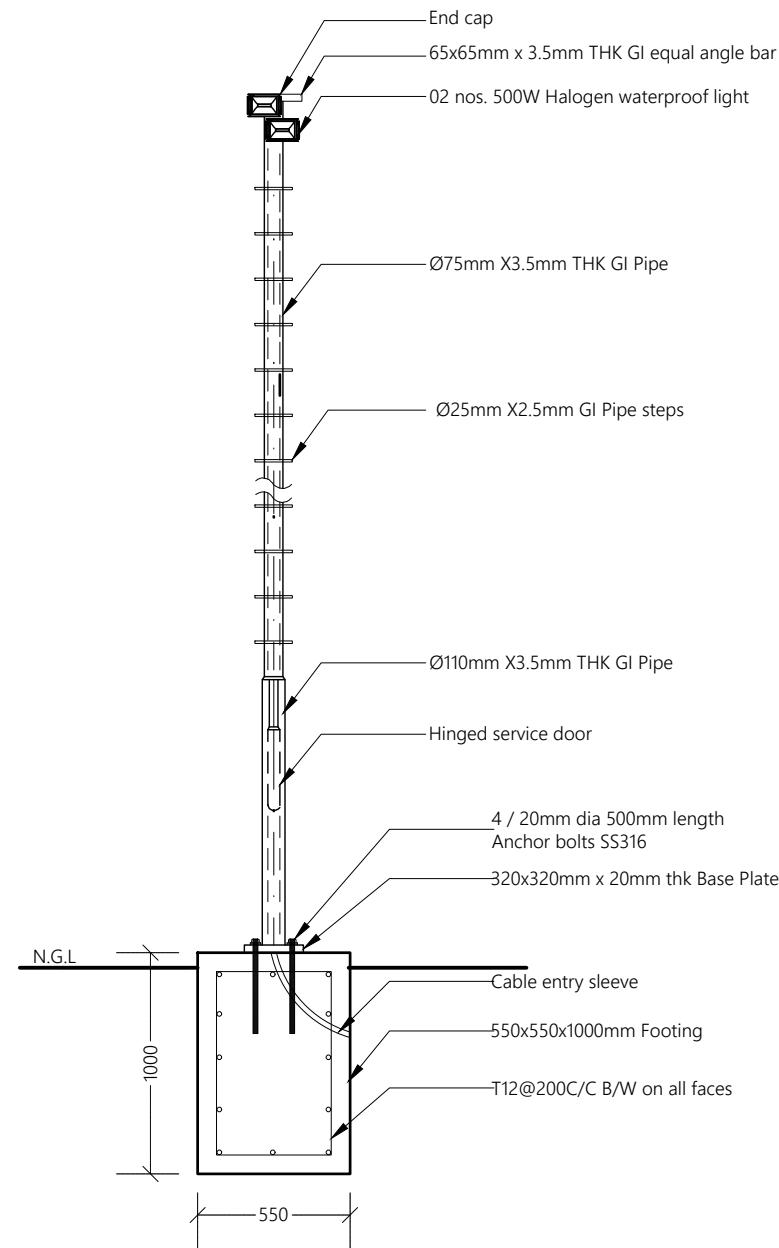
Client:  
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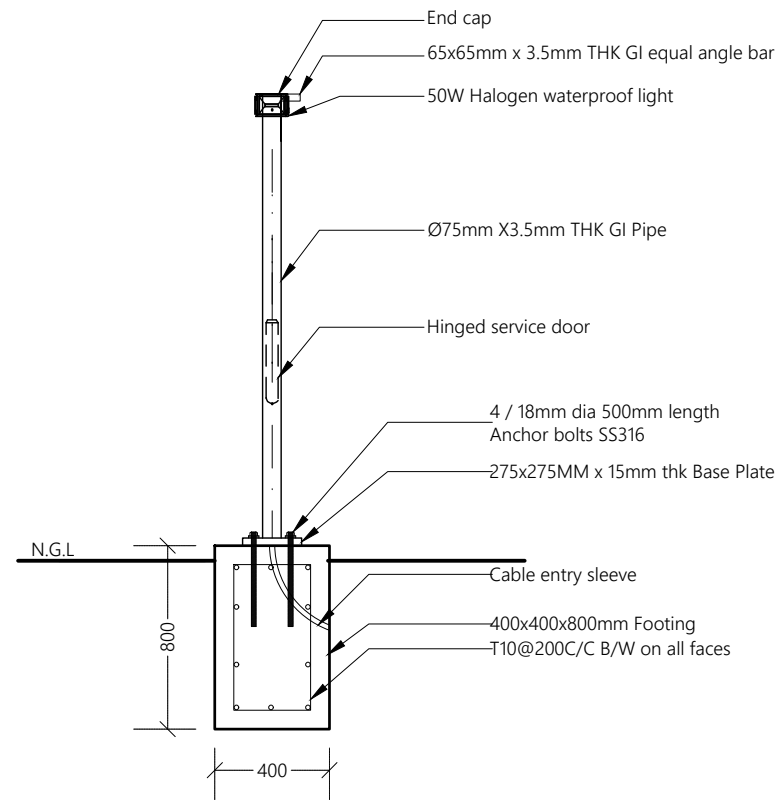
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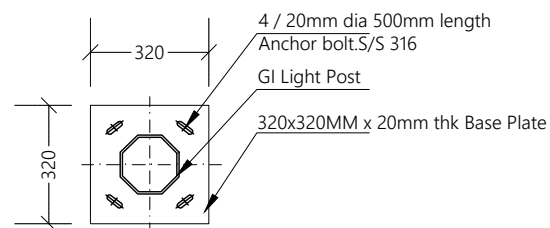
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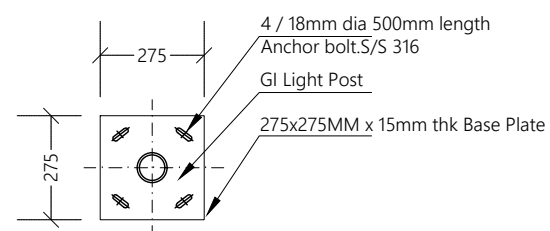
LIGHT POST DETAILS FOR STP COMPOUND (LP1)



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

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W-(12)



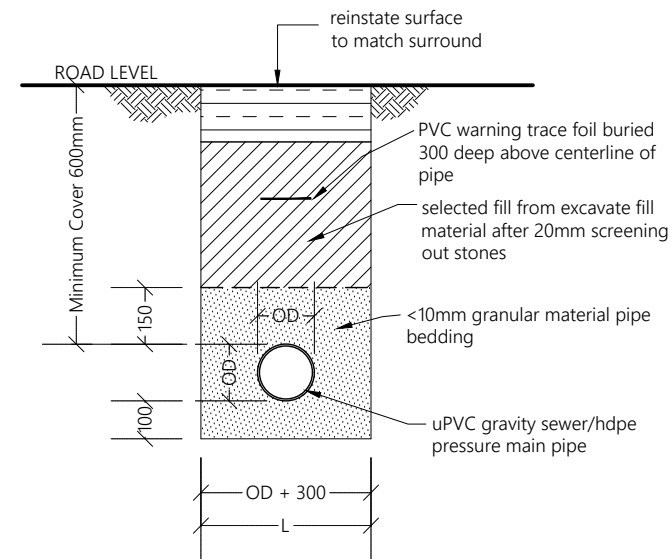
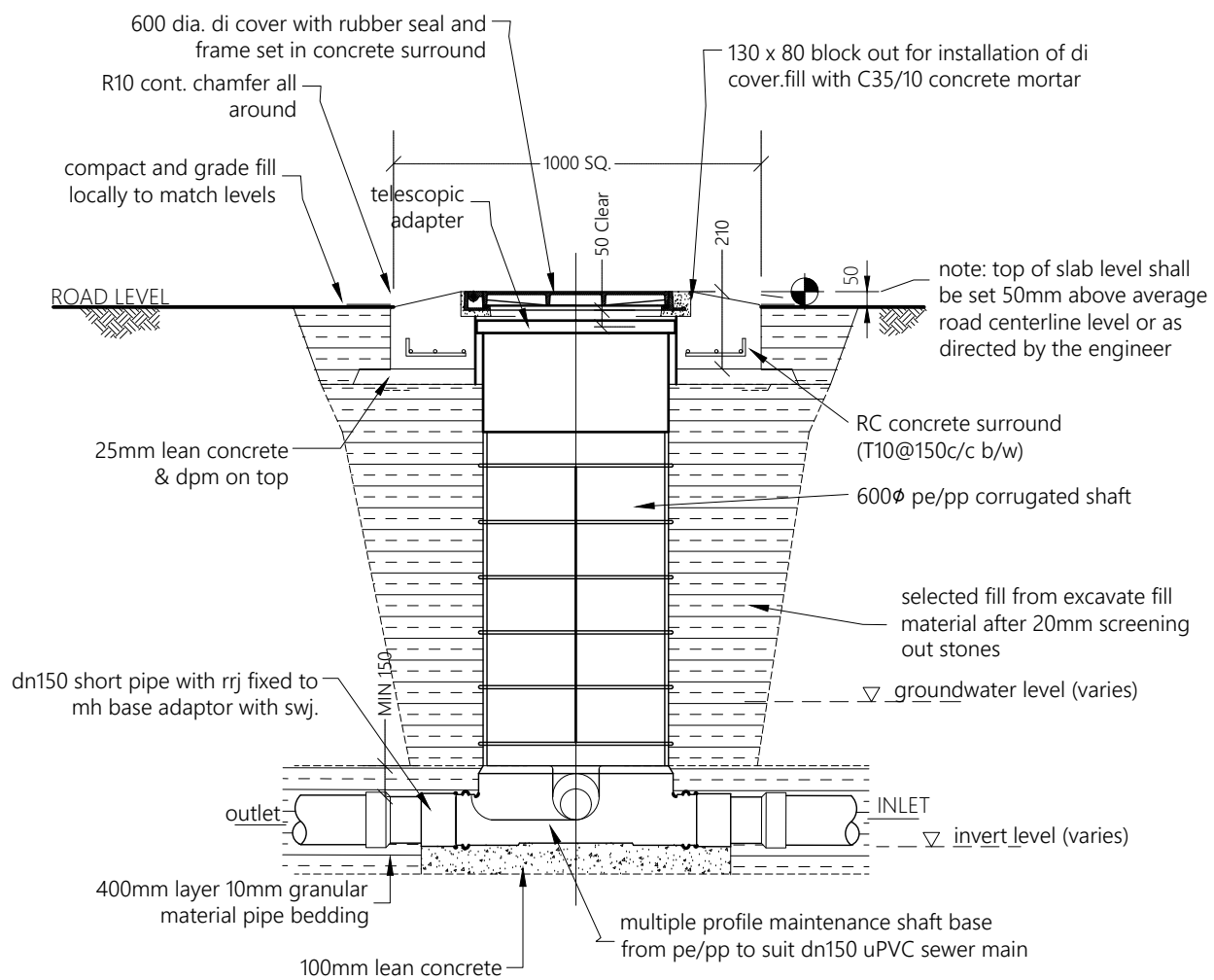
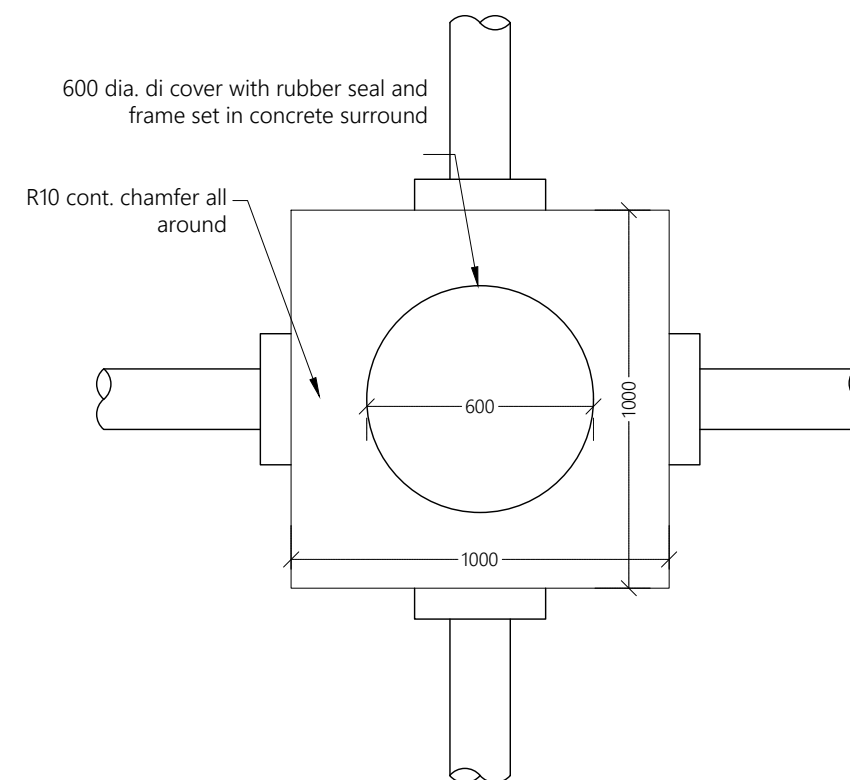


Diagram illustrating the cross-section of a road trench showing the layout of various underground utilities. The diagram includes labels for cable TV/telecom, Power cable, hdpe pipe for sewer pressure main, uPVC pipe for sewer main, HDPE pipe for water supply main, and HDPE/uPVC pipe for rain water collection. It also shows the ROAD LEVEL, buried line of pipe, and various dimensions including 300, 450-600, 1/3 X RL, 1/2 X RL, MIN.600, and 400. The diagram illustrates the vertical and horizontal spacing of these utilities within the trench.

## TRENCH AND BEDDING DETAILS



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:  
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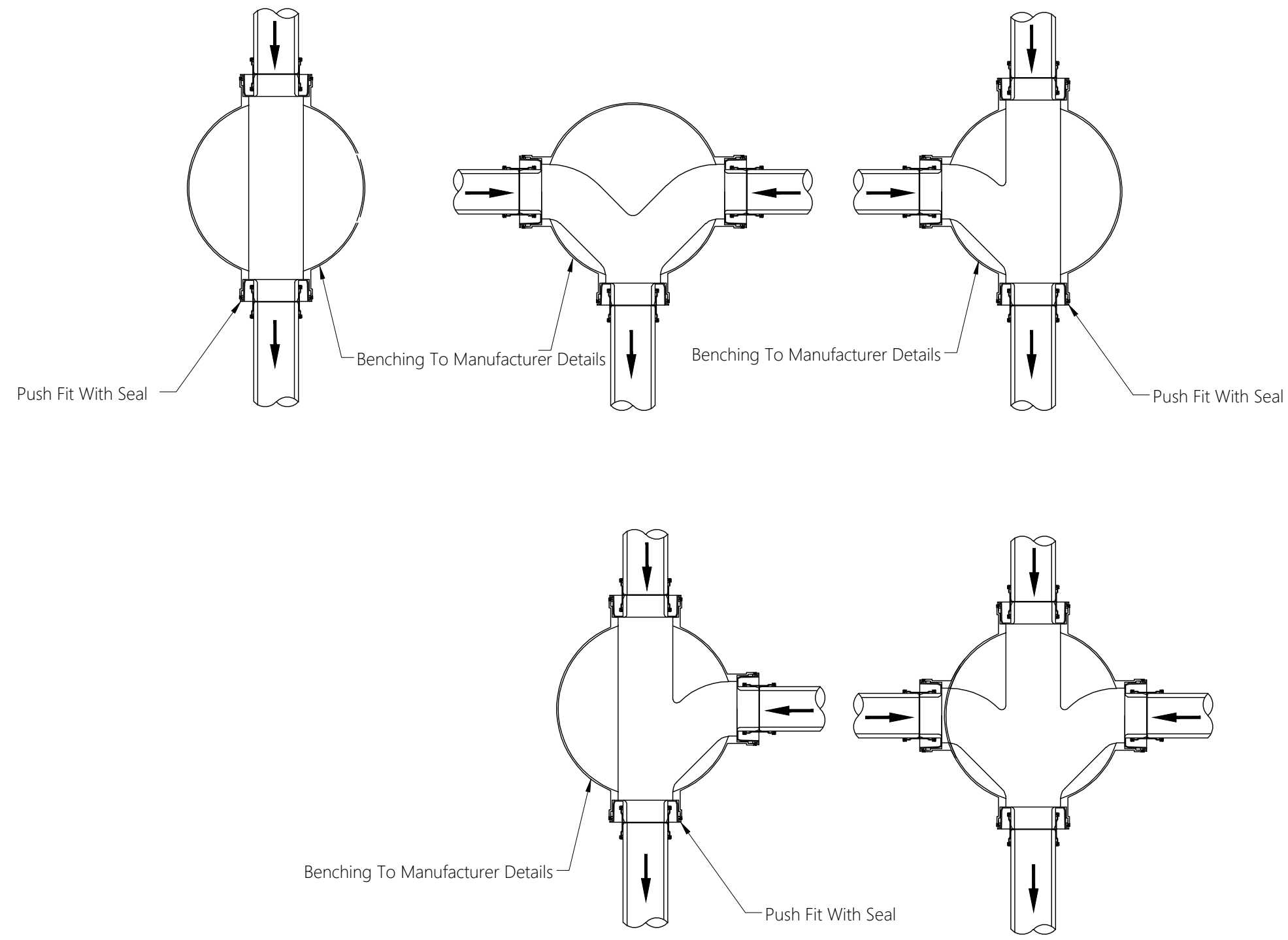
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Project No: EP-WS/2019/05

Rev: Page:

W-(14)



**TYPICAL MANHOLE BASE DETAILS**  
 NTS




**Legend**

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Sub Title:  
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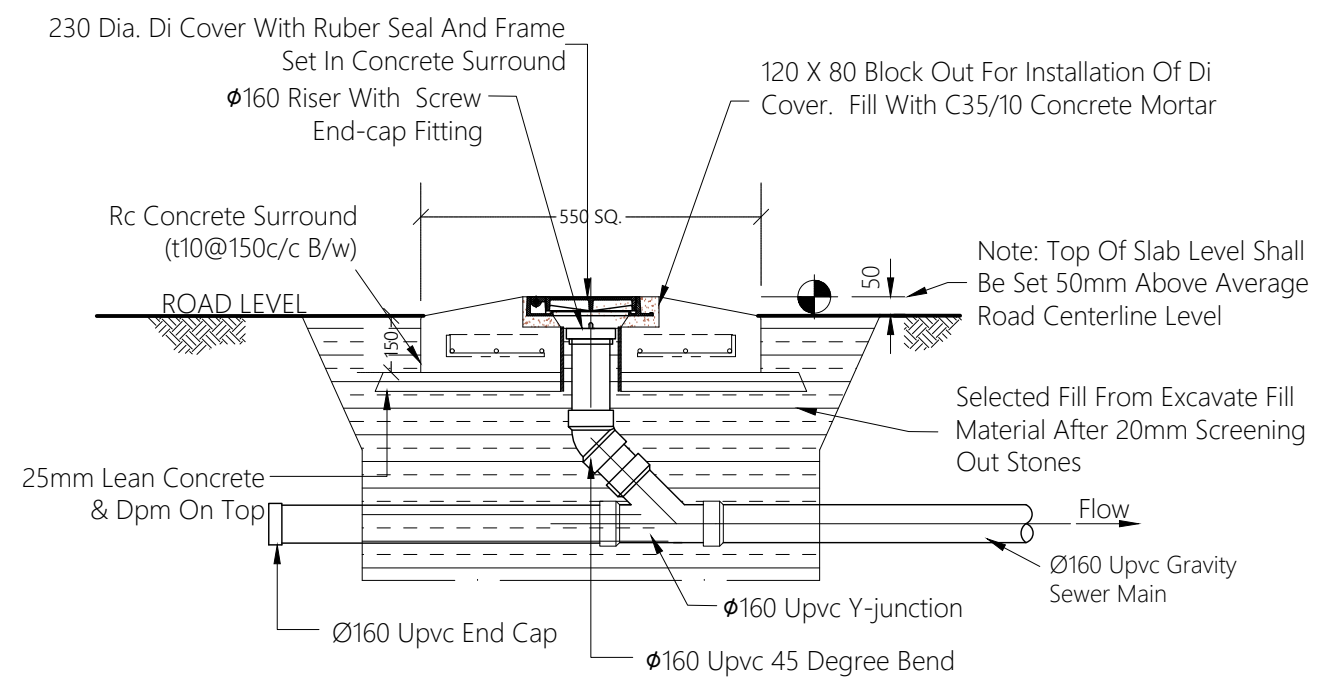


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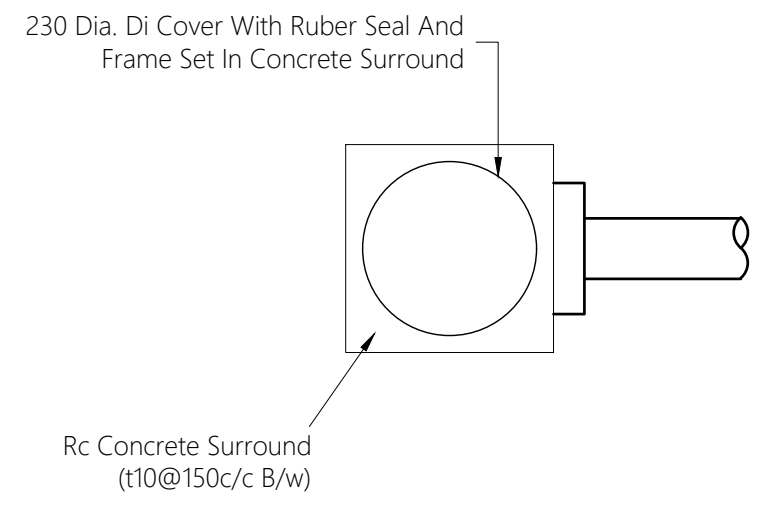


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Project No: EP-WS/2019/05	
Rev:	Page: <b>W-(15)</b>



ELEVATION - CLEANOUT (CO)



PLAN VIEW - CLEANOUT (CO)

## CLEAN OUT DETAILS

NTS

N

**Legend**

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Sub Title:  
**Sewerage System in V. Keyodhoo**

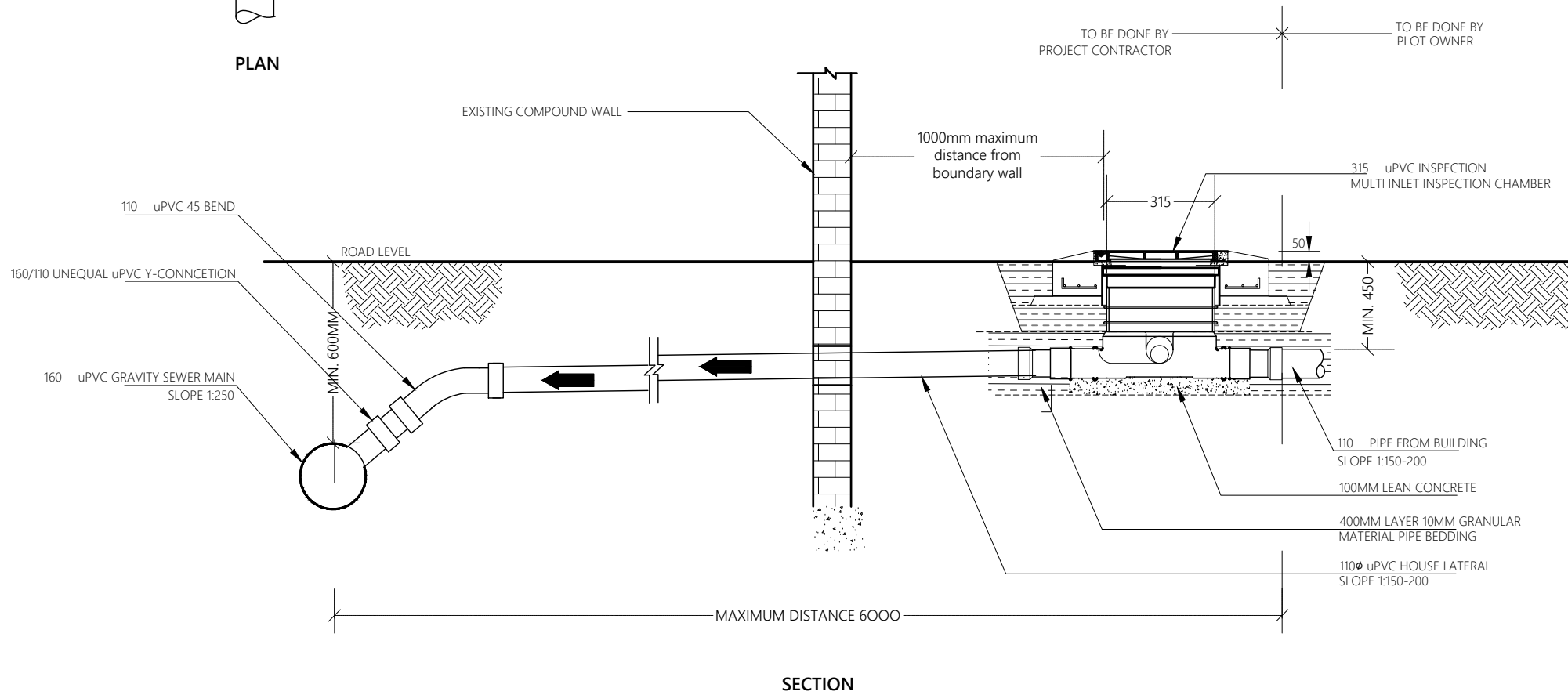
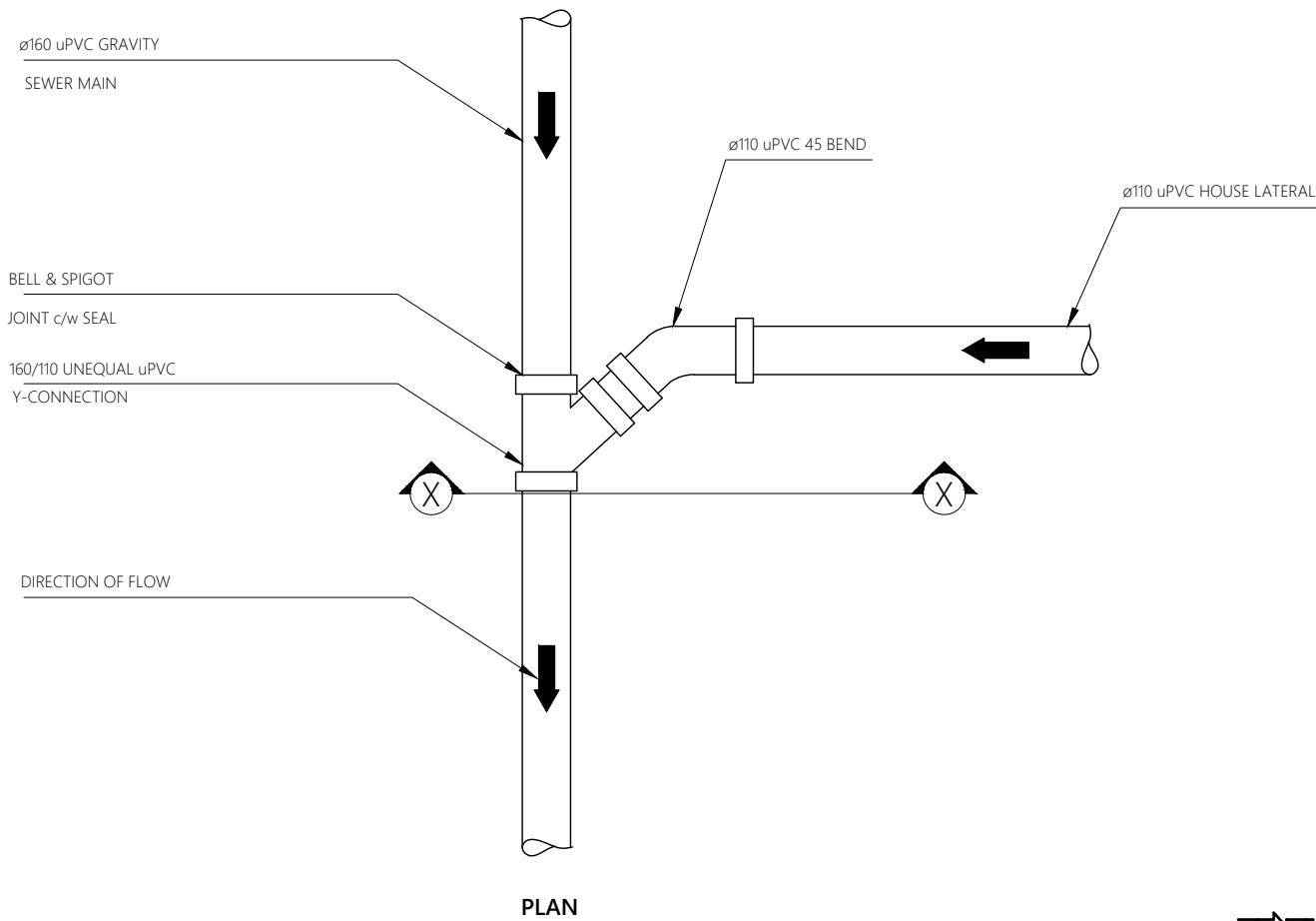
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Rev:	Page: <b>W-(16)</b>



TYPICAL HOUSE CONNECTION DETAIL

NTS



Legend

Notes:

1. Invert level at house inspection chamber and invert level of the sewer main on the road should be checked during the house connection survey and invert level should be adjusted in order to facilitate gravity flow from house inspection chamber to sewer main.

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**Sewerage System in V. Keyodhoo**

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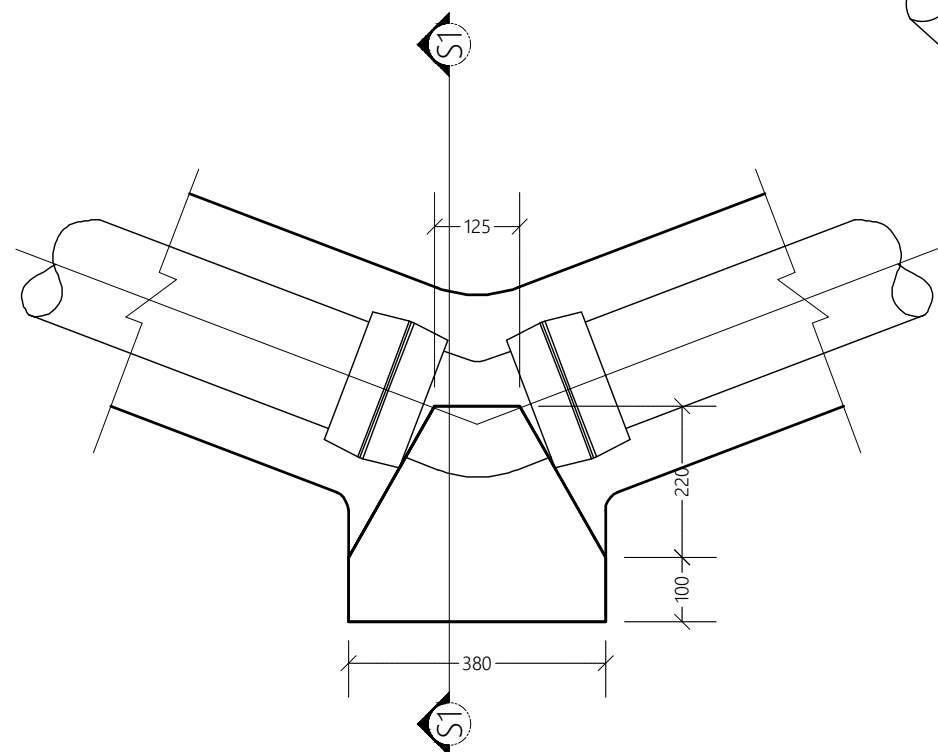
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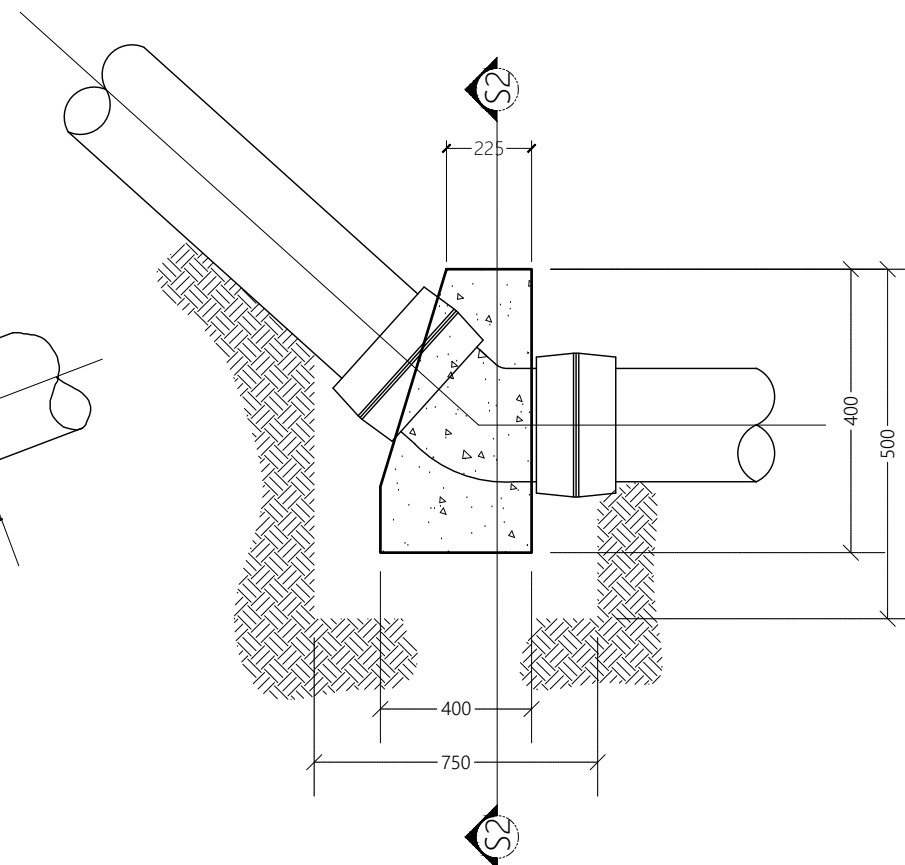
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Project No: EP-WS/2019/05	Page: W-(17)
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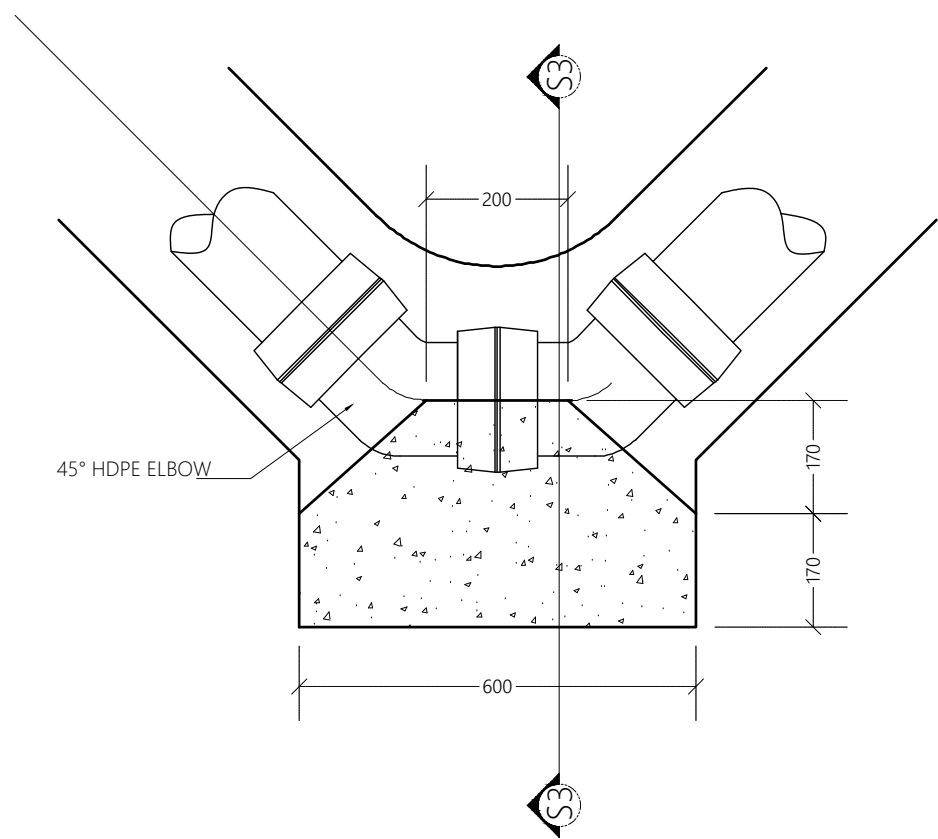




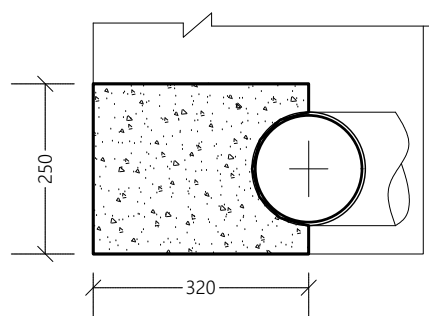
**HORIZONTAL 45° BEND**  
NTS



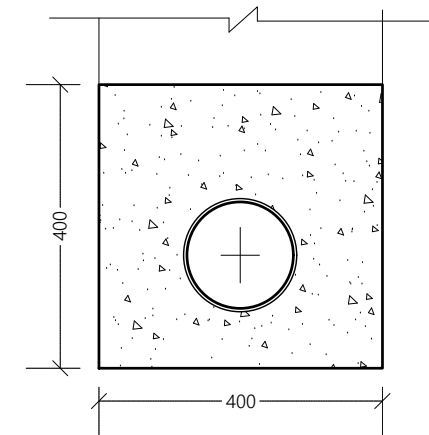
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NTS



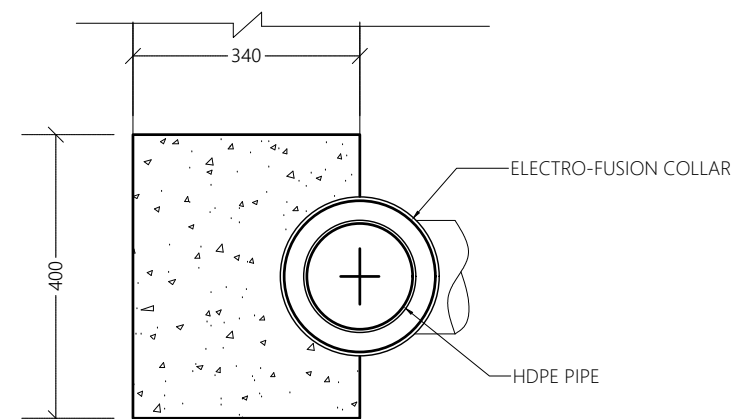
**HORIZONTAL 90° BEND**  
NTS



**SECTION S1-S1**  
NTS



**SECTION S2-S2**  
NTS



**SECTION S3-S3**  
NTS

## THRUST BLOCK DETAILS

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### Legend

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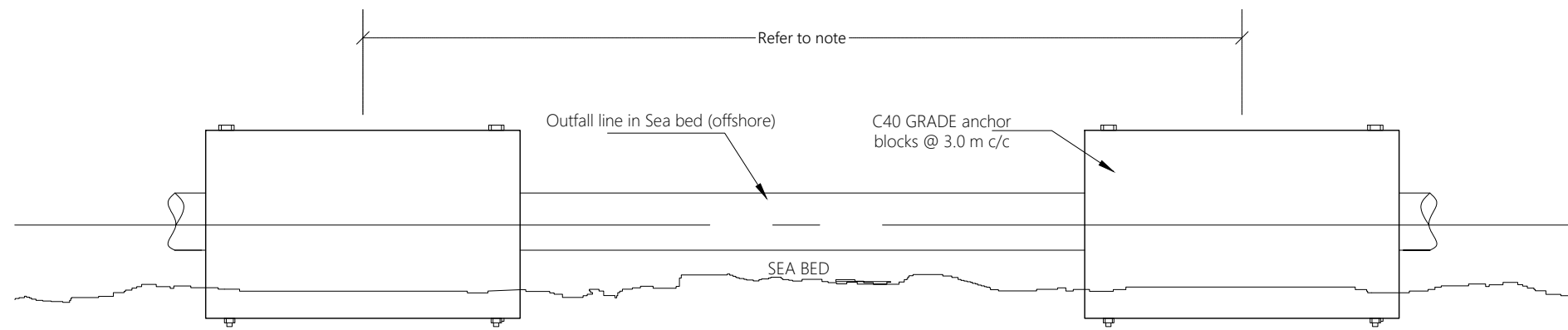
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Project No: EP-WS/2019/05

Rev: Page:



Technical drawing of a sea bed marker. The plan view (top) shows a rectangular base with a width of 900 and a length of 600. The elevation view (bottom) shows a trapezoidal base with a height of 300 and a top width of 300. A circular marker is centered on the top surface. The marker has a diameter of 150 and a height of 100. The marker is shaded with diagonal lines. The base is labeled 'SEA BED'.

Technical drawing of a dome-shaped structure, likely a manhole or access point, showing dimensions and components. The structure is composed of a dome top and a trapezoidal base.

**Dimensions:**

- Top dome height: 300
- Base height: 300
- Base width (bottom): 600
- Base width (top): 150
- Base width (middle): 150

**Labels and Components:**

- T12 @200c/c B/W (Top reinforcement)
- Anchor blocks C40A GRADE
- 4 nos. 25mm $\phi$  Threaded rod with bolts (SS316)
- Outfall pipe
- T12 @200c/c B/W (Bottom reinforcement)
- SEA BED

Technical drawing of a reinforced concrete slab cross-section showing reinforcement details. The slab is 1000mm wide and 150mm thick. It features 4 nos. of 25mm diameter threaded rods with bolts (SS316) for the main reinforcement. The drawing shows the top and bottom reinforcement bars, with dimensions for the effective depth (400mm), clear cover (100mm), and the location of the bolts (150mm from the top and bottom edges). A 27mm diameter hole is indicated for the bolts. The bottom reinforcement is shown with a 600mm spacing.

Legend

Title:

**Consultancy Services for Survey,  
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6 islands, Maldives - Package 5**

Sub Title:

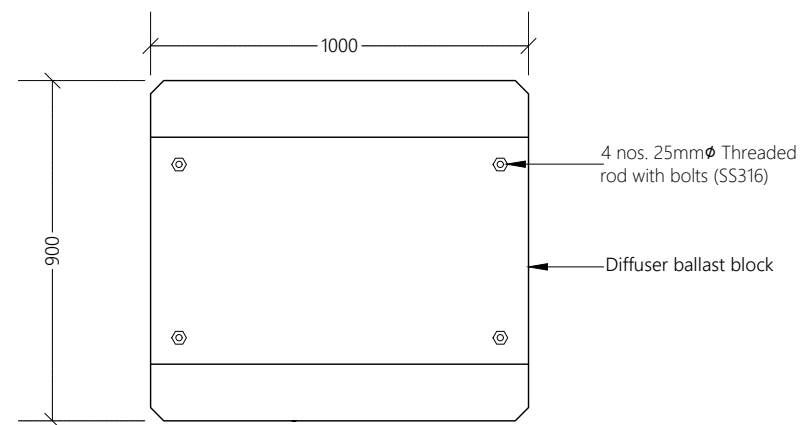
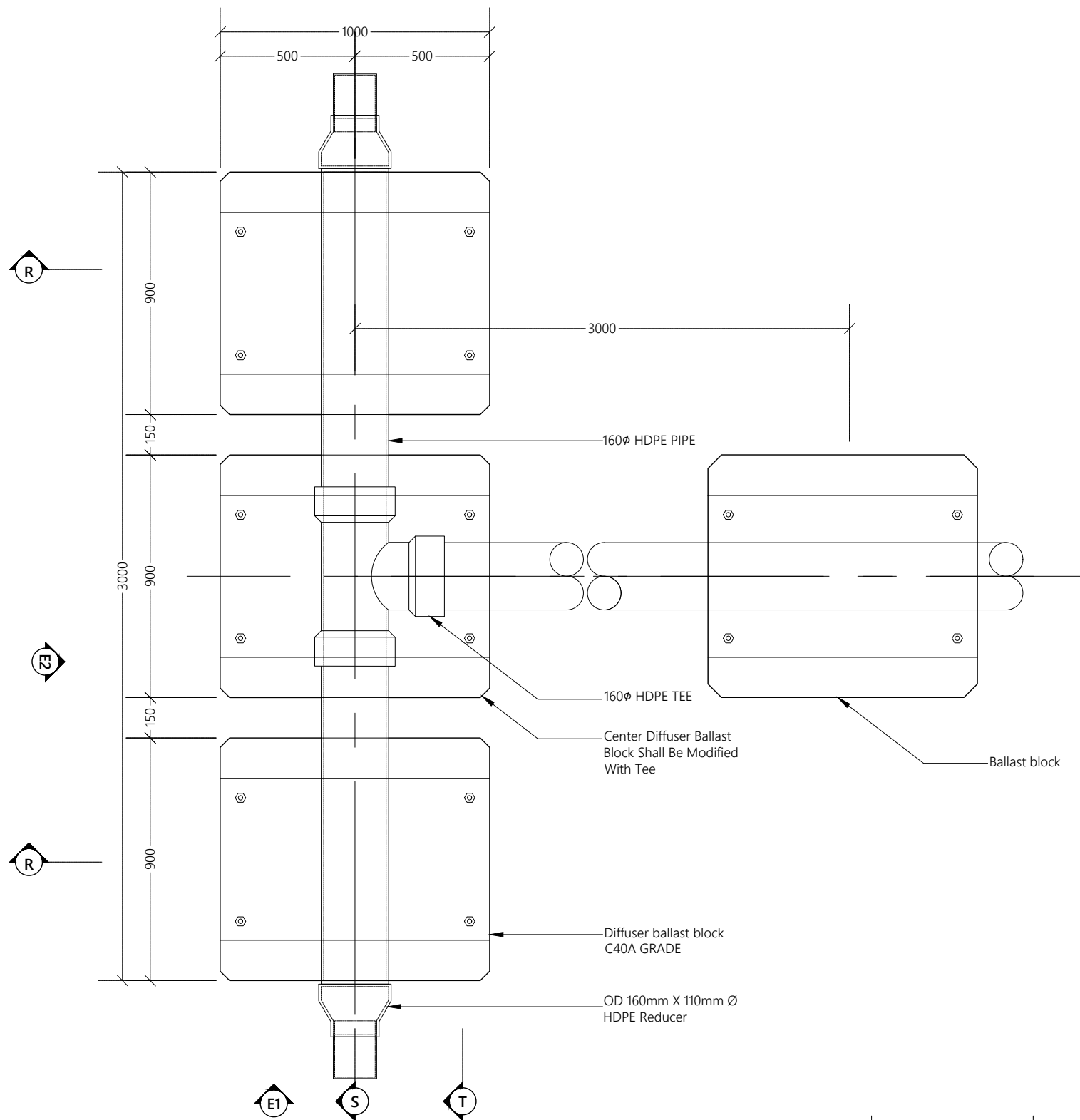
**Sewerage System in V. Keyodhoo**

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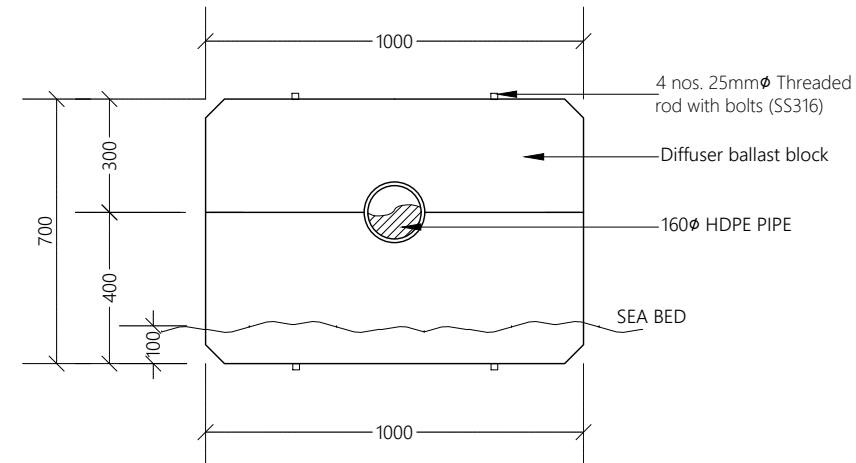
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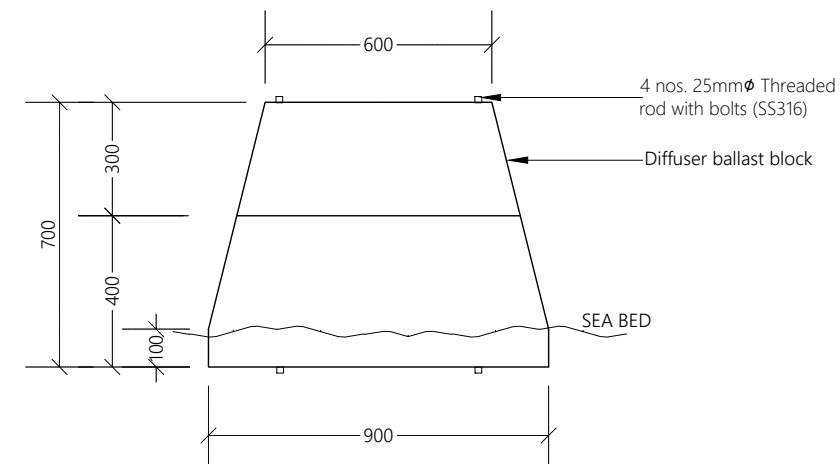
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Project No: EP-WS/2019/05	
Rev:	Page: W-(19)



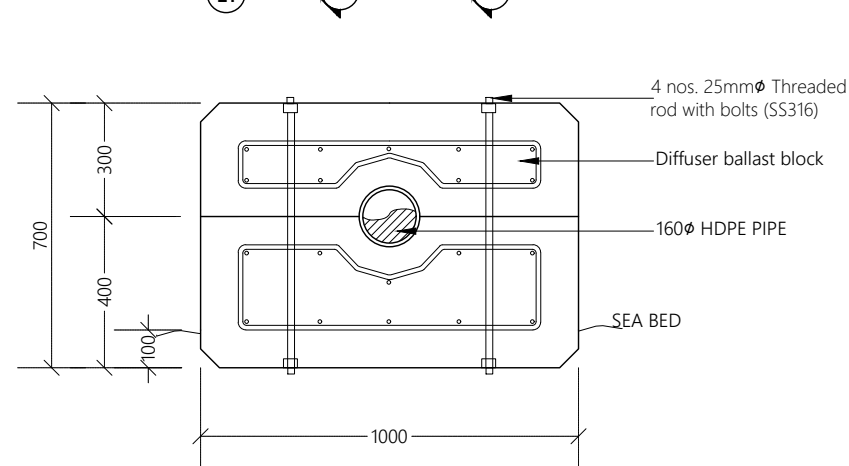
DIFFUSER BALLAST BLOCK PLAN



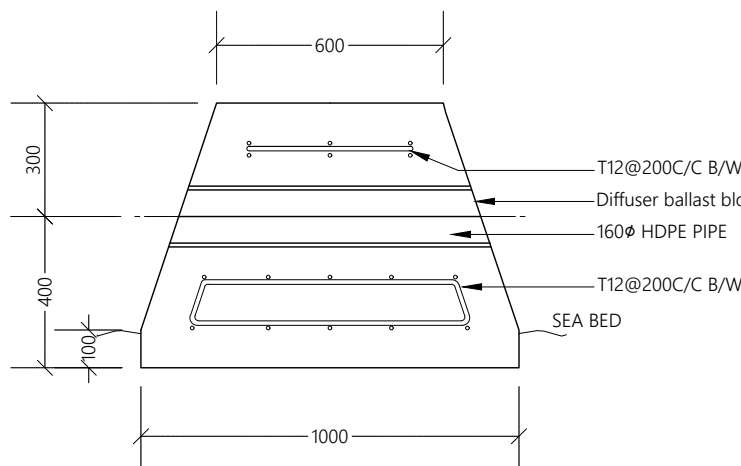
DIFFUSER BALLAST BLOCK FRONT ELEVATION - E1



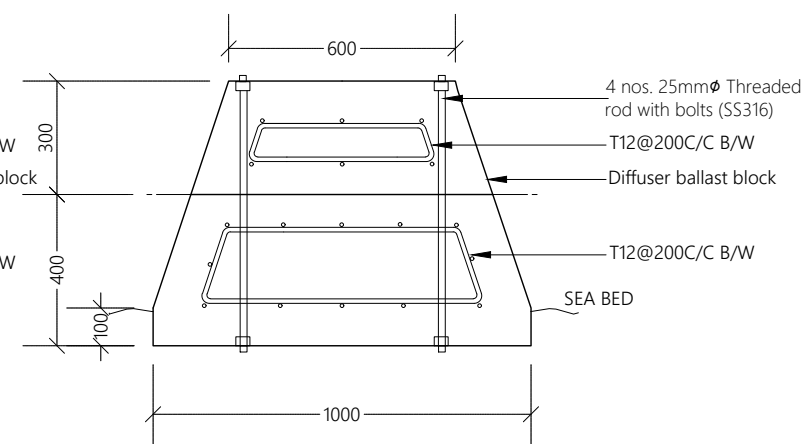
DIFFUSER BALLAST BLOCK FRONT ELEVATION - E2



DIFFUSER BALLAST BLOCK SECTION - R



DIFFUSER BALLAST BLOCK SECTION - S



DIFFUSER BALLAST BLOCK SECTION - T

## DIFFUSER 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 6 islands, Maldives - Package 5**

Sub Title:  
**Sewerage System in V. Keyodhoo**

Client:  
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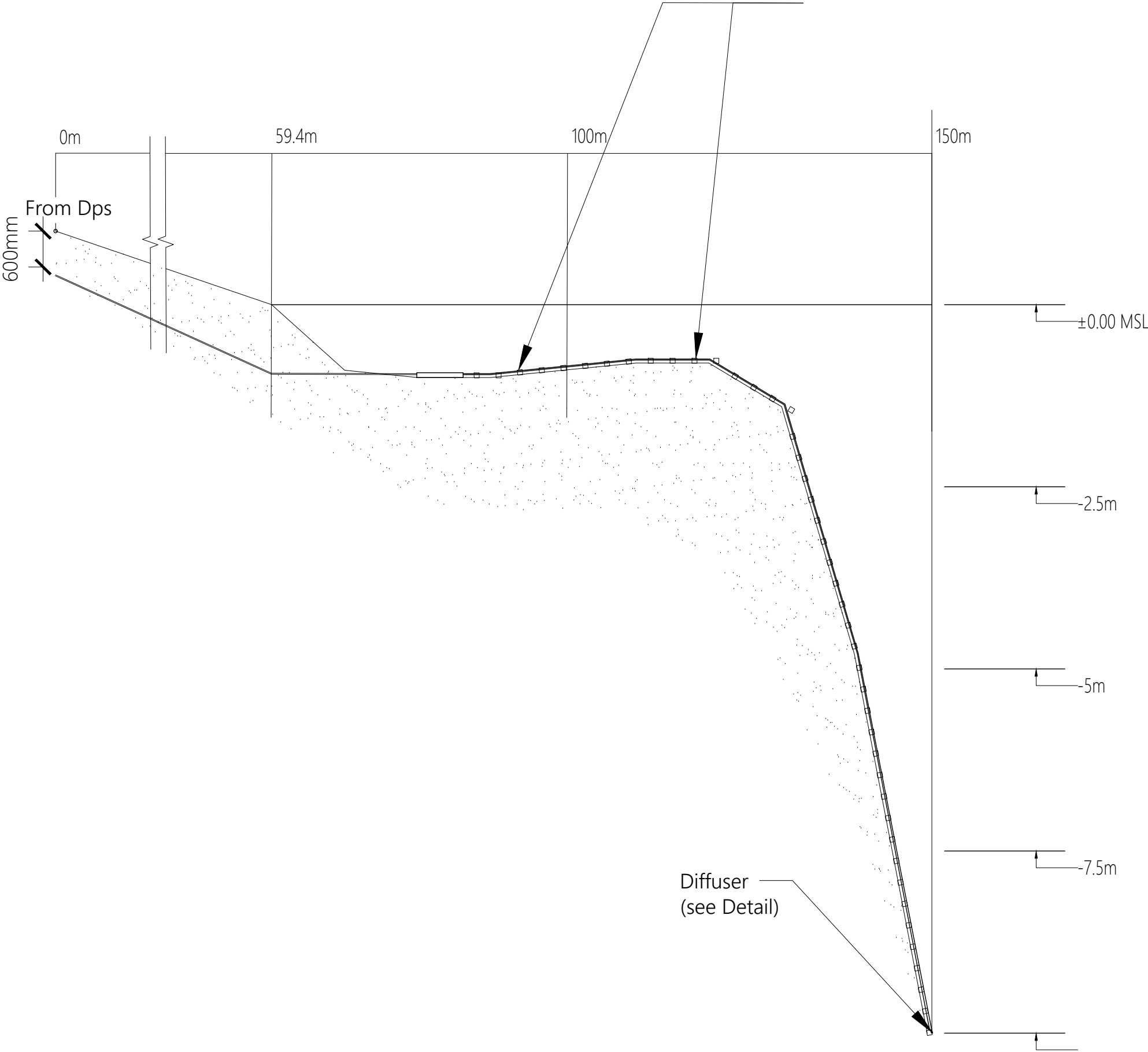
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Rev: Page:

W-(20)



Ballast Blocks Placed @ Regular Intervals (refer to notes for details)



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.

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**Sewerage System in V. Keyodhoo**

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



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

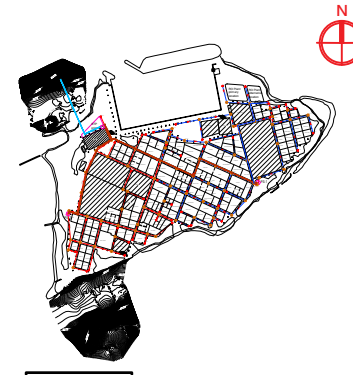


**FEEDBACK INFRA**  
Maldives Sri Lanka Singapore

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/2019/05	
Rev:	Page: W-(21)



V. KEYODHOO SEWERAGE SYSTEM - PRESSURE NETWORK LAYOUT  
1:2500



- Legend**
- 110 mm Ø HDPE Pumping Main (PE100, PN16, SDR11)
  - 160 mm Ø HDPE Sea Outfall Pipe (PE100, PN16, SDR11)

REV. NO.	Date	Revision Description	Drawn	Chkd	Appd.

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

Sub Title:  
**Sewerage System in V. Keyodhoo**

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

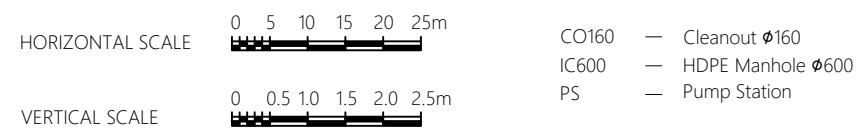
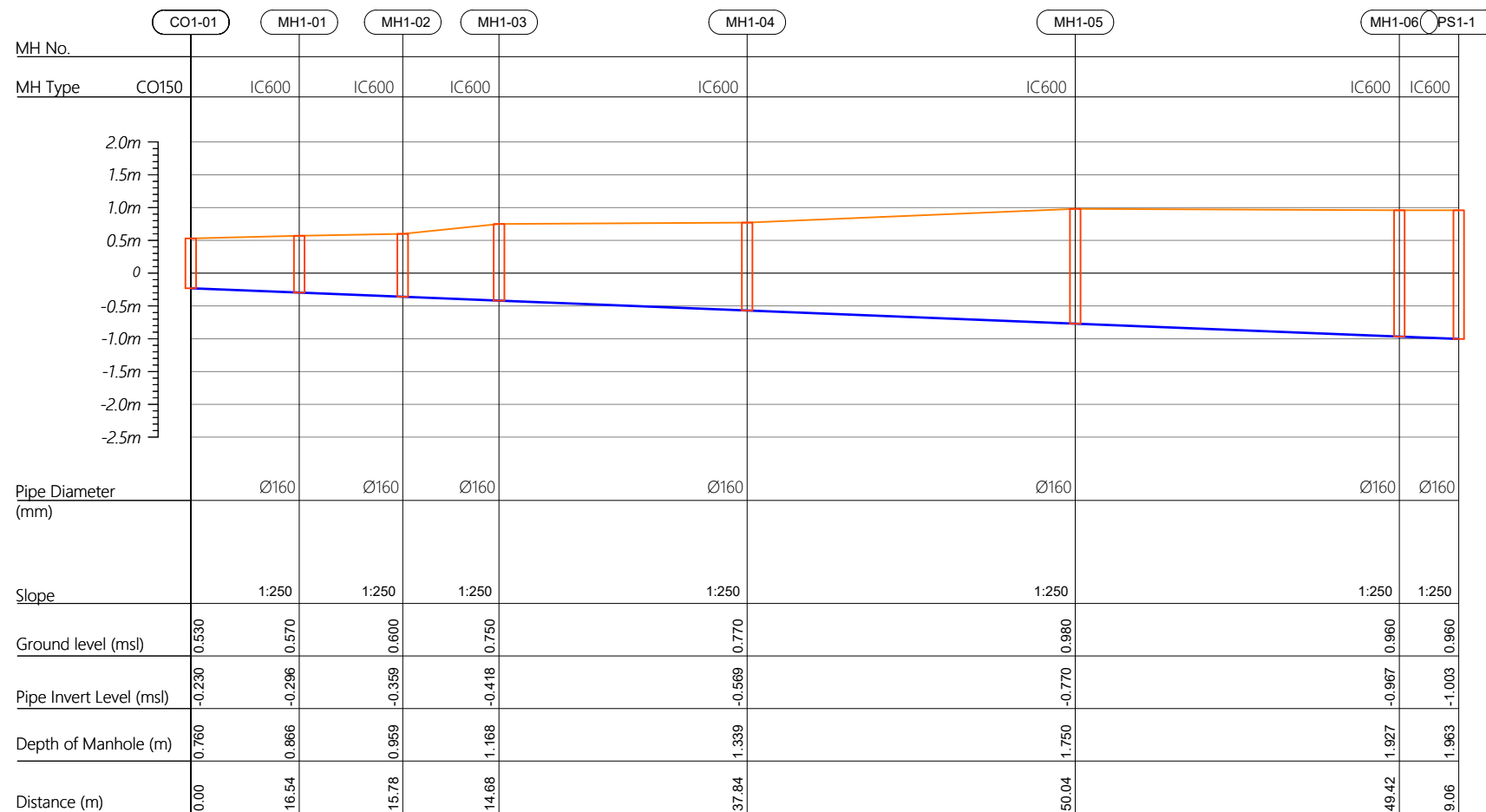
**EPOCH ASSOCIATES**  
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**FEEDBACK INFRA**  
Maldivian Infrastructure Development

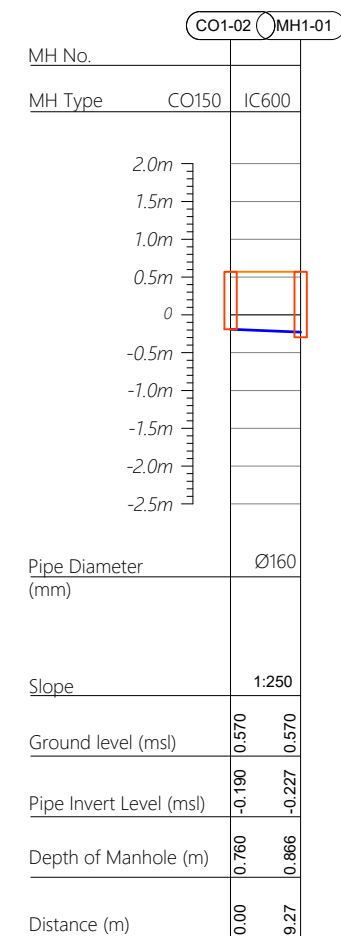
Drawn: F.I.A.	Checked: M.S.S.
Designed: F.I.A.	Approved: I.W.
Date: Sep 2020	SCALE (A3): NTS
Project No: EP-WS/2019/05	Page: W-(22)



## Profile 01



## Profile 02



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  
6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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



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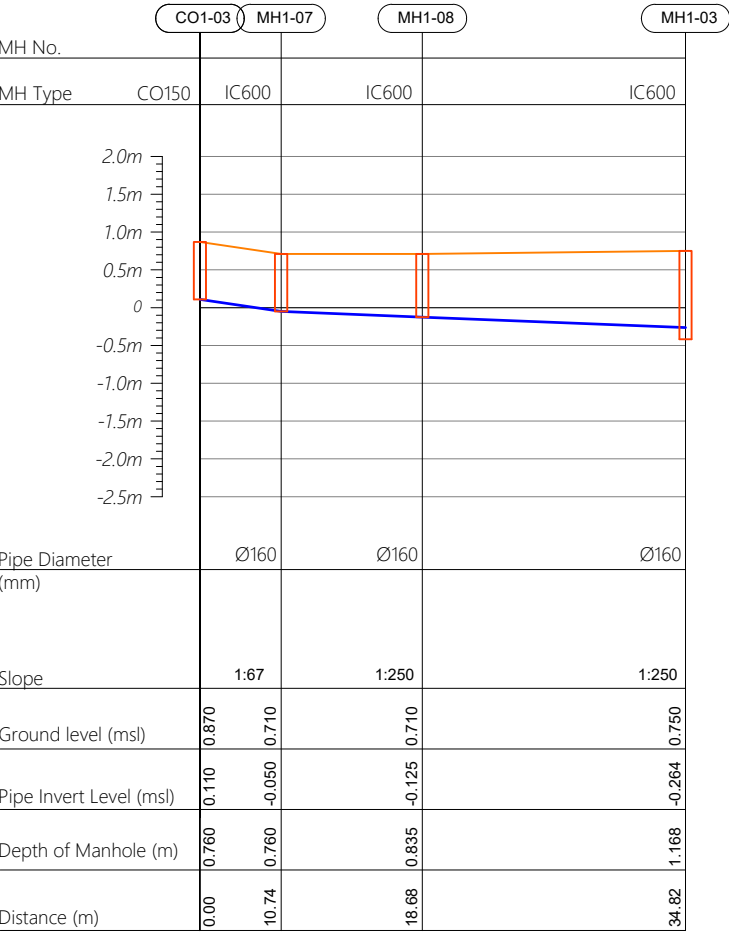
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Date: Aug 2020	SCALE (A3): 1:100
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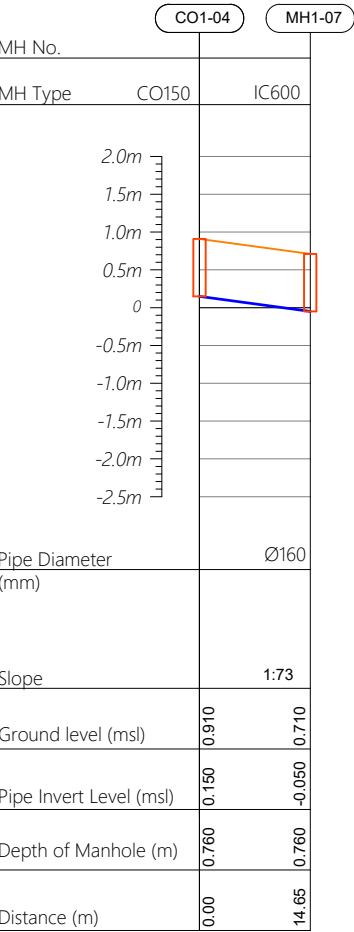
Project No: 01010101

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

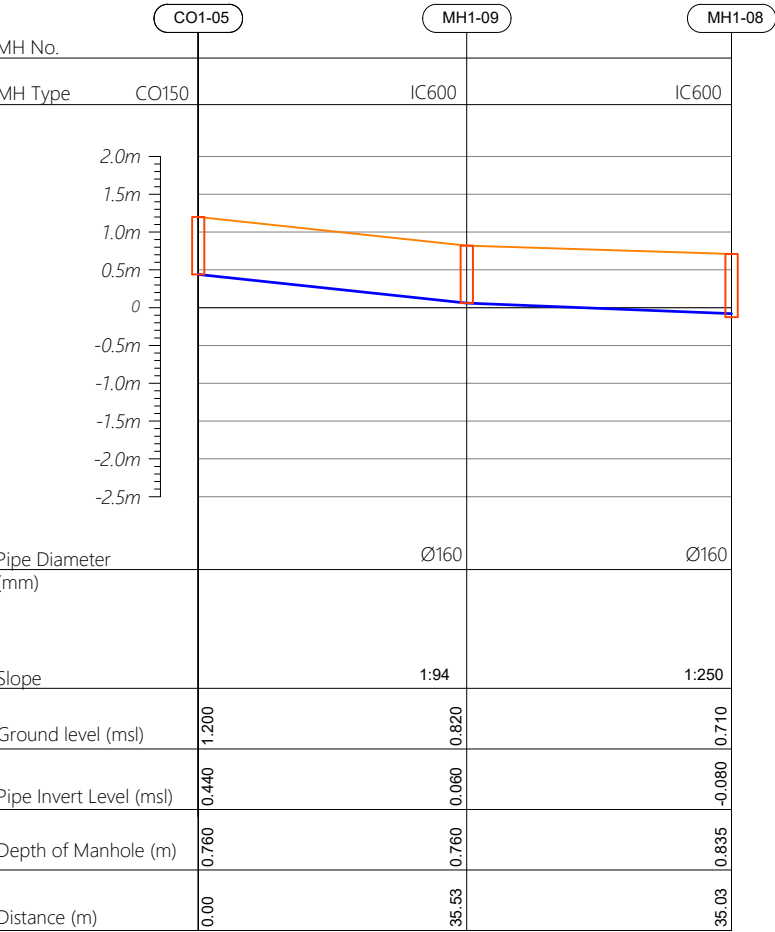
Profile 03



Profile 04



Profile 05



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  
6 islands, Maldives - Package**

Sub Title:  
**Sewerage System in V.Keyodhoo**

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



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A: G. Rosary West,  
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Drawn: A.R.W. Checked: M.S.S.

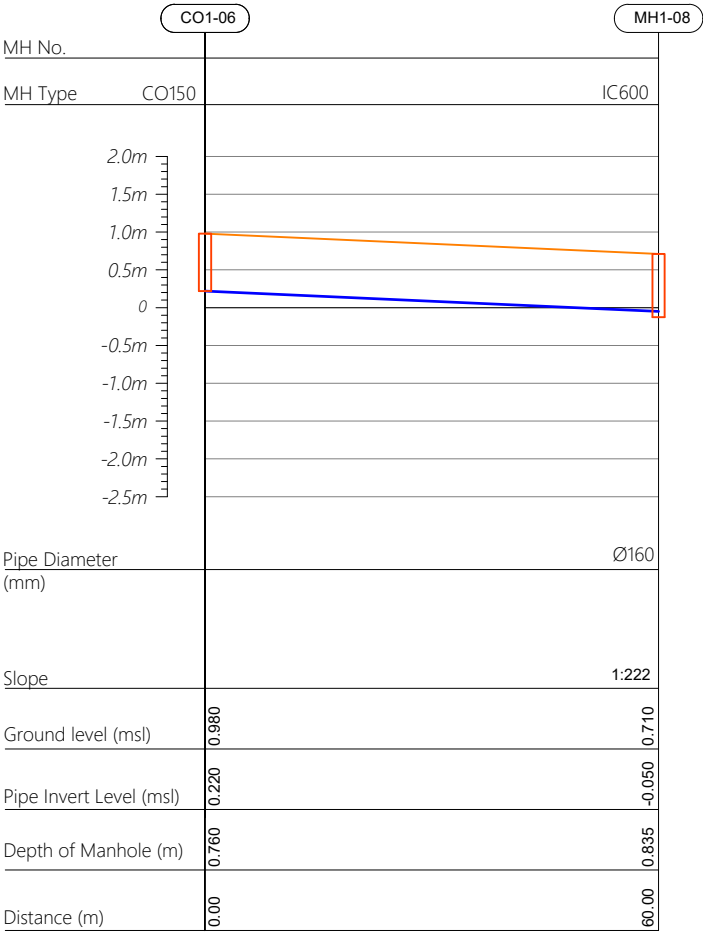
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Date: Aug 2020 SCALE (A3): 1:100

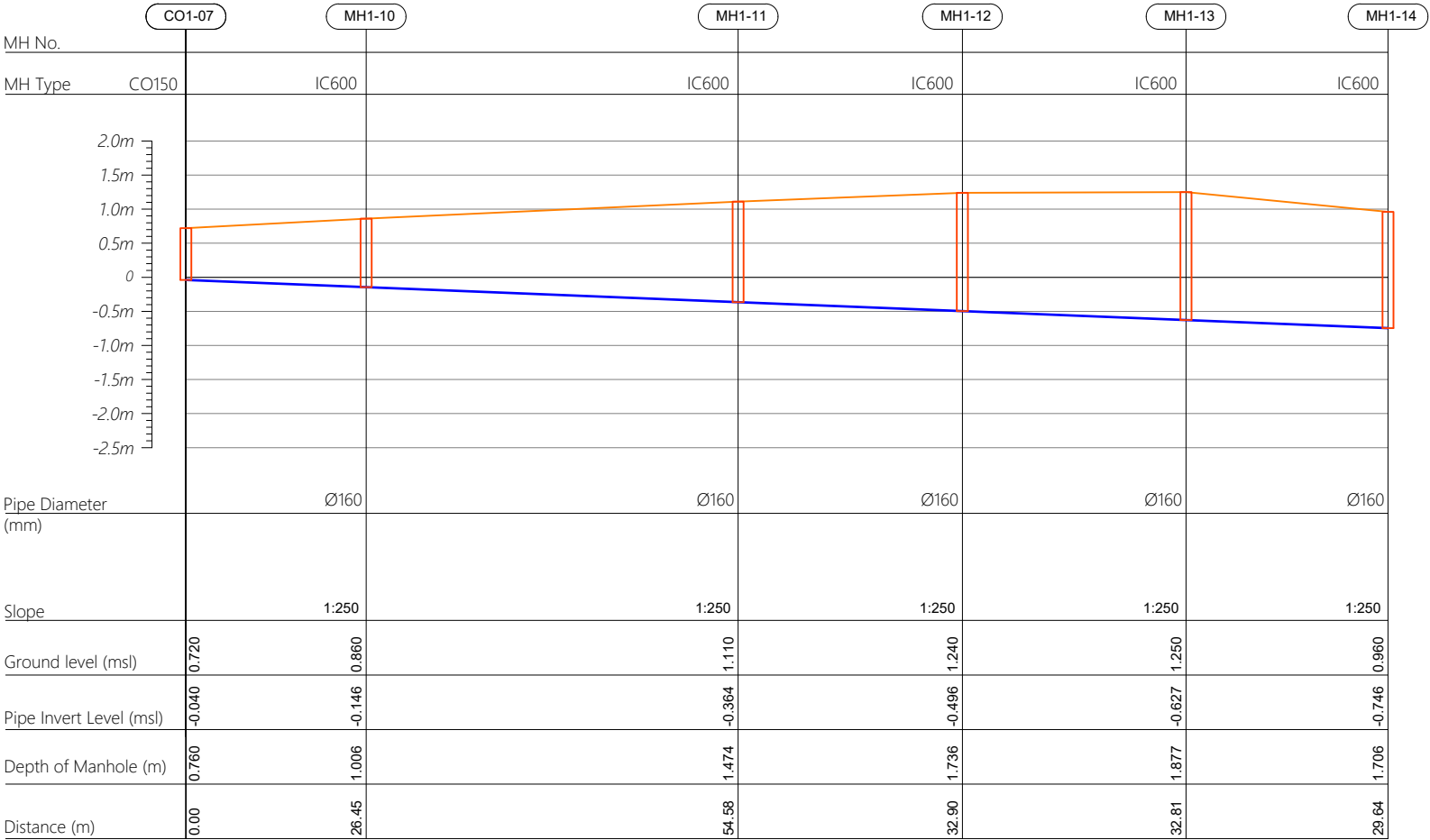
Project No: 01010101

Rev: R-01 Page: PS1-02

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 6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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

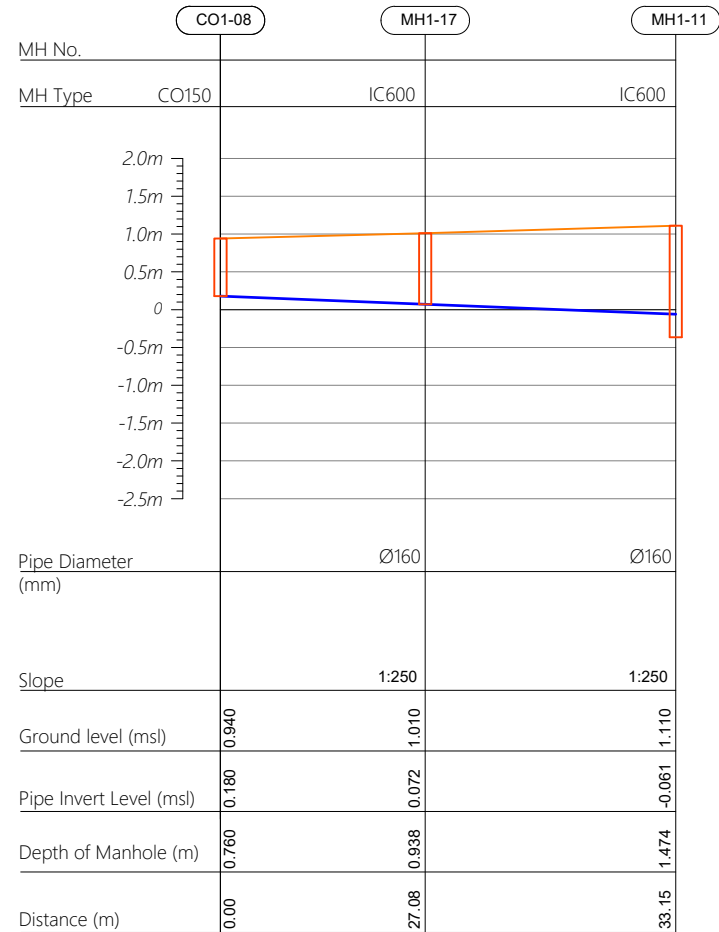
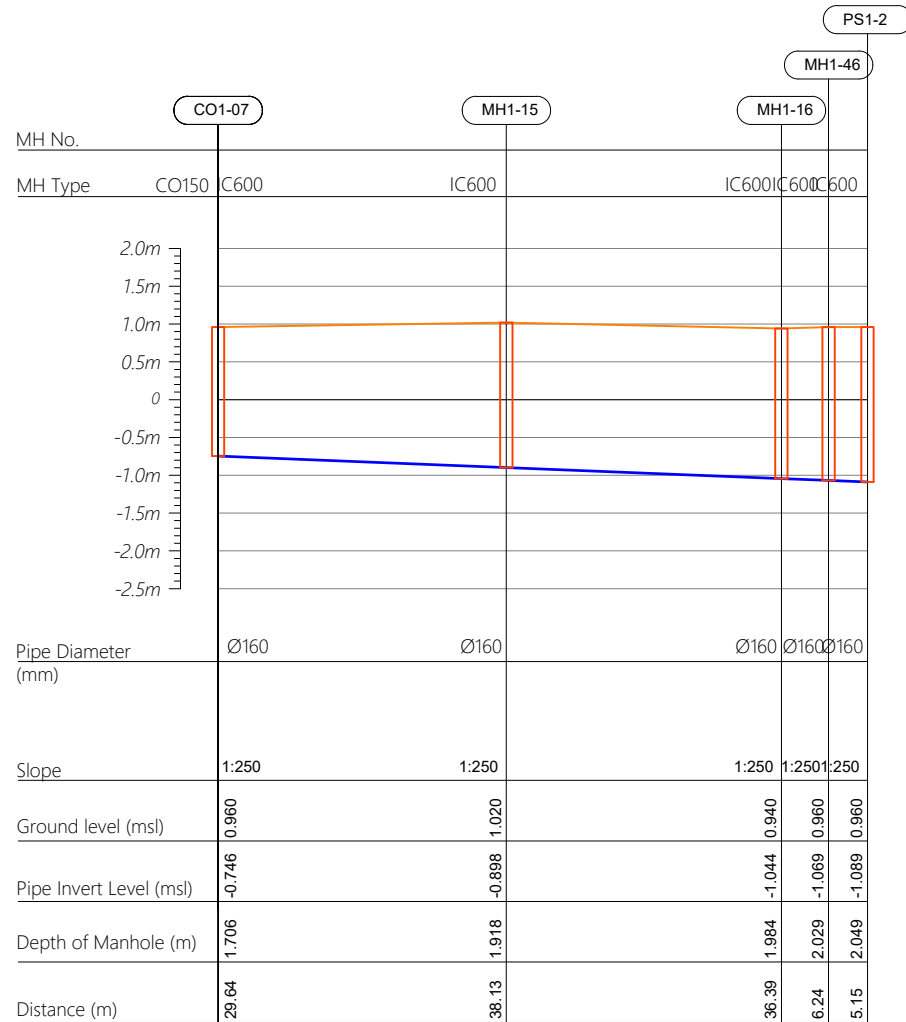
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Project No: 01010101

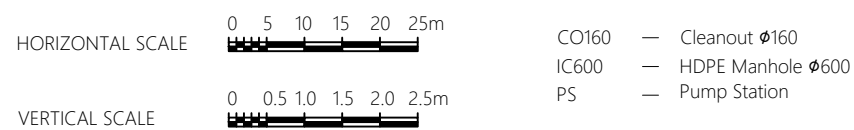
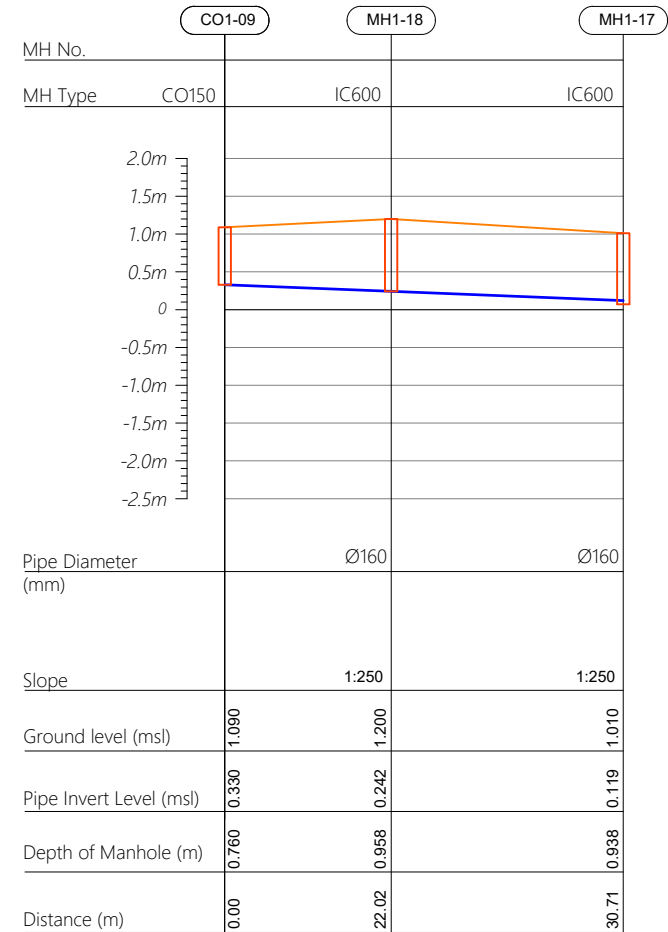
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Page: PS1-03

## Profile 07



## Profile 09



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

Title:  
*Consultancy Services for Survey,  
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Supply and Sewerage Facilities in  
6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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



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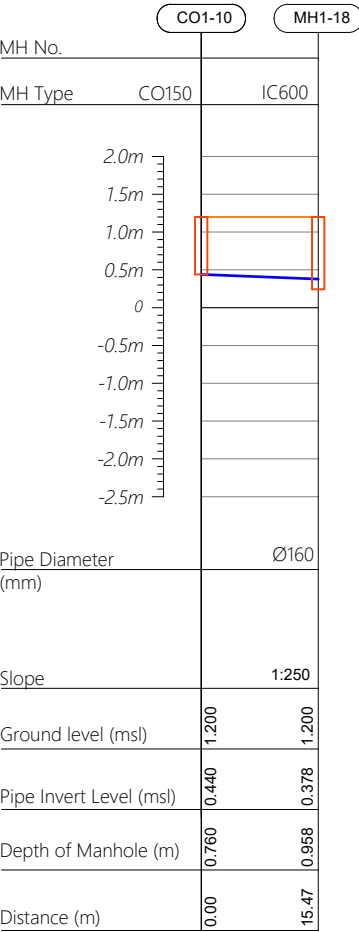
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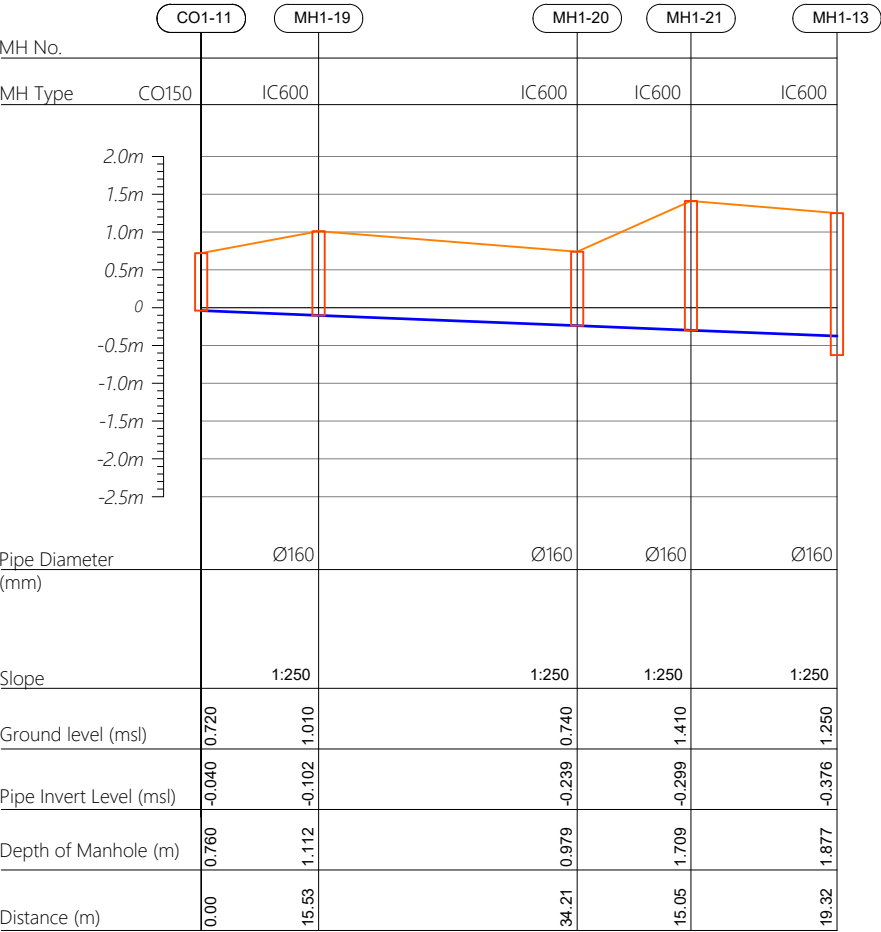
Project No: 01010101

Rev:	Page:
R-01	PS1-04

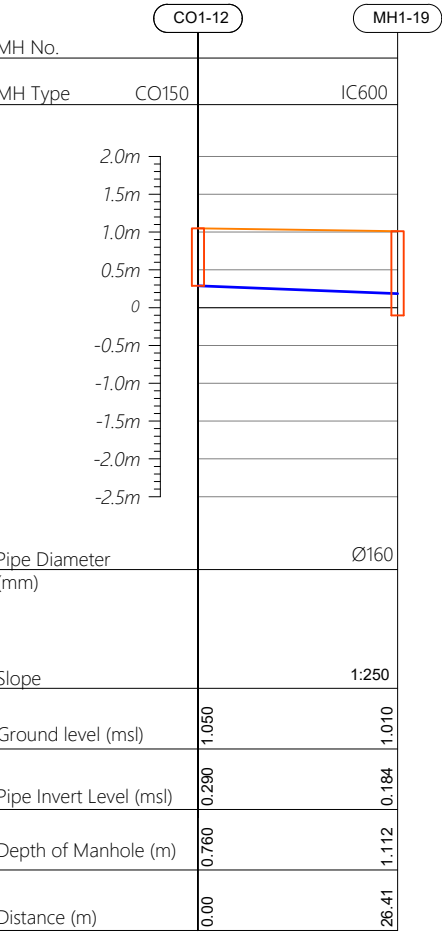
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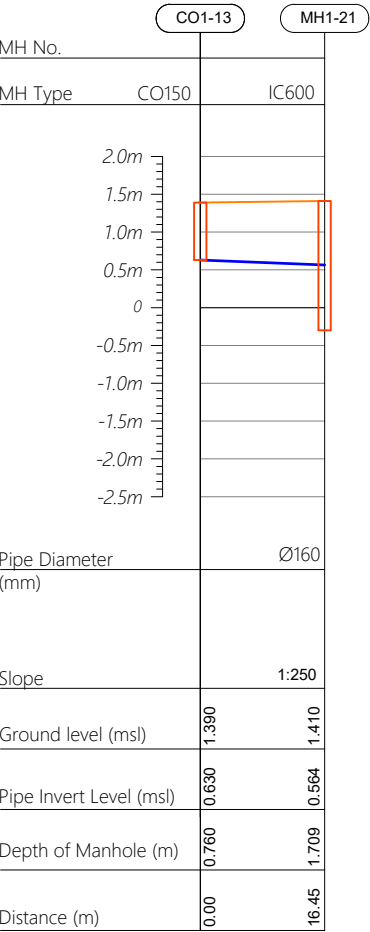
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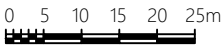
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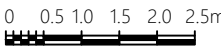
Profile 13



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 6 islands, Maldives - Package**

Sub Title:  
**Sewerage System in V.Keyodhoo**

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

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

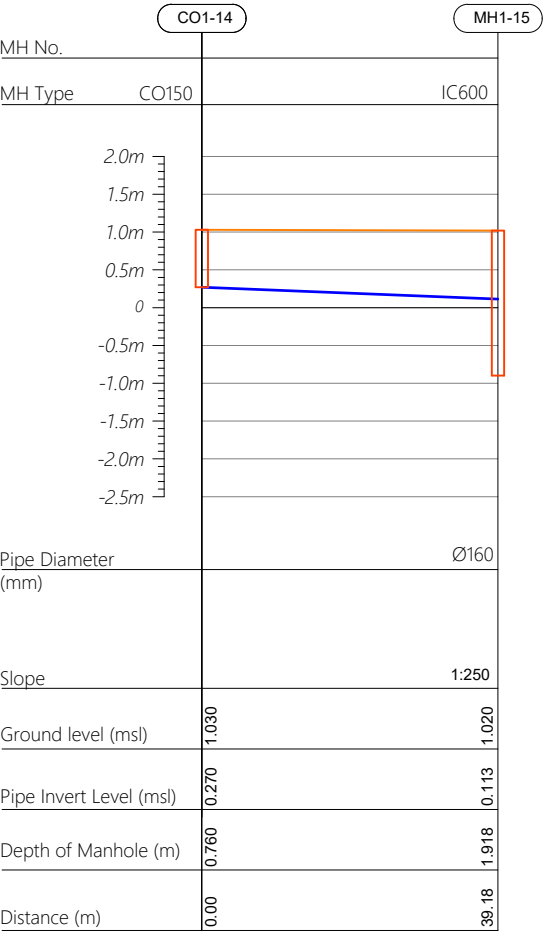
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Project No: 01010101

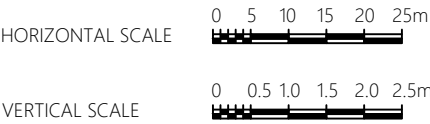
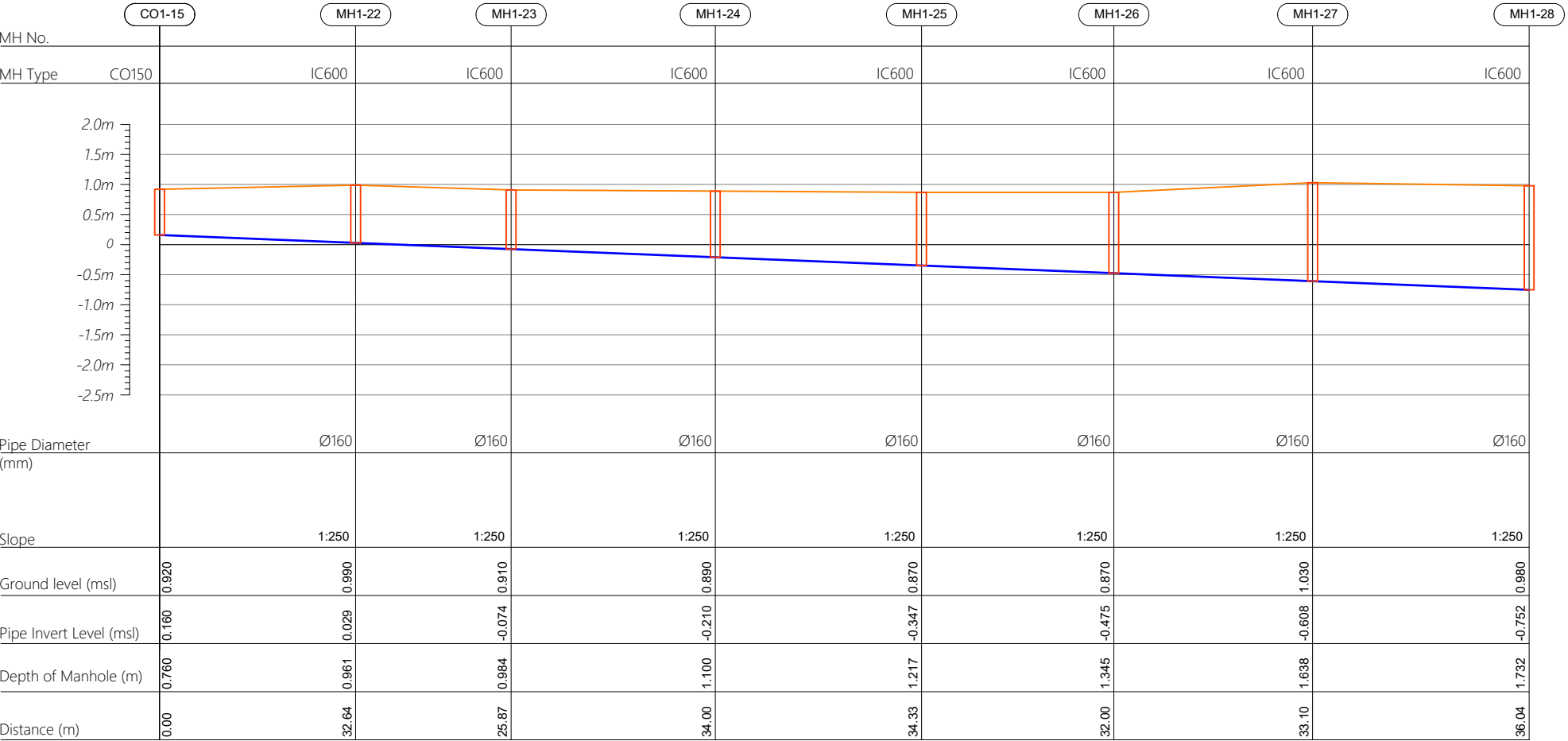
Rev: R-01 Page: PS1-05



Profile 14



Profile 15



- 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  
6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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

SCALE (A3): 1:100

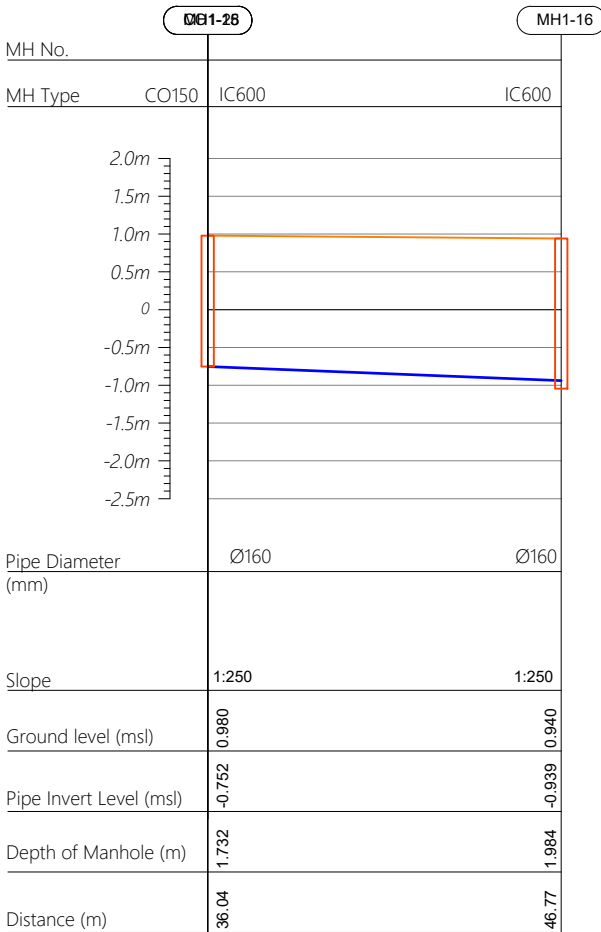
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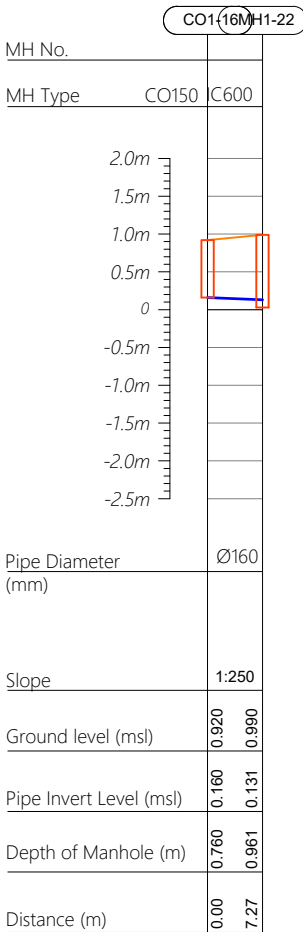
Rev:  
R-01

Page:  
PS1-06

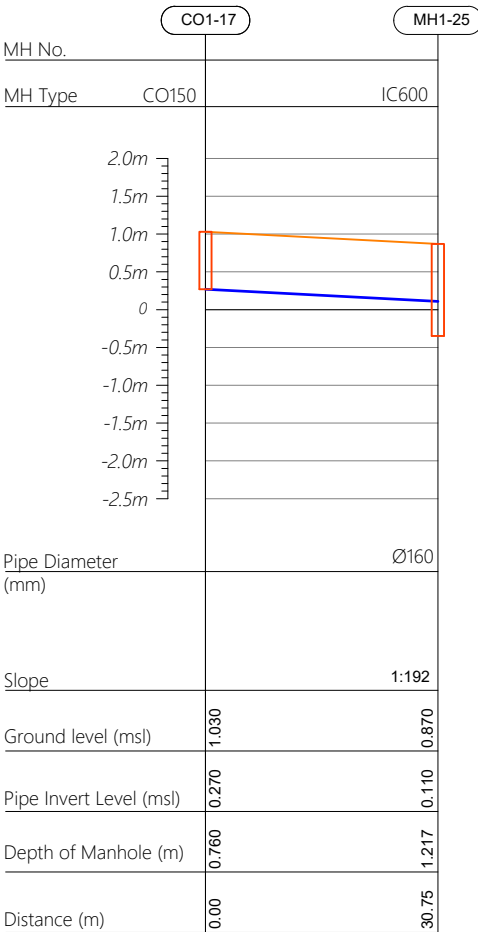
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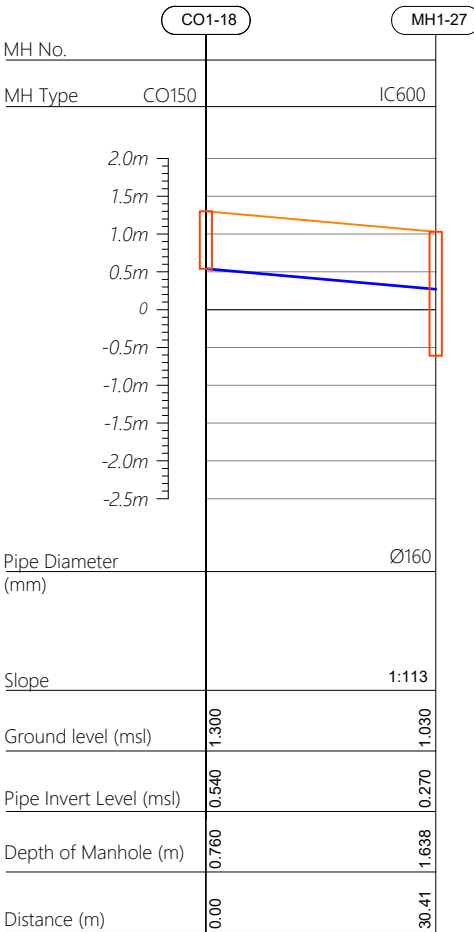
## Profile 16



## Profile 17



## Profile 18



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  
6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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



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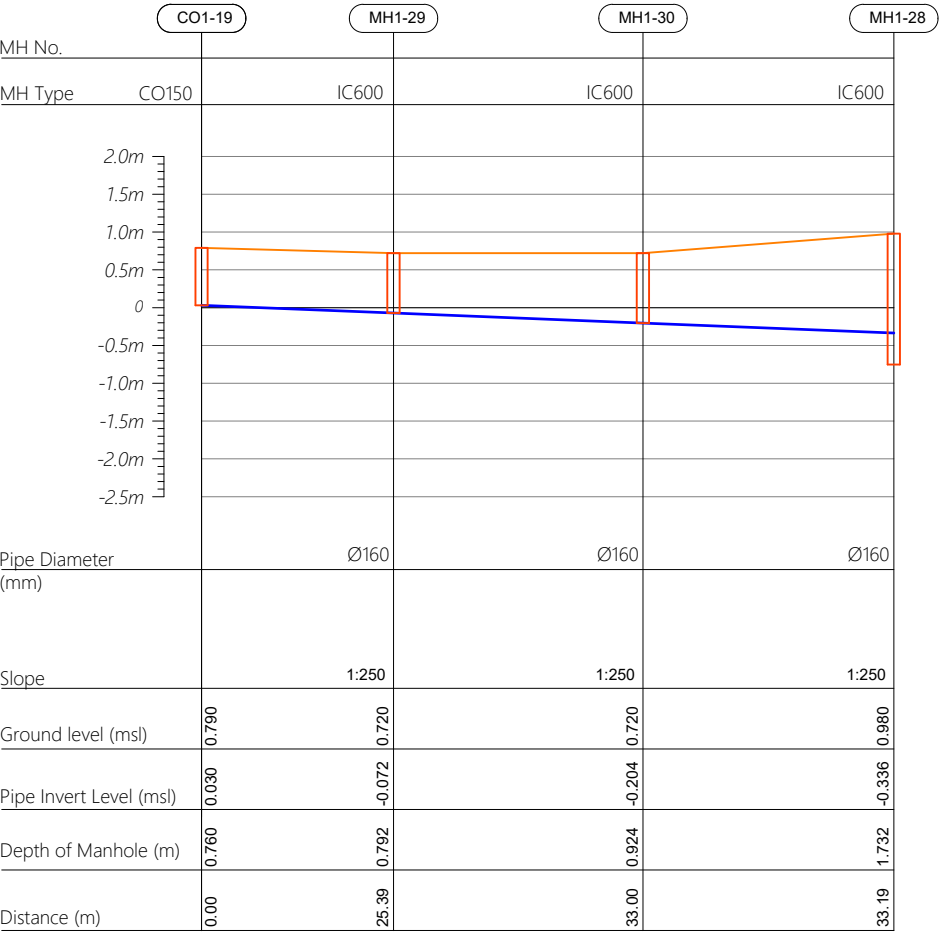
Designed: F.I.A	Approved: J.W
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Date: Aug 2020 SCALE (A3): 1:100

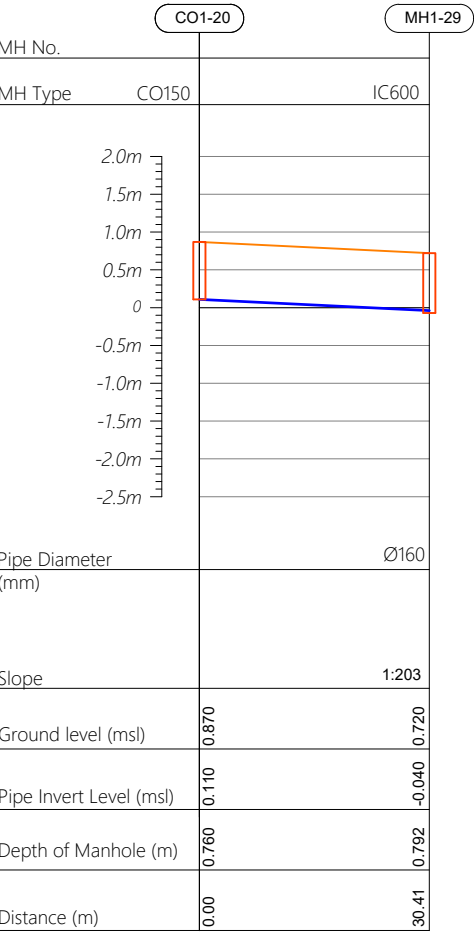
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Rev: <b>R-01</b>	Page: <b>PS1-07</b>
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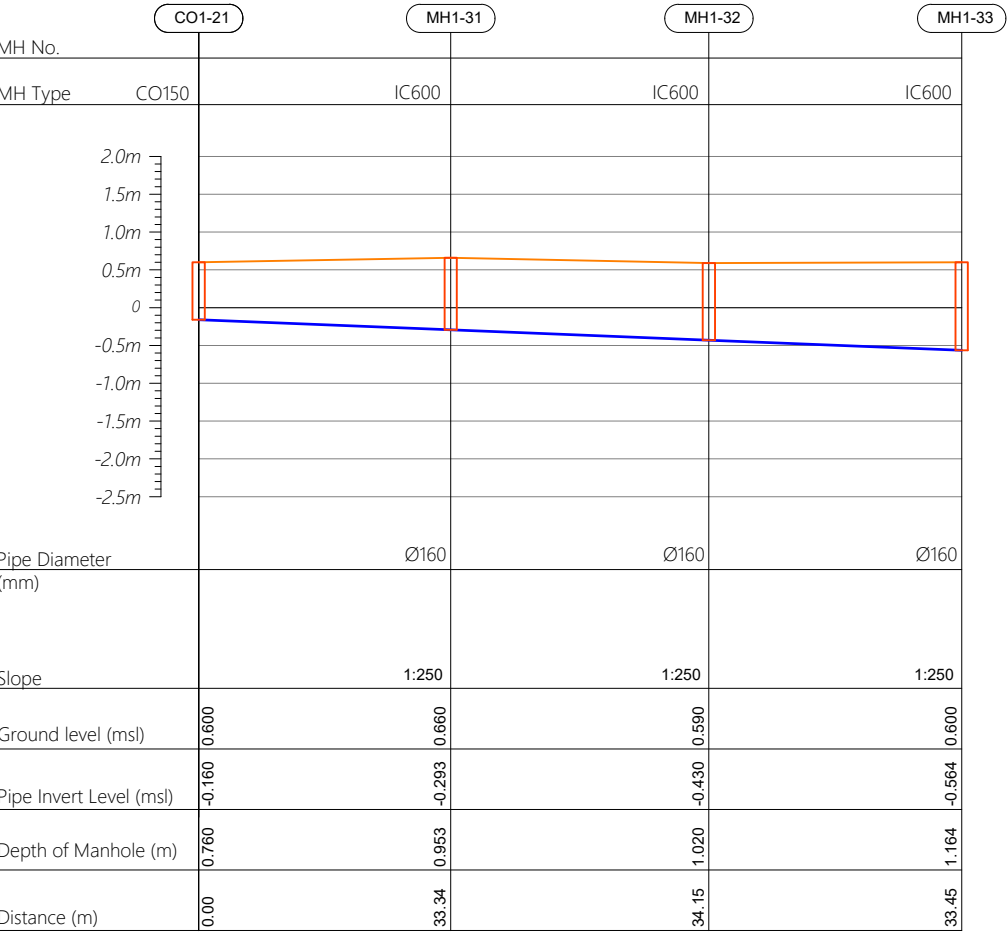
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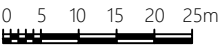
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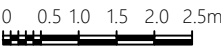
Profile 21



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 6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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



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Husnuheemaa Magu, Male', Maldives



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Drawn: A.R.W      Checked: M.S.S

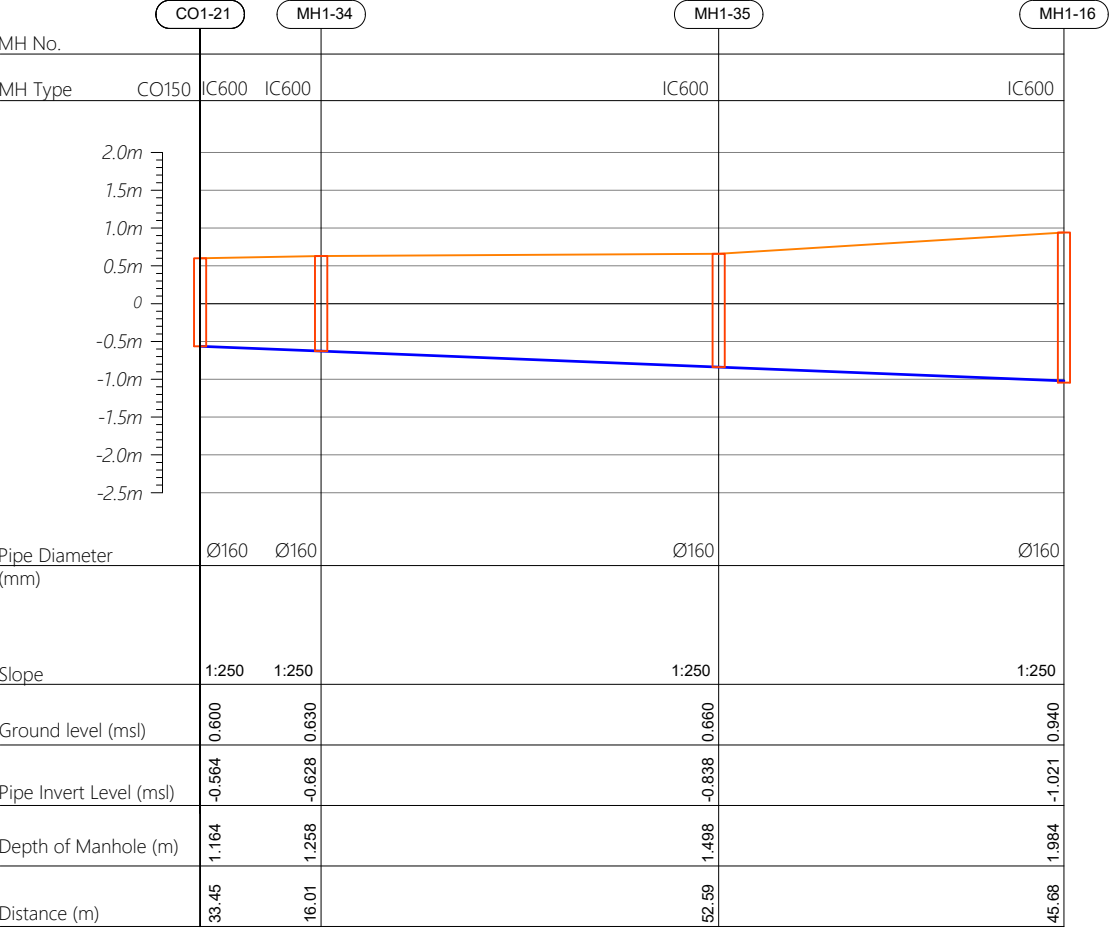
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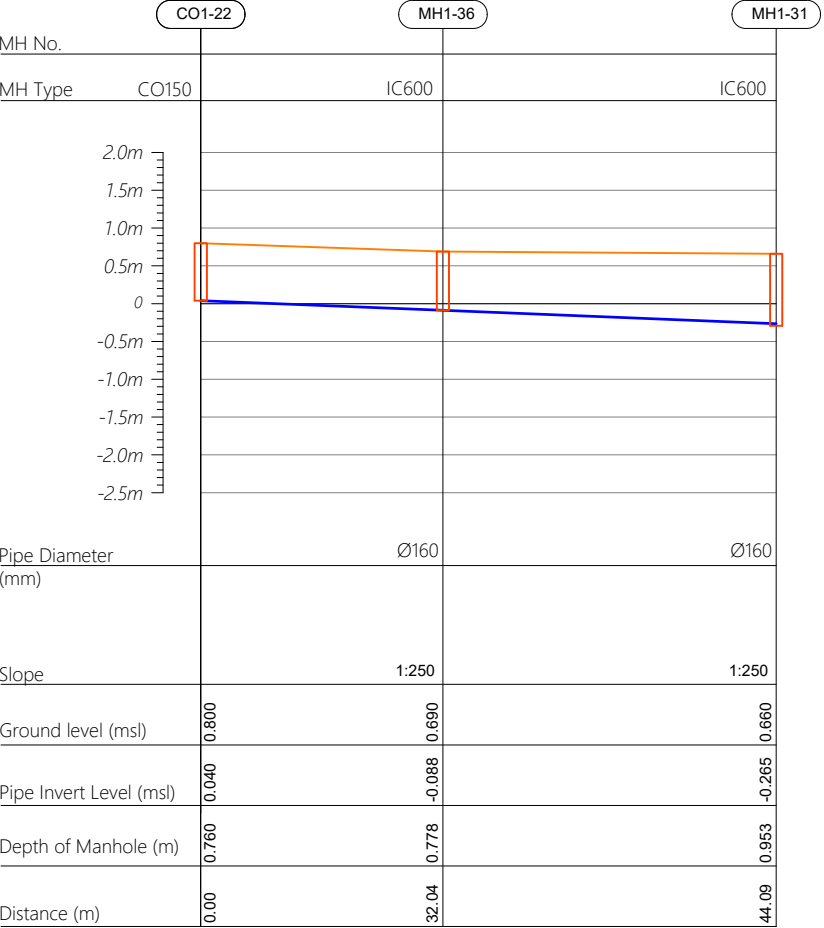
Project No: 01010101

Rev: R-01      Page: PS1-08

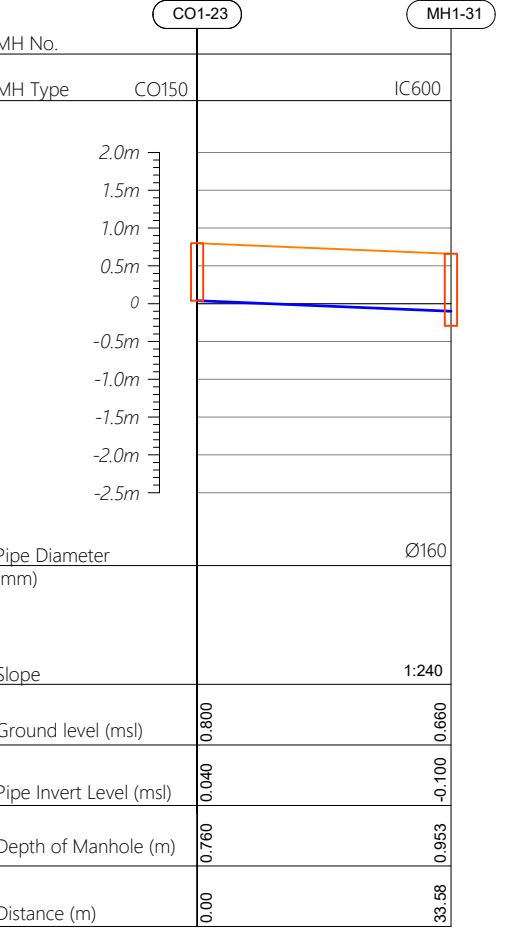
Profile 21



Profile 22



Profile 23



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 6 islands, Maldives - Package**

Sub Title:  
**Sewerage System in V.Keyodhoo**

Client:  
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FB

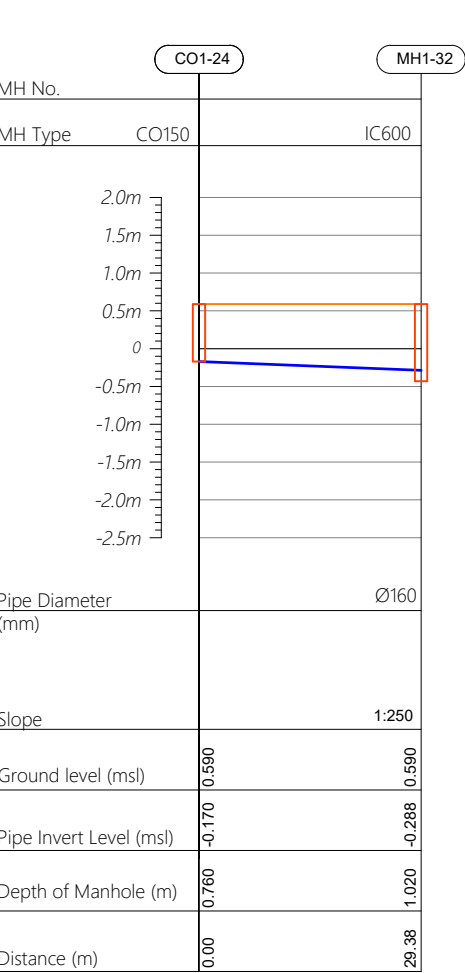
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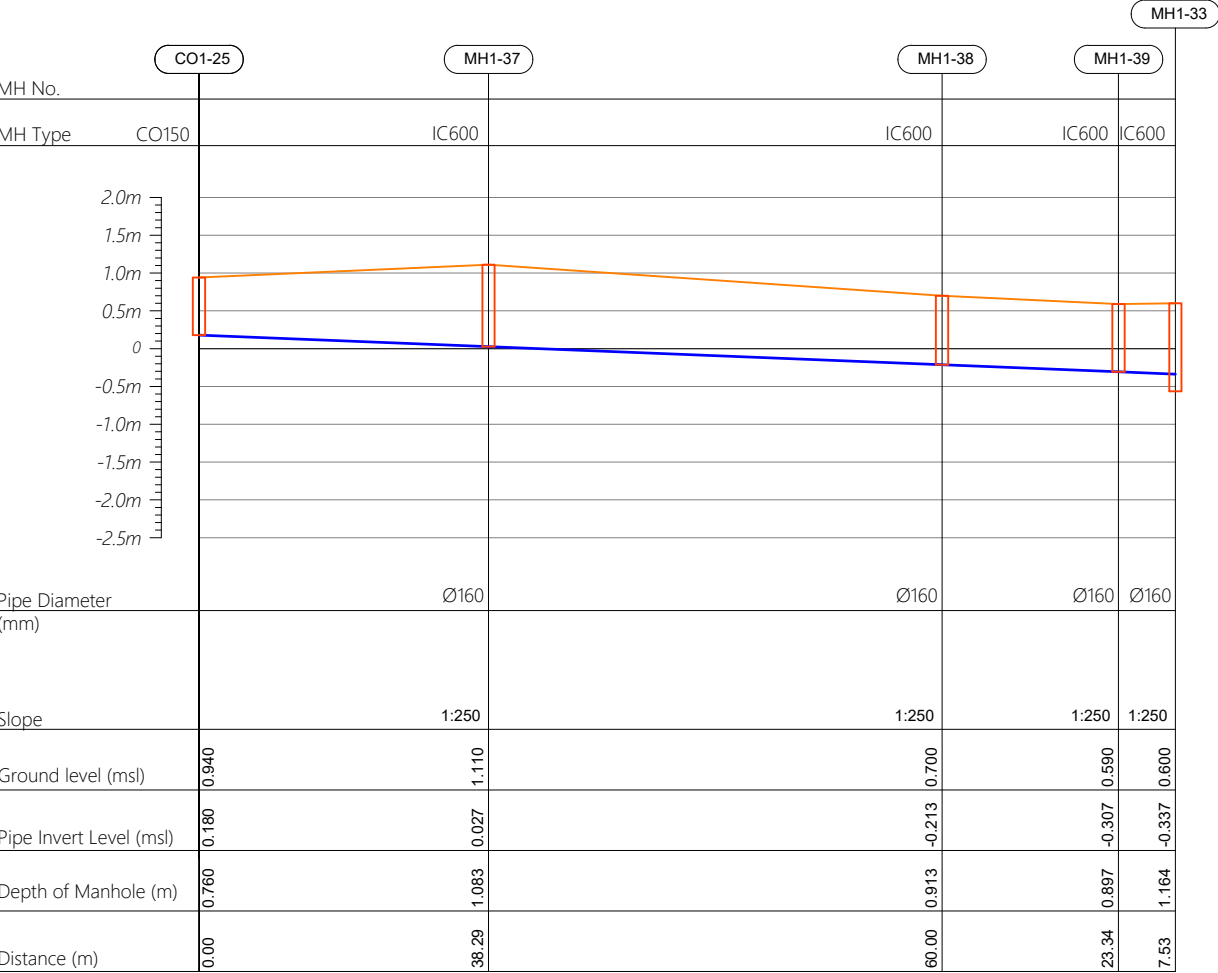
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Drawn: A.R.W	Checked: M.S.S
Designed: F.I.A	Approved: I.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS1-09

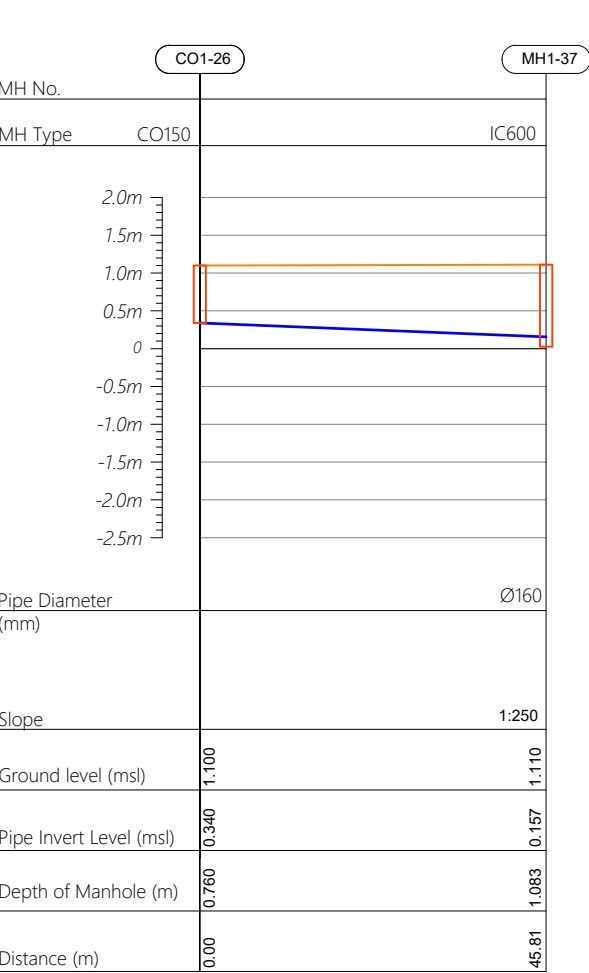
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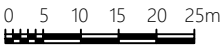
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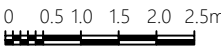
Profile 26



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 6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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

Designed: F.I.A      Approved: I.W

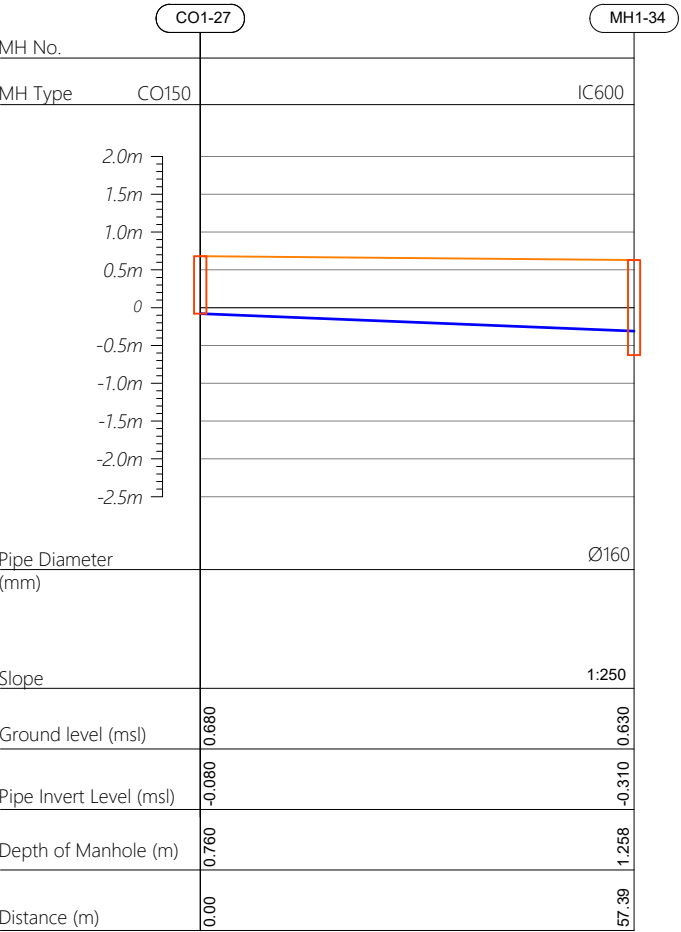
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Project No: 01010101

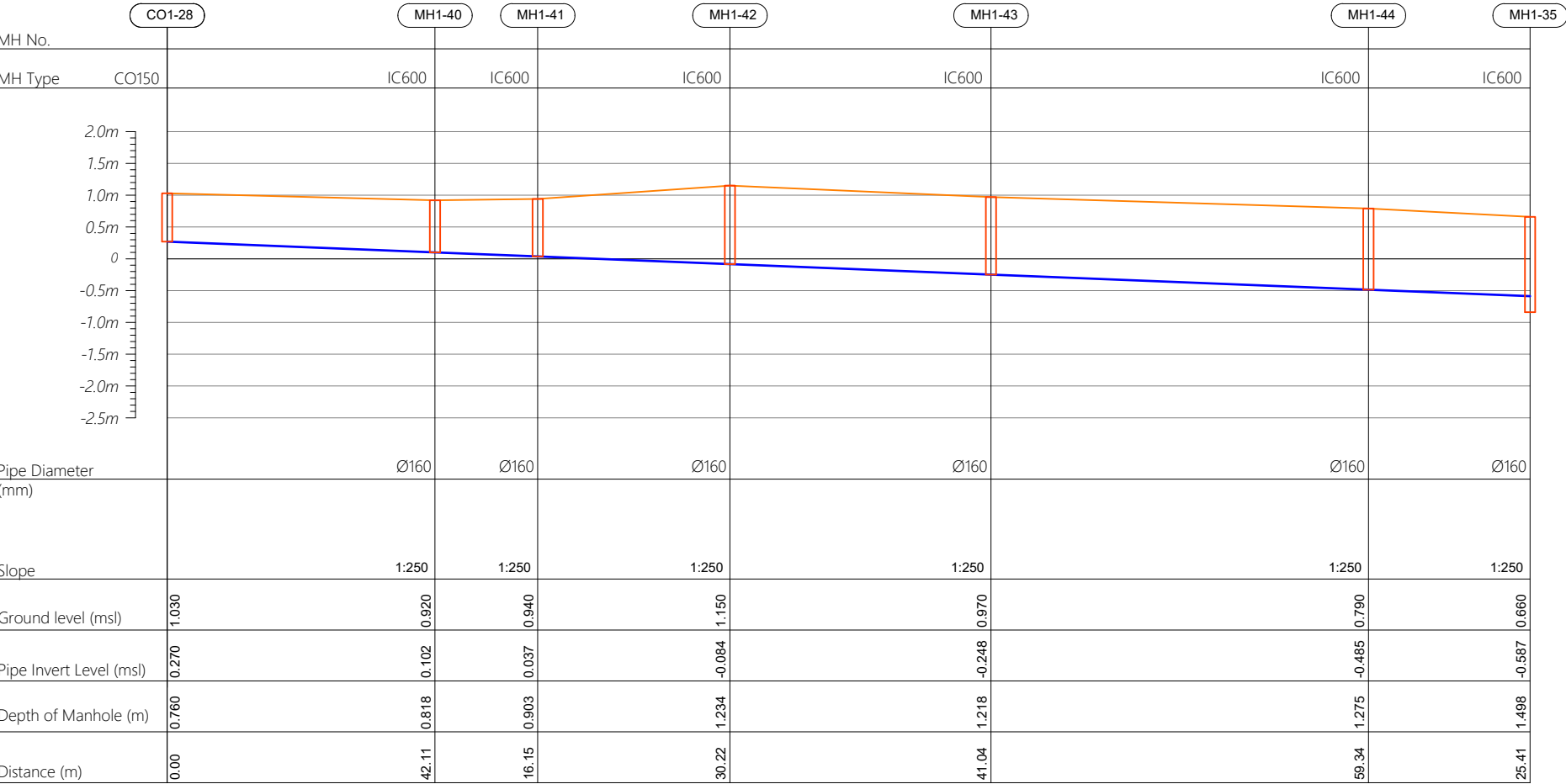
Rev: R-01      Page: PS1-10



Profile 27



Profile 28



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 6 islands, Maldives - Package

Sub Title:

Sewerage System in V.Keyodhoo

Client:

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Husnuheemaa Magu, Male', Maldives

F

DBACK

INFRA

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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:

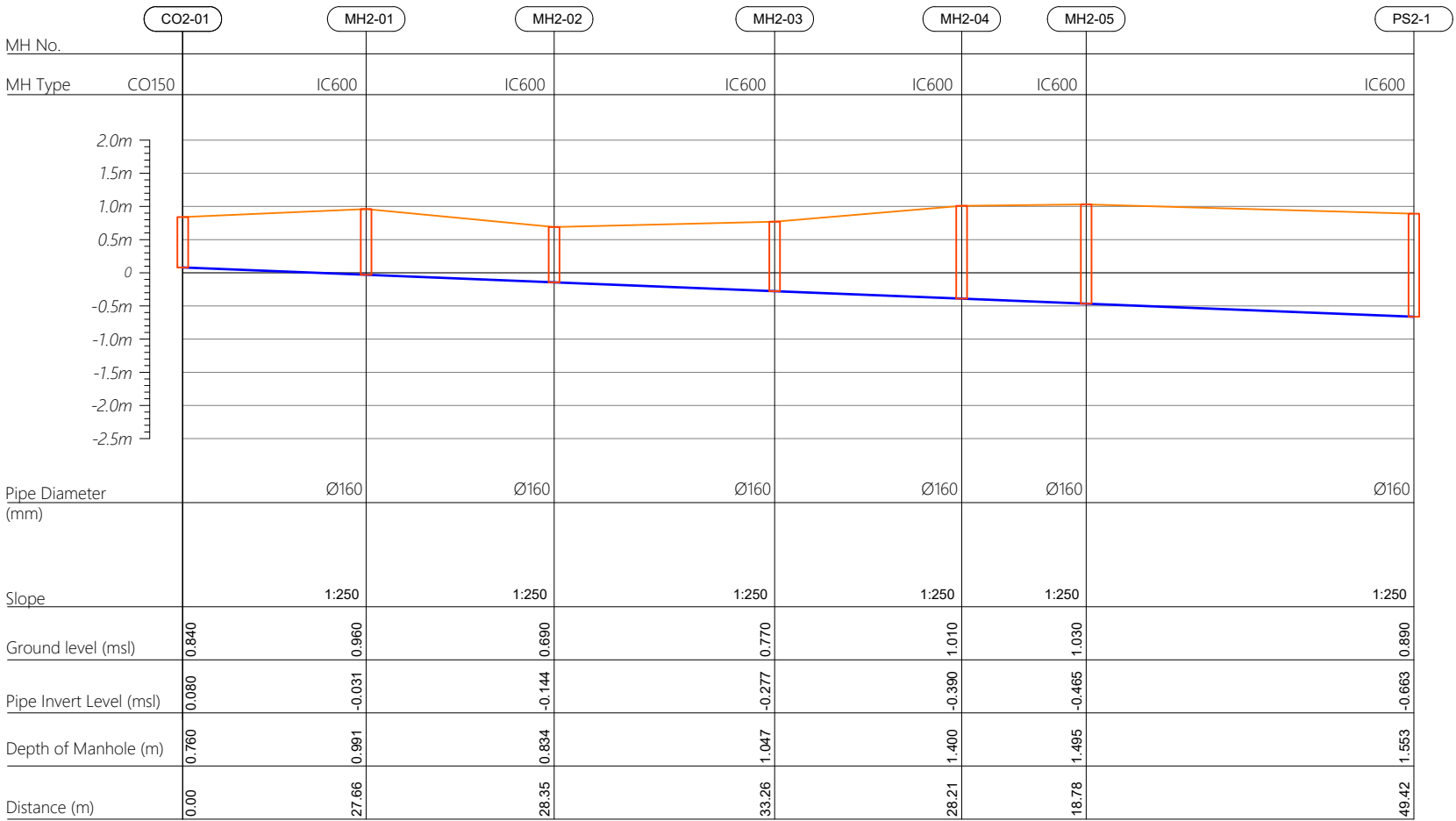
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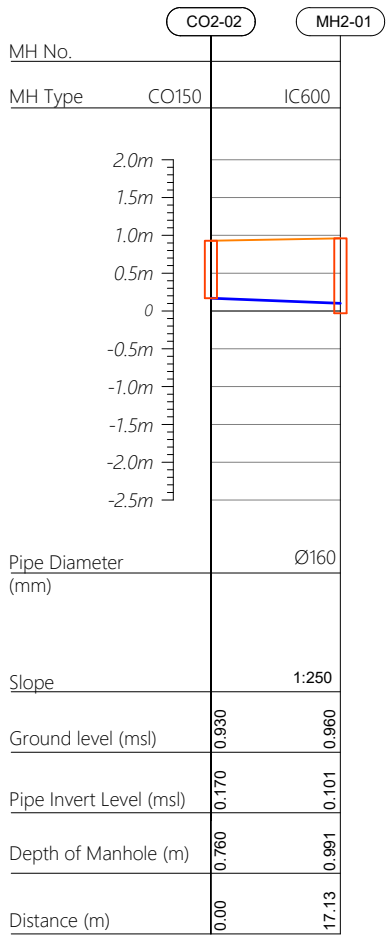
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Profile 01



Profile 02



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 6 islands, Maldives - Package*

Sub Title:  
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Husnuheemaa Magu, Male', Maldives



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Drawn: A.R.W      Checked: M.S.S

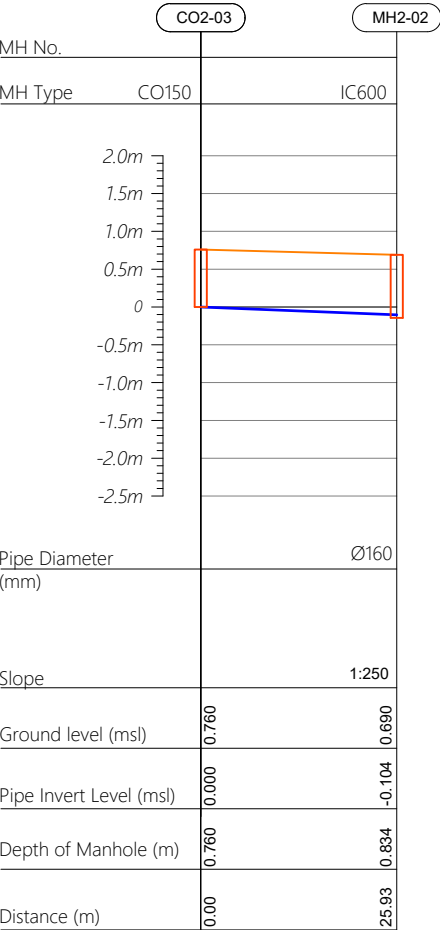
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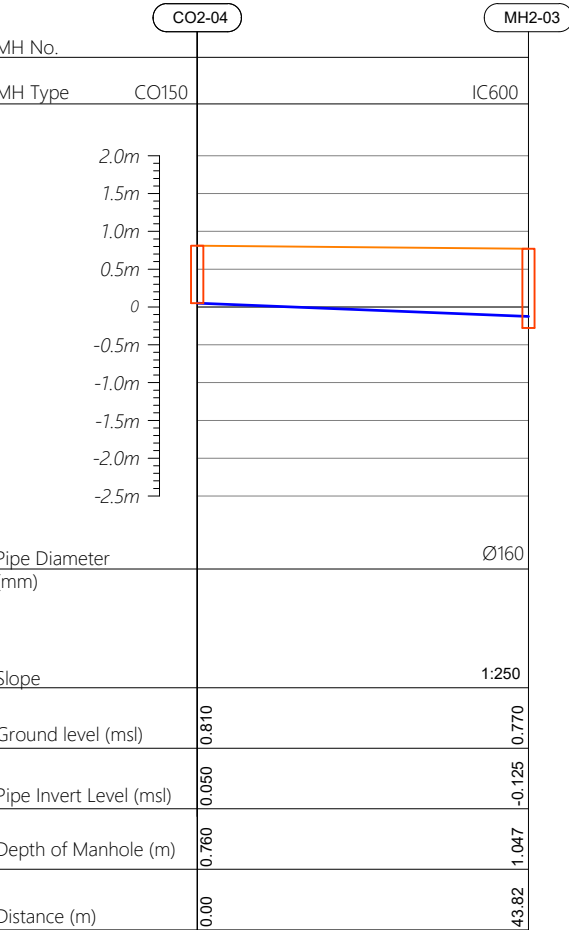
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Rev: R-01      Page: PS2-01

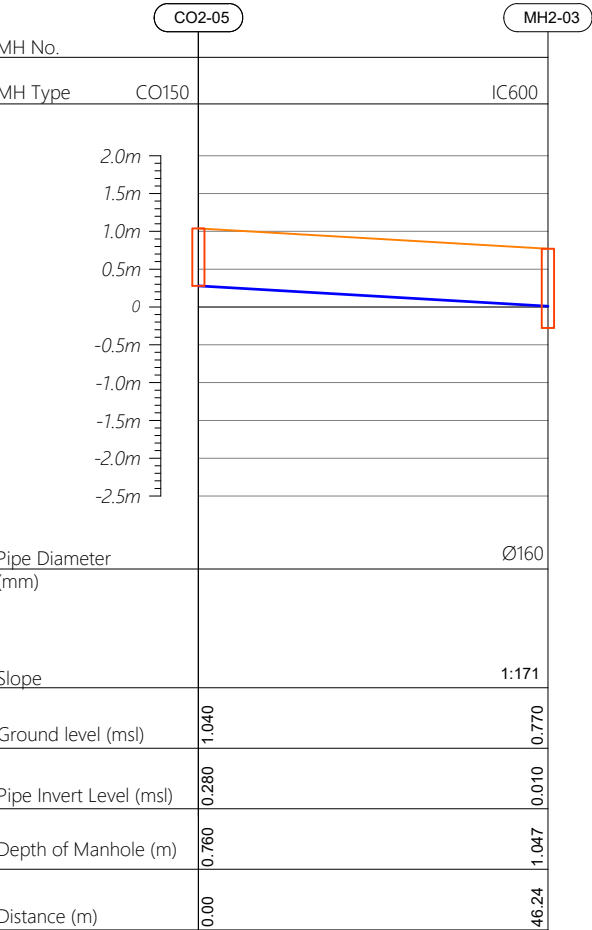
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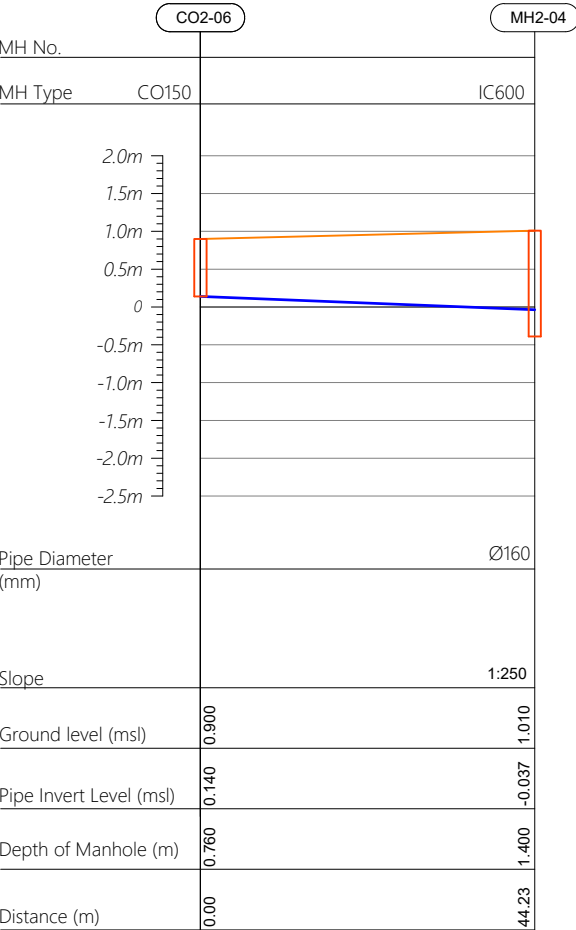
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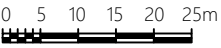
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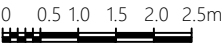
Profile 06



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 6 islands, Maldives - Package**

Sub Title:  
**Sewerage System in V.Keyodhoo**

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



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Drawn: A.R.W      Checked: M.S.S

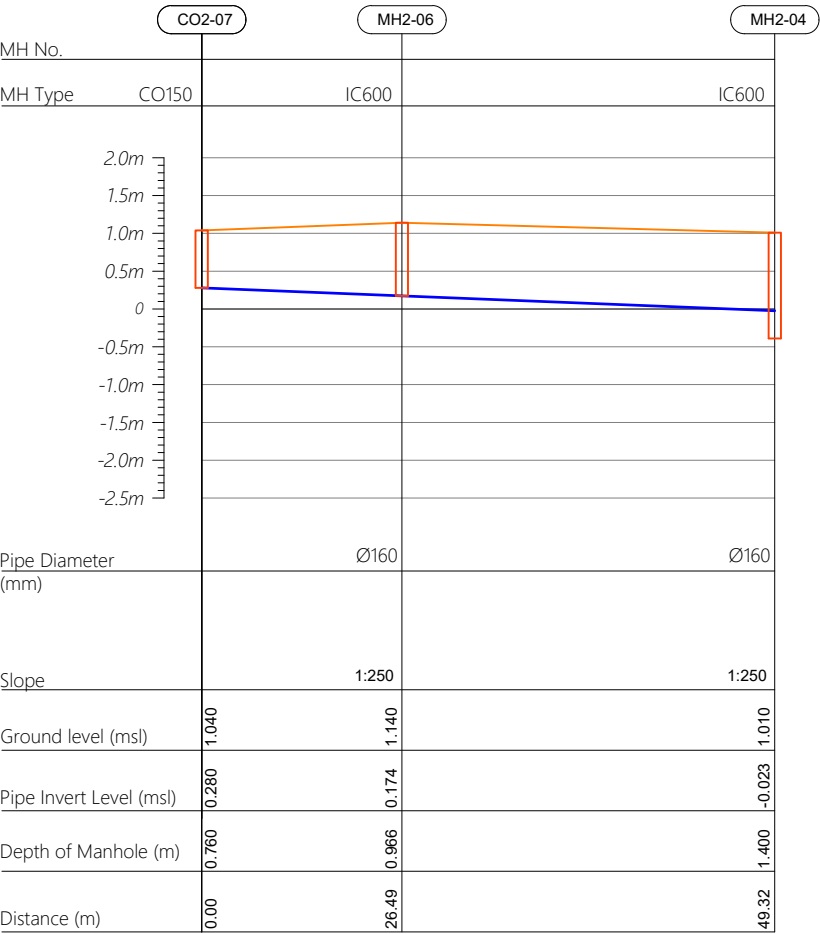
Designed: F.I.A      Approved: I.W

Date: Aug 2020      SCALE (A3): 1:100

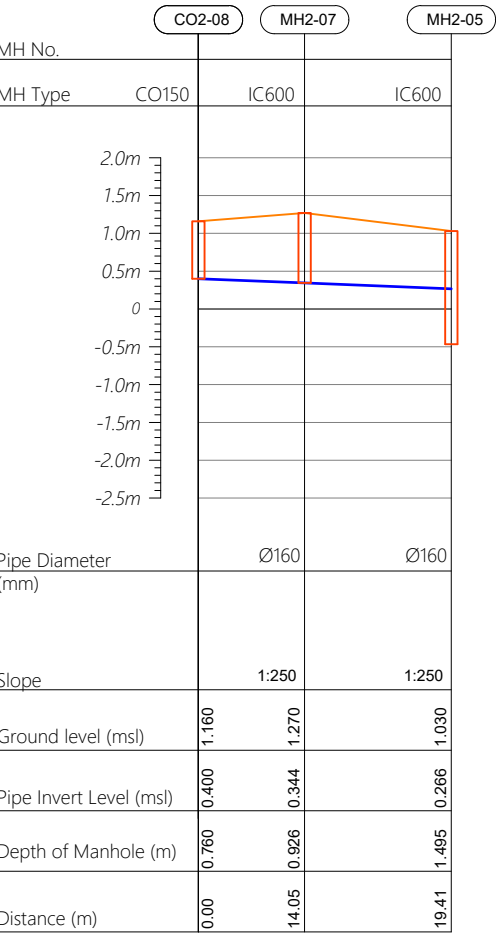
Project No: 01010101

Rev: R-01      Page: PS2-02

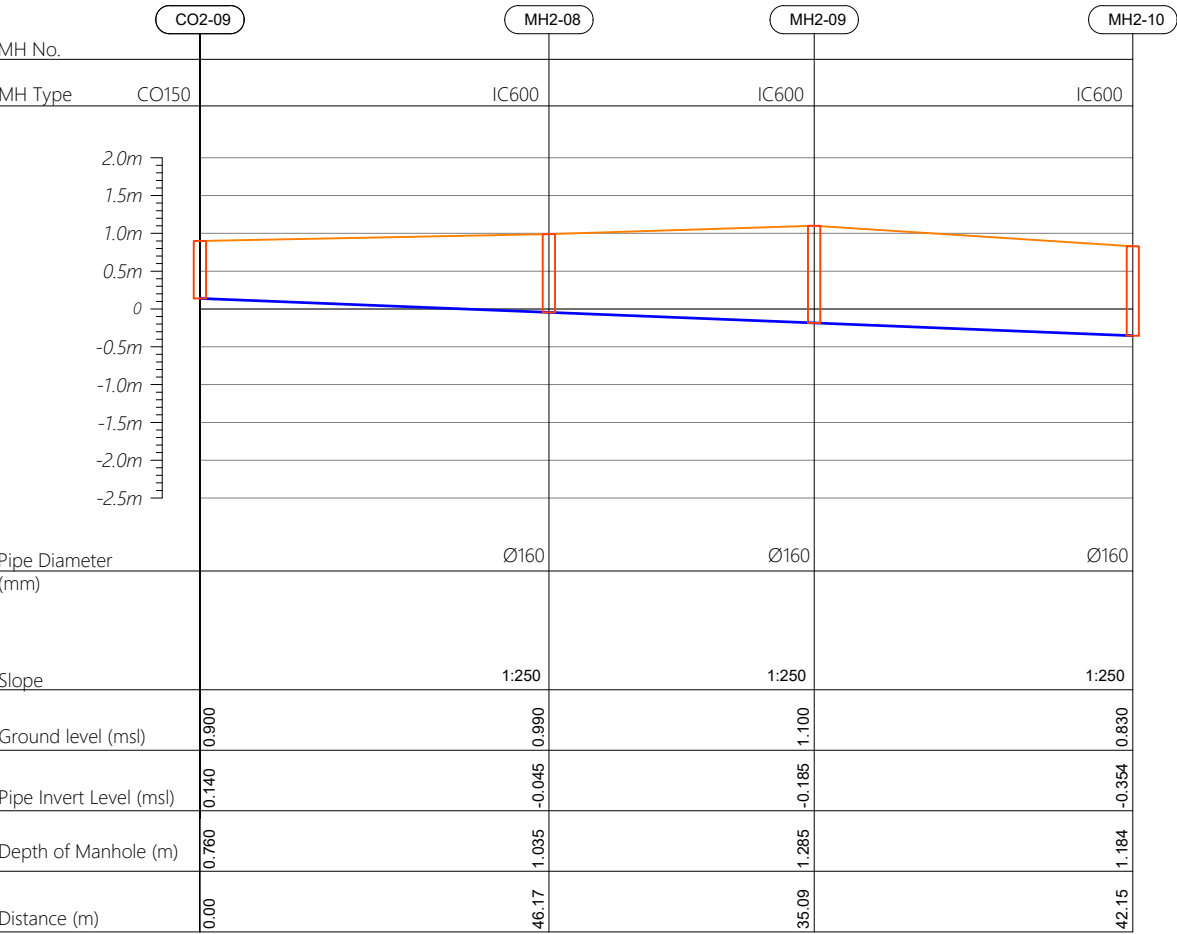
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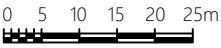
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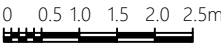
Profile 09



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  
6 islands, Maldives - Package

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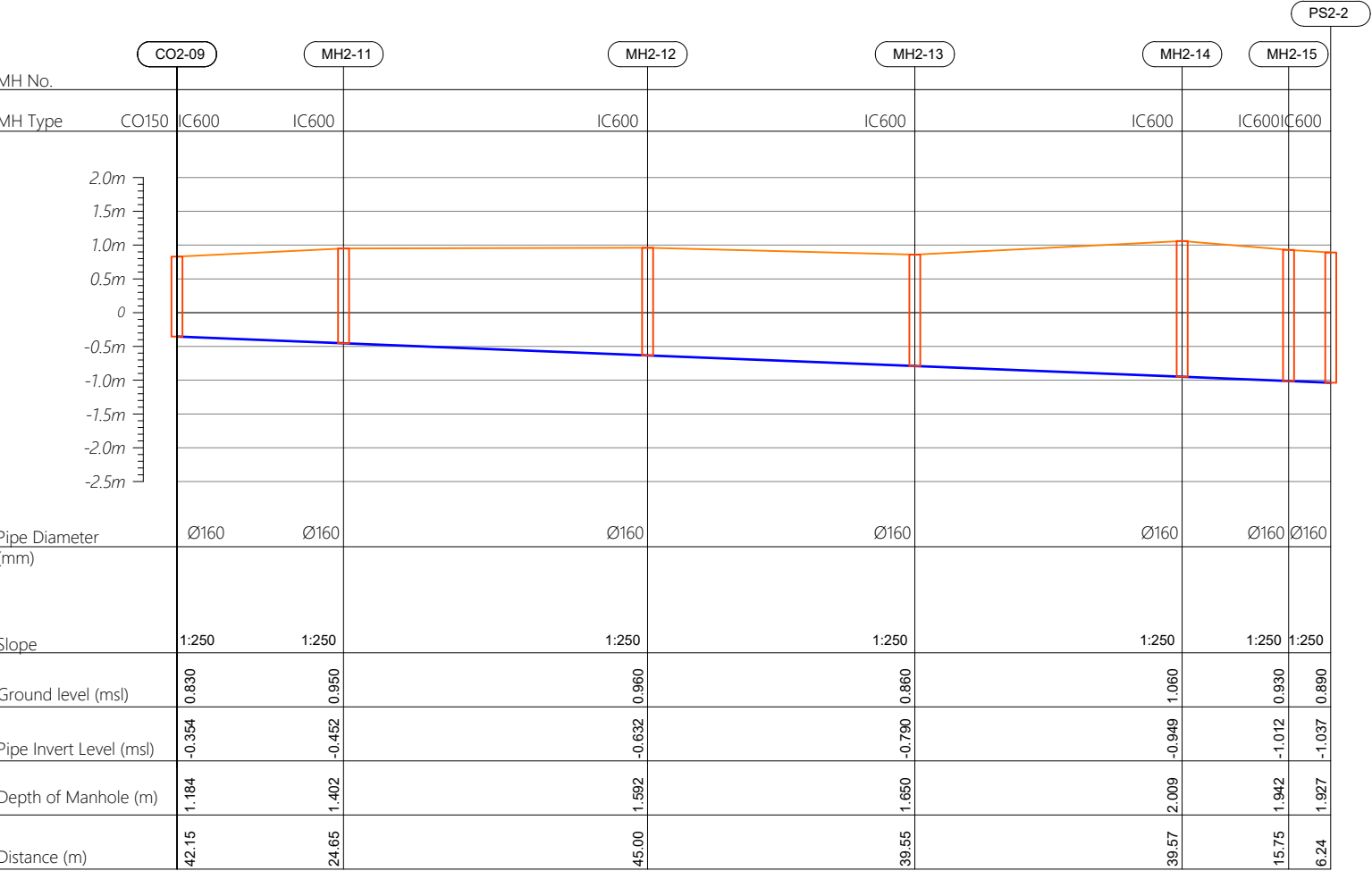
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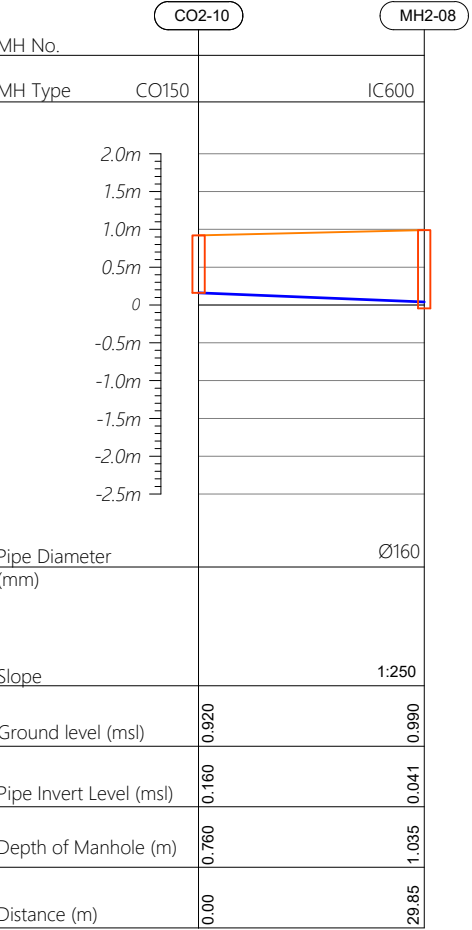
Project No: 01010101

Rev: R-01 Page: PS2-03

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 6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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

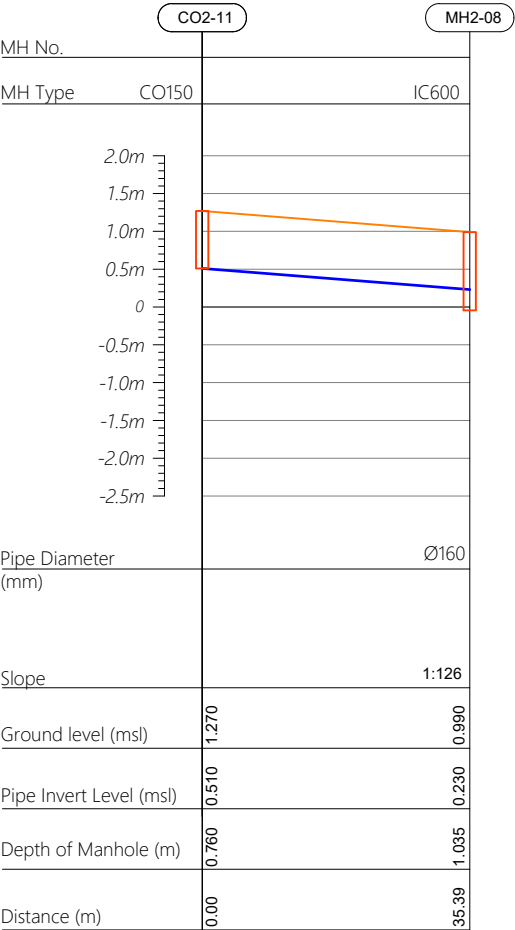
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Project No: 01010101

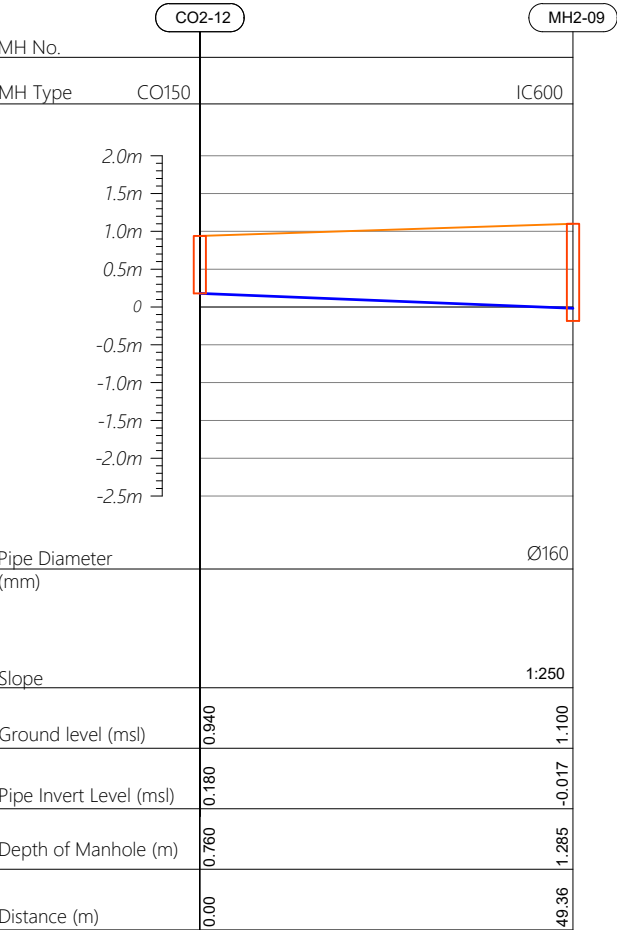
Rev: R-01 Page: PS2-04



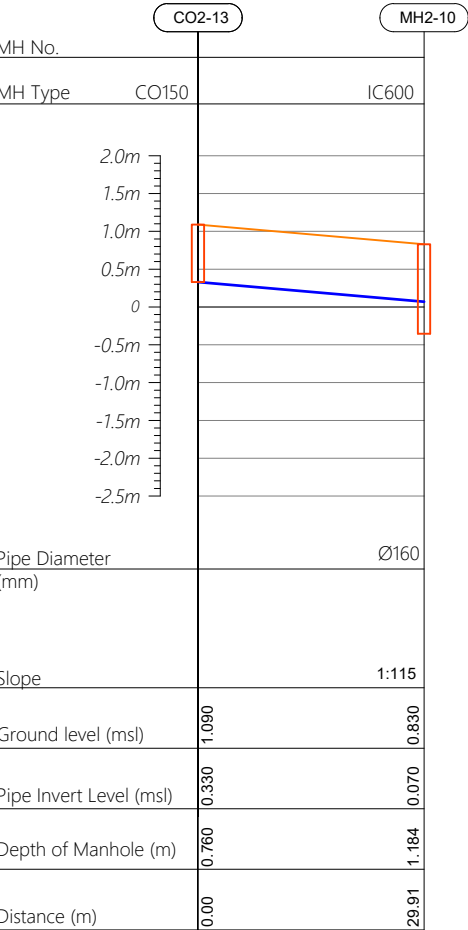
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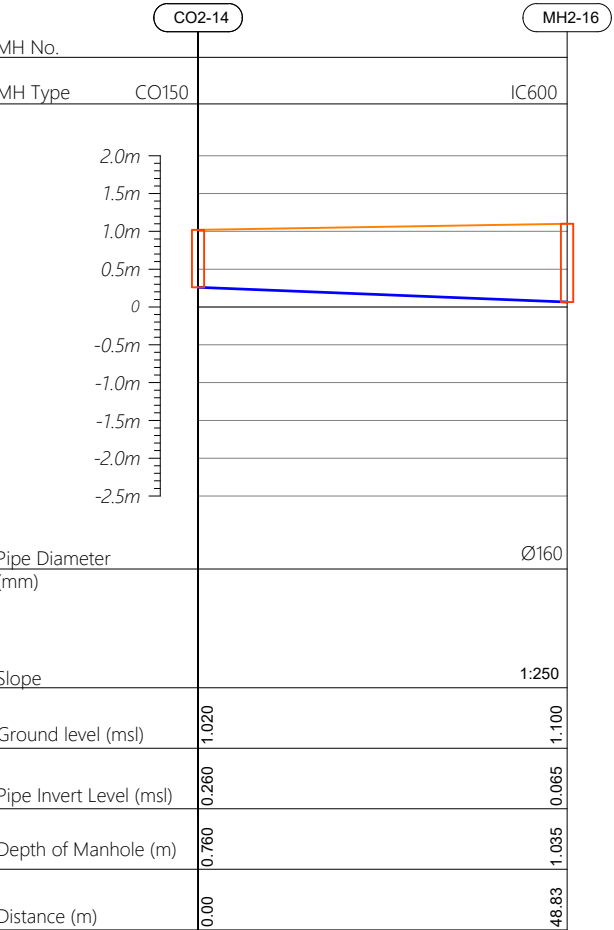
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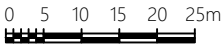
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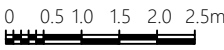
Profile 14



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.

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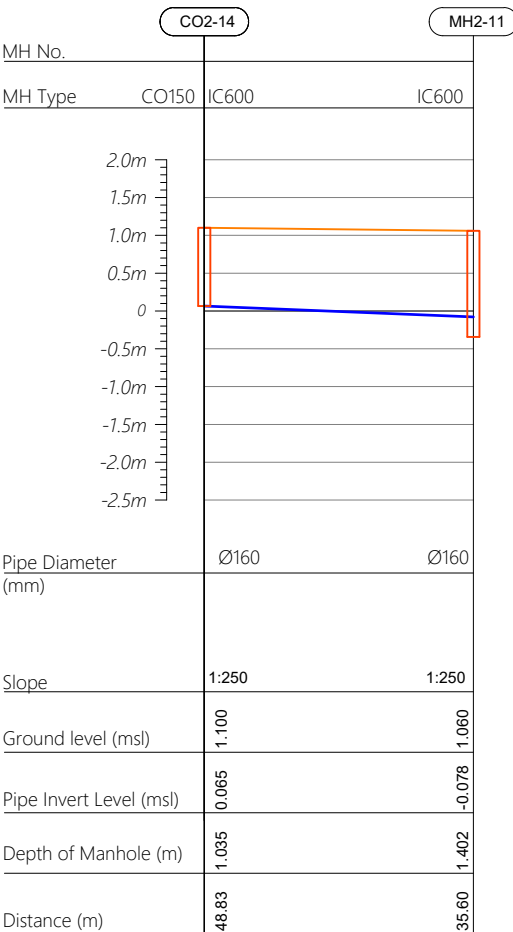
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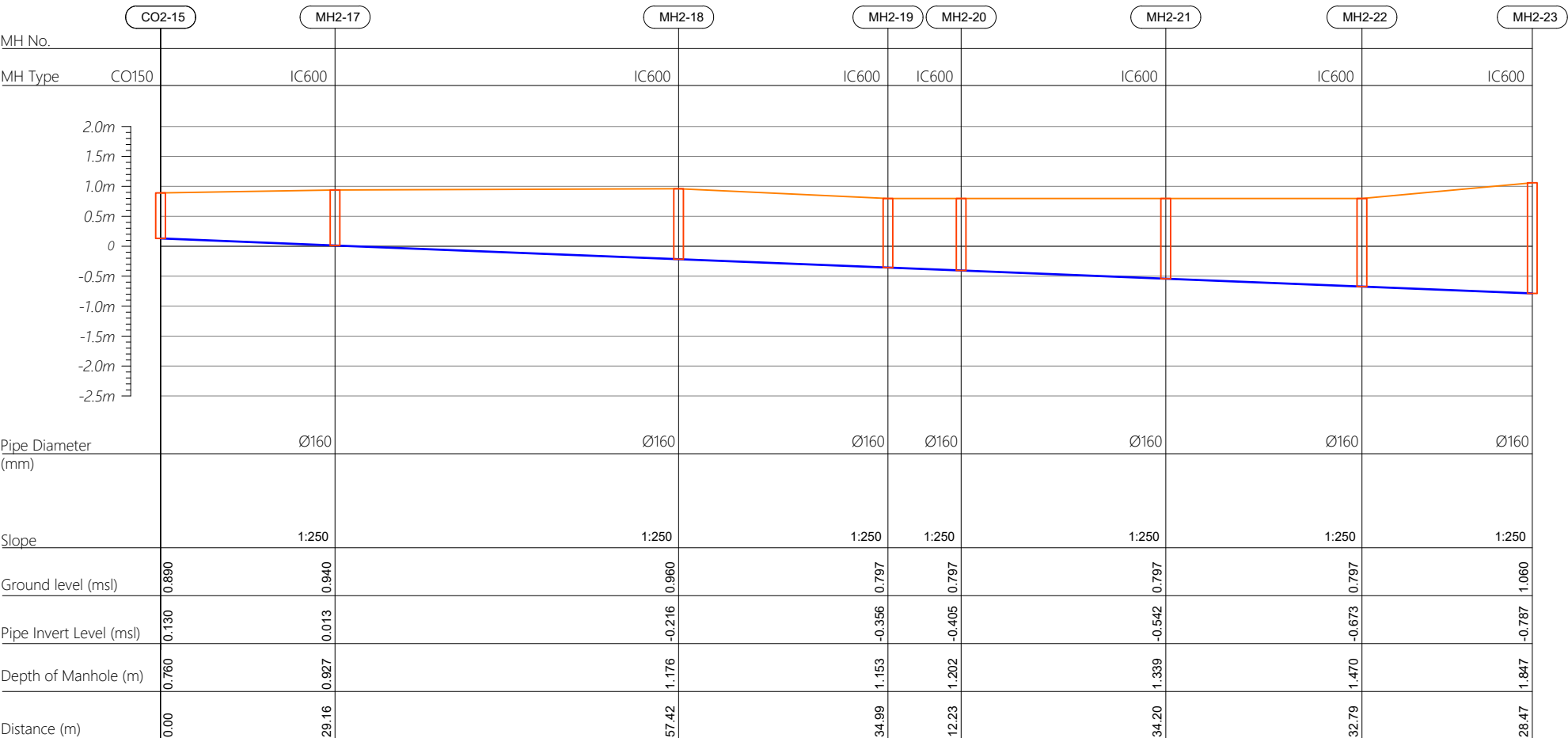
Project No: 01010101

Rev: R-01 Page: PS2-05

## Profile 14



## Profile 15



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 6 islands, Maldives - Package*

Sub Title:  
*Sewerage System in V.Keyodhoo*

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



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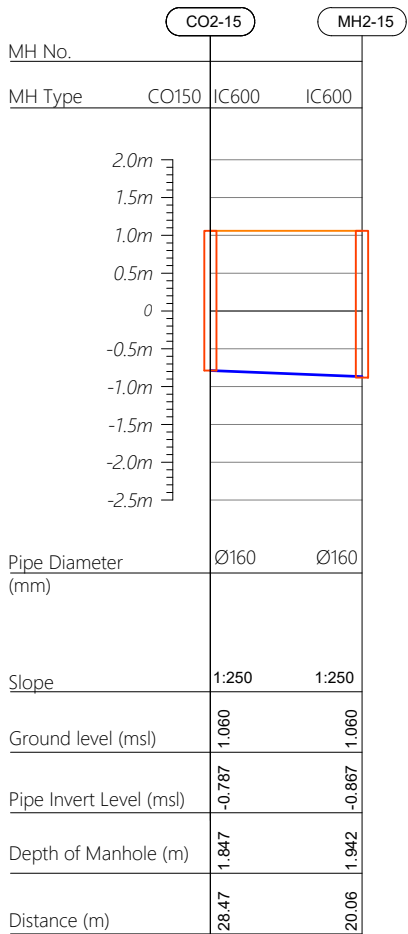
Designed: F.I.A	Approved: J.W
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Date: Aug 2020	SCALE (A3): 1:100
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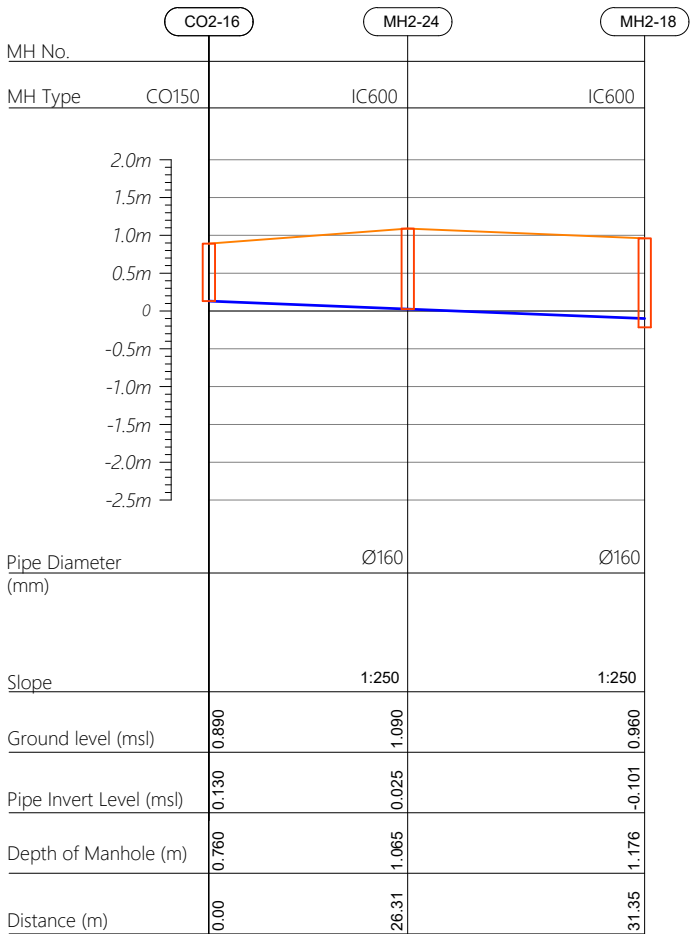
Project No: 01010101

Rev:	Page:
R-01	PS2-06

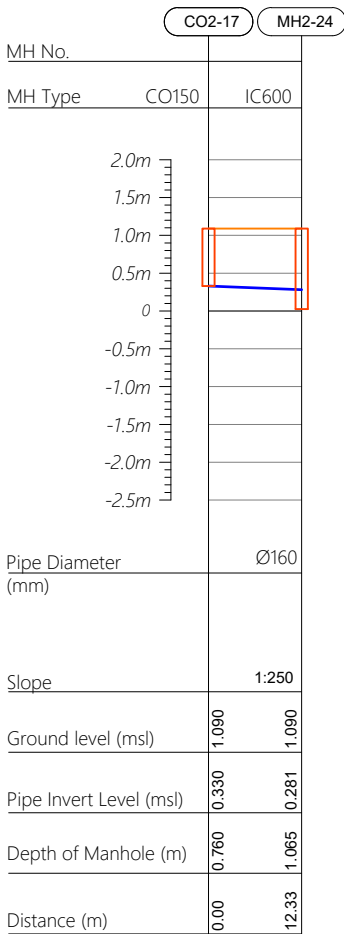
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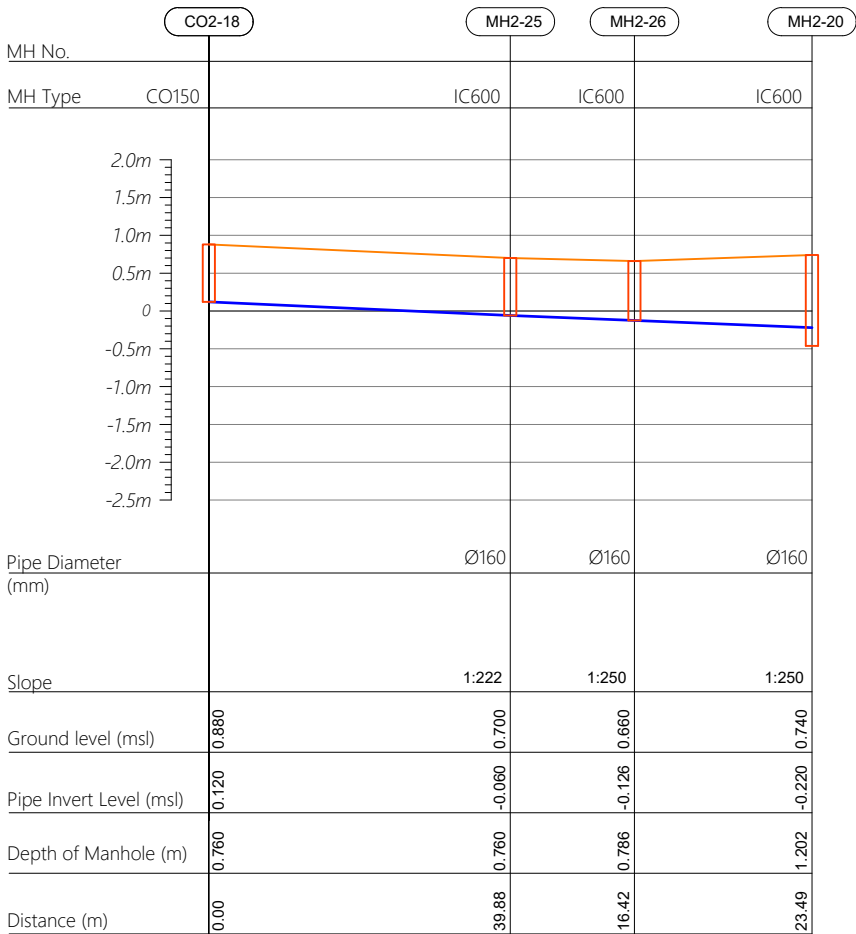
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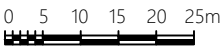
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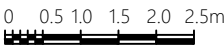
Profile 18



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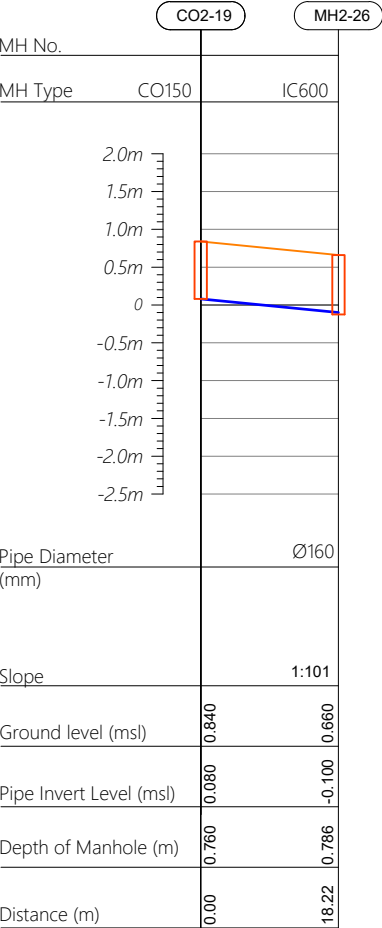
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Date: Aug 2020 SCALE (A3): 1:100

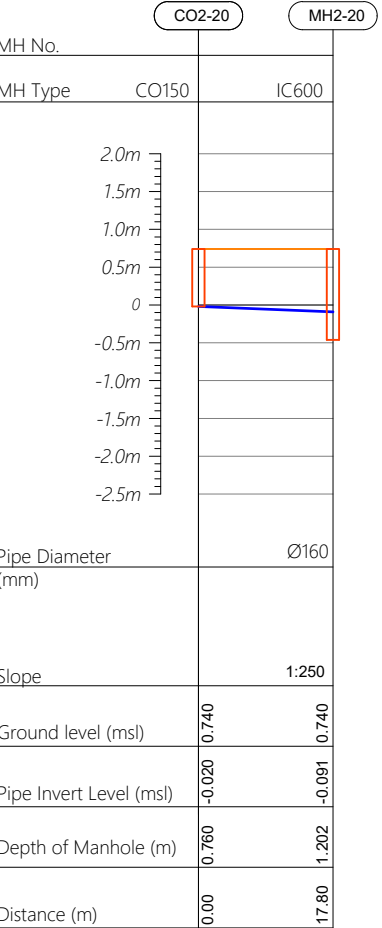
Project No: 01010101

Rev: R-01 Page: PS2-07

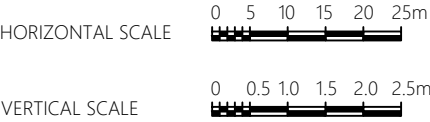
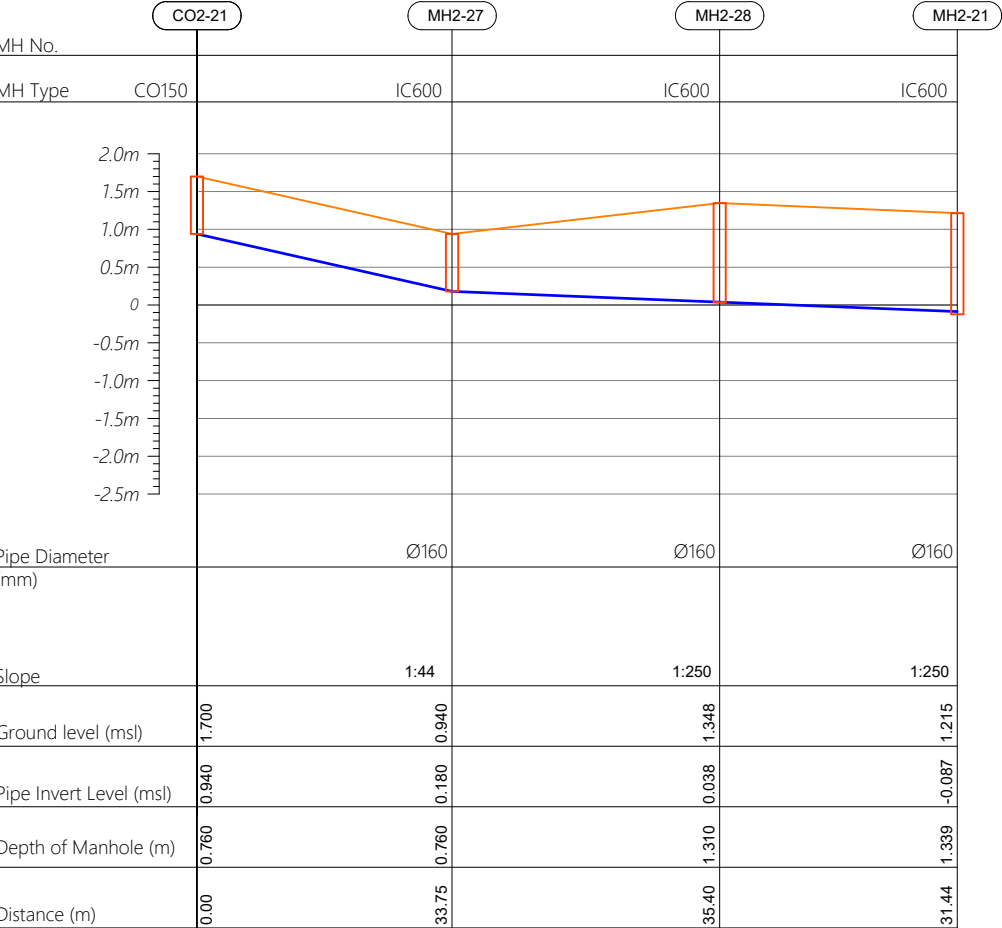
Profile 19



Profile 20



Profile 21



- 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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**Sewerage System in V.Keyodhoo**

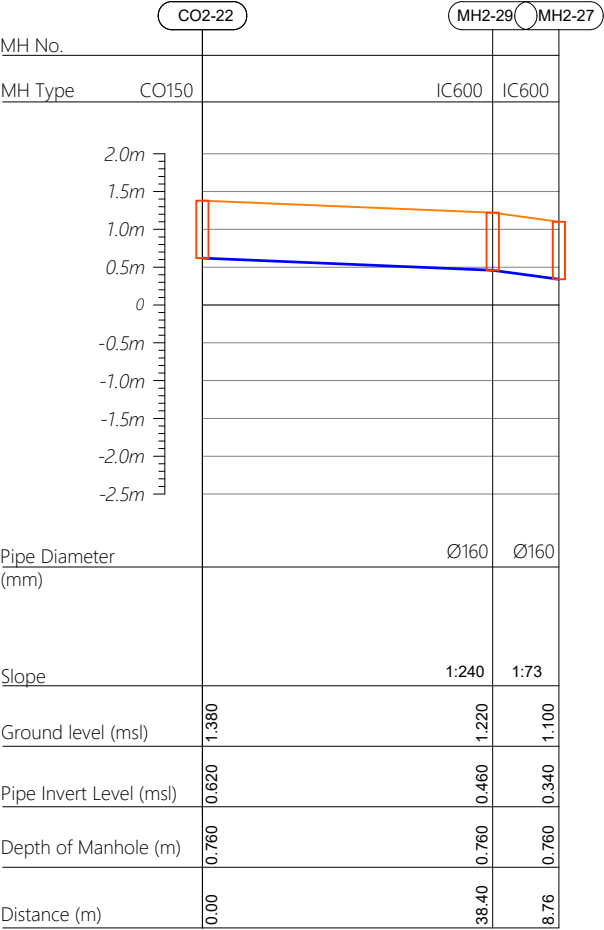
Client:  
**Ministry of National Planning, Housing and Infrastructure, Republic of Maldives**

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Designed: F.I.A	Approved: J.W
Date: Aug 2020	SCALE (A3): 1:100
Project No: 01010101	
Rev: R-01	Page: PS2-08

Profile 22



- 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	
Rev: R-01	Page: PS2-09